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Science and Literature at the Turn of the Eighteenth Century: The Use of Natural Philosophy in Sir Richard Blackmore's Physico-Theological Poem *Creation* (1712)

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Abstract

The present thesis studies the relationship between natural philosophy and poetry at the turn of the eighteenth century as exemplified by physico-theological poetry. The analysis centres on the first extensive physico-theological poem in the history of English literature, Sir Richard Blackmore's (1654–1729) *Creation* (1712), focusing mainly on its four scientific books (I, II, VI, VII). The work encompasses three chapters, divided into two main sections: the first, a historical and cultural introduction; the second, the close analysis of the poem and its scientific background.

Chapter 1 provides the historical and cultural framework of the poem. The first portion of the chapter traces the evolution of physico-theology in late seventeenth-century England. It outlines the re-emergence of natural theology as a response to the Scientific Revolution, culminating in the hybridisation of physico-theology. The second part of the chapter introduces Blackmore and *Creation*. Despite its popularity at the time of its publication, the poem remains largely ignored due to its author's subsequent neglect in literary circles. Here, Blackmore's life, literary contributions, scientific engagement, and religious beliefs are presented to lay the groundwork for the comprehensive understanding of *Creation* in the following chapters.

Chapter 2 inaugurates the second part of the thesis and the analysis of *Creation*. Here, the focus shifts to the natural world as depicted in Books I and II. Blackmore's portrayal of the Earth and its geological features, and celestial bodies is studied through thematic analysis. Special attention is paid to his physico-theological stance and emphasis on beauty, order, and divine providence.

Chapter 3 delves into Books VI and VII, which are devoted to the human being. Blackmore's use of physiology, anatomy, and early psychology is investigated to shed light on his views on the human condition within the divinely-designed cosmic order.

The conclusions of the thesis synthesise the key findings from each chapter, evaluating Blackmore's scientific knowledge and his poem's broader implications. In particular, they underscore the influence of *Creation* on eighteenth-century physico-theological and nature poetry. The study's methodological approach involves historical contextualisation, close reading of the poem, and analysis of contemporary physico-theological and philosophical sources. By studying Blackmore's overlooked *Creation*, this thesis offers insights into the intersection of science, literature, and religion in early eighteenth-century England.

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Introduction

"This poem, if he had not written nothing else, would have transmitted him to posterity among the first favourites of the English Muse." These are the words Dr. Johnson (1896, p. 158) employed to describe *Creation* (1712), the poem that prompted the celebrated literary critic to devote one of his *Lives of the Poets* to the nowadays nearly forgotten Sir Richard Blackmore (1654–1729). That of Blackmore is a fate common to many minor poets who have never been included in the canon but who contributed to shaping the literary scene they inhabited with their works. As Hoxie Neale Fairchild (1939, p. 201) remarked, "[w]hatever the critic may say about [Blackmore's] poetry, the student of the history of thought should be grateful to a man who gives him so much."

The subject of this thesis is the study of Blackmore's *Creation. A Philosophical Poem*, one of the texts neglected by scholars but of indubitable cultural value in the history of ideas. It is a physico-theological poem in seven books, published in London in 1712. It was the first of its kind in scope, learning, and literary consequence. Blackmore was the first English poet who accomplished what others had done only in prose: he "put into verse the wisdom of God in nature as demonstrated by 'natural philosophy' in the discoveries of the new science" (Jones, 1966, p. 86). The late seventeenth century witnessed a remarkable convergence between science and religious thought. Religion, in particular, played a pivotal role in integrating the new philosophy into the cultural fabric of the era. The decades around the turn of the eighteenth century—christened the "heroic age of science" by James Sambrook (1986, p. 13)—were marked by phenomenal changes in scientific thought and practice. Modern science, as we know it today, did not exist. Natural philosophy, the precursor to science, was concerned with understanding natural phenomena to uncover their underlying principles.

Physico-theology was a cultural phenomenon that developed in Europe between 1650 and 1750 at the crossroads between science and religion. It can be considered the branch of natural philosophy that intersects natural theology, employing the most state-of-the-art scientific ideas to demonstrate the existence of God. The term "physico-theology" became popular in England at the beginning of the eighteenth century. It reflected the convergence of science and religion at a time when it was common for men of science to study both the Book of Nature and the Book of Scripture as com-

plementary ways to understand divine truth. Although the noun "physico-theology" first appeared in 1713 with William Derham's popular work, its roots can be traced back to the seventeenth century. By blurring disciplinary boundaries, physico-theology helped bridge the gap between natural philosophy and religion, fostering a broader acceptance of scientific knowledge (Blair & Greyerz, 2020). Little to no critical attention, however, has ever been reserved for physico-theological poetry. This work intends to expand on the studies on physico-theology that have gained renewed interest in the last few years. As Section 1.1.3 will demonstrate, this thesis intends to partially cover the research gap on physico-theological poetry that historian Kaspar von Greyerz identified in his *European Physico-theology (1650-c.1760) in Context* (2022). *Creation* is one of the most accomplished and comprehensive examples of this genre, and it was the first extensive text of its kind in English.

This thesis aims to analyse the physico-theological and scientific background of the poem. The objective is to understand what kind of scientific sources informed Blackmore's physico-theological outlook, their impact on his thought, and how they translated into his interpretation of the natural world. Through a close reading of the text, this study will shed light on the relationship between God and its creation as conceived by physico-theologians at the turn of the eighteenth century, an extraordinarily prolific time in the history of science. The analysis will concentrate mainly on Books I, II, VI, and VII of *Creation*. The text's seven books are organised as follows:

- Book I is devoted to the demonstration of the existence of God "from the Instances of Design and Choice, which occur in the Structure and Qualities of the Earth and Sea" (Blackmore, 1712, *A Summary Account*). In this book, Blackmore makes use of the early geology of the so-called world-makers, he explores the seventeenth-century magnetic tradition, and he exploits the arguments of early hydrogeology, borrowing from the works of the most renowned natural philosophers and physico-theologians of his day.

- Book II does the same by looking at the heavenly bodies of the solar system and their motions. Here, Blackmore follows the historical development of celestial dynamics from ancient Greece to the early modern period, particularly celebrating the work of Newton and his followers.

- In Book III, the objections advanced by atheistical philosophers against the hypothesis established in the two preceding books are answered and refuted. In particular, the author addresses the positions of ancient and modern atheists like Lucretius, Vanini, Hobbes, and Spinoza.

- Book IV delves deeper into the hypothesis of the Atomists and Epicureans, as well as other irreligious philosophers, and confutes them.

- Book V outlines and subverts the thought of the Fatalists, or Aristotelians, who believed the world to be eternal.

- In Book VI, the existence of God is shown from the contemplation of the several parts of the human body from an anatomical and physiological point of view. Blackmore's professional expertise stands out most prominently in the meticulous description of recent discoveries, such as the circulatory and nervous systems.

- Lastly, Book VII has been described as a summary of early psychology as it investigates the workings of the human mind, drawing heavily on John Locke's *Essay Concerning Human Understanding* (1689). At the time, Locke was one of Blackmore's acquaintances and a fellow doctor in London, and it is likely that Blackmore knew the philosopher's work intimately.

Given the physico-theological framework and scope of the thesis, the analysis will concentrate mainly on the "scientific books." These are entirely devoted to natural philosophy and represent a comprehensive encyclopaedia in verse.

The present work is structured into three main chapters. Chapter 1 "Physico-Theology and Sir Richard Blackmore's (1654–1729) *Creation* (1712)" provides the cultural and historical context for the analysis. Section 1.1 delves into the rise of physico-theology in seventeenth-century England, outlining the context of the Scientific Revolution, the revival of natural theology, and the definition of the English tradition of physico-theology in prose. Section 1.1.1 attempts to define physico-theology, while 1.1.2 surveys the prose tradition, and 1.1.3 specifies the particular research gap in physico-theological poetry this thesis intends to partially fill. Section 1.2 offers a comprehensive and state-of-the-art introduction to Sir Richard Blackmore as a poet, physician, and man of faith. It evaluates the current state of scholarship on Blackmore (1.2.1), gives a biographical overview of Blackmore (1.2.2), reconstructs his scientific and medical positions (1.2.3), his religious opinions (1.2.4), and reflects on the eighteenth-century reception of his writings and public figure (1.2.5). Finally, Section 1.3 commences the study of *Creation*. It provides a thorough introduction to the poem before its close analysis in Chapters 2 and 3, including an overview of its origins and editorial history (1.3.1), a reflection on its genre and title (1.3.2), an analysis of the preface and key paratexts (1.3.3), and an outline of the structure along with an examination of three main books (1.3.4). Considerations on the poem's style (1.3.5), its anti-Epicurean features (1.3.6), and its political and ideological implications (1.3.7) precede the closing section 1.3.8 on the eighteenth-century reception of Blackmore's only masterpiece.

Chapter 2 "*Creation* and the Natural World" serves as the first part of the close analysis of the text. It studies the natural environment as portrayed in Books I and II, examining Blackmore's engagement with early modern natural philosophy on subjects such as geology, astronomy, meteorology, and cosmology. Section 2.1 looks at the Earth, its shape, internal structure, and position in the cosmos (2.1.1), also in its connection to broader philosophical topics like atomism (2.1.2) and magnetism (2.1.3).

Section 2.2 examines the Earth's "finish'd Beauty" in sections dealing with mountains (2.2.1), waters (2.2.2), and vegetation (2.2.3). Section 2.3 looks at the nature of air (2.3.1) and the cause of meteors (2.3.2). Section 2.4 covers the solar system and, in particular, lingers over the position and motion of the sun (2.4.1), the nature of light (2.4.2), and celestial dynamics (2.4.3), and closes with a historical review of theories concerning heavenly motion (2.4.4).

Chapter 3 "*Creation* and the Human Being" completes the analysis by examining Books VI and VII, which are devoted to the human being. Thus, they deal with physiology, anatomy, and human understanding. Section 3.1 is interested in the human body, with particular attention to generation theories (3.1.1), the circulatory (3.1.2), the digestive (3.1.3), and the nervous (3.1.4) systems. Section 3.2 researches the complex topic of human understanding, taking into account perception and animal instinct (3.2.1), sense perception (3.2.2) and reflection (3.2.3) in relation to idea-formation. The chapter culminates with a meditation on the Christian topics of free will and morality (3.2.4), elevating the subject from a physical to a metaphysical level. This portion of the analysis will be particularly valuable, as in these books Blackmore bridges his literary work with his medical background. This feature represents a *unicum* in the history of physico-theological literature and gives *Creation* a special place in this tradition.

At the very end of this study, three appendices integrate the previous chapters with additional information: Appendix A provides an annotated bibliography of Blackmore's *oeuvre*; Appendix B lists all the Editions of *Creation*; Appendix C includes some materials I acquired from Boxted, Essex, the place where Blackmore spent the last years of his life and was buried. During my research, I was put in contact with Annette Whybrow, local expert, who sent me materials related to Blackmore which testify to his enduring legacy in Boxted. These data enrich the portrait of Blackmore provided in Chapter 1 and add depth to the understanding of his historical figure and work.

Text will be the main focus of this thesis, which will be replete with direct quotations from *Creation*, Blackmore's other works, and primary sources. This is a deliberate choice to showcase and demonstrate the poet's indebtedness to the scientific ferment of the early eighteenth century. In the introduction to his seminal *Religious Trends in English Poetry: Volume I: 1700-1740* (1939), Fairchild explains that

> The frigid unreality of some recent studies in intellectual historiography perhaps arises from forgetfulness of the fact that books are written by men, not by abstractions floating about in the air. In the history of human thought, an idea cannot profitably be detached from the minds of the individuals who receive it, steep it in their personal temperament, combine it with other ideas and feelings, and give it a particular mode of expression. While I study the poets in the ultimate hope of arriving at historical

> generalizations, my basic units are individual writers and their works. (p. viii)

For this reason, he adds,

> I like very copious quotation in a study of this kind. For our purposes, these individual writers are important; what they say is important; their way of saying it is important. Whatever their faults in other respects may be, eighteenth-century poets express themselves with considerable clarity. Their own words are generally good enough for me. I have deliberately assembled a large body of passages which reveal the religious temper of the period more vividly than my own words could possibly do. (p. xii)

The present dissertation is motivated by similar intentions and adopts the same approach. Hence, the importance placed on the historical figure of Sir Richard Blackmore and the space reserved for direct quotations. The focus on text is also significant because of the intellectual value of cultural documents like Blackmore's *Creation,* and for a critical assessment of its literary features. As Fowler and Ingram (2015, p. 83) observe, these lesser-known poets endeavoured to re-envision the world as something to be approached both scientifically and aesthetically. Ambitious in scope, their works demonstrate the extent to which poetry could convey cultural themes as well as create new knowledge. They mirrored the culture that produced them and, at the same time, contributed to shaping it. As such, it is essential to engage directly with those texts to appreciate their layers of meaning.

Creation was to all intents and purposes a "scientific encyclopaedia in verse" (Jones, 1966). Indeed, "the term science acquired its modern specialized sense (limiting the concept to a particular area of knowledge) in a very gradual process" and even the more specialised scientific texts themselves were often encyclopaedic in nature (Rogers, 2016, p. 320). Literary works like *Creation*, then, could draw from an extensive body of knowledge. This is the reason why the number of bibliographical references of this thesis will be so extensive. The field of analysis is so vast that an exhaustive treatment of all its branches is virtually impossible to achieve. Therefore, the bibliographical entries and notes will provide further prompts to research for scholars interested in any of the individual subjects analysed in this work.

In conclusion, the main assumption of this thesis is that Blackmore's encyclopaedic poem can be read against other literary and physico-theological texts, scientific materials, and medical treatises to open a window on early eighteenth-century cultural and scientific sensibilities. *Creation* was a mirror of the cultural *milieu* that produced it and exemplified the multifaceted nature of intellectual inquiry at the turn of the eighteenth century. As Solomon (1980, pp. 8–9) puts it, "Sir Richard's writings were extremely popular and a study of Blackmore is properly, in part, a study of the tides of English taste in the Early Eighteenth Century."

Chapter 1

Physico-Theology and Sir Richard Blackmore's (1654–1729) *Creation* (1712)

The aim of this chapter is to establish the historical and cultural framework of the thesis, and to offer an introduction to the nearly forgotten Sir Richard Blackmore and his work.

The first part will shed light on the historical and intellectual *milieu* that gave rise to Blackmore's *Creation* (1712). In particular, the object of this section is the emergence of physico-theology against the backdrop of the scientific revolution. This portion of Chapter 1 highlights the hybrid nature of physico-theology and delineates its key characteristics. These will be instrumental in the close analysis of *Creation* as a physico-theological poem in Chapters 2 and 3.

The second part presents the author both as a man of science—in his capacity as physician—and as a man of letters. This biographical and historical introduction serves two purposes: first, it enriches the strictly biographical accounts provided by Rosenberg (1953) and Solomon (1980) by considering the complexity of Blackmore's interests and connections; then, it illustrates the relevance of Blackmore in the cultural scene of his time. The importance of figures like Blackmore in the early eighteenth century has been well expressed by Oxford Professor Christine Gerrard (2006, p. 9), who claims that "[p]oets such as Richard Blackmore [...], familiar as the butt of Pope's satire on "dull" writers, are now seen to have participated in, and even prompted, a dialectic with [more prominent] Tory poetry and criticism."

1.1 Physico-Theology in England (1652–1712)

England was the cradle of the epistemological revolution towards empiricism and the scientific revolution of the seventeenth century. This cultural ferment presented the ideal context for the thriving of physico-theology, which strongly relied on observation and empiricism (Greyerz, 2022, p. 54; Blair & Greyerz, 2020). Hence, the *terminus a quo* for this brief survey of the English physico-theological phenomenon is the publication of the first treatise containing the adjective "physico-theological" in its title, that is, Walter Charleton's *The Darkness of Atheism, Dispelled by the Light of Nature. A Physico-theologicall Treatise* (1652). Its *terminus ad quem* is 1712, the year in which *Creation* was first published in London.

Physico-theology was a "current of religious thinking which was highly influential in lending expression to a deep transformation in how God was perceived to work in the world" (Greyerz, 2022, p. 1). It is to be understood as a subcategory of natural theology, although historically the two terms have been used in a similar manner. Given their etymological equivalence, scholarship has been divided on the application of these labels and on their acceptations. Seminal works on natural theology, like those by Peterfreund (2012), Manning (2013), and Calloway (2016), tend to use the two terms quite interchangeably, while also uniting natural theological and physico-theological works under the same classification of "natural theology." It was not until the publication of *Physico-theology: Religion and Science in Europe, 1650-1750* by Blair and von Blair and Greyerz (2020) and European *Physico-theology (1650-c.1760) in Context: Celebrating Nature and Creation* by von Greyerz (2022) that clearer systematic boundaries between physico-theology and natural theology were better expounded. For the purpose of this study, the definitions and interpretations of the terms provided by Blair and Von Greyerz will be accepted as reference.

Agreeing on a comprehensive definition of natural theology is no simple task, what with its interdisciplinary character and the multitude of approaches that can be classified as natural theological (Manning, 2013). According to McGrath (2022), the difficulty in defining natural theology lies in the broad use of the term, which can refer to any understanding of the relationship between the natural and transcendent worlds. The scholar generally writes that "natural theology deals with the link between the natural world and God" (McGrath, 2022). Similarly, in the *Blackwell Companion to Natural Theology,* Craig and Moreland (2009, p. 1) defines natural theology as "the practice of philosophically reflecting on the existence and nature of God independent of real or apparent divine revelation or scripture." While this explanation seems to imply that natural theology is ontologically opposite to the theology of revelation, this is not entirely true. Natural theology has been "thought of as based, not on 'pure nature,' which, after all, does not exist, but on the natural world that is God's creation" (Manning, 2013, p. 182). Indeed, such a definition does not link natural theology to any confessional division: its fundamentals do not presuppose a specific

creed besides the use of reason, a practice common to believers and unbelievers. Natural theology appeals "to the general possibility of revelation which is accessible to any being with our human faculties" (Manning, 2013, p. 553).

Bearing in mind its fundamentally a-confessional character, natural theology has ancient roots as a philosophical stance. Human beings have been prone to reflecting on the world they inhabited from the dawn of history. Developing systematically as early as the eighth century BC in Greece, the perspective of natural theology was soon incorporated into the Christian outlook. The biblical account of creation in the first chapters of the book of Genesis presents the nature and the elements that form it—both animate and inanimate—as divine creations:

> In the beginning God created the heaven and the earth.
>
> (*The Bible*, 2015, p. 1)

On the contrary, earlier pagan traditions often deified elements of nature in themselves. McGrath (2022) argues that in the early church, natural theology found its fortune in the genre of apologetics and contributed significantly as the world of Christianity approached secular culture. In the Middle Ages, interest in natural theological matters was revived in conjunction with a new interest in the *philosophia naturalis* that developed into the natural philosophy of the seventeenth century. It was during this period that the Book of Nature and the Book of Scripture began to be perceived as complementary ways of knowing the divine author. Such a view was somewhat substantiated by the writings of St. Paul, who in Romans 1.20 states that God's eternal power and divinity have become visible, recognisable through the things he created:

> For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead; so that they are without excuse.
>
> (*The Bible*, *The New Testament*, 2015, p. 190)

The natural world was understood as the handiwork of God, and therefore, the perfections of God were reflected in creation—albeit in an imperfect, earthly way.

Natural theology acquired even more prominence in the Early Modern period, when it became a major domain of thought. The idea of the dialogue between the Book of Nature and the Book of Scripture enabled the new natural philosophy to be admitted in the discussion of religious matters and thus became legitimate. According to Ogilvie (2005, p. 96), the seventeenth century saw the emergence of "secular theology," that is, a way of thinking about God grounded in reason. Although many of its advocates identified as Christian, their arguments were built more on rational observation than scriptural authority. In the late 1600s, natural theology evolved into a new intellectual environment, where teleology was no longer the dominant mode of explanation. Around this time, physico-theology emerged as the most fully developed form of natural theology (Ogilvie, 2005, p. 95). Not only the regularities of

the heavens and the *scala naturae* but also the intricacies of living beings were celebrated. Physico-theologians "read the book of nature in order to demonstrate or even to prove their understanding of the biblical account of Creation and the Flood and [...] the compatibility of this account with the new science" (Greyerz, 2022, p. 2).

The century that intervened between the works of the two most significant figures of British empiricism—i.e., Francis Bacon (1561–1626) and John Locke (1632–1704)—saw the establishment of "new pattern of natural knowledge in which a more central role was assigned to experience and probability and primary, though not exclusive, emphasis was placed on the acquisition and analysis of empirical data" (Shapiro, 1983, p. 15). The role of reason and observation in knowing the natural world was soon absorbed into natural theology, which

> was able to tame and incorporate the increasingly prevalent idiom of a mechanical philosophy from the mid-seventeenth century onwards and to accommodate the increasing mathematization of nature. (Manning, 2013, p. 76)

In an incredibly lucid essay entitled "The Uses of Natural Theology in Seventeenth-Century England" (2007), Scott Mandelbrote describes how natural theology developed as a response to critiques regarding the traditional ideas impregnated with scholasticism that were still popular in universities. Mandelbrote identifies two major "styles" of natural theology: on the one hand, there was the group based in Oxford and whose major exponents were natural philosophers John Wilkins (1614–1627) and Robert Boyle (1627–1691); on the other hand, at Cambridge, Henry More (1614–1687) and Ralph Cudworth (1617–1688) headed the so-called Cambridge Platonists. The members of both groups were conversant with the latest natural philosophy and incorporated it into their thought and interpretation of divine evidence in nature. The works of the first group stressed the lawfulness and providential order of the universe, for they believed it was possible to know God through the investigation and understanding of the natural world. This, in turn, could be known via sensory perception and the application of reason. While they believed in providence,[1] they understood it in terms of regularity and providential natural phenomena. The Cambridge Platonists opposed the materialism threatening the new philosophy and resorted to the wondrous occurrences they saw in nature to find hidden signs of God's existence. They were convinced that human beings had the ability to know God because of the innate presence of the idea of God in their souls, and as such, they considered the intuition of the soul necessary to check the activity of reason. The most relevant feature of

[1] In his *Science and Religion in Seventeenth-Century England* (1973), Westfall discusses the changing idea of providence at that time, the major problem posed by the new philosophy in the attempt to reconcile it to Christianity. In light of the regular and lawful conception of the universe as created by God, the question resolved itself with an implicit renunciation of particular providence—that is, direct intervention of God in the natural world—and a reaffirmation of general providence in the original creation (Westfall, 1973, p. 206). This is the idea of providence that underlay Blackmore's *Creation* (1712) as well.

their natural theology was the value they placed on amazement and wonder: natural theology served not only to yield evidence of divine design but also to inspire awe in the inquirers. By the early eighteenth century, the interpretation of natural theology presented by the Oxonian group gained further support from the natural philosophy of Isaac Newton (1642–1727) and ultimately prevailed. His *Principia Mathematica Philosophiae Naturalis* (1687) and *Opticks* (1704) were extensively employed in most significant natural theological writings of the late seventeenth and early eighteenth century, the Boyle Lectures.[2] Those written between 1692 and 1715 were particularly indebted to Newtonian physics (Mandelbrote, 2007, p. 467).

One of the main appeals of natural philosophy at the turn of the eighteenth century was the new prospects it offered to natural theologians (Gaukroger, 2006, p. 23). While the materialism of the "matter and motion" theory advanced by René Descartes (1596–1650) in the second half of the seventeenth century might have threatened the Christian religion, the harmony and regularity of the natural world as described by Newton and his fellow natural philosophers succeeded in drawing people to faith rather than leading them to doubt (Manning, 2013, p. 91). In the introductory chapter of her *Natural Theology in the Scientific Revolution* (2016), Calloway summarises that in the seventeenth century, natural knowledge shifted focus from divine to worldly matters—a key aspect of the Scientific Revolution. This transformation involved the mechanisation of the cosmos, the rise of anthropocentric teleology, and a new epistemological emphasis on probability over certainty (Shapiro, 1983).

It was precisely this successful contamination of the natural theological tradition—especially in the interpretation given by the Oxford group—with the new experimental and mechanical philosophy that engendered physico-theology. Albeit mainly of Oxonian origin, physico-theology also retained the Cantabrigian reliance on wonder and awe before the works of the Creator, who was to be worshipped not only for his power but also for his wisdom and goodness. Physico-theology maintained its a-confessional character, and in their works on European natural theology, Manning (2013), Blair and von Greyerz (2020), and von Greyerz (2022) show that physico-theology as a cultural phenomenon crossed many confessional borders. In England, positive attitudes towards natural philosophy were largely upheld by less conservative, Whig-oriented thinkers, and many associate this attitude with Latitudinarianism. By "latitudinarianism," we refer to a movement among late seventeenth-century Anglican clergy that fostered ecclesiastical moderation, limited religious toleration,

[2]The Boyle Lectures were a series of public lectures founded in 1691 by Robert Boyle. In his will, the natural philosopher allocated an annual stipend of £50 for each series of eight annual lectures and named four trustees from different walks of life and with different views to ensure the enactment of his *desiderata* (Dahm, 1970, p. 173). The aim of these sermons was to defend the Christian religion "against notorious Infidels, viz. Atheists, Theists, Pagans, Jews and Mahometans, not descending lower to any controversies, that are among Christians themselves" (Bentley, 1693). The "atheists" against which the Boyle Lectures were intended were all those who held positions opposed to orthodox Christianity, including those of Hobbes, Spinoza, and the Epicureans. The lectures succeeded in reaching a wide audience and in applying natural philosophy to apologetics in the demonstration of the attributes of God (Dahm, 1970).

and rational, undogmatic faith. They promoted moral certainty, reasoned belief, and ethical conduct over doctrinal infallibility, rigid dogma, or ritualism (Marshall, 1998). Though earlier scholarship tended to link scientific innovation in seventeenth-century England primarily to Puritanism,[3] works like Shapiro's "Latitudinarianism and Science in Seventeenth-Century England" (1968) insist on the importance of religious moderation instead. She argued that much of the century's scientific activity took place in the middle ground between strict confessional categories such as "Puritan" and "Anglican," a space closely associated with Latitudinarian culture. Beck (2012) also suggests that Latitudinarianism provided the theological foundation and cultural legitimacy for the practice of physico-theology, especially among regional natural historians in England. Nonetheless, Levitin (2014, pp. 34–5) challenges this interpretation and contended that "[r]ecent research has shown that there was little connection between interest in the new philosophy and a putative 'latitudinarianism,' or, for that matter, any other politico-ecclesiological preference."

In sum, natural theology served as the primary point of connection between science and religion during this period. Although scientific inquiry was largely neutral in terms of religious commitment, its findings were interpreted as evidence for the existence of a wise and all-powerful creator. In this way, natural philosophy, as a rational and independent pursuit, lent support to any religious faith (Harrison, 2014, p. 113).

1.1.1 Physico-Theology: Attempt at a Definition

A noticeable scholarly interest in physico-theology has emerged only in recent years. Earlier, the term was often used by scholars interchangeably with natural theology, as the two share the same etymological meaning: whereas natural theology translates the Latin *theologia naturalis*, physico-theology employs the Greek root of the noun φύσις, -εως, that is, nature.

The noun "physico-theology" did not exist in the English language before the eighteenth century. The OED registers its first use in 1713, when clergyman and fellow of the Royal Society William Derham (1657–1735) published his Boyle Lectures under that title. The adjective "physico-theological," on the other hand, appeared earlier. Physician Walter Charleton (1619–1707) used it in the subtitle of his natural theological work *The Darkness of Atheism* (1652). Soon after, its Latin form occurred in Samuel Parker's *Tentamina physico-theologica de Deo* (1665).

One of the scholars who has devoted great attention to physico-theology is histor-

[3]For instance, in his seminal *The Great Instauration*, Webster (1976, pp. 503–4) wrote that "[i]t has already been demonstrated in quantitative terms that the rise of the English scientific movement correlates extremely closely with the growth in strength of the puritan party. [...] there is ample evidence to suggest that the entire puritan movement was conspicuous in its cultivation of the sciences, that its members became vigorous proponents of a variety of new approaches to natural philosophy and that it can be shown that their scientific beliefs were framed within the puritan sphere of influence developing a scientific outlook consistent with its doctrinal position."

ian of science Peter Harrison. In his contribution to Blair and von Greyerz's *Physico-theology* (2020), he addressed the challenges of defining physico-theology by looking at its linguistic formation. In seventeenth-century England, many adjectival compounds using "physico-" appeared, such as "physico-mathematical,"[4] "physico-astronomical," "physico-mechanical." These increased in number during the eighteenth century, along with more compound nouns ending in "-theology." A case in point is the title of William Derham's sequel to *Physico-Theology* (1713), *Astro-Theology* (1715), a book focused on demonstrating God's existence from the contemplation of the heavens. Harrison argues that the multiplication of such compounds was not accidental, but rather the evidence of a tendency to blur the boundaries between different disciplines begun in the seventeenth century:

> "physico-theological" approaches, rather than being simply a synonym for what we would now call "natural theology," would involve the kind of boundary crossing that we witness in the case of physico-mathematics. And just as mathematicians were to claim authority in the sphere of natural philosophy, some proponents of new mathematical natural philosophy or experimental natural philosophy came to see themselves as equipped to make claims in the sphere of theology. (Blair & Greyerz, 2020, p. 42)

The hyphenation of the term, then, indicates the hybrid nature of physico-theology at the intersection between theology and the latest natural philosophy. As McGrath (2022) explains, "[t]he term 'physico-theology' [...] was now widely used to refer to approaches to theology that were based on observation and interpretation of the orderedness, complexity, and beauty of the natural world."

However, a straightforward definition of physico-theology that encompasses all its features and nuances is virtually impossible to formulate. Some specific characteristics help circumscribe the phenomenon and bring us closer to a definition, starting with its chronological specificity. While natural theology has a history dating back to antiquity, the subcategory of physico-theology has a much more recent origin. It appeared alongside the emergence of the new natural philosophy[5] in the late seventeenth century. In the Introduction to their monograph, Blair and Greyerz (2020, pp. 7–8) list the other most common features of physico-theology. First, physico-theological works expressed the belief that God is benevolent and rational and that everything in nature was created by God for a specific purpose. Second, physico-theologians tended to adopt a utilitarian perspective. The saw nature as a divine creation intended to ensure humanity's well-being. Third, physico-theology was of-

[4] That of physico-mathematics was a singularly successful strand in seventeenth-century natural philosophy. Newton's *Principia Mathematica* was the crown jewel of this tradition.

[5] As Harrison (2005) clarifies, natural philosophy is different to modern science not only because it was a different phenomenon, but also because of the importance of God in this discipline. Seventeenth-century natural philosophy, to a certain extent, already included a blend of science and religion, which declined in different ways for different individuals. God was always involved in natural philosophical endeavours but there was no single way in which he was.

ten employed as a weapon against atheism and deism; hence, physico-theologians celebrated the works of creation as proofs not so much of God's power, but rather of his wisdom and goodness. McGrath (2022) adds that "[b]y the early eighteenth century, natural theology was seen as having given a new plausibility to religious faith in an increasingly scientific culture." Another key feature of physico-theology was its attempt to reconcile empirical natural philosophy with traditional Christian beliefs. According to Gerrard (2006, p. 40), physico-theology played a central role in the late seventeenth-century acceptance of the new philosophy: "God manifested himself as the glorious creator through his sublime work of Nature, and [...] the mission of the scientist was to glorify God by revealing the complexity and magnificence of Nature to the rest of society." Rogers (2022, p. 159) further claims that at this time "the reinforcement of empirical philosophy (the 'New Science') and pious religious belief (Physico-Theology)" supported each other in the learned debates of the era.

In *Science and Religion in Seventeenth-Century England* (1973), Richard Westfall explains that, as science gained prestige, reconciliation between Christianity and natural philosophy meant adjusting Christian doctrines to fit scientific conclusions and not the other way round (p. 3). Thus, the rise of natural religion reflected a growing preference for a rational foundation for faith, often leading to an implicit abandonment of particular providence in favour of general providence: God was seen as a creator and sustainer, but no longer a daily intervener (p. 206). Even as they embraced empiricism and rationalism, natural philosophers still considered nature an ordered and purposeful creation (p. 51-2). In this picture, God was not the operator of the world but its architect, "the active causal agent in designing and creating the world, in all its intricate detail, and set the laws by which nature operated, but He did not intervene in miraculous fashion above and beyond those laws" (Beck, 2012, p. 11).

In this cultural *milieu*, any practice that revealed further signs of God's power and wisdom was seen as valuable (Calloway, 2016, pp. 1–2). Bots (1971) maintains that "[w]hat distinguished eighteenth-century physico-theology from earlier similar arguments was as much about the empirical investigation of nature as it was about theology" (as quoted in Blair and Greyerz, 2020, p. 157). In other words, physico-theology was not only a theological exercise but also a scientific one. At the same time, this emphasis reinforced the anthropocentric view of nature central to physico-theological thought (Greyerz, 2022, p. 94). "Physico-theological anthropocentrism and 'utilitarianism' were intrinsically connected with the argument from design," von Greyerz (2022, p. 162) explains. Beck (2012, p. 20) further notes that divine grace was reinterpreted as embedded in nature through the provision of resources precisely suited to human needs. This belief that nature itself is evidence of God's providential preference for humanity will be particularly evident in *Creation*.

As anticipated at the beginning of this section, physico-theology's chronological specificity is one of its most distinguishing features. Scholars identify the period between 1650 and 1750 as the time when this cultural phenomenon took a distinct

shape in Europe and popularised the so-called argument—or arguments—from design. These were the years of the Scientific Revolution and of the dawn of modern science, and by mid-eighteenth century "physico-theology had come to mean any particular study of nature that shed light on divine design" (Blair & Greyerz, 2020, p. 75). The argument from design was by no means the only argument available to physico-theologians. Manning (2013, p. 420) records that competing arguments included, for instance, the classical ontological or the cosmological arguments. In these, the existence of the universe itself was the most obvious clue of God's existence. Additionally, the argument from design was never a singular, uniform line of reasoning. In *Turning Points in Natural Theology from Bacon to Darwin: The Way of the Argument from Design* (2012), Stuart Peterfreund outlines the key changes of the argument over time, particularly focusing on the different sets of evidence employed in these texts.

Calloway (2016, p. 20) identifies the establishment of the Boyle Lectures in 1691 as the start of the golden age of physico-theology. Mandelbrote also mentions the publication of John Ray's (1627–1705) *The Wisdom of God* in the same year as equally influential (Manning, 2013). The spread of Newtonian physics further reinforced this trend. As Harrison (2005, p. 181) explains, the rise of physico-theology reflected the disciplinary instability of the early modern period. It was an attempt to negotiate the relationship between the new natural philosophy and traditional theology in a way that also allowed it to become involved in divisive debates (McGrath, 2022).

As per Parry (1992, p. 135), "[t]he spirit of scientific enquiry in seventeenth century England flourished to a quite remarkable degree, and commanded admiration throughout Europe in a way that the literary or artistic achievements of the country never did." Consequently, physico-theology became a popular form of "mass literature in eighteenth-century" all over the continent[6] (Blair & Greyerz, 2020, p. 30).

1.1.2 Physico-Theology in Prose

Physico-theology was a European phenomenon (Blair & Greyerz, 2020; Greyerz, 2022), but it had a particularly successful history in England, where the first steps of the scientific revolution took place. According to von Greyerz (2022, p. 30), while not the most numerous, British physico-theologians were definitely among the most relevant in Europe: they were usually best-selling authors and had a proliferation of readers. The historian foregrounds the role of Robert Boyle and John Ray as the fathers of British physico-theology: they "were among the early physico-theologians who realised that natural history and, in particular, the empirical argument from design could be used for apologetic ends" (Greyerz, 2022, p. 54).

Although at first the new discoveries of natural philosophy took time to be known to the general public, Oxford and Cambridge universities slowly began to accept

[6] Blair and von Greyerz mention Germany as a case in point of the development of this literary tradition and provide several examples of this kind. Von Greyerz (2022) dwells on this, too.

new systems of thought. The seventeenth-century university curricula retained their mediaeval pattern—which included very little science—though natural philosophy gained prestige and many talented men of science gravitated around these establishments (Allen, 1949). In Oxford, for example, the Laudian Statutes were still in use. They were published in 1636 when Charles I commissioned Archbishop Laud to revise the university statutes and supervise education within the university. Students were expected to study grammar, rhetoric, logic, moral philosophy, geometry, astronomy, Greek, and Aristotelian metaphysics (Griffiths, 1888). Allen (1949), however, registers that at the beginning of the century, something of the latest mathematics and scientific thought had been introduced with the establishment of the Savilian Chairs of Geometry and Astronomy (1619) and the Sedleian Chair in Natural Philosophy (1621). Modern natural philosophy began to slowly penetrate university teachings. Yet, by this time, to receive a thorough scientific education, students had to decide whether to educate themselves or resort to the private teachings of enlightened university tutors. Religious education, on the contrary, was a common subject.

This context explains why the earliest works of physico-theological often emerged from university settings and were often in Latin. The situation improved significantly after the foundation of the Royal Society of London in 1660, the publication of Newton's *Principia* in 1687, and the establishment of the Boyle Lectures in 1691. Physico-theology moved beyond its scholarly confines, and works in this genre began to be translated or composed directly in vernacular, allowing them to reach a broader audience. It was thus that around the turn of the eighteenth century physico-theological literature flourished in Britain and popularised the new philosophy. Indeed,

> [t]he major concern of physico-theologians was the demonstration of the compatibility of religious tradition and the new science (including medicine), first emerging in England from the mid-seventeenth century. [...] Physico-theology decisively prepared the ground for the acceptance of the new science by a large educated public. (Greyerz, 2022, p. 1)

While some texts of physico-theological literature came from the clergy, many were authored by professional scientists who integrated recent discoveries and theological arguments. Early examples include foundational texts such as Walter Charleton's *The Darkness of Atheism* (1652), the first to employ the term "physico-theological." Although scholars debate its classification,[7] Henry More's *An Antidote Against Atheism* (1653), especially Book II, is a more widely accepted early instance of "most thoroughly rational physico-theology" (Calloway, 2016, p. 31). Robert Boyle was a pivotal

[7]Current scholarship is divided on whether the treatise should be classified as part of the physico-theological genre. Calloway (2016, p. 34) argues that Charleton's approach is more rooted in the deductive philosophy of ancient atomists—rather than a focus on observing nature. On the other hand, Harrison (2005, p. 172) suggests that it could be one of the first works in English physico-theology and Scott Mandelbrote, too, considers Charleton's treatise as a valid example of physico-theology (Blair & Greyerz, 2020). The main objective of Charleton's work was to argue against atheism and support the idea of divine providence through the design argument.

figure in the tradition of physico-theology in England. He conceived science as a sacred vocation and in his numerous works—e.g., *The Excellency of Theology, Free Inquiry, Disquisition on Final Causes*—he stressed divine providence behind natural laws. Boyle was instrumental in integrating theology with natural philosophy in a broader sense: the annual lectures he founded in 1691 were a propulsive catalyst for physico-theological literature in England. In early eighteenth-century Britain, public lectures on experimental philosophy became a key means of popularising scientific ideas, and they fostered the production of texts accessible to the general public. Several works of the kind were issued in the years following the institution of the Boyle Lectures aimed to defend Christianity "against notorious Infidels, viz. *Atheists, Theists, Pagans, Jews* and *Mahometans*, not descending lower to any controversies, that are among Christians themselves" (Bentley, 1693). According to Dahm (1970), they succeeded in applying natural philosophy to demonstrate the attributes of God, refute materialist perspectives, and assert the role of God's providence in nature. Among the Boyle Lectures, few had a more striking impact on physico-theology than Richard Bentley's *The Folly and Unreasonableness of Atheism* (1693). The "God's Philologist," as Calloway (2016) dubbed him, was a pioneer in this tradition, in that he applied his ability to reading texts in reading the book of nature and employed Newtonian physics to defend his theological views. Bentley's published lectures were divided into eight sermons and three main parts: after the first two introductory sermons, sermons III to V used the evidence found in the "Structure and Origin of the Human Bodies," while sermons VI to VIII focused on the "Origin and frame of the world." Given its comprehensive scope and scientific soundness, Blackmore extensively resorted to this text in writing his *Creation* (see Chapter 2). He drew on the work of another Boyle Lecturer, William Derham. He was a clergyman and amateur natural philosopher who made significant contributions to the work of the Royal Society throughout his life (Atkinson, 1952b). With his *Physico-Theology*[8] (1713) he offered a systematic theological integration of natural philosophy, later expanded with *Astro-Theology* (1715). These texts were based on the Boyle Lectures he delivered in 1711 and 1712 at the Church of St Mary-le-Bow in London. They became foundational texts in physico-theology and served as a "science handbook for divines and poets alike" (Jones, 1966, p. 21). Although the publishing date of the treatise rules out the possibility that Blackmore perused the printed text as a source for his physico-theological poem, there is evidence that he might have attended Derham's lectures in person. At the time these sermons were delivered, Blackmore used to live in Cheapside,[9] the area of London

[8] Von Blair and Greyerz (2020, p. 40) explains that it was the title of this successful treatise that first popularised the substantive "physico-theology" in England.

[9] According to Boyce (1938, p. 457), a rival physician called Tom Brown dubbed Blackmore the "Cheapside hero." This appellation appeared in one of his letters, where we also learn that Blackmore "Rhime[d] as well as Prescribe[d] to the use of their [the apothecaries'] Shops." Boys (1949) also explains that when Blackmore lived in Cheapside, the appellation "city dweller" was a term of scorn and Blackmore was often called "City Bard" or "the Cheapside Knight" in the *Commendatory Verses, On the Author of the Two Arthurs, And the Satyr against Wit* (1700).

where the Church of St Mary-le-Bow is located. As the next Section 1.2 will show, several proofs of this are to be found in *Commendatory verses on the author of The two Arthurs and the Satyr against wit* (1700), where Blackmore is referred to as "the Merry *Poetaster* at *Sadlers-hall*,[10] in *Cheapside*" (Anonymous, 1700a, p. 4) or "the *Cheapside* Knight" (Anonymous, 1700a, p. 5).[11] It is worth remarking that the distance between Saddlers' Hall and the Church of St Mary-le-Bow was very short, as Figure 1.1 shows.



Figure 1.1: This image is a section of the map of early modern digitalised by Janelle Jenstad, Greg Newton, and Kim McLean-Fiander at the University of Victoria (BC, Canada) (Jenstad, 2006-present). It depicts the area of Cheapside and shows the location of Saddlers' Hall (green) and the Church of St Mary-le-Bow (purple).

Further evidence of a certain indebtedness is to be found in the structure of *Creation*, which closely mirrors that of *Physico-Theology*. Both texts also share the same aim: according to Mandelbrote, "Derham was concerned to draw implications for the worship of God and the moral behavior of human beings from 'physico-theology,' not simply to concentrate on an account of divine attributes," exactly like Blackmore did (Blair & Greyerz, 2020, pp. 74–5). Derham's work was structured into eleven books, each addressing a different aspect of the "Terraqueous Globe," through which God's design and purpose could be discerned. Like Blackmore, the clergymen overviewed the physical earth, the animal kingdom, and human nature. Peterfreund

[10] *The registers of St. Vedast, Foster Lane, and of St. Michael le Quern, London* record the marriage of "Edward Acton, Barchlor and Naylor, and Sarah Price, maid servant, both servants to Sir Richard Blackmore Liueing in Sadler's Hall in this parish [...] ye 5th day of Aprill 1702" (Littledale, 1903, p. 33).

[11] In her *A Companion to Eighteenth-Century Poetry*, Gerrard (2006, p. 477) refers to him using another of his epithets, the "city" poet. Williams (2005, p. 34) explains that "[o]ne of the most frequently repeated charges made against Blackmore was based on his associations with the City. The preface to the *Commendatory Verses* suggests that Blackmore take control of City entertainments, and that the authorities should 'put the entire Management of Smithfield into his Hands, and make him absolute Monarch of all the Booths and Poppet-shews.' Thus Blackmore was swiftly connected with the moralistic pageants and popular entertainments that Restoration writers had used as the epitome of the didacticism and rampant commercialism associated with Whig writing."

observes that "Derham's God is both intimately involved in the contrivances of his world and an intimately knowable presence by means of understanding those contrivances" (2012, p. 58). The same can be said of Blackmore's attitude in *Creation*. The physico-theologians also shared an upwards glance in structuring their works: both started contemplating the earth and its properties and then moved upwards to the heavens—later explored by Derham in *Astro-theology*—and the human being. Finally, the two authors shared a common moral aim in their physico-theological endeavours. Like Blackmore, Derham employed physico-theology not just to describe God's attributes, but to encourage worship and moral conduct (Blair & Greyerz, 2020, p. 75).

The textual evidence provided in Chapters 2 and 3 reveals that other relevant Boyle Lectures Blackmore might have attended were *A Demonstration of the Being and Attributes of God* (1704) by Samuel Clarke (1675–1729) and *Arguments to Prove the Being of a God* (1706) by John Hancock, with which *Creation* shares several features, in terms of content and structure. Moreover, the idea that "[t]he works of Nature everywhere [are] sufficiently evidence a Deity" (Locke, 1696, p. 259) was quite widespread in other works of the time. For instance, in *The Reasonableness of Christianity* (1696), John Locke stressed that one of the beauties of Christianity is its conformity to reason, as the laws of nature are seen as reflecting the mind of God. Physico-theological handbooks made contemporary scientific and theological ideas accessible to laypeople by simplifying them enough for anyone to readily grasp, regardless of their background (Solomon, 1980, p. 124). To make their objective even more shareable, physico-theologians tended to reject the theories of the imperfection of nature and, instead, emphasised the scientific progress enabled by the empirical observation of nature, a product of divine wisdom. Clergyman John Edwards's (1637–1716) physico-theological work, *Demonstration of the Existence and Providence of God*[12] (1696), is a case in point and reflects a deeply optimistic view of the natural world. Edwards followed Bentley's framework, although he did not share all his scientific ideas, and embraced the view that nature's current form and flaws reveal the work of an all-powerful creator (Solomon, 1980, p. 125). As Chapter 2 will show, Blackmore drew extensively on Edwards's work too, borrowing some of his most original arguments and, at times, tentative stance towards some implications of the new philosophy.

In general, physico-theological prose works tended to focus on topics of natural philosophy and natural history, and to present observation of the physical world as a privileged perspective for accessing divine knowledge. John Ray's *The Wisdom of God* (1691) is a case in point: alongside the common refutation of Epicureanism and Cartesianism, it includes lengthy sections like "Of the visible Works of God and their Division," "Of the Heavenly Bodies," and "Of Terrestrial inanimate simple Bodies," where astronomical and mineralogical order are displayed as evidence of divine wis-

[12]The full title is *A demonstration of the existence and providence of God, from the contemplation of the visible structure of the greater and the lesser world.* To have a more ample insight into Edwards's life and works, see Wallace and D. (2011).

dom. Physico-theological texts also resorted to natural history *per se*: Thomas Pope Blount's (1649–1697) *A Natural History: Containing Many not Common Observations: Extracted out of the best Modern Writers* (1693) provides close descriptions of "Several Precious Stones," the "Loadstone," and "Remarkable Trees," illustrating how natural elements might be employed in theological reasoning. These examples demonstrate the consistent use of astronomy, mineralogy, botany, zoology, and anatomy in support of theological arguments in physico-theological writing in the second half of the seventeenth century.

These are only a handful of physico-theological works published within the considered time frame, although the most relevant to the present thesis. In her *Natural Theology in the Scientific Revolution*, Calloway (2016) provides a long list of the major works published in the years between 1543 and 1715, when "there was a thriving industry in natural theology" (p. 21). Although these texts varied significantly in style, language, and intended audience, they all aimed to show that Christianity was reasonable in the emerging context of empirical natural philosophy. In so doing, English physico-theological treatises played a crucial role in the phenomenal dissemination of physico-theology both at home and on the continent (Greyerz, 2022, p. 33).

1.1.3 Research Gap in Physico-Theological Poetry

Granted that physico-theology took mainly prose forms, poetry was also an effective vehicle, as it was accessible to the common reader and appealed to common sense and imagination. Indeed, the use of a form like poetry gave physico-theology an allure that traditional natural theology entirely lacked (Greyerz, 2022, p. 47) and ensured the success of the genre.[13] Moreover, as Fowler and Ingram (2015, p. 86) maintains, "[p]hysico-theological poetry answered the desire of natural philosophers to see their convictions in verse," topics usually not covered by poets.

In the already mentioned *European Physico-theology (1650-c.1760) in Context* (2022), Kaspar von Greyerz provided a state-of-the-art overview of physico-theological productions in Europe. In his survey, the Swiss historian focused on prose works and clarified that

> [f]or lack of expertise, I have decided not to include in any systematic way physico-theological poetry among my sources, for the simple reason that their analysis clearly requires the skills of a specialist in comparative literature. The works of Sir Richard Blackmore, notably *Creation* (1712), James Thomson (*The Seasons*, 1730) [....] are cases in point. (Greyerz, 2022, p. 27)

[13] In his article "Dr Johnson and some Physico-Theological Themes," Atkinson (1952a) shows examples of Johnson's extensive use of physico-theology in the *Dictionary*. From the evidence gathered by the scholar, Johnson read the physico-theologians of the late seventeenth and early eighteenth centuries like Ray, Bentley, Woodward, Derham, and also demonstrated familiarity with less-known writers. The dictionary both testifies to the long-lasting influence of physico-theology in Britain and served as a means through which physico-theological ideas circulated among a wide public.

The present dissertation intends to partially fill this gap by analysing Blackmore's physico-theological work. *Creation* stands as one of the most accomplished and comprehensive examples of this literature, and it was the first extensive text of its kind in English.

Several handbooks and critical texts have devoted significant attention to scientific poetry. For instance, in *English Literature in the Early Eighteenth Century 1700-1740*, Dobree (1959, pp. 499–501) explains that in the early eighteenth century, a wave of poets and lesser literary figures emerged, inspired by the philosophical ideas of Newton and Locke. Between around 1709, the year in which Reverend John Reynolds's (1668–1727) *Death's Vision* was published, and the mid-1700s, the production of poetry with philosophical and cosmic themes experienced a sudden increase. Although earlier works had dealt with cosmic subjects—such as those by John Milton (1608–1674) or John Donne (1572–1631) (Bush, 1950; Nicolson, 1962b)— this new generation of writers turned instead to more strictly scientific themes.[14] Few of them were truly skilled poets, but they were important for they embodied the desire to engage with contemporary understandings of the universe and humanity. Their works were often filled with descriptions of nature and shared a sense of awe at the universe's vastness and order as proof of God's creative force. Dobree dubs these writers as "the Derhams of verse" to stress their relevance in popularising science. Yet, both literary scholars and historians have devoted little critical attention to the topic of physico-theological poetry. A notable exception is William Powell Jones, whose extensive production focused on scientific poetry of all kinds. His *The Rhetoric of Science: a Study of Scientific Ideas and Imagery in Eighteenth-Century English Poetry* (1966) is still a seminal point of reference for anyone studying scientific poetry. As Rogers (2016, p. 321) puts it, "[a]lthough the history of science has made considerable advances since this book was written, the literary and aesthetic map drawn by Jones has dated remarkably little." The author explains that in early eighteenth-century England, much creative writing celebrated God through reflections on the natural world. He considers different types of writing of this kind: paraphrases of Scripture—especially the Psalms or the Book of Job[15]—emphasising nature's beauty;

[14] Among these cosmic poems, Dobree mentions William Hinchcliffe's *The Seasons* (1718), John Hughes's *The Ecstasy* (1720), Aaron Hill's *Creation* (1720), Richard Collins's *Nature Displayed* (1727), Samuel Edwards' *The Copernican System* (1728), David Mallet's *The Excursion* (1728), and Bezaleel Morrice's *An Essay on the Universe* (1735). The same texts are also mentioned in Gerrard (2006).

According to Dobree, these were not examples of great poetry. "The poet who most nearly made a real poem out of science was, however, Henry Brooke who followed up his *Design and Beauty: an Epistle* (1734), which his *Universal Beauty*, published in six parts rom 1734 to 1736. The first Book, a scientific-philosophical Deistic-moralistic ecology on the perfection of design in the universe—the fittingness of everything—ends with a poetical rhapsody, but it is not until Book II that the poem gathers way, and becomes pleasant reading, if only because Brooke could manage the couplet with some skill, and a certain variety of movement" (Dobree & Wilson, 1959, pp. 508–9).

[15] In his literary production, Blackmore himself tried his hand at both genres with *A paraphrase on the book of Job: as likewise on the songs of Moses, Deborah, David: on four select psalms: some chapters of Isaiah, and the third chapter of Habakkuk* (1700), *A Collection of Poems on Various Subjects* (1718), and *A New Version of the Psalms of David* (1721). See Appendix A.

poetical essays on physico-theological topics, showing how science reveals the Creator's wisdom; lengthy poems focused on moral or philosophical themes; shorter, simpler poems using scientific imagery. Poets often drew from widely read physico-theological texts like Derham's and transformed their ideas into more accessible and appealing literary forms. Usually, these poems were not original in the concepts they presented, in that they simply versified what others had already written in prose. Physico-theological poets tended to recognise the sublime in all the works of the Lord and used it to praise and magnify him. In particular, Jones (1966, pp. 28–9) explains that these poems combined different branches of science, and the choice of which to include was normally driven by each author's particular interest and expertise. The scientific theories that appeared in physico-theology were, in most cases, state-of-the-art and the best available (Blair & Greyerz, 2020, p. 26). Blackmore, for instance, was a physician and in *Creation* there is an uncommon reliance on and knowledge of physiological matters as compared to the poetry of the time. Overall, these poems shared some features, which Jones (1966) lists as order, plenitude, the belief in the Great Chain of Being (see Section 2.4), the contemplation of the Book of Nature, and faith in God's providence in all works of creation. Jones (1961, p. 98) even adds that in the eighteenth century, physico-theological poets employed scientific discoveries to discern God's wisdom as revealed in nature and, in doing so, they highlighted the limits of science. These poets were in favour of natural philosophy and tried to defend science against accusations of promoting atheism. However, while celebrating science as evidence of divine design, they also acknowledged that it could not fully explain the deeper causes behind all natural phenomena, which could instead be traced back to God.

Another valuable exception in the contemporary scholarly reception of physico-theological poetry is "Philosophical Tours of the Universe in British Poetry, 1700-1729; or, The Soaring Muse," a chapter of Lorna Clymer's *Culture and Authority in the Baroque* (2005). In early eighteenth-century England, the "philosophical tour of the universe poem" emerged as a popular poetic form, with authors such as John Reynolds, Richard Blackmore, Henry Baker (1698–1774), and Henry Brooke (1703–1783) significantly contributing to the genre. Their works appeared "shortly after influential physico-theological prose tracts and treatises of the late seventeenth century, or concurrently with similar prose published after 1700" (p. 30) . This genre was shaped by the physico-theological movement, defined by Samuel Johnson (1709–1784) in 1755 as "divinity enforced or illustrated by natural philosophy," that opposed the pernicious implications of materialist and atheistic philosophies. Physico-theologians upheld the theological argument that "the universe demonstrates an orderly design; this design could have been created only by an intelligent being; that being could only be God; therefore God exists, and He requires our gratitude" (p. 31). According to Clymer, this line of reasoning was widespread and culturally influential, and physico-theological poems showed that "theology and natural philosophy were intertwined"

(p. 32). Hence, the scholar argues against reducing these works to mere "scientific verse;" instead, they were "a legitimate form of public, discursive expression" that invited readers to contemplate the sublimity, vastness, and beauty of the universe as "material proofs of God's presence" (p. 33).

In her contribution to *The Oxford Handbook of British Poetry, 1660-1800*, Rogers (2016) also considers the topic of scientific poetry and the relationship between science and religion in verse. She pigeonholes physico-theology within the broader genre of scientific literature. Following the work of scholars like Marjorie Hope Nicolson, Rogers grants that scientific ideas permeated literature in the period, as the language of poetry became infused with philosophic words and images. Sections 1.1.1 and 1.1.2 showed the context and the contents of physico-theology and the professor explains that, for poets, physico-theology

> generally meant looking out into the universe and the terrestrial globe, thus celebrating the perfection of God's design as "proved" by the discoveries of Newton and his fellow cosmologists. Central concerns were the magnitude, order, and plenitude of creation. The workings of the divine mind were to be deciphered by scrutinizing the heavens and the earth. (Rogers, 2016, p. 324)

In light of this consideration, she further frames the evolution of physico-theological poetry within the broader quarrel between the Ancients and Moderns. She proposes a reading of the "physico-theological movement" as participating in the "new battle of the books," in which contemporary approaches to the study of the natural world were set against the more conventional perspectives sustained by academic institutions and proponents like Swift (p. 325). Finally, Rogers recognises Blackmore's *Creation* as "[t]he most noteworthy attempt at a fullscale epic treatment of physico-theological issues" (p. 323).

In a way, the poem inaugurated a new strand in eighteenth-century poetry which resulted, by the middle of the century, in the appearance of a plethora of long "poetical essays" on physico-theology, namely: Richard Collins's *Nature Display'd* (1727), Henry Baker's *The Universe* (1727), Samuel Bowden's *Poetical Essays* (1733), David Mallet's *The Excursion* (1728), Bezaleel Morrice's *An Essay on the Universe* (1725), and the anonymous *Philosophic Ode on the Sun and the Universe* (1750) (Jones, 1959, p. 41). On top of these, Jones (1963, p. 289) also mentions Henry Brooke with his *Universal Beauty* (1735) and Moses Browne (1703–1787) with his *The Universe* (1742) and *The Works and Rest of the Creation* (1752). While their historical significance as intellectual testimonies of the age has often been remarked, none of these texts has ever been studied in depth as a specimen of physico-theological poetry in England.

The present work addresses this research gap by analysing the first and most accomplished composition of this tradition: Blackmore's *Creation*, which "put into verse the wisdom of God in nature as demonstrated by 'natural philosophy' in the discov-

eries of the new science" (Jones, 1966, p. 86) and set the standard for subsequent attempts of the kind. Such research work is valuable for at least three reasons: it offers new insights into the development and forms of physico-theology; it brings attention to lesser-known poets of the Age of Enlightenment; and it adds nuance to our understanding of the origins of scientific and nature poetry in Britain. As a matter of fact, physico-theological poetry had a profound influence on eighteenth-century literature. Cases in point are Alexander Pope's (1688–1744) *Essay on Man* (1733) and James Thomson's (1700–1748) *The Seasons* (1726–1730), both of which incorporated scientific ideas and were highly indebted to this tradition. A tradition that, according to Jones (1959, p. 41), turned to more descriptive georgics of the English countryside in the second half of the eighteenth century and found its acme in Romantic poetry.

1.2 Sir Richard Blackmore (1654–1729)

The following presentation of Blackmore's multifaceted *persona*—the physician, the poet, the devout Christian—intends to rectify the critical neglect he has been subjected to in the last three centuries. Part of this reevaluation concerns *Creation*, Blackmore's masterpiece and a scientific encyclopaedia in verse. Particular attention is reserved for its editorial history, genre, structure, and style. Together with the previous Section 1.1, the next few pages lay the groundwork for the close analysis of the poem in Chapters 2 and 3. Ultimately, this study will reveal the significance of *Creation* as a synthesis of science, theology, and poetry at the turn of the century. As Pizzol Giacomini (2007, p. 2) stated, Blackmore "was a thoroughly representative figure of the ideas, theories, and doctrines he supported," which mirrored the interests and urgencies of a section of the society of his time.

1.2.1 Research on Blackmore

As a nearly forgotten poet, Blackmore has received limited critical attention in recent years. During his day, he managed to catch the attention of his most illustrious contemporaries, who extensively wrote about him—though the subsequent infamy these writings engendered led to his being largely neglected by posterity.

The modern monographs devoted to Blackmore are two, namely Alan Rosenberg's *Sir Richard Blackmore: A Poet and Physician of the Augustan Age* (1953) and Henry Solomon's *Sir Richard Blackmore* (1980). Both works focus on Blackmore's biography and rely on coeval sources. Rosenberg's is a standard biography and does not dwell on Blackmore's literary works. In contrast, Solomon's text centres on Blackmore's literary career. These biographies highlight different sides of Blackmore: the poet, the zealous man of faith, and the physician. The last of these nuances, however, has not been explored much. Hence, the present section will investigate this facet of Blackmore by lingering on his scientific stance and his medical career. As Rosenberg comments, such a study is justified by the fact that Blackmore's "books are of considerable interest to scholars concerned with the literary controversies of the age, with the progress of medicine, and with the history of ideas" (1953, Preface). Only two other books are entirely devoted to Blackmore. The first is Richard C. Boys's *Sir Richard Blackmore and the Wits* (1949), which elaborates on the turbulent literary and ideological relationship between Blackmore and the Augustan "Wits." These were a circle of fashionable writers including John Dryden (1631–1700), Alexander Pope, Jonathan Swift (1667–1745), and Samuel Garth (1660/1–1719). Boys's volume is a relevant source, for it positions Blackmore not merely as a mediocre poet in comparison to his more prominent literary enemies, but as a significant figure in the cultural debates at the turn of the eighteenth century. The scholar concludes that the poet was instrumental in championing the virtues of the middle class with a Christian voice. The modern reevaluation of Blackmore's work acknowledges its cultural relevance,

especially as a reaction to the libertine tendencies of the Wits.

The second monograph on Blackmore is Michela Pizzol Giacomini's *Sir Richard Blackmore and the Bible: A Reading of His Physico-theological Poems* (2007). This volume complements the present dissertation. Pizzol Giacomini is interested in the Bible's influence on Blackmore's physico-theological poems, his conception of the Creator, and his scientific views. The work is one of the few instances of literary criticism dedicated to physico-theology and it remains the only work ever published on Blackmore's physico-theological poems. Pizzol Giacomini, however, concentrates chiefly on the physician's literary use of the Bible in these texts. While her study offers an invaluable insight into Blackmore's compositions, this is still a partial insight, for the study of the scientific background is almost entirely lacking.

A few other scholars have briefly addressed Blackmore's literature. For instance, in their paper "Introducing the Long Eighteenth Century: Literary History and the New Pedagogy" (2000), Mason and Smallwood discuss Blackmore mainly in relation to shifts in the evaluation and teaching of eighteenth-century literature. His writings illustrate tensions in modern literary criticism between canonical "literary" figures like Alexander Pope and previously marginalised authors.

English literature handbooks tend to recognise Blackmore's place in the eighteenth century, though they not focus on him or study his work. He is usually portrayed as a relatively minor poet, only remembered—if at all—for *Creation*. The poem was even included in Samuel Johnson's *Lives of the Poets*, where Blackmore received an uncommonly positive assessment (Baines, 2010, pp. 26–7). In *The Eighteenth Century: The Context of English Literature* (2022), Pat Rogers (2022, pp. 57–8) simply wrote that Blackmore

> was a medical man, and acquired his knighthood for ministrations to William III. His publications on medical topics were prolific: as Johnson put it in *The Lives of the Poets*, 'I know not whether I can enumerate all the treatises by which he has endeavoured to diffuse the art of healing; for there is scarcely any distemper, of dreadful name, which he has not taught the reader how to oppose.' Spleen, that recurrent eighteenth-century disorder, is the subject of more than one essay. But to contemporaries he was best known for the work of his left hand, that is his series of epics beginning with *Prince Arthur* (1695), *King Arthur* (1697) and *Alfred* (1723). They are equipped, as all well-bred epics then were, with decent critical theorising to hide their nakedness. As poetry they are not quite bad enough to be unreadable, but when read not quite good enough to enjoy. The wits took against Blackmore with relish, and he became the exemplar of bad poetry for a long time. This must have had a subliminal effect on the standing of epic itself.

Other sources devote more attention to Blackmore. For instance, Christine Gerrard's

A Companion to Eighteenth-Century Poetry (2006) presents him as a significant, albeit controversial, figure in early eighteenth-century literature. While he has been frequently mocked and overlooked, he is also appreciated for his worthy contributions as a poet, particularly within the context of Whig politics and physico-theology (p. 9, p. 47). Indeed, Blackmore's poetry is now recognised as part of the literary debates of his time. He engaged actively in the political and aesthetic debate with Tory writers, and this acknowledgement prompts a reassessment of the narrative that Whig poets like him were merely the targets of satire (p. 9). Despite his efforts to emulate Milton, Blackmore's work were met with mixed reactions, admired by some but ridiculed by others (p. 197). Alexander Pope, in particular, had a role in Blackmore's unjust dismissal with his infamous caricature as a dull figure (p. 47). According to Gerrard, Blackmore also contributed to the definition of early eighteenth-century epic poetry. She names him the "arch-practitioner" of the English epic poetry (p. 364), especially with his four major epics, *Prince Arthur* (1695), *King Arthur* (1697), *Eliza* (1705), and *Alfred* (1723), today disregarded even by specialists (p. 359). Fundamentally, Blackmore emerges as a forgotten yet illuminating case of a once-widely-read literary figure, whose attempt at poetry did not withstand the test of time (p. 521).

Key figures in the reassessment of Blackmore's work in the last few years have been Professor David Womersley and Professor Abigail Williams, both from the University of Oxford. They edited the 2005 volume *"Cultures of Whiggism": New Essays on English Literature and Culture in the Long Eighteenth Century*, which examines Whiggish literary culture in England during the late seventeenth and eighteenth centuries. This collection of essays showed that, while the Tory narrative dominated at the time, Whig literature also played a crucial part in shaping the era's cultural and ideological landscape (see Section 1.3.7). Williams expanded on this argument in *Poetry and the Creation of a Whig Literary Culture 1681-1714* (2005), which looks at early eighteenth-century Whig poets like Blackmore under a new light, and argues that they were central cultural figures of their day and not marginal "hacks," as later critics claimed. According to Williams, these writers saw themselves as part of a larger project to reshape English literature in line with the political ideals of the Glorious Revolution: liberty, moral reform, civility, and national identity. Their work often embraced Christian themes and Newtonian science and thus promoted a new vision of the sublime that intersected religious sentiments with the new science, as embodied by physico-theology. Though mocked by Tory critics, Whig poets like Blackmore achieved commercial success and a broad readership.

Womersley also reconsidered Blackmore's place in the literary scene of the early eighteenth century, "remind[ing] readers of *Augustan Critical Writing* that those who deemed the British literary world to be palled by dullness were ardent Tories who responded to 'a self-consciously modern programme for English poetry propounded in the 1690s and 1700s by Whig writers.' Womersley accordingly called for reassessing this overlooked and deprecated body of Whig literature" (Wilson, 2010, p. 23). Black-

more figures prominently in several other of the professor's writings. For instance, in "A modest reply: Brean S. Hammond and the Whig canon" (2000), Womersley advocates for a more balanced analysis of Whig poets like Blackmore to challenge the aesthetic biases inaugurated by Pope's satires.

In conclusion, the critical landscape regarding Blackmore remains complex and little studied, despite his relevance in the literary and intellectual debates of the early eighteenth century. Modern scholarship has begun to reassess his contributions, particularly in light of a general reevaluation of Whig politics and physico-theological poetry. Yet, Blackmore's work is still often overshadowed by the mockery of his literary contemporaries, especially the Tory "Wits." To end quoting Boys (1949, pp. 59–60),

> [t]oday, a little more than two hundred years after his death, Sir Richard Blackmore is receiving more attention than any other time since his bumbling antagonisms caused a stir on Parnassus. This interest is occasioned not by any rediscovery of hidden poetic merit—if anything, his stock is lower than ever in that direction—but by the realization that he played a small though important part in the great social struggle which eventually resulted in the firm establishment of bourgeois ideals in literature as well as in society. [...] our renewed interest in Blackmore is slowly making sure that he will no longer be dismissed as ridiculous and inconsequential. (Boys, 1949, pp. 59–60)

1.2.2 The Life and Works of a Poet-Physician

Richard Blackmore was born in Corsham, Wiltshire, on January 22, 1654. He was the son of a well-to-do country attorney, Robert Blackmore, and of Anne Pilsworth.[16] Blackmore received his first education at his local country school, from which he was removed to briefly study at Westminster School. In 1669, Blackmore matriculated at St Edmund Hall, Oxford, where he was known to be a serious and diligent student. Evidence of his proficiency as an Oxonian student dates back to 1672, when he was examined for admission as a demy to Magdalen College. Thomas Pierce, the examiner, records that Blackmore turned out to be "hopeful & ingenuous" (Rosenberg, 1953, p. 8) but wanting in music and Greek, which ultimately resulted in his rejection from the college. On April 4, 1674, he received his Bachelor of Arts degree, followed by a Master of Arts degree on June 3, 1676. During Blackmore's time at Oxford, the curriculum still largely retained a medieval structure and offered minimal education in science. The subjects taught were based on the Laudian Code of 1636 (Griffiths,

[16]The information available from *FamilySearch Parish Registers – Wiltshire* reveal that Ann, daughter of Edward Pilsworth, was baptised on December 20, 1637 in Corsham, Wiltshire. Robert Blackmore is said to have been buried in Corsham on August 6, 1681. No further information is available regarding them or their son on this platform.
Last accessed on August 26, 2025 from <https://www.familysearch.org/en/search/collection/4380174>.

1888). The Bachelor of Arts typically took four years to complete and covered the following subjects: grammar, rhetoric, logic, moral philosophy, geometry, and Greek. The Master of Arts program was usually shorter, lasting around two years, and entailed further study of Greek, Aristotelian metaphysics, geometry, astronomy, some natural philosophy, Hebrew, and history. Each college had its own statutes and prescribed courses of study, but more influential on each student's particular formation were their personal tutors (Shapiro, 1971, p. 54). They had the faculty to assign additional and, at times, more modern readings that would follow each student's inclinations and enrich their curriculum. The classical texts commonly studied to obtain a degree included Aristotle's works on physics, astronomy, and biology, as well as texts by Ptolemy, Euclid, Pliny, Theophrastus, Vitruvius, Plato, and Seneca (Allen, 1949).

The years immediately following Blackmore's graduation are hazy; however, it is likely that he worked as a tutor at St. Edmund Hall and possibly served as a schoolmaster for sometimes. Afterwards, Thomas Hearne (1678–1735), a High-Church Tory and antiquarian (Harmsen, 2004), wrote that Blackmore, "when of Edmund Hall, (where he had his education,) was a great tutor, and much respected" (Hearne, 1869, p. 169).[17] Later in his career, one of the common themes of Blackmore's scorn on the part of his literary rivals was his career as a schoolmaster and his supposed inability to educate students. An alleged proof of this occupation would be found in the first of the *Commendatory Verses, On The Author Of The Two Arthurs, And The Satyr against Wit; By some of his particular Friends*, "A Short and True History of the Author of the Satyr against Wit:"

> BY Nature meant, by Want a Pedant made,
>
> Bl--re at first profess'd the Whipping Trade;

Scholars believe that the first couplet of the poem might refer to Blackmore's supposed work as a schoolmaster. Rosenberg (1953, p. 10) even reports that Dr Radcliffe, indignant at Blackmore's treatment of the Duke of Gloucester, declared that it would have been better if he had "continu'd making an Havock of Nouns and Pronouns, in the Quality of a Country Master." In *Lives of the Poets*, Cibber (1753) too claimed that "[i]n the early period of our author's life he was a Schoolmaster," while Johnson (1896, p. 153) noted that "[i]n some part of his life [...] his indigence compelled him to teach a School," which he considered a humiliation.

In 1681 Robert Blackmore died, and in 1682 young Richard went on a tour of the continent, visiting France, Germany, the Low Countries, Switzerland—it was in Geneva that he tried his hand at his first literary work, a Latin epitaph for a friend—and Italy. There, he visited Rome, Venice, and Padua,[18] where he enrolled at the local

[17] I perused this volume following the suggestion of Rob Petre, College Archivist at St Edmund Hall, University of Oxford, to whom I owe my thanks.

[18] "After the Catholic Reformation, the University of Padua remained the only university under the Catholic reign still open to Protestants students and professors. In fact, it became the favourite academic destination for north Europe students, who were largely protestant" (Zampieri 2013, p. 3).

university, receiving the degree in pure medicine on March 24, 1684. The Historical Archive of the University of Padua (Archivio Storico di Padova) still holds the official records of his examinations.[19] According to the manuscripts, young Blackmore was examined on two subjects related to digestion taken from Avicenna's *Canon of Medicine* (eleventh century), with which he was found to be conversant. The choice to pursue medical education at the state-of-the-art University of Padua was not uncommon at the time for English students, as the seventeenth-century medical curriculum at Oxford and Cambridge remained among the most conservative in Europe, still rooted in the teachings of Galen and Hippocrates (Axtell, 1970, p. 146). In Padua, medical students appreciated the clinical and anatomical experience that was lacking in English institutions (Barry, 2019).

Once he obtained his MD, Blackmore moved back to London, where he was married to Mary Adams[20] (d. 1728) by "Mr Hopkins with License" at St Paul's Church, Covent Garden, on February 9, 1685 (Hunt, 1907, p. 57). The marriage did not produce any offspring (Rosenberg, 1953, p. 10) but it proved especially advantageous to Blackmore. His wife's was a prominent Whig family from Buckinghamshire, which probably helped Blackmore in his career in the capital (Gregori, 2009). He managed the hard task of setting up a practice in London (Axtell, 1970; Barry, 2019) and after a mere two years, in 1687 Blackmore was admitted as a fellow of the Royal College of Physicians at the *Comitia Majora Extraordinaria* of 12 April, following the reception of the new charter by James II.[21]

While successfully engaged in his medical career, Blackmore made his literary debut in 1695. *Prince Arthur: an Heroick Poem in Ten Books* was to be the first of a series of epic poems composed and published by Blackmore during his lifetime. The allegorical celebration of the new monarch King William III in the poem likely won Blackmore his knighthood, a distinction he received on March 18, 1697, and post as Royal Physician. Indeed, Solomon remarks that the text "established Blackmore as an important defender of the king just at a time when such support was especially useful" (1980, p. 50). Because of this, Womersley (2001, p. 438) situates the poem within the coeval debate between the ancient and the modern. As the proponent of progress, the Whigs argued for a modern epic "grounded firmly in the present, overgoing old heroes and old authors."

[19] See MS 284 (cc49v-50r) from the Archivio Storico di Padova.

[20] In *Remarks and Collections of Thomas Hearne*, Hearne commented that Blackmore had married "married a rich Conventicler & by that means got a mighty Interest among ye Whiggs, & was Knighted by King Wm, who always lov'd to confer his Marks of Honour upon Persons dissaffected to ye Church of England" (Hearne, 1885, pp. 231–2). This implies that Blackmore's wife had been brought up in a dissenting household and would corroborate the thesis according to which Blackmore held tolerant views on dissenters.

[21] The new charter was drafted in English and followed a previous petition from the College. The most notable change it introduced related to the number of fellows, whose maximum became eighty (Clark, 1964, pp. 355–64). Hence, the position of the physicians was reinforced in seventeenth-century London, where they had to compete with surgeons and apothecaries in the battle between theoretical and practical knowledge in medicine (Barry, 2019).

Prince Arthur found a rather popular reception, especially among those readers who shared its lofty moral intentions "to promote the publick Good of Mankind," which "is undoubtedly the End of all Poetry" (Blackmore, 1695) against the lewdness of the age (Rosenberg, 1953, pp. 25–6). The poem went through three editions in two years.[22] At the time of the publication of his first epic, Blackmore was a celebrated medical doctor but an inexperienced and unlearned author—in the preface he admitted that he devoted only his free time to poetry, while he was on coaches between visits, and in coffeehouses.[23] In later years, this admission proved a double-edged sword for Blackmore, who was mercilessly scorned for it by his literary enemies (Boys, 1949). However, it testifies to his best intentions in writing poetry. As Johnson remarked, "Blackmore [...] was made a poet not by necessity but inclination, and wrote not for a livelihood but for fame" (1896, p. 154) and since he was in no financial necessity to publish works of literature, his poetical activity was spurred only by his wish to redeem the modern depraved tendencies in poetry in favour of sober and edifying literature. In the Preface to *Prince Arthur*, Blackmore also admitted to having read but little poetry in his lifetime, an assessment critic John Dennis (1658–1734) confirmed in his *Remarks on Prince Arthur* (1696). There he also found Blackmore's poem wanting in many respects: "his action had neither unity, integrity, nor morality, nor universality; and that consequently he could have no fable, no heroic poem; and that his narration was neither probable, delightful, nor wonderful" (as quoted in Anderson, 1795, p. 580).

Although not a masterpiece, *Prince Arthur* enjoyed enough success to be enlarged two years later by a sequel, *King Arthur: an Heroic Poem in Twelve Books*. The poem followed its predecessor in both topic and intention, perpetuating its transparent political allegory. Its publication was advertised in the *London Gazette* (No. 3272, March 18 – March 22, 1696/7), where Blackmore was described as "MD and Knt." for the first time. Although it did not enjoy the same positive reception as its prequel, its limited success—only one edition was issued—did not hinder Blackmore's literary crusade. The poem did not seem to be much read or appreciated, but we know it found at least one appreciative reader in the Irish philosopher William Molyneux (1656–1698). He praised the poem in a famous letter he sent on May 27, 1697, to his friend Dr John Locke, in particular regarding Blackmore's "being an Enemy to all Philosophick Hypotheses" in the Preface of *King Arthur*. Molyneux even hoped that Blackmore would apply his talent to the design of a "Philosophick Poem" with a "Natural History of

[22] Two editions came out in 1695 and a third followed in 1696. See Appendix A.

[23] In the prologue to his play, *The Pilgrim* (1700), John Dryden (1631–1700) famously mocked Blackmore's epic writing also because of this:

> At leisure hours in epic song he deals,
> Writes to the rumbling of his coach's wheels.
> (Dryden 2005, p. 596 as quoted in Rounce, 2015, p. 121)

Rogers (2022) maintains that coffeehouses first appeared in Oxford around 1650 but then became widespread especially in London, with 2000 such institution opening between 1650 and 1850.

the Great and Admirable Phenomena of the Universe as a subject" (Molyneux, 1708, pp. 218–9), given his expertise in the topic. Locke had previously commented on the "noble parts" (Molyneux, 1708, p. 211) in *King Arthur*, with whose author he was acquainted, likely because of professional reasons. Further proof of Locke's esteem of Blackmore's ability as a physician is to be found in the philosopher's correspondence. He must have also admired Blackmore's ability as a physician. In a letter addressed to Edward Clarke and dated 1700, he remarked his pleasure in knowing his friend "in such good hands as Sir Richard Blackmore's" (Locke, 1927, p. 567). Indeed, if Blackmore's literary career had its ups and downs, his medical one proceeded well. In 1699 he was elected a governor of St. Bartholomew's Hospital in London[24] and later also of St. Thomas Hospital[25] (Rosenberg, 1953, pp. 57–8).

The last few years of the seventeenth century saw Blackmore engaging more directly with the literary scene of the capital. The mission against immorality and wit he had inaugurated with the publication of the "two Arthurs" produced the *A Satyr against Wit* (1699). The poem initiated a years-long literary dispute with the so-called wits and earned Blackmore many poetical enemies (Fairer, 2003, p. 262). The *Satyr* is one of the few of Blackmore's works to be remembered and held in some value in current scholarship. The circumstances surrounding its publication involved the famous dispute over the establishment of a public dispensary to provide the poor with easier access to medication. This initiative was part of a larger project aimed at providing free medical services to the poor of London.[26] The very public dispute that started in the 1670s saw the members of the Royal College of Physicians divided into two opposite coalitions: while Dispensarians were in favour of the establishment, anti-Dispensarians—which included Blackmore—sided with the apothecaries and opposed the motion that was, however, soon afterwards approved. The Dispensary was founded in London in 1696 and this initiated a proper pamphleteering war. Blackmore's *Satyr* was published in November 1699 as a response to Dr Samuel Garth's mock-heroic poem, *The Dispensary. A Poem. In Six Canto's*, which came out in May of the same year and became an immediate success. As one of the most con-

[24] In the booklet *The names of the governours of St. Bartholomew's hospital, London* (1702), under the area of "Kensington" figures the name "Sir Richard Blackmore, Kt." ("The names of the governours of St. Bartholomew's hospital, London. The Lord-Mayor, and Court of Aldermen for the Time being. Sir William Stewart, Knt. and Alderman, President. Richard Brocas, Esq; and Alderman, Treasurer. The Duke of Chandos. The Earl of Oxford. The Earl of Rochester. The Earl of Anglesea. The Lord Viscount Harcourt. The Lord Vane. The Lord Bishop of Meath", 1702, p. 3). In the list from 1704, instead Blackmore figures among the governors from Cheapside ("A List of the Governours of St. Bartholomew's Hospital", 1704).

[25] Blackmore figures among *The governors of St. Thomas's Hospital in Southwark, 1710* ("The Governors of St. Thomas's Hospital in Southwark, 1710", 1715).

[26] Chapters XX to XXIII of Sir George Clark's *A History of the Royal College of Physicians of London. Volume Two.* (1964) offer a historical overview of the project of the dispensary, from its original conception in the 1670s until its developments in the 1690s. Clark's review places the episode of the dispensary within the long-standing animosities between physicians and apothecaries that characterised the seventeenth-century medical scene of the capital. To learn more about this, see French and Wear (1989), Axtell (1970), Barry (2019).

vinced anti-Dispensarians, Blackmore was maliciously caricatured by the author of the *Dispensary*:

> Consider well the Talent you possess,
> To strive to make it more wou'd make it less;
> And recollect what Gratitude is due,
> To Those whose Party you abandon now.
> To Them you owe your odd Magnificence,
> But to your Stars your penury of Sense.
> Haspt in a Tombril, awkardly you've shin'd
> With one fat Slave before, and none behind.
> But soon, what They've exalted They'l discard,
> And set up Carus, or the City Bard.
> (Garth, 1699, pp. 57–58, ll.75-84)

The *Satyr* was "the City Bard's" counterattack and a defence of the anti-Dispensarian satirised by Garth, in whom "the Wit the Doctor had undone" (Blackmore, 1700b, p. 8). The *Satyr* condemned the "Mob of Wits" (Blackmore, 1700b, p. 6) who tainted the morals of the age and scorned those who, like Blackmore, belonged to sensible professions:

> For next to Virtue, Learning they abhor,
> Laugh at Discretion, but at Business more.
> A Wit's an idle, wretched Fool of Parts,
> That hates all Liberal and Mechanick Arts.
> (Blackmore, 1700b, p. 7)

The poem caused a stir and only a few months after its publication, it was followed by the collection entitled *Commendatory Verses, on the Author of the Two Arthurs, and the Satyr against Wit*. It was a 15-page folio consisting of 40 satires on Blackmore written by several of his opposers[27] and very likely captained by the well-known satirist Thomas Brown (1662–1704). Johnson (1896) recognised the value of Blackmore's

[27] Attributing the authorship of the 40 compositions historically has proven to be a taxing task. In an article recently published in *St Edmund Hall Magazine*, Nash (2015) records that a copy of *Commendatory Verses, on the Author of the Two Arthurs and the Satyr Against Wit* was found in the Old Library at St Edmund Hall, Oxford, and it included manuscript attributions for the anonymous poems of the book. Two other copies with manuscript attributions are held in the British Library in London and the Fisher Library in Sydney, and it is likely that they have the same source. According to Nash, it is possible that these derive directly from Blackmore or his friends, since all the attributions correspond to those found in the *Discommendatory Verses*, while the annotations of the St Edmund Hall copy were likely based on their author's personal knowledge of the controversy. This, however, does not make the manuscript attributions found in the St Edmund Hall more reliable than those recorded in the other copies of the book.

texts, yet he pointed out that the doctor's literary formation was not up to the task of writing masterpieces and that usually his poems were well-conceived and structured but fundamentally lacking in elegance. Their very mediocrity was the reason why his works were not customarily warmly welcomed in literary circles: critics of the time like John Dennis or John Dryden (1631–1700), who used to refer ironically to Blackmore as the "City Bard" or the "Knight Physician" (Kelly, 1961, p. 186; Boys, 1949, p. 19), extensively commented on the weaknesses of his style. Their accusations and those Blackmore received from the authors of the *Commendatory Verses* were poem by poem rebutted by his advocates and friends in *Discommendatory Verses, on those which are Truly Commendatory, on the Author of the Two Arthurs, and the Satyr against Wit* (1700). The author of the preface claims to know who the author of the Dedication to the *Commendatory Verses* is, namely the "Secretary to the Confederates at Will's Coffee-house."[28] The text was attributed to Blackmore or, more likely, to a group led by him. Boys (1949) is certain that it was not solely Blackmore's work, and Rosenberg (1953) considers Blackmore's fatherhood of the most scurrilous verses highly unlikely.

Alongside his professional and literary pursuits, Sir Richard maintained a strong faith throughout his life. On June 13, 1701, he was elected to the Society for the Propagation of the Gospel in Foreign Parts,[29] on whose injunction he started working on his own version of the Psalms. Indeed, Rosenberg notes that "Blackmore's interest in theology never waned, and in spite of the fact that he was virtually engrossed in writing books on medical subjects [especially later in his life], he still devoted considerable time to religious matters" (1953, p. 141). His adaptation of the Psalms, however, was not to see the press until 1721. Blackmore had hoped these texts would be adopted for regular services in the Church of England and he received the support and sponsorship of seventeen Anglican bishops. This never occurred and Blackmore's Psalms only went through one edition, probably because the Bishop of London objected to the use of private compositions for public worship (Pizzol Giacomini, 2007, p. 79).

Blackmore's career as a royal physician continued into the eighteenth century, though it suffered a setback in 1702 with the death of King William III. Blackmore took part in the dissection of the sovereign's body, which occurred on March 9 of the same year, and found that the cause of death was an "Ulcer or Corruption [...] in his Lungs" (Blackmore, 1725b, pp. 8–9).[30] Afterwards, Blackmore remained in the service

[28] According to Williams (2005, (32), Will's Coffee House was then an epicentre of this debate. Se explains that "[t]he literary quarrel of 1699-1700 between Sir Richard Blackmore and the Wits at Will's Coffee House represents a significant stage in the evolution of anti-Whig discourse."

[29] Lambeth Palace Library in London contains several proofs of Blackmore's involvement with the society. Mentions of Blackmore are to be found in the collections: Society for the Propagation of the Gospel, SPG VI "Financial Records" and SPG VII "Correspondence."

[30] MS 108/43 from the Royal College of Physicians records the examination of the King's body. The report is empirical in structure: it starts with the observation of the body from the outside and then turns of the inspection of the inside. The body was found emaciated, the limbs swollen and the guts livid, though other organs were "without fault," including the brain. The inflammation of the lungs was discovered to be the immediate cause of the King's death.

of the royal household as a physician-in-ordinary to Queen Anne and while his mediocrity as a versifier heavily contributed to the scorn he received from his enemies, a consistent component of this ridicule was also political. Blackmore was a known and outspoken Whig, who publicly celebrated the triumphs of the Duke of Marlborough (1650–1722) with his *Advice to the Poets* (1706) and *Instructions to Vander Beck* (1709). The two poems commemorated the victories of the Whig hero in the Netherlands during the War of the Spanish Succession (1701–1714) "in an example of what has been described as the Whig Sublime" (Rounce, 2015, p. 121). The celebration of Marlborough as a pious Christian hero and of Queen Anne as an emissary of God's will contributed to shaping the rhetoric of Whig poetry in the early eighteenth century (Gerrard, 2005). The honouring of Blackmore's Whig allegiances and of the new Queen took the form of another unremarkable epic, *Eliza: an Epic Poem in Ten Books* (1705), which was published shortly after Queen Anne's ascension to the throne. The monarch is portrayed as Queen Elizabeth I defending her country from the Spanish threat, thus embodying the defence of Protestantism against Catholicism that the last Stuart monarchs were called to pursue in the post-revolutionary years (Pizzol Giacomini, 2007, p. 10). The only edition of the poem was not popular and famously "dropped, as it seems, dead-born from the press" (Johnson, 1896, p. 187).

Blackmore's literary career took a more positive turn at the beginning of the next decade. In 1711 he published a long patriotic poem in three books, which was based on the thesis that different environments with different climates have different impacts on human development. He came to the conclusion that only in the temperate zones can culture and true religion flourish, whereas areas characterised by extreme climates are not ideal for a correct and prolific growth. The poem, entitled *The Nature of Man*, dealt with the nature of man in a literal sense, focusing on

> What different Virtues, and as different Crimes
>
> Owe their Production to peculiar Climes.
>
> (Blackmore, 1720, p. 3, ll.21-2)

According to Solomon (1980, p. 120), the poet's interest in the topic might have been sparked by the reading of either *Telluris Theoria Sacra* (1681)[31] by King William's chaplain-in-ordinary and clerk of the closet, Thomas Burnet (c.1635–1715), or by Matthew Prior's (1664–1721) *Solomon* (1718). Given that this last poem circulated as a manuscript since 1708 and that Blackmore was a known admirer of Prior, he might have had the chance to peruse the text before 1711.

The physiological background of *The Nature of Man* was a preliminary endeavour to the more complex and accomplished *Creation, a Philosophical Poem in Seven Books* (1712). The poem is a lengthy physico-theological didactic composition and the work

[31] The first part was published in 1681 in Latin as *Telluris Theoria Sacra* and its English translation came out in 1684 as *Sacred Theory of the Earth*. The second part was published in 1689 in Latin and 1690 in English.

that allowed Blackmore to be recognised as a worthy poet by his contemporaries and, though to a lesser extent, by posterity. *Creation* was the most successful of the works that Blackmore had published and would publish in his lifetime and it went through several editions,[32] the only one of his works to receive such recognition. With the poem Blackmore aimed to persevere with the programme of moral reformation that his previous lyrical attempts had started, deeming poetry the best vehicle through which entertain and instruct especially young readers (Blackmore, 1712, pp. xxxii–xxxiii). Soon after *Creation* came out, the same intent took the form of prose. In 1713 the short-lived paper *The Guardian* stopped being published, and so Blackmore and fellow writer John Hughes (1678?–1720) embarked on the enterprise of writing their own periodical.[33] The project of the *Lay-Monk* was conceived on the model of *The Spectator*, the magazine edited by Joseph Addison (1672–1719) and Richard Steele (1671–1729) from 1711 to 1712. The publication of the periodical was prompted by the same intention that spurred the composition of *Creation*, as a letter Blackmore addressed to Hughes on November 11, 1713, reveals:

> I am not determined by desire or fame, or profit, to undertake this difficult and hazardous province, but I have other views, which I am under obligations to pursue, though I should run a greater venture than I do now. If I miscarry, I am but where I was; if I succeed, I shall have the satisfaction of accomplishing a design that I have formed for public good. (Duncombe, 1772, p. 83)

Although at first Hughes was sceptical, Blackmore's determination remained unmoved. In a letter he sent to Addison on December 5, 1713, Hughes confirmed his adherence to the physician's "experiment, which he believed might turn to the public good" (Duncombe, 1772, p. 84) and received Addison's approval (Solomon, 1980, p. 16). Their enterprise was very brief, lasting only from November 1713 to February 1714: each week, three essays were issued, two by Blackmore and the Friday one by Hughes. The total of forty papers was later collected as *Lay-Monastery* and published in a single volume in 1714. The variety of the topics covered by the issues of the *Lay-Monk* testifies to the wide scope of Blackmore's interests and to his earnest intention to bring "Philosophy out of the Recesses of the Schools, and strip it of its uncouth and mysterious Dress, that it may become agreeable, and admitted to a general Conversation" (Blackmore, 1712, p. xxxiii). While the paper did not have the hoped-for success, the publication is a valuable document attesting the physician's regard for natural philosophical topics, to which numerous instalments were devoted. Case in point are the pages on Newton's theory of colours as espoused in the *Optice* (1704)

[32] See Appendix B: The Editions of *Creation*.

[33] Hughes was already a known contributor to popular periodicals of the time. McGeary (2006) records that "Hughes was drawn into the Steele–Addison circle, and from 1709 to 1712 wrote for *The Tatler* and its successors. Attributions are often uncertain, but Hughes contributed to at least three numbers of *The Tatler*, seventeen of *The Spectator*, and to number 37 of *The Guardian*."

(Blackmore & Hughes, 1714, pp. 234–39). Blackmore's program of moral reformation continued in the following years and between 1716 and 1717 he published two parts of a collection of essays entitled *Essays Upon Several Subjects.* The two volumes contain five essays each, and while the topics range from discussions on epic poetry to medical considerations on the spleen, several of these texts are devoted to refuting the atheistic and Epicurean tenets that Blackmore despised and had already employed *Creation* to debunk (see Section 1.3.6). Alexander Pope, one of Blackmore's fiercest literary enemies, dubbed him "the most celebrated Amplifier" (Pope, 2017, p. 211) in his *Peri Bathous, Or the Art of Sinking in Poetry* (1728). While this appraisal resonates with his poetry, it resonates even more with his prose: albeit not polished, Blackmore's poetry still knew moments of inspiration, whereas prose decidedly did not suit him. In *The Life of Blackmore,* Johnson commented on the dullness of the doctor's prosaic pen, remarking that

> Blackmore's prose is not the prose of a poet; for it is languid, sluggish, and lifeless: his diction is neither daring nor exact, his flow neither rapid nor easy, and his periods neither smooth nor strong. (Johnson, 1896, p. 160)

His literary aspirations did not hamper Blackmore in his professional pursuits and it appears that he thrived in his career as a physician. This is confirmed by the fact that on August 22, 1716, he was elected one of the eight Elects of the Royal College of Physicians in London and a couple of months later, on October 1, he became a Censor in the same institution.[34]

After almost four decades in the capital, on October 22, 1722, Blackmore left Kensington, his medical practice, and his position at the College of Physicians. He and his wife moved to the countryside in Boxted, Essex, where they remained until the end of their lives. In those years, Blackmore devoted his time to writing, especially on medical topics (see Appendix A). In 1720, the physician had published his own translation of the Psalms, supported by seventeen Anglican bishops who intended for it to be used in churches. However, it was not adopted for worship (Pizzol Giacomini, 2007). In 1724, the Society for the Propagation of the Gospel,[35] to which Blackmore

[34] See *Munk's Roll of the Royal College of Physicians, 1518-2005*, Vol. I, p.467.

[35] The Society for the Propagation of the Gospel (SPG) was a Church of England missionary organisation established in 1701 by Reverend Thomas Bray along with a group of clerical and lay associates. During the eighteenth and nineteenth centuries, the society was active across the British Atlantic world, particularly in those colonies without strong Anglican institutions. It advocated for a more prominent role for the Church of England in the lower South, the mid-Atlantic, New England, Bermuda, Barbados, and the regions that later became part of Canada.

Lambeth Palace Library in London and the Bodleian Libraries in Oxford hold records of Sir Richard Blackmore's involvement with the Society. In particular:

- SPG VI - Financial Records: 6f, 8f, 13f, 27f, 38f, 45f, 114v
- SPG VII - Correspondence: 99f
- Rawlinson MSS C743 (61-62): selections from the correspondence between M. Wheeler and Sir Richard Blackmore with the Society for the Propagation of the Gospel regarding a new collection of Psalms in the style used at St. James Church.

belonged (Rosenberg, 1953, p. 141) since its early days,[36] asked him to create a selection of Psalms from his own version, but this endeavour was ultimately halted due to the Bishop of London's objection to using private compositions in public worship.

Four years later, in January 1728, Blackmore faced the death of his wife, which shortly anticipated his own. Mary Adams was buried in Boxted, and on this occasion the poet composed a few lines in Latin that were to be inscribed on a memorial monument in St. Peter's Church[37] (Duke, 2012, p. 86). Only a few months later, in May 1729, Blackmore composed his will, where he expressed the desire to be buried near his late wife, with specific instructions for the burial. He also outlined the sale of all his lands and specified various bequests to his relatives and others. In a notable provision, Blackmore directed that

> [i]f Richard Blackmore Hurst die before the age of 21, then £1000 to Oxford University to the Vice Chancellors and other Heads of Houses, to elect a student or Member of the University to write poems on divine subjects six months in every year, giving preference to St. Edmund's hall, viz:– 650 lines in verse to be approved by the Vice chancellor & for the other six months to write some discourse in prose to censure & discourage all profane & obscene plays, poems, & other immoral writings which shall be published alternately each half year; each student elected to continue for 7 years. (as quoted in Long, 1943, p. 589)

His heir survived, so the provision to Oxford University was never issued.

Blackmore passed away on October 9, 1729, in Boxted, at the age of 75. He had composed his own epitaph in Latin (Rosenberg, 1953), which remains visible in St. Peter's Church in Boxted to this day (Duke, 2012, p. 86). His will was proved on November 4, 1729, by Edward Moore, and the original manuscript of the document is preserved at the National Archives in Kew.[38]

After Blackmore's death, his already scant literary fortune declined. In 1731 *The Accomplished Preacher: Or, An Essay Upon Divine Eloquence* was published posthumously. The text celebrates the joint power of poetry and oratory in fostering Christian devotion and places the Christian orator as a Minister of God in the Church of England. Of his earlier works, only *Creation* kept being reprinted (see Appendices A and B) and, as Section 1.2.5 will show, his memory was irreparably corrupted by the *damnatio memoriae* of his enemies.

[36] From the manuscripts contained in SPG VI (Lambeth Palace Library), Blackmore was an original subscriber of the Society since 1701 (Glasson, 2012).

[37] On January 26, 2024, I contacted Karen Thompson, the Clerk to Boxted Parish Council. She put me in contact with Annette Whybrow, local expert, who on February 16, 2024 sent me photos of the memorial and the tomb which is to the left hand side of the altar, an English translation of the Latin inscription on the memorial monument, and a photo of Pond House which, she maintained, Blackmore occupied from 1720 till his death. These materials can be found in Appendix C.

[38] Prerogative Court of Canterbury (PROB 11/633/77).

1.2.3 Blackmore's Scientific and Medical Stance

Throughout his life, Blackmore engaged with science on several levels: as a professional physician, as a populariser of general scientific knowledge, and as a writer on medical topics towards the end of his life. As a physician, he was a follower of the clinical approach of Thomas Sydenham (1624–1689), and he was famously praised for his empiricism and his distrust of hypotheses—in the Newtonian sense—in science. Ingram, Lawlor and Williams (2024, p. 4) comment that "Blackmore was a Modern in matters medical:" he preferred to rely on the evidence of experience rather than on the blind acceptance of the wisdom of the Ancients as it was then studied in medical schools. Blackmore's stance on science and his approach to medicine emerge clearly from all the prefaces to his medical publications—they share the same topics and generally the same arguments, when not even the same structure. For instance, Johnson (1896, p. 164) records that in the preface to the *Treatise upon the Small-pox,* Blackmore's empirical approach in medicine and scorn of the ancient authors are evident:[39]

> *The Colleges of Learning employed in enquiring into Nature, and Searching after the Causes of Things, for many successive Ages, unhappily proceeded in such Ways and Methods, as rather obstructed than promoted the End they had in View: For they formed nothing but notional Systems, and Schemes of Speculation, falsly called Science, the trifling Play of Fancy, and the idle Labour of the Closet.* [...] *And as the Knowledge of experimental Philosophy is greatly to be prefer'd to that of the Student, who deals in empty Speculations and Scholastick Chimeras; so are the Acquistions and Endowments of the experimental Physician, who has formed his Method of Practice upon Sufficient Experience and Observations on the Nature, Progress, and various Symptoms of Diseases, as well as on the Operations and Force of Medicines, far more valuable than the abstruse and unsupported Notions of one, who owes all his Endowments to an active Imagination, and the contemplative Labour of the Closet.* (Blackmore, 1723a, pp. iii–v)

As already mentioned, Blackmore was a Modernist who advocated for experimentation over the traditional wisdom of the ancients in medicine but also in literature. Jonathan Swift recognised him as such in *The Battle of the Books* (1704), referring to him as "a famous Modern," battling against Lucan:

> *Lucan* appeared upon a fiery Horse, of admirable Shape, but head-strong, bearing the Rider where he list, over the Field; he made a mighty Slaughter among the Enemy's Horse; which Destruction to stop, *Bl–ckm–re*, a famous *Modern* (but one of the *Mercenaries*) strenuously opposed himself; and darted a Javelin, with a strong Hand, which falling short of its Mark, struck

[39] According to Johnson, Blackmore censured Hippocrates while not knowing the difference between "aphorism" and "apophtegm," which showed that he did have much consideration for ancient learning.

> deep in the Earth. Then *Lucan* threw a Lance; but *Æsculapius* came unseen, and turn'd off the Point. *Brave* Modern, *said* Lucan, *I perceive some God protects you, for never did my Arm so deceive me before; But, what Mortal can contend with a God? Therefore, let us Fight no longer, but present Gifts to each other. Lucan* then bestowed the *Modern a Pair of Spurs*, and *Bl-ckm-re* gave Lucan a Bridle. (Swift, 2010, p. 158)

To use Blackmore's own words, "this Controversy, whether the Preheminence in Learning should be ascribed to the Ancients or the Moderns, has been carried on so long, and with so much Vigour, and still continues undecided" (Blackmore, 1726, p. xv). However, his position was clear and often reiterated in his medical treatises. Take, for instance, the preface to his *A Critical Dissertation upon the Spleen* (1725):

> As in some former Writings I have spoke meanly of the Schemes of Natural Philosophy formed by the Ancients, particularly of the System invented by Aristotle, notwithstanding the great Figure he made in the Colleges of Learning for many Ages, though other Labours of that celebrated Author are very valuable; so I have not paid to Hippocrates, and the ancient Physicians, his Successors, that Esteem and Veneration, on account of their Medicinal Knowledge and Abilities in curing Diseases, as the Generality of our Faculty have thought their Due. Not but that I think they merit great Respect and Honour for those imperfect Attainments they acquired, while the Art of Healing was low, rude, and uncultivated, which is common to all other Arts at their first Rise; but when it is set against its present Degree of Maturity, by the Improvements received from the Industry, Experience and Sagacity of their latest Successors, the Endowments of the Ancients are eclipsed and greatly suffer by the Comparison. The Moderns therefore must in Reality be accounted the Fathers, and the Ancients the Novices, who flourished when Physick was in its State of Infancy; and certainly the Students and Professors of it, must have been an unaccountable Race of Men, if they have not in a Series of more than Two Thousand Years, brought their Art to greater Ripeness, and more Perfection, than it had at first; which however I conceive they have not much effected till the Two last Centuries. (Blackmore, 1725a, pp. iii–v)

Similar arguments were also expressed in the preface to *A Treatise of Consumptions and other Distempers belonging to the Breast and Lungs* (1725), one of the medical works he wrote after retiring from London. There, Blackmore advocated for the broad dissemination of medical knowledge, which should not be confined to a privileged few—"[i]f the Knowledge of the Healing Art is a good and useful Thing," he remarks, "can the Communication of it be too general and diffusive?" (Blackmore, 1725b, p. iii). Criticising the tradition of medical writing in Latin and the consequent "bad English" translations, he insisted on the benefits of sharing knowledge in vernacular:

the "propagation of useful Science" is what actually improves society (p. iv). In the same text, Blackmore also expressed scepticism towards the long-established and university-taught Galenical approach and supported a return to empirical experimentation.

In his professional medical practice, Blackmore was an admirer of "Dr Sydenham, who excels most Writers in the History of Diseases" (Blackmore, 1725b, p. 127). Indeed, as far as Blackmore's renown as a modern doctor is concerned, in the preface to *A Dissertation on the Gravel and Stone*, published in 1733, the author who put together Blackmore's works described the physician as follows:

> the late Worthy Sir Richard Blackmore, Knt. Doctor of Physick, and Fellow of the Royal College of Physicians, in London, and in his Time, Physician in Ordinary to his late Majesty King William, by saying of which, it is enough without any Encomium of mine, or any ones else, as to his Learning, consummate Knowledge, and long Experience, in the Cure of Diseases in general, as well as of these in particular, his Fame therein, as well as his Integrity, Humanity, and compassionate Regard to his afflicted and distressed Patients, being sufficiently known in London. (Blackmore, 1733, p. iv)

He was convinced that "no considerable Benefit or Improvement can be acquired by the Study of the Authors that lived in the foregoing Centuries," certainly not enough to justify the effort and time invested (Blackmore, 1726, p. xlvii). In *Discourses on the Gout, Rheumatism, and the King's Evil* he would add that:

> The late Dr Radcliff, who was many Years in the full Possession of Fame, and perhaps as much esteem'd and rely'd on as any Physician this Island has produced, said to me in Conversation, that it was not the reading of Books, bus native Judgment, good Sense, and Experience that made a Physician; and well known what Contempt he express'd of all the ancient, und likewise of the generality of modern Writers: And I am thus far of his Opinion, that I believe the eldest Authors for many Ages are altogether unnecessary, or at least little serviceable, and likewise that a less Portion than an exact and perfect Knowledge of Botany, Chymistry, and Anatomy will be sufficient to make a worthy Physician, as I have suggested in another Writing: And this I mention to give the Student in this Art a Caution, that he should not waste his Time in seeking after unprofitable Attainments, tho' honour'd with the Name of Learning. In the mean time however it will be his Duty and Interest to furnish his Mind by Reading and Contemplation with all the Endowments, that conduce to his judicious and successful Practice. After all it must be acknowledged that the best Learning alone is insufficient to make an accomplish'd Practiser. For to this Art, besides Industry and good Education, a great deal is required

> on Nature's Part, that is an inbred Judgment, Sagacity and a peculiar Disposition for it; for a Man in a good Measure is born a Physician as well as a Poet. (Blackmore, 1726, pp. li–liii)

In this telling passage, Blackmore referred to the work of his fellow Royal Physician John Radcliffe.[40] Blackmore and Dr Radcliffe were employed in the same environment, yet they did not always see eye to eye: while Blackmore was a Whig, Radcliffe was "a confirmed Jacobite and violent Tory" (Sakula, 1985, p. 256). Both, however, were followers of Sydenham in the practice of medicine (Martensen, 2004b). The poem by G. Sewell opening Blackmore's *Treatise of Consumption and other distempers belonging to the Breast and Lungs* contains a celebration of the work of the "new HIPPOCRATES in Britain" that well summarises Blackmore's own view:

> SYDENHAM, at length, a mighty Genius came,
>
> Who founded Medicine on a nobler Frame.
>
> Who studied Nature thro', and Nature's Laws,
>
> Nor blindly puzzled for the peccant Cause.
>
> Father of Physick He—Immortal Name!
>
> Who leaves the Grecian but a second Fame

In the preface to *A Treatise on the Small-pox* (1723), Blackmore recalls an episode of his youth—recounted by Payne (1900, p. 191) as well—where he met Dr Sydenham and asked for his advice as to his medical studies:

> Dr Sydenham *abovementioned, who became an able and eminent Physician, though he never designed to take up the Profession till the civil Wars were composed, and then being a disbanded Officer, entred upon it for a Maintenance, without any Learning properly preparatory for the Undertaking of it And to Shew the Reader what Contempt he had for Writings in Phyfick, when one Day I asked him to advise me what Books I should read to qualify me for Practice, he replied*, Read *Don Quixot*, it is a very good Book, I read it still. *So low an Opinion had this celebrated Man of the Learning collected out of the Authors, his Predecessors.* Blackmore (1723a, p. xi)

Nonetheless, while Blackmore followed an empirical method based on observation, he also maintained ambiguous positions in his medical approach:

[40] According to Martensen (2004b), Radcliffe was one of the members of the Royal College of Physicians who opposed Samuel Garth in his campaign to have the college sponsor the first dispensary for the poor. In his *Life of Garth*, Dr Johnson wrote that Garth and Radcliffe were leaders of opposite parties of physicians, although it was not clear whether politically or regarding the dispensary (Johnson, 1896, p. 41). Boyce, however, clarifies that "[o]ne should notice that Whiggish Sir Richard Blackmore in his *Satyr against Wit* spoke flatteringly of Radcliffe, and that shortly afterwards, when Blackmore was commanding a broadside attack upon a group of wits including Garth, Dr Drake (a Jacobite), and Dr Colbatch, all dispensarians, he defended Radcliffe. I believe, therefore, that we may conclude that the dispute between Garth and Radcliffe to which Dr Johnson refers was not entirely on political grounds" (Boyce, 1938, p. 454).

> *My Reasoning in the following Pages, is founded on Facts warranted by sufficient Testimony, which only is decisive in such Arguments: And notwithstanding the Knowledge that we gain by Testimony, does not result from the same Sort of Evidence, yet it is no less certain, than the Conclusions drawn from Mathematical Demonstration, and Scientific Principles; for no Certainty acquired by any Method of Reasoning, can be greater than that which leaves no Ground of doubting in the Mind.* (Blackmore, 1725b, p. iii)

In this excerpt from the preface of *A Critical Dissertation upon the Spleen*, Blackmore seemed to place extraordinary weight on the authorities of the past as far as they provide useful testimony to ground knowledge with the same certainty as scientific demonstration. Hence, he granted them a decisive role in his reasoning despite his claim to pure empiricism. In Book VI (ll.463-84) of *Creation,* Blackmore would pay his respects to his illustrious predecessors, without whom modern pioneering discoveries like the circulation of blood could not have happened.

All in all, as Ingram, Lawlor and Williams (2024, p. 7) summarise, Blackmore's belief in a mainstream, Anglican, and Whiggish medical truth grounded in empirical evidence, rather than traditional wisdom, is a good example of the transition into the Age of Enlightenment and the scientific modernity of the following centuries.

1.2.4 Blackmore's Religious Views

The question of Blackmore's religious views is deeply entwined with his scientific and physico-theological positions. As such, it is worth exploring in more detail.

Contrary to what Schmidgen (2021, p. 71) maintains—i.e., that "[t]he two biographies we have of Blackmore do not mention his religious beliefs, nor does the Dictionary of National Biography"—these texts are quite informative, and much can be inferred from Blackmore's extensive body of work and secondary literature. Rosenberg (1953) actually devoted significant attention to this matter in his biography of the poet, portraying him as committed to the Established Church and opposed to religious heterodoxy. However, the fullest treatment of Blackmore as a religious poet is found in the first volume of Fairchild's seminal *Religious Trends in English Poetry* (1939). The scholar presents Blackmore as a representative figure of the religious trends of his day, and especially valuable for those interested in the history of thought.

From a very young age, Blackmore was described by his peers as a pious man. Despite his busy life as a physician and writer, he was a devout member of the Church of England, and he remained deeply committed to the religious well-being of his local community for his whole life. When in Cheapside, he participated actively in the affairs of his parish, regularly attending St. Vedast in Foster Lane. According to Rosenberg (1953, p. 80), he served on the vestry of the combined parishes of St. Vedast and St. Michael Le Querne,[41] working closely with the church's rector, Mr. Marmaduke

[41] Manuscript VB 1/5/77, "Act Books of the Vicar General of the Archbishop of Canterbury," held at

Hopkins (d. 1707).[42] The Church Warden's accounts show that Blackmore also served as a verger and represented the parish before the Lord Mayor. When he moved to Kensington in 1717, he joined a new parish and continued to attend Church. A devout Anglican, extremely loyal to the Church of England (Ingram, Lawlor & Williams, 2024, p. 4), he celebrated and defended it in most of his writings.

Regardless of his firm allegiance to the Established Church, Blackmore was also famously close to several Dissenters in his personal life. Among these were intimate friends such as John Hughes, with whom Blackmore published the periodical *The Lay Monastery,* and writer Isaac Watts (1674–1748) (Rosenberg, 1953, pp. 17–8). In his *Remarks and Collections of Thomas Hearne* (1885), the antiquarian recounted that Blackmore

> married a rich Conventicler & by that means got a mighty Interest among ye Whiggs, & was Knighted by King Wm, who always lov'd to confer his Marks of Honour upon Persons dissaffected to ye Church of England. (Hearne, 1885, pp. 231–2)

According to Rosenberg (1953, pp. 17–8), this seemed to imply that Blackmore's wife had been brought up in a dissenting household. These associations reflect his broader attitude of moderation towards those who held different religious views. In particular, the scholar adds that "in his Arthurian epics Blackmore had championed the established Church, while pleading for moderation in dealing with the Dissenters" (Rosenberg, 1953, p. 62). Blackmore advocated for a tolerant approach and argued against harsh measures against other Christians. These sentiments were similar to those of the Latitudinarians, although Blackmore never explicitly joined their movement or openly adopted their views.

His tolerance was however limited. He was especially unforgiving when it came to the rise of Arianism within the Church of England. As a staunch Trinitarian, Blackmore opposed the Arian doctrine, denying the divinity of Christ. The physician saw Arianism as a "fashionable heresy" that endangered the established Church and he "utterly disagreed with the ones who favoured toleration on that regard" (Pizzol Giacomini, 2007, p. 127). He actively engaged in theological controversies on this issue and published works to counter the spread of Arianism, namely *Just Prejudices Against the Arian Hypothesis* (1721) and *Modern Arians Unmask'd* (1721) (see Appendix A). In

Lambeth Palace Library, contains a list of the members of Vestry of S. Vedast and S. Michael Le Quern in 1703.

[42] The *Clergy of the Church of England Database 1540–1835* records that Marmaduke Hopkins was Rector of St Michael-le-Querne, London, from 1684 and Rector of St Vedast, Foster Lane, London, from 1684 to 1707 (Person ID 97410). He was also the author of *Murmurers reproved. A sermon preached at St. Vedas [sic], alias Foster-Lane, on Feb. 24. 1688/9. By Marmaduke Hopkins rector there* (1689). The sermon is telling of the author's Protestant and firmly anti-Catholic religious views. The 34-page sermon was written in the wake of the Glorious Revolution, which Hopkins saw as a divine deliverance from the "Papal Empire" (Hopkins, 1689, p. 23). The sermon calls for obedience to the newly established Protestant order, warning against the dangers of discontent and murmuring—a metaphor for rebellion or resistance to God's will.

these treatises, he stressed the importance of maintaining the Church's traditional Trinitarian doctrine, making use of the Scriptures to support his position (Pizzol Giacomini, 2007, p. 131). Such views were also expressed in his last poem, *Redemption: A Divine Poem, In Six Books* (1722). This religious epic was intended as a companion to the earlier Creation and it was more focused on revealed religion. It aimed to defend Christian doctrine, particularly the divinity of Christ and made "much of the point that Arians are idolaters because they worship Christ without regarding him as divine" (Fairchild, 1939, p. 200).

On top of his belligerent opposition to Arianism, Blackmore even wrote against the growing influence of deism in eighteenth-century England.[43] Deists believed that "we can know by the natural light of reason that the universe is created and governed by a supreme intelligence; however, although this supreme being has a plan for creation from the beginning, the being does not interfere with creation" (Bristow, 2023). It was the deists's opinion that the universe was regulated by natural laws that had been set in motion by God in a distant past. Divine intervention and revelation were thus not necessary: divinity could be inferred from the observation of the natural world, in a process quite similar to that applied in natural theology (Paley, 2006, p. 297). Blackmore saw deism as a danger for Christian orthodoxy, and he made it a point to refute deistic ideas in virtually all his writings. His physico-theological works sought to demonstrate the existence and providence of God through the observation of nature. As such, they were particularly aimed at countering the arguments of atheists and deists. *Creation* was his masterpiece also in this sense, though it was read with some ambiguity. As Fairchild (1939, p. 200) maintains, "except for his frequent assertion that the intricate wonders of nature prove not only the existence but the providential care of a Supreme Being, Blackmore does not advance far beyond the deism which he execrates." He rectified this ten years later with *Redemption*. Indeed, according to Cooke, the curator of the 1797 edition of *Creation*, "having succeeded so well in demonstrating the existence of the providence of God, and thereby establishing the great principle of all religion, he thought his undertaking imperfect, unless he likewise enforced the truth of revelation, and for that purpose he published a poem on Redemption, in six books" (Blackmore, 1797, pp. 6–7). The poet was adamant in his defence of revealed religion (Fairchild, 1939, p. 201) and throughout his literary career, he was committed to defending the Christian faith against the rising tide of skepticism and irreligion he witnessed in his day.

Blackmore's works also reveal his strong hostility to Catholicism, in a manner typical of post-revolutionary England. The best example of these sentiments is to be found in one of the earliest and least accomplished of his poems, that is, *Eliza* (1705), an "allegorical account of Protestantism versus Catholicism" (Brinkley, 1931, p. 314).

[43] According to Bristow (2023), "deism is the form of religion most associated with the Enlightenment. [...] science, according to which the cosmos displays an intricate machine-like order; the deists suppose that the supposition of God is necessary as the source or author of this order."

For instance, in Book IX of *Eliza*, Blackmore introduces the character of Lopez, a Portuguese physician executed in 1594 for his involvement in the Spanish conspiracy to poison Queen Elizabeth (Rosenberg, 1953, p. 85). The character was meant to represent the previously mentioned Dr John Radcliffe, as his unconventional behaviour and Roman Catholic leanings are clearly alluded to in the portrayal of the Portuguese villain.

To conclude, Blackmore's position synthesises

> the political, ecclesiastical and social views of a Whig whose Low Church Anglicanism has been but little affected by latitudinarian thought; puritanical concern for moral reform; opposition to "wit" as making for vice and irreligion; a campaign against atheism Epicureaninsm, deism, and Arianism, with a tendency to lump them all together; belief in Christian, original, and rationally enthusiastic poetry as a means of reforming the age and its literature through a harmony of passion and reason; the use of scientific materials in the defense of religion, combined with distrust of scientific philosophy; the reliance upon a non-religious conception of reason in the attempt to argue for orthodox Christianity. Blackmore, in short, is a satisfyingly representative figure. (Fairchild, 1939, p. 201)

The religious agenda that will emerge from the analysis of *Creation* is highly coherent with the author's lifelong crusade against "Atheism and the Corruption of Manners" he witnessed in post-Restoration England (Connell, 2016, p. 181).

1.2.5 Contemporary Reception and Success of Blackmore's Work

While Section 1.3.8 will dwell specifically on the success of *Creation*, this section intends to shed light on how the public figure of Blackmore and his work in general were perceived in the eighteenth century. Most scholars tend to paint a scenario where Blackmore is and was unpopular, but contemporary letters collected in the *Electronic Enlightenment* database, some of the few manuscripts regarding Blackmore available, and coeval sources, offer a more complete and less partisan insight into his reception in the eighteenth century. Hence, this section reconsiders the commonly held belief that Blackmore was widely unpopular and demonstrates that contemporary evidence reveals a more complex reception.

Blackmore enjoyed considerable respect as a physician, including among leading intellectuals of the late seventeenth and early eighteenth centuries. Besides being a Royal Physician, there is proof that he was consulted by various figures of a certain renown. The merchant Paul D'Aranda (1685–1732), for instance, wrote to John Locke in 1695 praising Blackmore's medical advice, specifically his recommendation of "warm milk at first milking and a little mum" alongside Bath waters for stomach

complaints.[44] Locke himself, who was Blackmore's fellow physician and acquaintance, held him in high regard not only for his professional skills but for his opposition to the dominant reliance on hypotheses in medical theory. In a letter from 1697 he wrote admiringly of Blackmore's preface to *King Arthur*, commending his empirical approach and calling it the "right method of practising physick:"

> though I have a great value for Sir R. Blackmore, on several accounts, yet there is nothing has given me a greater esteem of him, than what he says about hypotheses in medicine, in his preface to K. Arthur, which is an argument to me that he understands the right method of practising physick; and it gives me great hopes he will improve it, since he keeps in the only way it is capable to be improved in; and has so publickly declared against the more easie, fashionable, and pleasing way of an hypothesis, which, I think, has done more to hinder the true art of physick, which is the curing of diseases, than all other things put together.[45]

In Locke's view, Blackmore's commitment to empirical observation over abstract theory made him an effective physician. Most interestingly, the *Records assembled by the State Paper Office, including papers of the Secretaries of State up to 1782*, a collection of documents held at The National Archives at Kew, demonstrate that Blackmore's expertise found resonance also in legal contexts. For instance, they contain a copy of the "deposition of Sir Richard Blackmore, physician to Hannah Fromanteele, given on 21 May 1702 at the sessions of the peace [?for Middlesex]" and concerning Fromanteele's mental health while in his care, and her ability to make a will.[46] Blackmore's medical reputation endured even beyond his death, a testament to his committed knowledge. Not long after this, a medical treatise titled *A Dissertation on the Gravel and Stone* (1733), drawing heavily from his work, was published and focused on the nature, causes, and symptoms of these diseases as studied by Blackmore.

In contrast to the consistent respect he commanded in medicine, Blackmore's literary reputation was more volatile. His poetry later became the object of ridicule, and yet early responses suggest a more nuanced reception: during his lifetime, he managed to gain quite a reputation as a poet. Although not as refined as contemporaries like Alexander Pope, he was esteemed for his virtuousness by many. As Lewis (2017) puts it, today Blackmore is mainly remembered as the Whig writer of bad epics, but this is mainly due to the disservice that his Tory enemies paid him. In his "Sir Richard Blackmore in the Judgement of his Fellow Writers," Kelly (1961) recognises the influence of the Wits's criticism on Blackmore but finds this perspective

[44] Letter from Paul D'Aranda to John Locke, Monday, 25 July 1695. Retrieved from <https://doi.org/10.13051/ee:doc/lockjoOU0050411b1c>. Last accessed on July 23, 2025.

[45] Letter from John Locke to William Molyneux, 15 June 15, 1697. Retrieved from <https://doi.org/10.13051/ee:doc/lockjoOU0060142a1c>. Last accessed on July 23, 2025.

[46] SP 34/3/98A, Folios 149-50, retrieved from <https://discovery.nationalarchives.gov.uk/details/r/C6406351>. Last accessed on July 23, 2025.

one-sided. Instead, he calls for a more balanced view of the physician as a serious author: Blackmore was considered rather a major writer, and several of his contemporaries held him in high regard.

In 1695, Blackmore's first long epic, *Prince Arthur*, was issued and found favour with the public. The very same year, the anonymous[47] English translation of René Le Bossu's (1631–1680) *Treatise of the Epic Poem* came out in London and it was dedicated "to the Honoured Richard Blackmore, Doctor of Physick, and Fellow of the College of Physicians in London." The dedication of the translation is seething with admiration and respect for the English physician. He is complimented for having closely followed the principles laid out by Aristotle, Horace, and Le Bossu himself in the construction of his poem:

> I might here run out into high and just Encomiums upon your late extraordinary Performance; but there is no need for it, since the Work loudly speaks forth its own Praises: and I should rather seem unjust in Saying too little, than be thought guilty of Flattery for saying too much in its Commendation.

The translator even regards Blackmore's *Prince Arthur* as a model of epic poetry in the English tradition and asks for his patronage and protection for the translation. In the preface, Blackmore is further commended for his commitment to virtue and moral instruction through poetry. The translator dwells on *Prince Arthur* as an exemplary heroic poem and an important contribution to English literature, especially for its "happy [patriotic] Choice of his *Subject* and *Hero*." Blackmore is praised for choosing a subject that glorifies his own country, an endeavour that only few English poets had attempted with success before—with the notable exception of Spenser. The translator even daringly compares *Prince Arthur* to Virgil's *Aeneid*, both in "*Fable*" and "*Action*:"

> His *Machines* are very Natural, and adapted to the *Genius* and Notions of our times, as *Virgils* were to those of his Age. His *Expression* is noble and majestical; his *Verse* Sonorous, Masculine, and Strong; his *Thoughts* are Sublime; his *Similes* natural; his *Descriptions* proper; and his *Sentences* few and regular. In a word throughout the whole he seems in a great Measure to have confin'd himself to the Rules of *Aristotle* and *Horace*, to have copy'd the best of any Man the Perfections of *Virgil*, and to have shewn a strength of *Genius*, an Heighth of *Fancy*, and a correctedness of *Judgment*, that comes but a little behind that of the two *Ancient* Poets.

Some measured criticism was also advanced—Blackmore's overly long digressions, the relative scarcity of episodes in the poem, and the consequent length of his descriptions to maintain the poem's length. Overall, however, Blackmore was perceived as a

[47] The translation is signed "by W.J.," who is described as "unknown" in the dedication.

learned and virtuous poet. The same was noticed by writer Edward Bysshe (fl. 1702–1714) in *The Art of English Poetry* (1702), a highly popular and influential anthology of the early eighteenth century. The book was structured into three main parts: rules for versification, a rhyming dictionary, and a thematic collection of relevant literary passages. It aimed to instruct aspiring versifiers through a repository of "noble thoughts [...] that are to be found in the best English Poets" (Williams, 2005, p. 175). Among these, Blackmore featured prominently alongside Dryden, Abraham Cowley (1618–1667), and Edmund Waller (1606–1687). The physician, then, was regarded as a serious and respectable contributor to English poetry and his work was divulged in the form of excerpts to exemplify poetic style, imagery, and expression. Abigail Williams (2005, p. 194) argues that the method of reception that values excerpts and citations instead of full works—which was extremely popular in the eighteenth century—invites a reconsideration of how we assess poets like Blackmore today. Rather than judging his poems solely by modern standards, we might better understand their original appeal. This can be done by focusing on the moral, aesthetic, and rhetorical allure of particular lines that were popularised by anthologies like Bysshe's.

Similar but also contrasting views on Blackmore's *Prince Arthur* came in the form of John Dennis's *Remarks on a Book entituled Prince Arthur, an Heroick Poem with some General Critical Observations and Several New Remarks upon Virgil* (1696). In the Dedication to the Earl of Dorset and Middlesex, Dennis explained that

> The Poem upon which I have made the following Remarks has met with very different success in the World. Some have admir'd it as a Masterpiece of Art and Nature. Others have exploded it with extream Contempt. And a third sort, amongst whom are some extraordinary Men, have been willing to encourage something that is Generous in the Design, and something that is Happy at least in some parts of the Execution. I need not acquaint Your *Lordship* that for my own part, I believe *Prince Arthur* to be neither Admirable nor Contemptible.

Solomon (1980, p. 46) avers that Dennis's *Remarks* "was perhaps the first modern review and is certainly one of the longest and most thorough literary criticisms of the age." Dennis strongly criticised the poem, arguing that its success stemmed merely from the poor literary taste of its readers.[48] He shared French critic Nicolas Boileau's (1636–1711) view that Christianity is a suitable subject for epic poetry,[49] and expressed

[48] According to Wheeler (1986, pp. 210–1), Dennis was a leading critic, especially following the death of Dryden in 1700. However, his reputation suffered due to Pope's satirical portrayals in *The Dunciad* and *Essay on Criticism*. In these texts, Dennis was portrayed as a red-faced moralist who opposed all new literature.

[49] These ideas were expressed in his *Art poétique* (1674):

> De la foy d'un chretien les mysteres terribles D'Ornemens egayez ne sont point susceptible.
>
> (as quoted in the Preface of Watts's *Horae Lyricae*, 1706)

confusion over the English clergy's admiration for the poem. Dennis also remarked on the poem's lack of unity, integrity, and universality, and ultimately concluded that *Prince Arthur* did not possess the emotional intensity essential to great heroic poetry. However, he did not dismiss Blackmore entirely. The critic acknowledged moments of genuine poetic talent—especially in Books II and III—though he maintained that the composition did not come close to the greatness of Virgil's *Aeneid*.

Nonetheless, after this initial divergence Dennis and Blackmore reconciled and discovered shared beliefs on religion, politics, and literature. Dennis's critiques even helped Blackmore with his stylistic choices in his subsequent poem, *King Arthur,* and in his later writings, Dennis praised Blackmore. In *A True Character of Mr. Pope* (1716), the author condemned Pope for his repeated and malicious ridicule of several writers, among whom,

> he has attack'd no one so often, or with so much ridiculous, impotent Malice, as Sir Richard Blackmore; who is Estimable for a thousand good and great Qualities. And what time has he chosen to do this? Why, just after that Gentleman had laid very great Obligations on him; and just after he had oblig'd the World with so many Editions of his Excellent Poem upon CREATION, which Poem alone is worth all the Folios, that this Libeller will ever write, and which will render its Author the Delight and Admiration of Posterity. Dennis (1943, p. 107)

The following year, in *Remarks upon Mr. Pope's Translation of Homer* (1717), Dennis reiterated his defence of Blackmore. He claimed that *Creation* was an exceptional philosophical poem that rivalled Lucretius's *De Rerum Natura* in beauty and even surpassed it in moral terms. Similar considerations were advanced by Giles Jacob (1686–1744) in his *The Poetical Register: Or, the Lives and Characters of all the English Poets* (1723). Jacob quoted Dennis's praise of *Creation* and "Sir Richard is an Excellent Physician, and a good Poet: A Man of great Learning, good Manners, and extensive Humanity, he has oblig'd the World" with several pieces of writing (p. 10). Jonathan Smedley (1670/71–1729) included Blackmore in his *A Specimen of an Universal View of all the Eminent Writers on the Holy Scriptures* (1728) alongside ancient and modern poets—Milton included.

At the turn of the eighteenth century, fellow writer and friend Isaac Watts (1674–1748) extensively praised Blackmore for his attempts at divine poetry. In the preface of his collection *Horae Liricae. Poems, chiefly of the Lyric Kind. In Two Books* (1706) he wrote that

> we have reason to fear that the Tuneful Men of our Day have not rais'd their Ambition to so Divine a Pitch; I should rejoyce to see more of this Coelestial Fire kindlig within them, for the Flashes that break out in some present and past Writings betray an Infernal Source. This incomparable Mr. *Cowley* in the latter End of his Preface, and the Ingenious *Sir Richard*

> *Blackmore* in the beginning of his have so pathetically describ'd and lamented [...]. These gentlemen in their large and laboured Works of Poesie have given the World happy Examples of what they wish and incourage in Prose: The one in a rich Variety of Thought and Fancy; the Other in all the Beauties of Profuse and Florid Diction. (Watts, 1706)

Watts offered his explanation of why religious verse was more likely to create a sublime effect and mentions Blackmore's compositions as examples of successful divine poetry (Williams, 2005, p. 184).

Periodical publications like Addison's *The Spectator* (1711–12) and *The Free-Holder: or Political Essays* (1716) occasionally mentioned Blackmore and his writings, as well. In No. 40 of *The Free-Holder* (May 7, 1716) Addison wrote about Sir Richard that "there is not a more melancholy Object in the Learned World than a Man who has written himself down," for he found that the *Essays* were not as good as *Creation*, which he praised in *The Spectator* (No. 339, March 29, 1712, see Section 1.3.1). He also suggested that old age made Blackmore inevitably dull, though in No. 45 (May 25, 1716) Addison commented that he had "lately read with much Pleasure, the *Essays upon several Subjects* published by Sir Richard Blackmore" (Addison, 1716, p. 258).

A further aspect of Blackmore's contemporary reception is his association with the Wits and their immortalisation of him as a dull poet. Boys's *Sir Richard Blackmore and the Wits* (1949) and Boyce's "The Dispensary, Sir Richard Blackmore, and the Captain of the Wits" (1938) are the two works that best analysed Blackmore's turbulent relationship with his literary and political enemies. Blackmore saw these figures as the instruments of evil and wrote about them in the preface to *King Arthur* as "several Men of Wit and Parts," accusing them of being biased towards him (Boys, 1949, p. 5). In a letter from Alexander Pope to John Hughes dated April 30, 1714, Pope asked Hughes to make his "most humble service acceptable to Sir Richard Blackmore."[50] It appears that at this time the two were upon friendly terms. According to *Electronic Enlightenment*, this cordial relationship was first broken when Blackmore accused Pope of profaneness and immorality in the second volume of his *Essays upon Several Subjects* (1717):

> I cannot but here take notice, that one of these Champions of Vice is the reputed Author of a detestable Paper, that has lately been handed about in Manuscript, and now appears in Print, in which the godless Author has burlesqu'd the *First Psalm* of *David* in so obscene and profane a manner, that perhaps no Age ever saw such an insolent Affront offer'd to the establish'd Religion of their Country, and this, good Heaven! with Impunity. A sad Demonstration this, of the low Ebb to which the *British* Vertue is reduc'd in these degenerate Times. (Blackmore, 1717, p. 270)

[50] Letter from Alexander Pope to John Hughes from 30 April 1714. Retrieved from <https://doi.org/10.13051/ee:doc/popealOU0010218a1c>. Last accessed on July 24, 2025.

Womersley (2005a, pp. 243–4), however, mentions an earlier crack in the relationship between Blackmore and the Wits when the physician attacked Swift as an "impious Buffoon," charging him with undermining Christian values under the guise of wit:

> ANOTHER pernicious Abuse of Wit is that which appears in the Writings of some ingenious Men, who are so hardy as to expose from the Press the most venerable Subjects, and treat Vertue and Sobriety of Manners with Raillery and Ridicule. Several, in their Books, have many sarcastical and spiteful Strokes at Religion in general, while others make themselves pleasant with the Principles of the Christian. Of the last kind this Age has seen a most audacious Example in the Book intitul'd, *A Tale of a Tub*. Had this Writing been publish'd in a Pagan or Popish Nation, who are justly impatient of all Indignity offer'd to the Establish'd Religion of their Country, no doubt but the Author would have receiv'd the Punishment he deserv'd. But the Fate of this impious Buffoon is very different; for in a Protestant Kingdom, zealous of their Civil and Religious Immunities, he has not only escap'd Affronts and the Effects of publick Resentment, but has been caress'd and patroniz'd by Persons of great Figure and of all Denominations. (Blackmore, 1716, pp. 217–8)

Blackmore strongly opposed the "insolent Derider of the Worship of his Country" who wrote "the infamous Book" (Blackmore, 1716, pp. 217–8). Additional proof of this spoilt friendship is to be found in a letter from Swift to Pope dated September 10, 1716, where we read:

> [...] who are all these enemies you hint at? I can only think of Curl, Gildon, Squire Burnet, Blackmore, and a few others whose fame I have forgot.[51]

According to Rogers (2016, p. 324), these words sealed Blackmore's fate, which found its worst downfall in Pope's *The Dunciad* (1728), a mock-heroic narrative poem that celebrates the champion of literary dullness in the poet's eyes. Fairer (2003, p. 7) notes that when the book was published, Blackmore's status in Pope's was clear (see Figure 1.2)[52] and was exemplified in visual paratexts associated with the poem.

[51] Retrieved from <https://doi.org/10.13051/ee:doc/popealOU0010358a1c>. Last accessed on July 24, 2025.

[52] Retrieved from Baird (2011), Special Collections, Call No. PR 3625.A1 1728. Courtesy of the University of Virginia Library.



Figure 1.2: The frontispiece of *The Dunciad: An Heroic Poem, In Three Books* (1728) shows an altar built with leather-bound volumes of several contemporary authors—Cibber, Ogilby, Dennis, Theobald, Blackmore. At the top, an owl perches holding a manuscript of Pope's poem.

In her "Visual Paratexts: *The Dunciad* Illustrations and the Thistles of Satire," Ileana Baird (2011) offers an overview of the visual paratexts and illustrations of all the editions of *The Dunciad* (1728–1751). These are quite revealing of Blackmore's stand in Pope's judgement. She argues that visual illustrations are crucial in encoding the satire's political, cultural, and moral messages. Blackmore was a recurring figure in the book, though his position shifted between editions, evidence that Pope's authorial targets evolved and changed. In the 1728 frontispiece, Blackmore's name did not appear, but his *Prince Arthur* and *King Arthur*, "P. & K. Arthur," were at the top of the pile of books. According to Mengel (1973, p. 163), Blackmore's epics might have been placed at the top of the pile in reference to his victory in the contest of dull poetry recounted in Book II:

> All hail him victor in both gifts of Song,
>
> Who sings so loudly, and who sings so long
>
> (1728, II, 245-46)

In the 1729 *Variorum* edition, whose famous frontispiece portrays a donkey carrying books and chewing thistles, Blackmore was not included among the directly targeted dunces (see Figure 1.3).

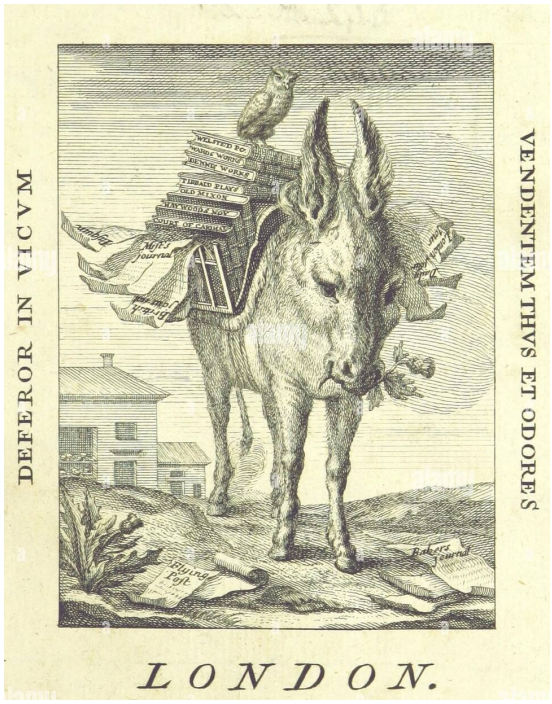


Figure 1.3: Title-page of *The Dunciad, Variorum. With the Prolegomena of Scriblerus* (1729). Blackmore's name does not appear among those on the volumes carried by the donkey. In this image, the symbol of the owl recurs.

This does not signify that Blackmore lost his status as a dunce, though Baird (2011) considers the hypothesis that Pope's antipathy might have cooled slightly by this point. Baird (2011) and Means (1974) do not agree with this interpretation. Both argue that in designing the frontispiece for the *Dunciad Variorum* (1729), Pope possibly drew a more subtle inspiration from Blackmore. In particular, in Blackmore's satirical poem *The Kit-Cats* (1708), the god of Dulness had been presented as presiding over a grotesque temple adorned by an owl and an ass:

> On the dark Margin of the Stagnant Flood,
>
> The Temple of the God of Dulness stood.
>
> With ruse Magnificence high in the Air
>
> Thick Walls of Mud the pond'rous Roof did bear.
>
> Of Birds the formal Owl, of Beasts the Ass
>
> Dear to the God, did dark the Niches grace.
>
> (Blackmore, 1708, pp. 10–11)

The poem was written to celebrate the role of the publisher Jacob Tonson (1655–1736) in promoting Whig literary culture (Gerrard, 2005). In this context, Pope's choice to depict an ass burdened with Grub Street productions and topped by an owl can be read as a general comment on the dreariness of contemporary literature but also as an allusion to Blackmore's own poetry. This would reflect Pope's broader satirical strategy of turning his enemies's language and images against them (Means, 1974). If this link were true, Blackmore's indirect presence would also be discernible in the illustration of the 1729 edition. The association of Blackmore with asinine dullness is further strengthened in Book II of the *Dunciad Variorum*, where he is said to "outbray" the other dunces in a contest. Blackmore will be remembered in the following centuries precisely thanks to *The Dunciad* and its immortalisation of the "sonorous" strain of his asinine braying verse:

> But far o'er all, sonorous Blackmore's strain;
> Walls, steeples, skies bray back to him again.
> In Tottenham fields, the brethren, with amaze,
> Prick all their ears up, and forget to graze.
> 'Long Chancery Lane retentive rolls the sound,
> And courts to courts return it round and round;
> Thames wafts it thence to Rufus' roaring hall,
> And Hungerford re-echoes bawl for bawl.
> All hail him victor in both gifts of song,
> Who sings so loudly, and who sings so long.
> (Pope, 2017, pp. 477–8, ll.259-68)

It is again in the 1735 edition that Blackmore appears more patently, though the book with his name is moved down the stack of books, and Thomas Woolston (1668–1733) and Charles Gildon (1665–1724) are added or moved up. It is noteworthy to remember that Blackmore had died in Boxted, Essex, at the end of 1729, but Pope did not relent his literary critique and scorn. In 1732 a little-known poem written probably jointly by Pope and Swift[53] was published with the title "Verses to be placed under the Picture of England's Arch-Poet: Containing a compleat Catalogue of his Works:"

> SEE who ne'er was or will be half read!
> Who first sung Arthur, then sung Alfred;
> Prais'd great Eliza in God's anger,

[53]Norman Ault's article "Pope and 'England's Arch-Poet'" (1943) studies the authorship of the poem. He refutes the attribution of the poem to John Gay and builds a case for Alexander Pope as the actual author.

Till all true Englishmen cried, Hang her!
Made William's virtues wipe the bare a—,
And hanged up Marlborough in arras:
Then, hiss'd from earth, grew heavenly quite:
Made every reader curse the light;
Maul'd human wit, in one thick satire;
Next in three books sent Human Nature;
Undid Creation at a jerk;
And of Redemption made damn'd work.
Then took his Muse, at once, and dipp'd her
Full in the middle of the Scripture:
What wonders there the man grown old did!
Sternhold himself he out-Sternholded;
Made David seem so mad and freakish,
All thought him just what thought king Achish.
No mortal read his Solomon,
But judg'd R'oboam his own son.
Moses he serv'd as Moses Pharaoh,
And Deborah as she Siserah;
Made Jeremy full sore to cry,
And Job himself curse God and die.
What punishment all this must follow?
Shall Arthur use him like king Tollo?
Shall David as Uriah slay him?
Or dext'rous Deb'rah Siserah him?
Or shall Eliza lay a plot
To treat him like her sister Scot?
Shall William dub his better end?
Or Marlb'rough serve him like a friend?
No, none of these — Heaven spare his life!
But send him, honest Job, thy wife.
(Swift, 1801, pp. 465–6)

The satirical poem was intended as a mock epitaph or inscription meant to be placed beneath a picture of Blackmore. It was quoted in full as it condenses Blackmore's literary endeavours, exemplified by numerous epic and religious poems. The portrait of Blackmore that emerges from these lines is that of a tedious, pompous, and unreadable poet. The lyrical I lists and mocks several of Blackmore's works, namely: epic poems like *Prince* and *King Arthur*, *Alfred*, and *Eliza*; longer poems like *Instructions to Vanderbank*, *An Hymn to the Light of the World*, *A Satire against Wit*, *Of the Nature of Man*; religious poems such as *Creation*, *Redemption*, the paraphrases of *Psalms*, and the *Paraphrase on the Book of Job*. The last one was so bad that Pope joked that the biblical figure of Job himself would curse God and die from reading it.[54] Even an infamously bad versifier like Thomas Sternhold (1500–1549) was said to have been outdone by Blackmore.

Although these unflattering representations sealed his fate, they also immortalised Blackmore's name. Boys (1949, p. 36) remarks that "Blackmore has the doubtful distinction of being attacked by more illustrious pens than any minor poet in English literary history before or since." Indeed, other members of the Scriblerus Club engaged witheringly with him in their works. Poet and playwright John Gay (1685–1732), for instance, often referred scornfully to the physician in his publications. In the poem *The Shepherd's Week: In Six Pastorals* (1714) he made "glorious fun of Blackmore by parodying *The Creation* and 'The Song of Mopas' in 'Saturday' and 'The Song of Bowzybeus"' (Moore, 1951; Dobree & Wilson, 1959, p. 140). The same he did in *An Epistle to the Right Honourable the Earl of Burlington* (1716), where Blackmore ("Maurus") is derided for his servile patriotism:

> Then *Maurus* in his proper Sphere might shine,
>
> And these proud numbers grace great *William*'s sign:
>
> *This is the Man, this the* Nassovian, *whom*
>
> *I nam'd the brave Deliverer to come.*
>
> (Gay, 1716, p. 19, ll.140–4)

The last two lines are a direct quotation from Blackmore's *Prince Arthur*, Book V. Ault (1943, p. 379) also remarks that Maurus was the nickname Dryden had used to refer to Blackmore in the epistle *To My Honour'd Kinsman, John* (1700):

> What help from arts endeavours can we have!
>
> Guibbons but guesses, nor is sure to save:
>
> But Maurus sweeps whole parishes, and peoples ev'ry Grave,
>
> And no more mercy to mankind will use,

[54] Blackmore's *A Paraphrase on the Book of Job* (1700) was a religious poem in heroic couplets. Unlike other paraphrases of the era, Blackmore's poem was unique because he saw the biblical book not only as an allegory, but also as a historical epic.

> Than when he robbed and murdered Maro's muse.
>
> Wou'dst thou be soon dispatched, and perish whole?
>
> Trust Maurus with thy Life, and Milbourne with thy Soul.
>
> (Dryden, 1985, p. 92)

Gay, alongside fellow Scriblerians Pope and Dr John Arbuthnot, would go back to target Blackmore in the Restoration comedy *Three Hours After Marriage* (1717), as well. Blackmore's mockery, then, took a plethora of literary forms.

Dryden, too, was involved in the Blackmore-wits controversy and Boys (1949) outlines this involvement aptly. The publication of the *Satyr* (1700) acted as a catalyst in their feud, though some critics believe Blackmore first provoked Dryden in *Prince Arthur*. Dryden retaliated extensively. In the Prologue to *The Pilgrim* (1700), he attacked Blackmore directly, referring to him as uneducated "Quack Maurus" and criticising his latest literary attempts—"Arthur was a Level, Job's a Bog." The closing lines are especially scathing:

> We know not by what Name we should Arraign him,
>
> For no one Category can contain him;
>
> A Pedant, Canting Preacher, and a Quack,
>
> Are Load enough to break one Asses Back:
>
> At last, grown wanton, he presum'd to write,
>
> Traduc'd Two Kings, their kindness to requite;
>
> One made the Doctor, and one dubb'd the Knight.
>
> (Fletcher & Dryden, 1700)

In the preface to *Fables* (1700), Dryden again mocked Blackmore, calling him "the City Bard, or Knight Physician," and accused him of plagiarising Dryden's original plan to write about King Arthur. In the poem *To My Honour'd Kinsman, John* , then, Dryden praised Garth while again condemning Blackmore. At the heart of this literary feud was Will's Coffee House, the centre of literary life in London since the 1660s. By the 1690s, it had become a hub of wit and criticism. Its value for the contemporary literary scene was immortalised by Daniel Defoe's (1660–1731) *The Pacificator* (1700), which was published after Garth's *Dispensary* and Blackmore's *Satyr.* It was a parody of the literary skirmish between Blackmore and the Wits at Will's Coffee House, where a "Civil War broke out" (Defoe, 1700, p. 1). The golden age of this institution came to an end with Dryden's death in 1700.

Some have claimed that later criticism of Blackmore's poetry was primarily political, but according to Mason and Smallwood (2000, p. 201) this hypothesis lacks convincing historical backing. They believe that it is more plausible to ascribe the oblivion of his epic poems to both the rising popularity of Milton's *Paradise Lost* and

attacks from writers like Pope, Swift, and Gay. The main criticism was that Blackmore's work was extremely dull and that he showed no humility. Poet and playwright Robert Lloyd (1733–1764), echoed this sentiment in his poem *On Rhyme. A Familiar Epistle to A Friend* (1774), scorning the sheer volume and lifelessness of Blackmore's heroic verse:

> The mighty Blackmore gravely sing
>
> Of Arthur Prince, and Arthur King,
>
> Heroic poems without number,
>
> Long, lifeless, leaden, lulling lumber.

Like many others, Lloyd acknowledged that Blackmore's verse was technically competent ("Smoother, perhaps, than yours or mine"), and each "jingling line" flowed easily—

> But still, (tho' peace be to the dead,)
>
> The dull, dull poems weigh down lead.

Nevertheless, some people must have found Blackmore's poetry compelling. In a letter dated May 28, 1716, Blackmore sent Reverend Arthur Charlett (1655–1722), Master of University College, Oxford, some of his works and poems to be kept in the Bodleian Library.[55] The Bodleian Libraries also hold excerpts from the correspondence between Rev. M. Wheeler of Wappenham, Mr. Newman, and Blackmore dating 1724.[56] These letters regard the creation of a new collection of Psalms for church use and modelled after the style used at St. James's Church, Westminster. Wheeler praised Blackmore's elegant version of the Psalms and proposed their broader adoption. Newman supported this idea and Blackmore agreed to undertake and complete the selection, adding hymns and paraphrases from the New Testament to better suit Christian worship. By November 1724, Blackmore had completed the collection, though it was ultimately never adopted in parishes. Still, this exchange testifies to his engagement with the Church and literary reputation at the time.

Rounce's 2014 article "The Difficulties of Quantifying Taste: Blackmore and Poetic Reception in the Eighteenth Century" argues that it is challenging to determine literary taste from historical reception data. Reception history is complex, shaped by competing voices, biases, and socio-political factors. Hence, when studying an author, we should not rely solely on the opinions of canonical figures or fashionable poets. Blackmore's career was shaped by Tory satirists like Pope and Dryden, though these attacks were more social and ideological than typically literary. Later critics concurred with these judgments, yet his early patrons Isaac Watts and William Molyneux approved of his work, proving that the Scriblerian judgment was by no means the

[55] Bodleian Library, University of Oxford: MS Ballard 11 fol. 109.
[56] Oxford, Bodleian Libraries, MS. Rawl. C. 743, fol 61.

only one. Rounce refers to reception data showing that Blackmore's works, especially *Prince Arthur* and *Creation*, were popular before 1720 but fell out of favour afterwards. The poet's critical reputation declined towards the mid-eighteenth century. The only positive mention during this time was Shiels's 1753 biography in *Cibber's Lives*, where we read that Blackmore

> was a chaste writer; he struggled in the cause of virtue, even in those times, when vice had the countenance of the great, and when an almost universal degeneracy prevailed. He was not afraid to appear the advocate of virtue, in opposition to the highest authority, and no lustre of abilities in his opponents could deter him from stripping vice of those gaudy colours, with which poets of the first eminence had clothed her. (Cibber, 1753, p. 178)

The scholar argues that although Pope's derision might have hastened Blackmore's decline, data suggest that his fame would have declined all the same. At the end of the eighteenth century, Dr Johnson's inclusion of Blackmore in his *Lives of the Poets* (1780) spurred some new interest in his works, though his view was already outmoded for the newer literary fashion. In spite of this, "[t]he space Johnson had given Blackmore [in his *Lives*] exceeded that accorded 41 of the 52" poets, though "[h]e admired Blackmore's character more than his ability" (Kelly, 1961, p. 189). Boys (1949, p. 35) remarks that Johnson contributed significantly to keeping the—albeit scant—positive interest in Blackmore alive. Indeed, in the second volume of *The Biographical Magazine* (1794), Blackmore's biographer states that "[t]o do justice to injured merit, is the most pleasing duty of a biographer." Today, "his name is kept alive only by scholars interested in his relation to Dryden, Swift, Pope, or the epic; thus Blackmore has achieved what Saintsbury[57] calls 'an uncomfortable immortality'."

Ultimately, the reception of Blackmore's work in his own time was far more complex than the narrative promoted by his literary enemies would suggest. As Boys (1949, p. 32) puts it, the "sympathy" that several contemporaries had for Blackmore "points out once again that the error of regarding the views of the fashionable poets as the only opinions of the times." Studying primary sources of contemporary reception reveals a nuanced figure: far from being a mere literary punchline, Blackmore emerges as a respected physician and, at times, a serious literary voice. His disappearance from the literary world in the years after his death was owed as much to political satire as to changes in literary taste.

[57] George Saintsbury (1845–1933) was one of the most influential English literary critics of the early twentieth century.

1.3 *Creation. A Philosophical Poem* (1712)

Sir Richard Blackmore's *Creation* (1712) has been defined as "possibly the most elaborate [...] physico-theology in verse" of the eighteenth century (Landa, 1980, p. 216). Given the research gap illustrated in section 1.1.3, the next few pages are devoted to an in-depth introduction to Blackmore's *Creation*, widely recognised as his masterpiece. First, the poem's editorial history will be briefly outlined, and then the title and the genre of the poem will be discussed. Closer attention will be paid to the preface and paratexts, an overview that culminates in the presentation of the structure of the poem. In this section, extra focus will be placed on the three central books (Books III, IV, V). In particular, the reason why they were not included in the close analysis of the following chapters will be even further clarified. The style of the poem will be examined along with its anti-Epicurean purpose. This section will close with a brief comment on the reception of *Creation* in the eighteenth century. This study is valuable because, beyond its artistic merit, Blackmore's poem serves as a "perfect mine of historically significant ideas" (Fairchild, 1939, p. 189), making it, in Lovejoy's words, one of the most "important philosophical poems of the century" (Solomon, 1980, p. 122).

1.3.1 Genesis of the Poem and Editorial History

Nothing certain is known about the genesis of *Creation*, as Blackmore left no manuscript. Upon the publication of his *Death's Vision* (1709), John Reynolds confessed to not presuming to have produced

> *one of the* Desiderata *in the Learned World. Nor knowing indeed (till by Late Information, since this Essay entred the Press) that a Philosophical Poem was accounted such. Nor Knowing at all, that such a Performance was Committed to, or Requested of Sir* Richard Blackmore, *as now He finds in the* Familiar Letters, *that pass'd between Mr.* Lock *and* some oh his Friends. p.218. 219. *Nor can Sir* Richard, *or any other Poet account himself, by such a Foreign and Jejune Attempt as this, either Really, or Designedly Preluded such a Request Service, when he shall think fit to present the Philosophical World with it.* (Reynolds, 1709, p. 9)

As a matter of fact, scholars have identified a possible germ of the poem in an epistolary exchange between John Locke and William Molyneux dating from 1697, which followed the publication of *King Arthur*. Having read the physician's first attempts at epic poetry and admired the moral rectitude of his intention, Molyneux wrote to Locke expressing his desire that Blackmore should try his hand at a "philosophick poem." Here are some relevant excerpts from this correspondence:

LOCKE TO WILLIAM MOLYNEUX, 3 MAY 1697

The poem that was sent you by Mr. *Churchill*, amongst the other books, I believe will please you, there are some noble parts in it. (Molyneux, 1708, p. 211)

WILLIAM MOLYNEUX TO LOCKE, 27 MAY 1697

Mr. *Churchill* favour'd me with the Present of Sir R. *Blackmore*'s *K. Arthur*. I had *Pr. Arthur* before, and read it with Admiration, which is not at all lessen'd by this second piece. All Our *English* Poets (except *Milton*) have been meer ballad-makers in comparison to him. Upon the publication of his first poem, I intimated to him, through Mr. *Churchill*'s hands, how excellently I thought he might perform a philosophick poem from many touches he gave in his *Pr. Arthur*, particularly from *Mopas*'s song. And, I perceive by his preface to *K. Arthur*, he has had the like intimations from others, but rejects them as being an enemy to all philosophick hypotheses. Were I acquainted with Sir R. *Blackmore* I could assure him (and if you be so, I beseech you to tell him) that I am as little an admirer of hypotheses as any man, and never proposed that thought to him with a design that a philosophick poem should run on such a strain. *A natural history of the great and admirable phenomena of the universe* is a subject, I think, may afford sublime Thoughts in a poem, and so far, and no farther, would I desire a poem to extend. (Molyneux, 1708, pp. 218–9)

LOCKE TO WILLIAM MOLYNEUX, 15 JUNE 1697

I shall, when I see Sir *R. Blackmore*, discourse him as you desire. There is, I with pleasure find, a strange harmony throughout, between your thoughts and mine. I have always thought, that laying down, and building upon hypotheses, has been one of the great hindrances of natural knowledge; and I see your notions agree with mine in it. And, though I have a great value for Sir *R. Blackmore*, on several accounts, yet there is nothing has given me a greater esteem of him, than what he says about hypotheses in medicine, in his preface to *K. Arthur*, which is an argument to me that he understands the right method of practising physick. (Molyneux, 1708, pp. 223–4)

WILLIAM MOLYNEUX TO LOCKE, 20 JULY 1697

I perceive you are so happy as to be acquainted with Sir *Richard Blackmore*; he is an extraordinary person, and I admire his two prefaces as much as I do any parts of his books; the first, wherein he exposes the *licentiousnes and immorality of our late poetry* is incomparable; and the second, wherein he prosecutes the *same subject*, and delivers his thoughts concerning *hypotheses* is no less judicious. And I am wholly of his opinion, relating to

> the latter. However, the *history and phenomena of nature* we may venture at; and this is what I propose to be the subject of a philosophick poem. Sir *R. Blackmore* has exquisite touches of this kind, dispers'd in many places of his books; (Molyneux, 1708, p. 229)

LOCKE TO WILLIAM MOLYNEUX, 11 SEPTEMBER 1697

> I was not a little pleas'd to find what thoughts you had concerning hypotheses in physick. Though Sir *R. B*'s vein in poetry be what every body must allow him to have an extraordinary talent in, and though with you I exceedingly valued his first preface, yet I must own to you, there was nothing that I so much admired him for, as for what he says of hypotheses in his last. It seems to me so right, and is yet so much out of the way of the ordinary writers, and practitioners in that faculty, that it shews as great a strength and penetration of judgement, as his poetry has shew'd flights of fancy, and therefore I was very glad to find in you the same thoughts of it. And when he comes luckily in my way, I shall not forget your wishes, and shall acquaint him with the observations you mention. (Molyneux, 1708, p. 234)

Both Locke and Molyneux admired Blackmore's early literary works, but they were even more impressed by his intellectual stance against hypotheses in natural philosophy. For this very reason, the Irish philosopher urged Locke to encourage Blackmore to write a philosophical poem inspired by the natural phenomena of the universe. There is no indication that Locke ever conveyed Molyneux's wish to Blackmore, and in the fifteen years intervening between this epistolary exchange and the publication of *Creation*, there is no indication that such a plan was ever taken into consideration.

It is more likely that Blackmore was inspired to write the poem by attending some of the Boyle Lectures that were being delivered in London at the time. In the preface to *Creation*, the poet acknowledged that much of his writing was indebted to earlier physico-theological prose works on similar themes. One of his key influences was likely William Derham's Boyle Lectures (1711–12). Although these lectures were not published until a year after the issuing of *Creation*, it is reasonable to assume that the physician attended them in person in Cheapside and drew inspiration from their content. As Section 1.1.2 demonstrated, Blackmore had the means to and the interest in attending these lectures in the Church of St Mary-le-Bow. Moreover, the structure, intention, and moral aim of *Creation* closely mirror those of *Physico-Theology or a Demonstration of the Being and Attributes of God from his Works of Creation* (1713).

Creation. A Philosophical Poem was published in London in March 1712, and it was advertised in the *London Gazette,* No. 4971 (February 26, 1711).[58] Then, it caught

[58] "This Day is Publish'd. Creation: A Philosophical Poem, demonstrating, The Existence and Providence of a God: In Seven Books. M. D. and Fellow of the College of Physicians in London. Printed for S.

the attention of Joseph Addison, who at that time was involved in the publication of *The Spectator* with Richard Steele. Number 339 of the paper, issued on March 29, 1712, was devoted to a discussion of Milton's *Paradise Lost* and announced the recent publication of a poem on similar topics:

> I cannot conclude this Book upon the Creation, without mentioning a Poem which has lately appeared under that Title. The Work was undertaken with so good an Intention, and is executed with so great a Mastery, that it deserves to be looked upon as one of the most useful and noble Productions in our *English* Verse. The Reader cannot but be pleased to find the Depths of Philosophy enlivened with all the Charms of Poetry, and to see so great a Strength of Reason, amidst so beautiful a Redundancy of the Imagination. The Author has shewn us that Design in all the Works of Nature, which necessarily leads us to the Knowledge of its first Cause. In short, he has illustrated, by numberless and incontestable Instances, that Divine Wisdom, which the Son of Sirach has so nobly ascribed to the Supreme Being in his Formation of the World, when he tells us, that *He created her, and saw her, and numbered her, and poured her out upon all his Works*. (Steele, 1961a, pp. 62–3)

The poem was not its author's literary debut, for Blackmore had already been known in London literary circles for almost 20 years. *Creation*, however, stood out as a *unicum* in the poet-physician's production for its accomplishment and its fortunate reception. The text was appreciated to the point that the first edition was soon followed by second in 1712, and a third in 1715,. Rosenberg (1953, p. 100) notes that after Blackmore's death, several editions were issued in England, Ireland, and the United States up until the nineteenth century. None of his other works were reserved the same fate. According to Robert Johnson, the editor of the 1806 edition of the poem, *Creation* was the only of Blackmore's works to be reprinted after the author's death (Blackmore, 1806, p. xv). Appendix B records all the available editions in which it circulated from 1712 to 1806. During Blackmore's lifetime, six editions were published, three in the first year of publication, one in 1715, one in 1718, and one in 1727. Soon after the poet's death in 1729, an edition of the poem was printed for J. and J. Pemberton in 1736. For the next forty years, no new edition appeared. Then, in 1779, the twenty-fourth volume of Samuel Johnson's *The Works of the English Poets. With Prefaces, Biographical and Critical* came out in London.

At the end of the eighteenth century, *Creation* was included in several collections of poetry, which indicates its continued, though modest, relevance. In 1793, it appeared as part of *A Complete Edition of the Poets of Great Britain*, published in London and Edinburgh. This volume included Blackmore alongside other early eighteenth-

Buckley at the Dolphin in Little Britain, and Jacob Tonson at Shakespear's Head against Catherine Street in the Strand."

century, more canonical authors such as Addison, Matthew Prior, and William Congreve (1670–1729). Literary scholar and biographer Robert Anderson (1749–1830) published *The Works of the British Poets: with Prefaces, Biographical and Critical* (1795) in London, though the chapter devoted to Blackmore is derived from Johnson, nearly word by word. A more popular edition followed in 1797, when London publisher Charles Cooke (1759/60–1816) included *Creation* in his well-known series of affordable illustrated reprints. This "Cooke's edition" was marketed with embellishments and accompanied by a short biography of the author. This edition endeavoured to appeal to a broader reading public. The same year also saw the release of *The Poetical Works of Sir R. Blackmore: containing Creation*, which included similar paratextual material (see Figures 1.4 and 1.5).



Figure 1.4: Example from Cooke's 1797 edition. The inscription reads: "The boldest champions of impiety / Scornful of Heaven subdued or won by thee, / Before thy hallow'd alters bend the knee."



Figure 1.5: Example from Cooke's 1797 edition. The image shows the divine Muse whose help Blackmore invoked and the inscription is taken from "Book 7 Line 592 Page 172."

The last known edition of *Creation* was published in 1806 in Philadelphia by Robert Johnson. This American edition comprehended a "Life of the Author" and represented an effort to preserve Blackmore's work in print even overseas. Johnson's introduction reaffirmed the poem's status as Blackmore's only enduring literary achievement. In his article "The Religious Sublime and New England Poets of the 1720s" (1984), David S. Shields argues that Blackmore played a pivotal role in shaping the aesthetic of the religious sublime for New England poets. His works, especially *Creation*, stood as reference points for using poetry to meditate on divine creation. Blackmore successfully combined scriptural themes with systematic philosophy and accentuated the power of descriptive sublimity in physico-theological poetry. Boys (1949, p. 33), too, comments that Americans especially recognised the religious character of Blackmore's writings and he "shared with Pope the distinction of having the greatest influence on early eighteenth-century American poetry in general."

The only relevant edition of *Creation* is Dr Johnson's. In 1777, essayist and literary critic Samuel Johnson was proposed to compile a selection of the most notable works

by the most notable English poets. Each text, which followed the already published *Life of Mr Richard Savage* (1744), was to be accompanied by a brief Life of each author. The enterprise in its united form is known as *The Lives of the Poets* (1779). Johnson chose to prepose the *Life of Blackmore* to *Creation*: the poem was the only one of the numerous works by Blackmore to have received almost unanimous praise. It was the only consequential piece of his writing in the history of English literature:

> This poem, if he [Blackmore] had written nothing else, would have transmitted him to posterity among the first favourites of the English Muse; but to make verses was his transcendent pleasure, and as he was not deterred by censure, he was not satiated with praise. (Johnson, 1896, p. 158)

Since 1806, no edition of *Creation* has been published and the poem has never received extended critical attention, though it is sometimes mentioned in handbooks and histories of English literature (see Section 1.2.1).

1.3.2 The Title and the Genre of the Poem

Ascribing *Creation* to a single poetic genre is a difficult task, for the poem combines different characteristics belonging to different genres.

Let us commence with the title. It reveals that the subject of the poem is the "creation" of the universe, intended in the religious sense. The creation of the world by the Christian God was a common theme in scientific poetry of the time (Jones, 1959; Greyerz, 2022), though—unlike biblical accounts such as those contained in Genesis—Blackmore does not recount the act of creation *per se*. Instead, he surveys the completed works of creation as seen in nature. As a matter of fact, the subtitle dubs Creation a "philosophical poem." This was a poem concerned with philosophical, or scientific, topics. The genre was quite widespread in the wake of the Scientific Revolution and, as Rogers (2016) remarks, thanks to the success of the Royal Society in promoting scientific knowledge. Jones (1959) explains that between Newton's death in 1727 and 1750, many long "poetical essays" were published. While a few well-known poems of the period owed much to science—e.g., Pope's *Essay on Man*, Edward Young's (1683–1765) *Night Thoughts* (1742), Mark Akenside's (1721–1770) *Pleasures of the Imagination* (1744), James Thomson's (1700–1748) *The Seasons* (1726–1730)—also many minor poetical essays used natural philosophy profusely.

Therefore, the title and subtitle not only place *Creation* in a longer tradition of scientific poetry but also suggest that it was significantly different than the physician's previous lyrical production. Most of his long poems were presented as "heroic(k) poems" (*Prince Arthur*, *King Arthur*) or "epic poem" (*Eliza*);[59] the long *The Nature of*

[59] In the preface to *Prince Arthur*, Blackmore clarified his idea of what an epic or heroic poem is:

> I shall therefore give the *Definition* of an Epick or Heroick Poem, that those that have it not already, may now have a true Idea of its Nature.
>
> An Epick Poem is a feign'd or devis'd Story of an *Illustrious Action*, related in Verse, in an

Man, instead, was merely defined as "a poem." Hence, as a physico-theological poem, *Creation* pertains to the tradition of scientific poetry that flourished especially during the scientific revolution at the turn of the eighteenth century (see Section 1.1.3). A key figure in this tradition was Joseph Trapp (1679–1747), a poet and pamphleteer (Stephen, 1899, p. 155). While he was professor of poetry at Oxford (1708–1718), he delivered some lectures on science as a subject for poetry, later published as *Lectures on Poetry read in the Schools of Natural Philosophy at Oxford* (London, 1742). In one of these lectures, he celebrated the possibilities of scientific poetry. However, he was pessimistic about his time, which produced incredible scientists but no exceptional scientific poet. He wrote:

> What can be more suitable to the Dignity of a Poem, than to celebrate the Works of the great Creator? What more agreeable to the Variety of one, than to describe the Journies of the heavenly Orbs, the Rise of Thunder, and other Meteors, the Motion of the Earth, and the Tides of the Sea; the attractive Force of the Magnet, the impulsive Motion of Light, and the flower Progression of Sound; and innumerable other Wonders, in the unbounded Storehouse of Nature. I shall say nothing, at present, of *Aratus* among the *Greeks*, or of *Manilius* among the *Latin* Writers; *Lucretius*, alone, shall suffice, instead of all the rest. He, indeed, is so far from celebrating the Creator, that he supposes there is none; but, allowing him his Hypothesis, his Poem is truly philosophical. (Trapp, 1742, p. 190)

Lucretius is presented here as a precursor of the scientific poets that Trapp hopes to see in his day. Things were to change quickly, since "by 1712 Sir Richard Blackmore could get a sympathetic hearing for his long scientific poem, *The Creation: A Philosophical Poem in Seven Books*, because poets were already getting fresh inspiration from science" (Jones, 1959, p. 41). *De Rerum Natura* had an incredible impact at the turn of the

Allegorical, Probable, Delightful and *Admirable* manner, to cultivate the Mind with Instructions of Virtue. 'Tis a feign'd or devis'd Discourse; that is, a *Fable*; and so it agrees with *Tragedy* and *Comedy*. [...] The Action must be *Illustrious* and *Important*; Illustrious in respect of the Person, who is the Author of it, who is always some *Valiant*, or *Wise*, or *Pious* Prince or great Commander: But let his Character be what it will in other respects (for there is no Necessity the *Hero* should be a good or a wise Person) 'tis always necessary he should have *Courage*; which single Quality is sufficient to make the *Hero*. And the Action must be *important*, both in respect of its *Object* and its *End*. 'Tis the Action of some great Person, about some *noble* and *weighty* Affair. 'Tis true, there are many other Persons concern'd, but tis the Action of the *chief* Person that gives the *Being* and *Denomination* to the Poem. This Action must be but one; when it ceases, the Poem is ended; and if it be reviv'd, and taken up again, 'tis a new Poem begins. [...] The Action must be related in an *Allegorical* manner; and this Rule is best observ'd, when as *Divines* speak; there is both a *Literal* Sense obvious to every Reader, and that gives him satisfaction enough if he sees no farther; and besides another *Mystical* or *Typical* Sense, not hard to be discover'd by those Readers that penetrate the matter deeper. [...] An Epick Poem must likewise be *delightful* and *admirable*; and to make it so, must concur sublime Thoughts, clear and noble Expression, Purity of Language, a just and due Proportion, Relation, and Dependance between the Parts, and a beautiful and regular Structure and Connection discernable in the *Whole*. Without these it will not be capable of giving *Delight*, or raising *Admiration*.

century and Janowitz (2010) explains that translations such as that of Thomas Creech were pivotal in establishing the genre of the eighteenth-century "philosophic poem." The cosmic sublime and intellectual insight of the Lucretian poem were absorbed into eighteenth-century philosophical poems to sing the cosmos and the notion of God.

Blackmore had attempted to put into verse similar philosophical themes in shorter poems that had been published individually and later put together as *A Collection of Poems on Various Subjects* (1718). A case in point is "A Hymn to the Light of the World," where Blackmore attempted to emulate Milton, especially his "On the Morning of Christ's Nativity" (1645) (Solomon, 1980, p. 106). The form is that of an ode of 20 irregular stanzas, and the poem is set to glorify God and His presence in the world. The ode in itself is not worthy of much attention, barring where Blackmore's professional expertise penetrates the lines with distinctively scientific imagery:

> Then the warm Blood did from its Goal, the Heart,
>
> To run its Purple Ring with Vigour start.
>
> Then Infant Life began to play,
>
> To bound and leap along th'Arterial Way,
>
> And carry'd on the circling Tide,
>
> Did thro' its winding Labyrinths and veiny Mazes glide.
>
> (Blackmore, 1718, p. 393)

Such an image will be recurring in *Creation* as well. These short physico-theological poems celebrated God but were limited in their treatment of science. Also, they are not very polished, for in the preface Blackmore admitted that he had intended his poems to be of a sober character, yet they do not possess those embellishments or ideas that will gratify "a loose Imagination" (Blackmore, 1718, p. v). Still, according to Solomon (1980, p. 106), "[w]hen compared with other religious odes of the period, however, Blackmore's nativity ode does have passages of originality, energy and lyricism which make the reader lament that Blackmore did not uniformly employ his file."

Creation, on the other hand, managed to combine the previous endeavours with a substantial basis of natural philosophy and, while the aim was as morally upright as the previous poems, Blackmore conferred to the text a more refined form. All of these elements contributed to making *Creation* the first comprehensive poetic encyclopaedia of physico-theology in the history of English literature. Blackmore was deeply aware of the originality of his enterprise, also from a formal point of view: the opening of Book I stresses time and again the novelty and sublimity of such an "unexampled task" (Blackmore, 1712, I, l.15):

> NO more of courts, of triumphs, or of arms,
>
> No more of valour's force, or beauty's charms;

> The themes of vulgar lays, with just disdain,
> I leave unsung, the flocks, the amorous swain,
> The pleasures of the land, and terrors of the main.
> [...]
> I meditate to soar above the skies;
> To heights unknown, thro' ways untry'd, to rise:
> I would th' Eternal from his works assert,
> And sing the wonders of creating art.
> (Blackmore, 1712, I, ll.1-14)

The proem's style, metre, linguistic choices, and imagery are highly remindful of those found in classical epic poetry, though the topic is quite different. The subject of *Creation* differed significantly from what had hitherto been accepted as a subject of epic writing—summarised in the first five lines—and, to some extent, it transcended the mere scientific scope of early eighteenth-century philosophical poetry. Besides being a philosophical poem, *Creation* can also be pigeonholed in the broader category of religious epic, with the stylistic and rhetorical traits of the proem ennobling the subject matter with allusion to a long poetic tradition.

In the early eighteenth century, divine poetry and religiously inspired epics comprised a major and contested segment of literary culture in England. Poets and critics like John Dennis, Isaac Watts, and Blackmore himself argued for a poetic tradition based on Christianity and often formulated in opposition to secular and classical paradigms. From a conceptual point of view, John Dennis developed an influential theory of the religious sublime that redefined poetry as an art whose primary purpose was to excite passion and inspire moral improvement (Morris, 1972, p. 48). Dennis was convinced that religion and poetry were not only reconcilable but mutually supportive: poetry could express the truths of Christianity more powerfully and effectively than philosophy alone ever could. His theories were proposed in the critical works *The Advancement and Reformation of Modern Poetry* (1701) and *The Grounds of Criticism in Poetry* (1704). Donnelly (2005, pp. 241–2) explains that Dennis believed that religion is the best subject for poetry, because it evokes the most powerful and sublime passions, which are the heart of great poetry. Part Two of *Advancement* explains that the Christian religion is the most effective subject for poetry. For this reason, modern poets could surpass the ancients: classical poets achieved greatness by drawing on their false religions, whereas Christian poets have access to true religion to achieve greater sublimity. Protestant Christianity is superior to both classical and Catholic traditions, and Milton is a case in point of a Protestant poet who achieved sublimity with *Paradise Lost* (Wheeler, 1986, p. 214). Dennis's essays contributed to the debate between the ancients and moderns, defending the moderns and calling for a revival of poetry by thematising religious subjects (Wheeler, 1986, pp. 211–2):

> by joyning Poetry with the true Religion, the Moderns in the main will have the advantage of the Ancients. [...] the true Divine Poetry has the advantage of the Pagan Poetry; that it satisfies the Reason more, at the same time that it raises a stronger Passion, and that it entertains the Sences, and especially the Eye, more delightfully; and we pretend to give undeniable instances of it, both from Sacred Writ, and from one of the Fathers, and from one of our own Poets. (Dennis, 1701, pp. 178–9)

In Dennis's view, divine poetry served the civic good by morally reforming individuals and society (Donnelly, 2005, pp. 248–9). Although his plea for moral poetry did not result in an outpour of religious verse, his reflections deeply resonated with Blackmore. The physician's entire work was dedicated to the defence of Christian doctrine and the exploitation of poetry as an instrument of moral reform. Blackmore knew and endorsed Dennis's position on divine poetry, as appears clearly from *Redemption, A Divine Poem* and the *Essays*. Pizzol Giacomini (2007, p. 2) claims that "[t]he tradition of divine poetry received, at the beginning of the eighteenth century, a definite impulse in the works of Sir Richard Blackmore." In particular, *Creation* is an epitome of a well-written divine poem, as it draws on both biblical sources and natural philosophy to illustrate the existence and providence of God. Blackmore was inevitably influenced by the religious poetry of the age that saw Christianity as a source of sublime poetry. His poem, then, can be placed in the category of the Christian epic, as well, the pinnacle of artistic and ethical achievement that Blackmore could envision.

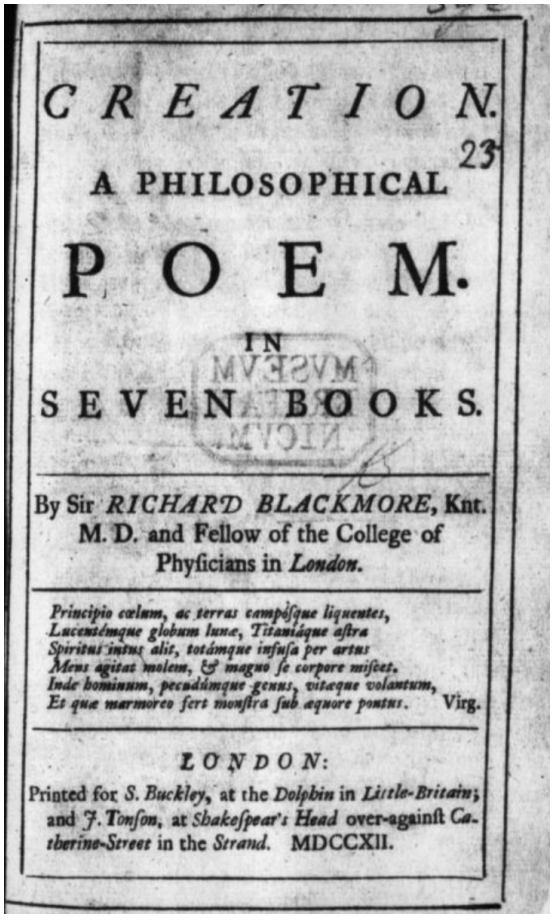
The ethical side of the project is also to be taken into account when attempting to classify *Creation*. As the following Section 1.3.3 will illustrate, in the preface, Blackmore explained that he intended to write a poem that would be accessible and enjoyable even to those without formal education. His goal was to make the new philosophy more widely understood to instruct the readers. Although the existence of God had already been thoroughly demonstrated by many learned authors, their works were written in prose and often in a scholarly fashion, difficult to grasp for many. Blackmore chose to address this subject through poetry to make the ideas more relatable and understandable to a broader audience. Hence, he deliberately avoided using technical jargon or expressions typical of scholarly discourse. In the preface, Blackmore also owed his literary indebtedness to his main literary reference, the French populariser Bernard de Fontenelle (1657–1757). His didactic work Blackmore admired and attempted to emulate. *Creation*, then, can be situated in the tradition of didactic and moral poetry, too.

The genre of physico-theological poetry encompasses all these previously outlined features and synthesises the aim, structure, and audience of the poem. As such, *Creation* is an extraordinary example of "intellectual history" (Lewis, 2017, p. 171).

1.3.3 The Preface and the Paratexts

In analysing the broader rhetorical strategies of *Creation*, it is essential to consider the paratexts—those ancillary texts that surround the central poem. Paratexts such as the title page, dedications, frontispieces, epigraphs, illustrations, and indexes are not mere decoration: they are an integral component of the poet's design and affect the interpretation of the text. They are further evidence of the way in which texts were conceived in the cultural and intellectual climate of early eighteenth-century England. As Readioff maintains in her "Recent Approaches to Paratext Studies in Eighteenth-Century Literature" (2021), paratextual elements shape interpretation, identity, and the reception of texts. Hence, they serve as a rich site for interdisciplinary inquiry across literary studies, history, and even material culture.

The paratexts of Blackmore's *Creation* reflected his purpose to intervene and establish himself in the literary scene of his day. The title page of the poem, for instance, not only names the work but frames its epistemological ambitions (see Figure 1.6).



CREATION.

23

A PHILOSOPHICAL

POEM.

IN

SEVEN BOOKS.

By Sir *RICHARD BLACKMORE*, Knt.
M. D. and Fellow of the College of
Phyſicians in *London*.

Principio cœlum, ac terras campoſque liquentes,
Lucentémque globum lunæ, Titaniáque aſtra
Spiritus intus alit, totámque infuſa per artus
Mens agitat molem, & magno ſe corpore miſcet.
Inde hominum, pecudúmque genus, vitæque volantum,
Et quæ marmoreo fert monſtra ſub æquore pontus. Virg.

LONDON:
Printed for *S. Buckley*, at the *Dolphin* in *Little-Britain*;
and *J. Tonſon*, at *Shakeſpear's Head* over-againſt *Catherine-Street* in the *Strand*. MDCCXII.

Figure 1.6: Title-page of the first edition of *Creation*, published in London in 1712.

As already discussed in section 1.3.2, the title foregrounds the poem's subject: the divine creation of the world by God, taken as a fundamental assumption for the physico-theological argument. The subtitle labels the work a "philosophical poem," a shift in genre with respect to the physician's previous literary production. While it follows some of the traits of the heroic narrative structure of epic, this poem aligns with the natural philosophy of the early Enlightenment.

In the title page, the author is presented as "Sir *RICHARD BLACKMORE*, Knt. M. D. and Fellow of the College of Physicians in *London*." Readioff (2021, p. 5) explains that in the eighteenth century, paratexts were used for authorial self-fashioning and to assert literary authority. In this case, Blackmore—or his publisher—underlines his status as a knight, doctor, and member of the Royal College of Physicians. This choice emphasises his authority and respectability, affiliating him with the scientific and social elite of his time, thus adding to his credentials.

The epigraph is another revealing paratext. The six lines are drawn from Virgil's *Aeneid,* Book VI (ll.724-9). This is a passage where Aeneas's father, Anchises, describes a universal soul or spirit—*spiritus intus*—that animates all creation. This passage translates as follows:

> 'First, you must grasp that the heaven and earth and the sea's liquid flatness,
>
> Also the gleaming sphere of the moon, constellations, the huge sun
>
> Feed on internal Energy.[60] Mind, which suffuses these cosmic
>
> Limbs, pervades the vast body and keeps the mass vital. This mixture
>
> Generates life within humans and beasts, flying creatures, and also
>
> Monsters Ocean spawns below marbled plains on its surface.
>
> (Virgil, 2007, pp. 151–2)

In light of the contents of *Creation*, it is likely that Blackmore used these lines to create a classical antecedent for his poem, and the internal energy can be interpreted as a poetic stand-in for God's creative power. Whereas the original Virgilian lines draw on a mixture of ancient philosophical schools—Stoicism, Epicureanism, Platonism—Blackmore Christianises the concept and envisions a divine spirit at the heart of the life of the universe. By preposing this passage to his poem, the physician also subtly

[60] Ahl explains that here "Anchises takes elements from several ancient philosophical schools here (scholars have found traces of Heraclitus, the Stoics, even Aristotle, in addition to Plato and the Pythagoreans) and presents them in a style that evokes Virgil's epic predecessor, the Epicurean Lucretius. Anchises is presenting a generic 'philosophers' view' of life and death rather than the dogma of any particular school, in contrast to the Homeric 'poets' view', in terms of which the rest of the underworld is framed. The Christian reading of the Aeneid, sanctified in Dante's Divine Comedy and still dominating scholarship, tends to assume that Anchises is voicing Virgil's own beliefs. But Virgil's Epicurean background [...] should warn us that attributing to him any personal belief in an afterlife is problematic, much less one advanced by Anchises (who proves to be a very unreliable source of information in this book, as elsewhere in the Aeneid)" (Virgil, 2007, pp. 151–2).

situates it within the epic tradition, lending epic dignity and continuity to his physico-theological theme.

Lastly, the title page shows the date and place of publication: the poem was issued in 1712 by Samuel Buckley and Jacob Tonson, two prominent London booksellers and printers. The figure of Tonson is especially noteworthy (MacKenzie, 2004). He was a Whig publisher who, thanks to politically aligned aristocratic patrons, secured funding and distribution of Whig poetry and promoted it as a new English literature, to rival that of classical Greece and Rome (Williams, 2005, pp. 2–3). Blackmore was known for his ties with Tonson, who figured prominently as "Bocaj" in his *The Kit-Cat* (1708), a poem that celebrates the role of the publisher in supporting Whig literary culture (Gerrard, 2005, see Appendix A).

Paratexts are important in that they also influence the interpretation of written works, especially in subsequent editions (Readioff, 2021). Cooke's 1797 Edition of *Creation*, for instance, was accompanied by illustrations lacking in all previous publications (see Section 1.3.1). These images certainly played a part in rekindling the appeal that *Creation* had on late eighteenth-century readers.

The preface is a core element of *Creation* and a long and precious document in this study. Isaac Watts, commenting on the preface of Blackmore's *Alfred*, would observe that Blackmore's prose works were often outshone by his prefatory ones:

> His "prefaces" are certainly better in their kind than his "poems," [and his treatises, we may add] as several gentlemen of good taste have acknowledged." (Duncombe, 1772, p. 221)

This is a programmatic text where Blackmore outlined both the philosophical foundations of his work and the motivations behind it. First, he put forward his philosophical framework based on the philosophy of John Locke, "the famous Author of the Essay on human Understanding" (Blackmore, 1712, p. iii). The poet challenged the notion of "the inbred knowledge and original independent ideas" advanced by some philosophers and thus rejected the idea that knowledge of God is an innate human characteristic (Blackmore, 1712, pp. i–ii). Such theorists, he argued, "can mean nothing but this, that the proposition There is a God, is actually existent in the Mind, as soon as the Mind has its Being; and is not at first acquired, tho' it may be afterwards confirm'd, by any act of Reason, by any Argument of Demonstration" (Blackmore, 1712, pp. i–ii). For Blackmore, this notion was confusing: "how a Man can be said to have Knowledge before he Knows, how Ideas can be in the Mind without and before Perception?" (Blackmore, 1712, pp. ii–iii). To illustrate his point of view, he offered an analogy from his medical training:

> as the Eye has a Native Disposition and Aptitude to perceive the Light, when fitly offer'd, though as yet it never exercis'd any act of Vision, and had no innate Images in the womb; so the Mind is endu'd with a Power

> and Faculty to know and perceive the Truth of this Proposition, *There is a God*, as soon as it shall be represented to it. (Blackmore, 1712, pp. ii–iii)

Locke's empiricism, then, provides the underlying philosophical premise for all of *Creation*. At the same time, Blackmore paid due homage to the Scriptures when he identified his approach with that of St. Paul in *Romans* 1.20:

> For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and God-head.
>
> (*The Bible*, *The New Testament*, 2015, p. 190)

Such, too, is the aim of natural theology: reason, considering the natural world, can reach the truth of God's existence.

Blackmore's poem was addressed not so much to fellow believers but to atheists. His argument moved from philosophical argumentation to moral exhortation. First, he defended those ancient thinkers unjustly accused of impiety—like Anaxagoras and Socrates (Blackmore, 1712, p. iv)—and those "unhappy persons" (Blackmore, 1712, p. vii) who were not atheists but "a careless and stupid sort of Creatures" who laughed at religion (Blackmore, 1712, p. viii). Then, he condemned two types of real atheists: those who expressly denied God's existence, and those who, while claiming belief, "deny'd those Attributes and Perfections, which the Idea of a God includes [...] such a Person is indeed, and in Effect, as much an Atheist as the former" (Blackmore, 1712, p. ix). Among the latter kind, Blackmore included the Epicureans, the chief targets of his work. Throughout the preface, the whole poem, and other works, the author repeatedly returned to attack this philosophical tradition. To assume a deity "entirely regardless of Things without him" (Blackmore, 1712, p. x) was to accept the absurd and ridiculous theology of Epicurus (341–270 BC). Though admitting the name of God, he was wholly "destructive of the idea of a God" by excluding divine creation, providence, and government from his conception of the universe (Blackmore, 1712, p. ix). Ancient apostates who renounced the belief in a God and belonged to this movement, such as Leucippus, Democritus, Diagoras, and Protagoras,

> asserted, that the World was made by the Casual Combination of Atomes, without any Assistance or Direction of a Divine Mind. They taught their Followers this Doctrine, supported it with Arguments, and so were Atheists on pretended Principles of Reason. (Blackmore, 1712, p. xiii)

Their philosophy was then followed by "several great Wits, and Men of distinguish'd Learning in this last Age" (Blackmore, 1712, p. iv), like Gassendi, Vanini, Hobbes, and Spinoza. Indeed, Solomon (1980, p. 122) explains that in Blackmore's day, it was customary to hold these thinkers as latter-day disciples of Epicurus.

After identifying his main poetic addressees, Blackmore outlined his motivation for writing *Creation*:

> I have been determine'd to employ some of my leisure Hours in writing on this Subject, by the melancholy Reflexion I have often made on the Growth of Prophaneness, and the prevailing Power of loose and irreligious Principles in this Nation. (Blackmore, 1712, p. xviii)

This is a mortifying consideration to "[a]ll who love mankind, and wish well to their Country" (Blackmore, 1712, p. xviii). His aim assumed moral and patriotic traits, too. He lamented that irreligion, formerly limited to private environments, was "now the Entertainment of the Coffee-house [...] spoken of in cool Blood, as the ordinary Subjects of Conversation" (Blackmore, 1712, p. xix). To illustrate the appalling state of his country, the poet employed a metaphor taken from the medical field, comparing irreligion to an "Infection" that "has seize'd the Mind" of a lot of people. This contamination transformed "the Atheist in Practice" into "one in Speculation" (Blackmore, 1712, p. xix). Blackmore identified the historical reasons for the spread of impiety in the loose atmosphere of the Restoration:

> Immediately after the Restoration, the people, intoxicated with the Pleasures of Peace, and influenced by the Example of a loose Court, as well as from their great Aversion to the former Fanatical Strictness and Severity of Conversation, which they detested as Hypocrisie, indulge'd themselves in sensual Liberties, and by Degrees sunk deep into Luxury and Vice. Then it was that some irreligious Men taking advantage of this growing Dissolution of Manners, began to propagate their detestable Notions, and sow the Seeds of Prophaneness and Impiety, which sprung up apace, and flourish'd in proportion to the Growth of Immorality. (Blackmore, 1712, pp. xx–xxi)

In the subsequent pages, the poet clarified his views on wit. This is a favourite topic of Blackmore, who had already written on the subject and would return to it in several of his writings.[61] He also associated atheism with moral corruption, warning that the triumph of irreligion would lead to national ruin. His hope in writing *Creation* was that the nation would awake from "its Lethargy." Hence, "to stop the contagion, and [...] to preserve those who are not yet infected" (Blackmore, 1712, pp. xxvii–xxvi) is a civic and moral "duty" in Blackmore's eyes. This sentiment was quite shared at the time, at least among the members of Blackmore's circle. For instance, the same aim of moral reformation was expressed in the preface to Isaac Watts's *Horae Lyricae* (1706):

> almost in vain have the Throne and the Pulpit cried, Reformation, while the Stage and Licentious Poems have waged open War with the Pious design of Church and State. The Press has spread the Poyson far, and scattere'd withe the Mortal Infection; Unthinking Youth have been allured

[61] For instance, he devoted the first of his *Essays upon Several Subjects* (1716) on this topics. See Appendix A.

> to Sin beyond the Vicious Propensities of Nature, plung'd early into Diseases and Death, and sunk down to Damnation in Multitudes. (Watts, 1706)

For Blackmore, religion was the basis of all moral behaviour: without it there would be no rule, no morality, no transgression. The preface aligned the poem with this broader campaign against "Atheism and the Corruption of Manners," as Connell (2016, p. 181) notes.

The physico-theological frame and intention of the poem are outlined next:

> The Existence of a God has been already clear'd, and abundantly demonstrated by many pious and learned Authors, whence this Attempt may be censured, as impertinent and unnecessary. But all those excellent Performances being writ in prose, and the greatest part in the learned Languages, or at least in a scholastic Manner, are ill accomodate to great Numbers not of a leaned Education, and many who have more Knowledge and greater Genius will not undergo the Trouble of reading and considering the Arguments express'd in a manner to them obscure, dry and disagreeable. I have therefore form'd a poem on this great and important Subject, that I might give it the Advantages peculiar to Poetry, and adapt it more to the general Apprehension and Capacity of Mankind. The harmony of Numbers engages many to read and retain what they would neglect, if written in Prose; and I perswade my self the Epicurean Philosophy had not liv'd so long, nor been so much esteem'd, had it not been kept alive and propagated by the famous poem of Lucretius. (Blackmore, 1712, pp. xxxii–xxxiii)

This is quite possibly the most revealing passage in the whole preface. First, Blackmore referred to the tradition of physico-theology in prose. While he acknowledged that the existence of a God had already been demonstrated multiple times, he remarked that most works of this kind were written in prose. They were often in learned languages and little suitable for and approachable by those lacking education. The conveyance of these notions to the larger possible audience, however, was too important in Blackmore's programme of moral reformation of the nation. His solution was to set forth the argument in verse to reach a wide reading public in the same way in which Lucretius's *De Rerum Natura* had immortalised and spread Epicureanism. Blackmore openly declared his willingness to frame his work in the physico-theological tradition to do it the service that the Roman poet performed for the pagan philosophy of Epicureanism. Williams (2005, p. 187) contends that Blackmore chose verse over prose because of its higher potential to attract readers and enable the retention of ideas that could be otherwise easily forgotten. Blackmore had recognised this power of poetry in the preface to *Prince Arthur* (1695), as well:

> 'Tis in the power of Poetry to insinuate into the inmost Recesses of the Mind, to touch any Spring that moves the Heart, to agitate the Soul with

> any sort of Affection, and transform it into any Shape or Posture it thinks fit. [...] Tis true indeed, that one End of Poetry is to give Men Pleasure and Delight; but this is but a subordinate, subaltern End, which is it self a Means to the *greater*, and *ultimate* one before mention'd. A Poet should imploy all his Iudgment and Wit, exhaust all the Riches of his Fancy, and abound in Beautiful and Noble Expression, to divert and entertain others; but then it must be with this Prospect, that he may hereby engage their Attention, insinuate more easily into their Minds, and more effectually convey to them wise Instructions. [...] Young Gentlemen and Ladies are generally pleasd and diverted with *Poetry*, more than by any other way of Writing; but there are few Poems they can fix on, but they are like to pay too dear for their Entertainment. Their Fancies are like to be fill'd with impure *Ideas*, and their Minds engag'd in *hurtful* Passions, which are the more lasting, by being convey'd in lively Expressions, and all the Address of an artful Poet. For this End among others, I undertook the writing of this Poem, hoping I might be able to please and entertain, not only without hurting the Reader, but to his advantage.

To all intents and purposes, poetry served to pave a "route to knowledge acquisition" (Powell, 2021, p. 6). Moreover, scholar Patricia Meyer Spacks suggests that eighteenth-century readers looked to poetry for guidance in living, not because they lacked other resources, but because they saw poetry as a particularly authoritative literary form (Lawlor & Mangham, 2021, p. 24).[62] Fowler and Ingram (2015, p. 84) also observes that the poetry of texts like Blackmore's *Creation* not only helped entertain and educate the reading public, but they also interacted with the world they inhabited and answered to a new interest from the audience.

With *Creation*, Blackmore intended to

> demonstrate the Existence of a God from the marks of Wisdom, Design, Contrivance, and the Choice of Ends and Means, which appear in the Universe. Out of the various Arguments, that evince the Truth of this Proposition, *There is a God*, I have selected this as the most Evident and Intelligible. (Blackmore, 1712, p. xxxiii)

Blackmore admitted that in the poem he did not employ any new argument but used those already available in the physico-theological literature he had previously referred to. This is what Lucretius himself had done: not inventing a new system of philosophy, only versifying that of Democritus and Epicurus. And yet, Blackmore added an element of originality, in that he enlarged the field of his physico-theological

[62] This is why, according to Dobree and Wilson (1959, p. 123), the first two decades of the eighteenth century witnessed a profusion of dull poetry: poetry was treated "as a natural vehicle of expression that anybody is free to use, and which can be used for expressing anything." It followed that poetry became more familiar and also the language of poetry changed.

inquiry "from the Contemplation of Corporeal Nature"—the usual subject of physico-theological treatises—to the "Actions of Living, Sensitive and Intelligent Beings." As a physician, Blackmore could not but perceive "brighter and more noble Strokes of Wisdom and Design appear in the Principles of Life, Sensation and Reason, than in all the Compass of the Material World" (Blackmore, 1712, pp. xxxiv–v). Here lies the greatest strength of the poem: Blackmore's expertise as a physician allowed him to treat the topic of human physiology with extraordinary competence, not to be found in other physico-theological pieces of writing.

Given these premises, it easily follows that Blackmore's mission to make philosophy understandable also affected his linguistic choices:

> I have endeavou'd to give the Subject yet greater degrees of Perspicuity, more variety of Argument, as well as easie and familiar Expression, that the Stile being being [sic.] more pleasing, and the Demonstration more readily apprehended, it may leave a deeper Impression, and its Effects and Usefulness may become more extensive. In Order to this, I have rarely us'd any Term of Art, or any Phrase peculiar to the Writing and Conversation of Learned Men. I have attempted, as Monsieur Fontenelle had done with great Success in his Plurality of Worlds, to bring Philosophy out of the secret Recesses of the Schools, and strip it of its uncouth and mysterious Dress, that it may become agreeable, and admitted to a general conversation. (Blackmore, 1712, p. xxxv)

His intention to "have all the Source of Science and Liberal Arts laid open, of which the People are receptive" (Blackmore, 1725b, pp. iv–v) required him to avoid any technical jargon. This is another fundamental excerpt that offers further insights into Blackmore's literary models while providing further proof of why the work was appreciated in the eighteenth century.

First, Blackmore declared that his stylistic intention was "elegant Simplicity, Purity, and Propriety of Words, and a just order and Connexion of the Parts." These words are highly reminiscent of the arguments on the reformation of scientific language that the secretary of the Royal Society of London, Thomas Sprat (1635–1713), advanced in his *History of the Royal Society* (1667). The members of the Society, as well as anyone involved with science, were expected

> to reject all the amplifications, digressions, and swellings of style: to return back to the primitive purity and shortness, when men deliver'd so many things, almost in an equal number of words. They have extracted from all their members, a close, naked, natural way of speaking; positive expressions; clear senses; a native easiness: bringing all things as near the Mathematical plainness as they can. (Sprat, 1667, p. 113)

Plain language, accuracy, and a transparent style progressively became the new linguistic paradigm for all those interested in communicating natural philosophy. Ac-

cording to Jones (1966, pp. 80–1), Sprat implied that the works of nature offered "an inexhaustible treasure of fancy and invention" to be unlocked in proportion as mankind's knowledge increased. Although poets were initially slow to act on this invitation, by the 1690s philosophers like William Molyneux actively petitioned poets like Blackmore to compose philosophical verse. And while one could argue that Blackmore's style is all but plain, at least his intention was definitely in line with Sprat's precepts.

Taking Fontenelle's *Plurality of Worlds* as a model, Blackmore wished to make philosophy accessible to everyone, even those without formal education—and for that, it had to be accessible to those who were not specialists. Bernard Le Bouyer de Fontenelle was one of the best-known men in eighteenth-century France. His *Entretiens sur la pluralité des mondes* (Conversations on the Plurality of Worlds) (1686) was a "recognised landmark in the popularisation of science" (Marsak, 1959, p. 12) and made Fontenelle's reputation as a populariser of science in Europe. Thanks to this work, he managed to make people enthusiastic about science, and Blackmore intended to do the same with *Creation*.

In the *Spectator* No. 519—a rhapsody on the Great Chain of Being and almost a hymn to plenitude—Addison borrowed directly from Fontenelle's book:

> The Author of the *Plurality of Worlds* draws a very good Argument from this Consideration, for the *peopling* of every Planet, as indeed it seems very probable from the Analogy of Reason, that if no part of Matter, which we are acquainted with, lies waste and useless, those great Bodies which are at such a Distance from us should not be desart and unpeopled, but rather that they should be furnished with Beings adapted to their respective Situations. (Steele, 1961b, p. 137)

Quoting Fontenelle's work demonstrates the impact it still had at the beginning of the eighteenth century in England, where the first translation appeared just one year after the first French edition.[63] Fontanelle's aim—the investigation of the handiwork of God in nature was almost a religious obligation—deeply resonated with physico-theologians like Blackmore. As Nicolson (1936, pp. 34–5) observed, Fontenelle's popular volume captured the imagination of polite society by presenting recent astronomical theories in a manner that was both engaging and comprehensible. The numerous French editions and English translations attest to the book's wide appeal and its role in inspiring a generation of imaginative works, such as Blackmore's. In the preface to the book, Fontenelle explained his intentions as follows:

> If this Book have the luck to be read, I declare to those who have any knowledge of natural Philosophy, that I do not pretend to instruct, but

[63] Two English translations appeared in 1688, one by Aphra Behn (1640–1689), one by John Glanvill (1664?–1735). Other English translations were published in 1695, 1700, 1702, 1715, 1719, 1728, 1757, 1769, 1783. The translation employed in this dissertation is the one from 1702, the closest to the publication of *Creation*.

> only to divert them, by presenting to their view in a gay and pleasing Dress, that which they already know; but they to whom the Subject is new, may be both diverted and instructed; the first will act contrary to my intention, if they look for profit, and the second if they seek of nothing but pleasure. (Fontenelle, 1702, Preface)

Like Blackmore, Fontenelle believed that the manner and tone of presentation were just as important as the content itself in ensuring that knowledge was not only conveyed, but also retained. Blackmore was well aware of the different styles to adopt to reach different kinds of audience, as we read from the preface to *A Treatise of the Spleen and Vapours* (1725):

> I have some Years ago published an Essay on the Spleen, as said before, together with other Miscellaneous Tracts; yet I have there treated the Subject only as a Philosopher, that enquires into the Works and Operations of Nature: and aiming at the Entertainment and Instruction of politer Readers, I have accommodated that Writing to their Taste, who are not so well pleased with grave and severe Disquisitions: But in these Pages I have managed the Subject as a Physician, and have said no more than what prepares my Way for laying down the Method of Cure. (Blackmore, 1725c, p. xxx)

Blackmore was keen to write in the vernacular in order to reach a wider reading public and disseminate medical knowledge beyond the Latin-speaking medical establishment. In this, he was leading the way in a trend that was building in the early eighteenth century (Ingram, Lawlor & Williams, 2024, p. 4).

The preface to *Creation* continues with some observations on Blackmore's idea of sublime Christian poetry, which implies that his poem is of this kind. Indeed, rejecting the "exploded and obsolete Theology" of pagan myth, he insisted that "a Christian Poet cannot but appear monstrous and ridiculous in a Pagan Dress" (Blackmore, 1712, p. xxxvi). Like a preacher, the main duty of a Christian is "to confirm and spread their own true Religion" (Blackmore, 1712, p. xxxvii) and not to write about false and outdated mythical matters. The design of *Creation*, then, is

> to demonstrate the Self-Existence[64] of an Eternal Mind from the created and dependent Existence of the Universe, and to confute the Hypothesis of the Epicureans and the Fatalists. [...] Both these acknowledge'd the Existence of Gods, but by their absurd and ridiculous Description of them, 'tis plain they had nothing else in view, but to avoid the obnoxious Character of Atheistical Philosophers.[65] (Blackmore, 1712, p. xxxviii)

[64] Blackmore would also focus on the attributes of God, "i.e. the qualities that can be attributed to God based upon the texts of the Bible and then subsequent reflection upon the natural world" (Paley, 2006, p. 298).

[65] Blackmore's definition of "philosophers" can be taken from the Preface to his *Treatise of the Spleen*

Creation is remarkably successful in its goal and, because of this, it is one of the great physico-theological texts of the early eighteenth century (Clymer, 2005, p. 44).

Finally, Blackmore required of his readers "a candid Temper, [...] a Mind pleas'd with Truth, and deliver'd from the prejudice of Atheistical Conversation" (Blackmore, 1712, p. lii). His argument was presented not as a theological speculation, but as a rational operation: the belief in God is the logical conclusion of contemplating the natural world. The poem was therefore conceived as both a work of physico-theology and a cultural mission to reform morals and vindicate true religion in an era of fashionable impiety. This was the common purpose of all Blackmore's works:

> It was for this' reason I began to write, and shall be well pleas'd to die with my Pen in my Hand, asserting the Honour of the Divine Being and the Interest of Mankind, which I know I am doing while I vindicate the Cause of Religion and Vertue. (Blackmore, 1716, p. ix)

On the whole, the preface to *Creation* is one of the most lucid pieces of writing in which Blackmore openly stated his aims, influences, and commitments to physico-theology. The preface was a metatext through which readers could read and understand the poem's goals, context, methods, and intended audience. Particularly telling is the idea of original unoriginality that emerges from these pages: Blackmore did not claim to be making any innovations in terms of argument or philosophy. His aim was to give old truths a new "dress" in the form of poetry to give them a renewed appeal.[66]

Together, the paratexts and preface of *Creation* comprise a sort of ideological and artistic manifesto. They trace the poem's intellectual and literary heritage, purpose, and intended rhetorical strategy. Blackmore's goal was not simply to write a poem about God's creation, but to use poetry as a vehicle for the reformation of morality and the defence of religious truth.

1.3.4 The Structure of the Poem and the Three Central Books

Creation is a long philosophical poem structured in seven books, each of which ranges from about 750 to 850 lines.[67] The first two books and the last two books are devoted to the description of the natural world and the human being, and are written in a scientific tone. As such, they make ample use of the discoveries of the new philosophy. The central books (III, IV, V), instead, are philosophical in content, and they mainly challenge the atheistical positions of the Epicurean and Aristotelian philosophies.

and Vapours (1725), where he explains that a "[p]hilosopher" is someone who "enquire into the Works and Operations of Nature" (Blackmore, 1725c, p. xxx).

[66] This was a typical feature of physico-theological literature. At the turn of the following century, in his *Natural Theology* (1802), William Paley maintained that his treatise was not an original work of logic, but "it is synthetic, inductive, and selective" (Paley, 2006, p. 299).

[67] Book I comprises 747 lines, Book II 842 lines, Book III 775 lines, Book IV 787 lines, Book V 782 lines, Book VI 700 lines, and Book VII 765 lines. The total is 5398 lines.

According to Lawlor and Suzuki (2003, p. ix),

> [e]ighteenth-century physicians had to be polymaths: interested in all aspects of the growth of scientific knowledge including the developing disciplines concerned with the mind. The world of eighteenth-century literature, science and medicine requires the modern reader to imagine an interdisciplinary moment in the evolution of knowledge in which the man of science would also be a man of 'literature' in the broadest sense of the term.

This is reflected in the encyclopaedic character of *Creation* and many other physico-theologies. Rogers (2022, pp. 10–1) adds that the concept of nature in the eighteenth century was not comparable to the modern one. It had a broad scope, including human nature, the universe with its cosmic forces, and the physical phenomena studied by science today. Among physico-theological poems *Creation* is the most complete as it covers "nearly all the topics of interest to later scientific poets," it includes "the refutation of pagan philosophies," and offers a unique "detailed glorification, in anatomical splendour, of the human body" (Jones, 1966, pp. 89–90).

The poem's structure supports the didactic purpose stated in the preface and its encyclopaedic vocation: Book I starts with an argument for the existence of God based on the design found in the earth's natural features; Book II carries on the argument with additional evidence taken from the contemplation of the celestial bodies of the solar system; Book III deals with atheistic objections; Book IV criticises atomistic and Epicurean speculations; Book V dismantles Aristotelian and fatalist teachings; Book VI combines the previous arguments to glorify the divine attributes of God by observing the human body from a physiological and anatomical point of view; Book VII is the culmination of the poem, where human intellect and morals are celebrated as the highest proofs of God's existence. Each volume builds on the previous one to present a progressively deeper and more nuanced vision of creation. The most revealing facet of this structure is the upward direction of the argumentation: from the earth to the heavens, then to the human body, and finally to the human mind—that is, the aspect of creation closest to God himself. The goal is not merely to persuade the reader that God exists, but to instil reverence and a reformed morality.

While Blackmore never openly stated this, his approach is similar to the one adopted by theologian William Paley (1743–1805) almost one century later in his *Natural Theology or Evidences of the Existence and Attributes of the Deity* (1802). The text is one of the staples of physico-theological literature and it was extremely successful given its lucid exposition of the classic argument from design (Gregory, 2009). Paley wrote about "the evidences of a divine agency:"

> The proof is not a conclusion, which lies at the end of a chain of reasoning, of which chain each instance of contrivance is only a link, and of which, if one link fail, the whole falls; but it is an argument separately supplied by

> every separate example. An error in stating an example affects only that example. The argument is cumulative in the fullest sense of that term.* The eye proves it without the ear; the ear without the eye. The proof in each example is complete; for when the design of the part, and the conduciveness of its structure to that design, is shewn, the mind may set itself at rest: no future consideration can detract any thing from the force of the example. (Paley, 2006, p. 46)

His treatise was "selective" (Paley, 2006, p. 299) as it piled example after example from which God's existence could be inferred. Blackmore, too, provided cumulative evidence for the action of the divine. The encyclopaedic nature of the poem conveyed his belief in the necessity of witnessing a plethora of proofs rather than relying solely on a single, linear chain of reasoning. Every separate example of "contrivance" or apparent design in nature constitutes a complete proof in itself, which adds to the previous data.

Given the scope of this dissertation and the scientific nature of the selected portions of the poem, the in-depth analysis of Books I and II will be covered in Chapter 2, and that of Books VI and VII in Chapter 3. Here we will consider the three central books of *Creation* (III–V), which Blackmore reserved to refuting philosophical and theological objections to the existence of a wise and benevolent Creator. In these portions of the poem, instead of focusing on science, the author discussed those philosophical schools of thought he deemed most pressingly dangerous in his day, particularly the Epicurean and Aristotelian traditions, along with their modern followers. Blackmore's didactic and moralistic tone often assumed belligerent nuances when he presented the dogmatism, arbitrary choices, and intellectual blindness of his opponents. The following pages examine the main arguments outlined in each book and how Blackmore interacted with some of the philosophical and theological controversies of the early eighteenth century. This overview will further show that *Creation* was seamlessly integrated into the physico-theological tradition of his day. Dahm (1970, pp. 175–7) points out that physico-theological literature was characterised by key themes such as the defence of God's existence and attributes using scientific evidence, the rebuttal of materialistic thinkers like Thomas Hobbes, as well as arguments against pantheistic views like Spinoza's or the minimisation of Descartes's divine intervention post-creation. All these features recur in *Creation*.

Book III

Let us commence with Book III, complementary to Books I and II because devoted to the critique of the atheistical traditions of Epicureanism and Atomism. These schools of thought rejected the divine intelligence behind creation and believed everything is due to chance—a completely antithetical perspective than Blackmore's.

The book opens with an overview of the intellectual development of humanity

from its beginnings to the pursuit of complex activities, such as agriculture, architecture, sculpture, painting, and music. While these advancements contributed to building society, Blackmore believed that a shift to "Useless Speculations" (Blackmore, 1712, p. 105) among Grecian philosophers marked a decline in this evolutionary process, for they moved attention from more practical knowledge and religious awe.

One of the key arguments presented in Book III is the rejection of the concept of a universe formed by random atomic collisions. This was a central tenet of the Epicurean philosophy, known to Blackmore and his contemporaries primarily thanks to Lucretius's *De Rerum Natura*. A staunch Christian, Blackmore opposed this view and asserted that the observable order and purpose in nature must imply a Creator's design. He even ridiculed the notion that the world could arise from chance, what with random atomic interactions lacking the ability to form the complexity of the universe without plan or direction. The perfect contrivance of natural phenomena must be the result of an intelligent design.

Blackmore also engaged with another widespread claim: if God created the world in a providential way, why are there imperfections in nature? While the poet conceded that certain aspects of the world may appear adverse or hostile, they are but part of a broader divine order that humans do not necessarily have the means to comprehend. Through rhetorical questions, he challenged his opponents and suggested that even the existence of potentially calamitous phenomena serves a purpose within God's plan. As Solomon (1980, p. 132) puts it, "Book III is Blackmore's vindication of God's wisdom and benevolence in the face of the atomists' objection to 'the pretended unartful Contrivance of the World'."

Blackmore then turned to the atomism of Epicurus and Lucretius and their insistence on a purely materialistic conception of the world. The Epicureans believed that everything is composed of atoms and void, thus disposing of any necessity of divine creation and intervention. Blackmore employed what Solomon (1980, p. 133) describes as a "heroic combat" approach and portrayed his intellectual opponents as foes in a grand struggle between atheism and faith. The poet's stylistic and linguistic choices enhance the absurdity of imagining the universe as the mere result of random atomic interactions.

Lucretius again stands out as a philosophical antagonist for Blackmore in Book III. In his *De Rerum Natura,* the Roman Epicurean presented a vision of the universe that strongly denied divine providence and championed human suffering as evidence against the existence of a benevolent God. Blackmore contended that life's difficulties, such as diseases, natural disasters, and human mortality, do not disprove divine intention but rather provide humanity with a moral framework. The perceived adversities of nature are not evidence of a godless world; they are evidence of the wisdom of a Creator whose design comprehends both beauty and challenges. The physician postulated a hierarchical universe characterised by varying "degrees

of perfection." This concept posits that suffering is an integral part of God's divine plan. While this view was criticised as "weak and inconsistent with his belief in a Perfect and Loving Creator," Pizzol Giacomini (2007, p. 40) comments that Blackmore remained steadfast in his belief in a divinely orchestrated world. To support his argument, he often referred to biblical figures like Job, Solomon, and David, as *exempla* of men enduring suffering as trials of faith within a broader framework of divine benevolence.

Afterwards, Blackmore addressed the works of modern philosophers who upheld secular or materialistic ideas. The first victim of his attacks was Giulio Cesare Vanini (c.1584–1619), "a hardy, modern Chief, / A bold Opposer of Divine Belief" (ll.653-4). "Vaninus" (l.653) was an Italian philosopher who denied revealed religion and divine creation, and insisted on a form of divinity immanent within nature. He was condemned as a heretic by the Inquisition and sentenced to the stake, "[a]n unbelieving Anti-Martyr" (l.658) (Blackburn, 2016). Pizzol Giacomini (2007, p. 49) adds that in Vanini's point of view, all religious dogmas should be interpreted through reason and that miracles could be explained by resorting to demonstrable natural causes. Blackmore did not even consider the Italian philosopher's thought worthy of his counter-argumentation, choosing instead to "[t]reat all his empty Pages with Disdain, / And think a grave Reply mispent and vain" (ll.670-1).

The next philosophical enemy Blackmore challenged was the English philosopher Thomas Hobbes (1588–1679):

> At length *Britannia*'s Soil, Immortal Shame!
>
> Brought forth a Sage of Celebrated Name,
>
> Who with Contempt on blest Religion trod,
>
> Mock'd all her Precepts, and renounc'd his God
>
> (Blackmore, 1712, III, ll.674-7)

After the publication of his *Leviathan* in 1651, Hobbes became known as "'the Beast of Malmesbury', a symbol of atheism, egoism, and heresy" (Blackburn, 2016). Hobbes was a materialist and the most relevant English philosopher between Bacon and Locke. Though ethically the philosophy of Hobbes was in no exact sense Epicurean, according to Mayo (1970, p. 121), "the political theories of Epicurus and Hobbes were likely to be associated in the seventeenth-century English mind." Although the philosopher did not deny God's existence outright, his writings appeared to Blackmore an unacceptable affront to traditional religious values. The poet accused Hobbes of mocking religion and dismissing spiritual beliefs as mere products of human fear and imagination:

> Religion is the Creature of the Spleen,
>
> And troubled Fancy forms the World unseen:

> That tim'rous Minds with self-tormenting Care
>
> Create those awful Phantoms, which they fear.
>
> (Blackmore, 1712, III, ll.685-8)

Blackmore even insinuated that Hobbes did not offer any original wisdom, preferring to borrow from "his Grecian Master's" ideas (l.294). This passage conveys a portrait of Hobbes as an arrogant and short-sighted philosopher, who distorted the true nature of religion, which Blackmore avowed is subject to a merciful God.[68]

In the final lines of Book III, the philosophy of Baruch Spinoza (1632–1677) was contested. The Dutch "Spinosa" (l.742) was known to hold a pantheistic understanding of the world:

> Now hear his labour'd Scheme of impious Use
>
> No Substance can another e'er produce.
>
> Substance no Limit, no Confinement knows,
>
> And its Existence from its Nature flows.
>
> The Substance of the Universe is one,
>
> Which is the Self-existent God alone.
>
> (Blackmore, 1712, III, ll.748-53)

Here, God is identified with nature itself. Although throughout *Creation* Blackmore celebrated nature as the means through which God could be known, he found Spinoza's views totally untenable: the philosopher "[d]eclares for God, while he that God betrays" (l.745). He only maintains the name of "God," and in truth he subverts the concept of God itself. This passage recalls Spinoza's *Ethics* (1677). In propositions 1-15 of Part One, he outlined the fundamental characteristics of his God: as Nadler (2024) explains, "God is the infinite, necessarily existing (that is, self-caused), unique substance of the universe. There is only one substance in the universe; it is God; and everything else that is, is in God." Spinoza resorts to the ontological argument to posit God as immanent in nature: "the one reality is 'God or nature', *deus sive natura*" (Blackburn, 2016). In the following lines, Blackmore further illustrated this pantheistic vision where everything shares in the divine essence:

[68] In her *Sir Richard Blackmore and the Bible: A Reading of His Physico-theological Poems* (2007), Pizzol Giacomini comments Blackmore's opposition to Hobbes in the following way:

> Hobbes argued that propositions of faith do not belong to the intellect but to the will, in contrast with the common view of the Middle Ages, which entailed that propositions of faith were rational. To profess a religion was to Hobbes a matter of obeying the commands of a lawful authority, and he held that a Christian church and a Christian state were one and the same body; the sovereign was the head of that body and, therefore he had the right to interpret the Scriptures, to settle religious disputes and to determine the form of public worship. Theology, Hobbes thought, was not a science, since its propositions are not susceptible to rational dispute. (Pizzol Giacomini, 2007, p. 50).

> The Spheres of Ether, which the World enclose,
> And all th' Apartments, which the Whole compose;
> The lucid Orbs, the Earth, the Air, the Main,
> With every diff'rent Being they contain,
> Are one prodigious Aggregated God,
> Of whom each Sand is part, each Stone and Clod!
> (Blackmore, 1712, III, ll.754-9)

The poet ironically mocked the mere immanence of Spinoza's God, according to whom "[e]ach Shrub is Sacred, and each Weed Divine" (l.761), and so "[t]o Leeks, to Onions, to the Crocodile, / You might your humble Adorations pay" (ll.765-6). If everything is God, then nothing is God. Thus, Blackmore concluded that Spinoza's system essentially destroys religion. The poet reinforced his belief in God's individuality and divine intervention through pointed criticism. He regarded both pantheists like Spinoza and atheists as equally misguided, declaring that "their Assertions are alike absurd, / Who own no God, or none to be ador'd" (ll.774-5). With these lapidary words, Book III ends.

Book IV

Book IV continued Blackmore's defence against Epicurean materialism and the inadequacy of atomism in fully explaining natural phenomena. Titus Lucretius "Carus" (l.1), the author of the Epicurean poem *De Rerum Natura*, was the main interlocutor of this portion of the text, where the physician dismissed Epicurus's ideas as incapable of accounting for the universe's structure, design, and origins.

The book opens with a discussion on happiness, a topic covered by Lucretius in *De Rerum Natura*, Book II. True happiness, "Lucretian Wits" (l.56) maintain, is elusive without conquering the fear of death, and they propose to solve this problem by refuting God's involvement in their lives, so that men could avoid their responsibilities. Blackmore contended that religion is the only antidote to the fear of death and the only effective means of attaining true happiness. He appealed to the contemplation of nature to demonstrate the existence of God:

> Regard, ye Sages of Lucretian Race,
> Nature's rich Dress, behold her lovely Face.
> Look all around, Terrestrial Realms survey,
> The Isles, the Rivers, and the spacious Sea:
> Observe the Air, view with attentive Eyes
> The glorious Concave of the vaulted Skies;

> Could these from Casual Hits, from Tumult these arise?
>
> (Blackmore, 1712, IV, ll.74-9)

Blackmore stressed the importance of observation and sight, key concepts in the poem to attain poof of the Creator's existence. At the same time, he attacked the fundamental physical principles of Epicurean philosophy.

From these lines on, a series of pressing rhetorical questions challenge Epicurus's views on the formation of the universe. A theory whereby random atomic motion could create an ordered system such as our universe is nothing but absurd. The poet presented several logical objections to this worldview, especially on account of the insensible nature of atoms, which are described as having "undirected flight" (l.90), being "of Reason destitute" (l.92), "without Intent" (l.92), "Depriv'd of Choice" (l.93), and "mindless of Event" (l.93). And even if we should concede atoms could do such a thing as creating meaningful patterns thanks to their random cohesion, Epicureans would not be able to justify satisfactorily why atoms move and from whence their motion originate. Blackmore's critique continued when he reasserted the unreasonableness of the Epicurean model and its reliance on mere "Chance" (l.218), or "Fortune" (l.217). In particular, he questioned the "Sons of Epicurus" (l.231) on the ultimate cause of the motion of atoms: if atoms moved because of an external force, this would equate to asserting divine power (ll.235-8), while if atoms moved because of "Innate Gravity" (l.284), it would be necessary to indicate what kind of force that is (ll.239-43). In the poet's opinion, it was essential not to confuse cause and effect: by saying that atoms move because they move, Lucretians did not offer any actual explanation. Since motion, which is the effect, needs motive power, that is a cause, Lucretians failed to clarify this simple principle and so their whole system resulted untenable. Christian natural philosophers, on the other hand, recognised the guiding hand of a God behind the workings of the universe, including the motion of atoms.

Another issue Blackmore found with Epicurean physics was the claim that atoms move downwards in the void, although infinite space cannot have any directionality. While neither Epicurus nor Lucretius expanded on this in their writings, a solution to this conceptual problem was proposed centuries later by Epicurus's "famous *Gallic* Friend" (l.297):

> We give you this Ingenite, moving Force,
>
> That makes them always downward take their Course,
>
> We then demand which Place Inferior is
>
> Within the spacious unconfin'd Abyss?
>
> You say 'tis that, to which the Atomes bend
>
> Their swift Career, for still they must descend;
>
> That is, they downward move, because they downward tend.

(Blackmore, 1712, IV, ll.313-9)

The "famous *Gallic* Friend" Blackmore refers to is no other than Pierre Gassendi (1592–1655). He was a central figure in the Epicurean revival of the seventeenth century and "adopted the atomic physics of his Epicurean original, Christianising it by ascribing the creation of the ultimate atoms to God" (Mayo, 1970, p. 2). He expressed his views in his *Animadversiones in decimum librum Diogenis Laertii* (1649) and *Syntagma philosophicum* (1658). Blackmore likely knew Gassendi's ideas thanks to Walter Charleton's *Physiologia Epicuro-Gassendo-Charltoniana* (1654), a translation and paraphrase of the French philosopher's revival of Epicurean natural philosophy. In his work, Gassendi endeavoured to justify matter's downward motion and posited that space is divided into superior—where atoms start their motion—and inferior—where they are headed. In this way, Gassendi included an aspect of directionality in the Epicurean atomistic physics (see Section 2.1.2). This was an attempt to conjugate the Epicurean thought with the Christian religion, for in this view it was God himself who endowed atoms with motion (Coture, 2022, p. 161).[69]

In these lines, Blackmore tried to demonstrate the untenability of Epicurean positions through the sole application of reason: Epicurus was regarded by many Christian thinkers as a disgrace to Greece, as his philosophy had reduced nature to a mere accident of atoms. To study nature in depth required the application of reason, and it would have been impossible to accept a theory whereby the world is formed by a mere casual concurrence of atoms. Such considerations, however, were not enough:

since his School has gain'd such spreading Fame,

And modern Wits his Master-Skill proclaim;

Let us yet farther carry this Debate

(Blackmore, 1712, IV, ll.395-7)

Epicurean thought had been revived in the seventeenth century by philosophers like Gassendi and Charleton, whose revised theories maintained the flaws of ancient atomism, while adapting it to the new scientific and cultural environment. For instance, if atoms moved at equal speed,[70] they could never meet or clash; thus, they could never have combined to form the world by some fortuitous concourse. Epicureans sought to explain this by stating that atoms of greater size are of greater weight, because of which they have a faster motion. But again, this is ridiculous: atoms, as the smallest bodies, must be lighter and hence slower than larger bodies, which have more gravity. Moreover, Epicurus suggested that some primary atoms move straight

[69] To better understand these physical specificities, see Coture's *What About a Flat Earth? Pierre Gassendi's Reconstructions of Epicurus's Atomic Motion and the Shape of the Earth* (2022). The paper explains the change in the Epicurean conception from an isotropic to an anisotropic space.

[70] Blackmore refers to the Epicurean principle of *isotacheia,* that is all atoms move at the same velocity (Konstan, 2019; Bicknell, 1983).

downward, while others move at an angle. This further exacerbates the inconsistencies within his system (ll.493–514). Lucretius attempted to address this by endowing atoms with a "[n]ot strait entirely, nor entirely bent" (l.510), or "oblique" (l.512), motion, an explanation that remains inadequate in Blackmore's eyes.

The Epicurean system had yet to elucidate how atoms, if they did exist in a void, ever came together to form larger masses. Why, if an external force does not act upon them, do they move in concert to form larger structures, such as a planet or the Earth itself? The Epicurean model also failed to clarify how the mass of the Earth is sustained by the supposed liquid air surrounding it, and how its atoms are bonded so cohesively.

The Epicurean account of the formation and organisation of the heavens was deemed incredible as well as ridiculous. Celestial bodies were believed to be born from the emanations of atoms originating from the Earth and then self-organised into orbs. Why then, Blackmore asked, do planets not fall towards the "middle Place" (l.619) of the universe, that is, the Earth? In spite of all their attempts to explain nature, the Epicureans failed to recognise what is evident in nature: design and purpose, which point to the "Design and Counsel" (l.638) of a "wise Artificer" (l.639).

Epicurus's hypothesis was ultimately reduced to a farce when "all Events fell out, and all things happen'd so" (l.711). Nothing could be "more senseless, ludicrous and vain" (l.712). A serious philosopher, Blackmore argued, would not be satisfied to accept blind chance as the organising principle of the cosmos:

> Will it a Wise Philosopher content,
>
> To say these Motions came by Accident,
>
> That all is undesign'd, fortuitous Event?
>
> (Blackmore, 1712, IV, ll.767-9)

Book IV closes with a powerful image: embracing the Epicurean view of the universe is like supposing that a great work of literature, "[s]uch as the *Grecian*, or the *Mantuan* writ" (l.785), to be the fortunate result of a random combination of letters. Then, the cosmos would be like a "fair Poem made by Chance" (l.787).

Book V

According to the "Summary Account of the Poem" preposed to the text, "[i]n the Fifth [Book], the Doctrine of the Fatalists or Aristotelians, who make the World to be Eternal, is consider'd and subverted" (Blackmore, 1712, pp. 1–2).

Book V opened with a survey of the "calamitous State of Mankind" (Blackmore, 1712, p. 210) and dwelled on the diseases of the body and ailments of the mind from which man suffers. Blackmore used the vocabulary and images of a physician when he wrote, for instance, of "Bruises" (l.18), "Bone[s] disjointed" (l.19), "Sinew[s] strain'd" (l.19), "fest'ring Sores" (l.20), "Gangrene" (l.21), "Acute Distempers [that]

fierce our Veins assail" (l.22), and "Cholic, Gout and Stone" (l.28).[71] Besides the sickness and feelings of an ill person (ll.10-34), Blackmore also considered the woes and sufferings that grief may cause (ll.35-8). In *Creation*, like in *A Paraphrase on the Book of Job* (1700), Blackmore appeared aware of the brevity and uncertainty of human life. One of the most widely employed oppositions to Christian faith has always been the matter of evil: if God is good and God created the universe, why is there evil in the world? In *The Great Chain of Being* (2001), Lovejoy states that people adopted different justifications in the eighteenth century. For instance, many relied on the "principle of plenitude:"

> the best possible universe consists of a maximum variety of modes of being, thus realizing every possible kind of existence from the highest to the lowest. The result is a hierarchy of degrees of both being and of goodness. God, as the absolute being and goodness, stands at the summit, with the great chain of being descending through the many forms of spiritual, animal, and plant life, down to lifeless matter. (Lovejoy, 2001, p. 52)

The Bible, on the other hand, promoted the idea of the fallen angels, human sin, and Christ's redemption: evil arises when creatures abandon the goodness given by God, and Christ redeems those who fall. As per Lovejoy, "Blackmore evidently shared the biblical justification for the existence of evil, as in *Creation* he prayerfully begs for God's help for, and intervention in all human sufferings and does not link evil with any flaw or deficiency inherent in the Divinity" (Lovejoy, 2001, p. 52). The conclusion the poet inevitably reaches is that

> Since Man is born to so much Woe and Care,
>
> Must still new Terrors dread, new Sorrows bear,
>
> Does it not suit the State of human Kind,
>
> There should preside a Good Almighty Mind?
>
> A Cause Supream, that might all Nature steer,
>
> Avert our Danger, and prevent our Fear?
>
> Who, when implor'd, might timely Succour give,
>
> Solace our Anguish, and our Wants relieve:
>
> Father of Comfort might our Souls sustain,
>
> When prest with Grief, and mitigate our Pain.
>
> (Blackmore, 1712, V, ll.53-62)

Then, the focus shifts and the best part of Book V is devoted to refuting the theories and beliefs of the fatalists and Aristotelians. First, Blackmore outlined the arguments

[71] Several of these diseases would become the subject of the medical treatises Blackmore published later in his life. See Appendix A.

against the eternity of the world and its necessary existence. The semantic field of "necessity" is predominant in this portion of the text. According to Schmidgen, Blackmore shows that the observation of nature demonstrates that things are not fixed and necessary and that "[t]he differences of kinds are finally not secured by separate essences: the same matter, differently arranged, makes water, fly, worm, grass, fish, lion" (2021, p. 74). In particular, the portrayal of free transformations across forms was Blackmore's chief argument against the atheist idea of necessity and eternity:

> These shifting Scenes, these quick Rotations show
> Things from Necessity could never flow,
> But must to Mind and Choice precarious Being owe.
> Let us suppose that Nature ever was,
> Without Beginning, and without a Cause;
> As her first Order, Disposition, Frame
> Must then subsist Unchangeably the same;
> (Blackmore, 1712, V, ll.110-6)

Pizzol Giacomini (2007, p. 52) comments that the Fatalists, whose "ideology was of religious origins, but became a philosophical thought with the Stoics," believed in fate. This is the "unknown and apparently accidental necessity which regulates the occurrence of events according to an immutable order or sequence." Naturally, the scholar remarks, Christianity opposed this view with the idea of Providence, a divine necessity of sorts, which does not deny the moral ability of man to intervene and choose in his own life towards salvation.

The very nature of the Fatalists's conception of "fate" was Blackmore's target in lines 123 to 218. Fatalists suggest that everything exists and evolves through some predetermined chain of causes and effects devoid of any intelligent design. The poet began by challenging the Fatalists's notion that all things exist by an absolute necessity and, as such, they cannot have been different than they are. As an example of his reasoning, he mentioned the possibility of animals having different physical characteristics than they do and that, logically, many features of animals, plants, or even celestial objects could exist in a different way. This implies that the forms with which we are presented in nature cannot be unavoidably dictated by such pre-existing necessity. Blackmore further insisted that if there were no higher, guiding intelligence, nothing in nature could deviate from its predetermined course, a claim contradicted by observation. Conversely, the Fatalists contended that if events and beings were brought into existence out of simple necessity, nothing could alter their course without breaking the supposed fatalistic chain. Such "absolute Necessity" (l.145) is not sufficient to account for the dynamism of life. The poet granted that the interconnected means and ends observable in nature might reflect some kind of necessity, but not in the sense Fatalists intended. The "Beauty, Order, Harmony" (l.155) in nature point to some form

of "exalted Wisdom" (l.158). Blackmore also derided the idea of an "endless Train" of "Causes and Effects" (l.168), which must lack a foundational "first Cause" or "Wise Director" (l.172). Without an initial cause that gives purpose to everything else, this chain would just be incoherent, and a universe presented as such could not possibly sustain itself or function independently. At this stage, Blackmore pressed the Fatalists to clarify what they meant by "fate:"

> Farther to clear the Subject in Debate,
>
> Inform us, what you understand by Fate.
>
> Have you a just Idea in the Mind
>
> Of this great Cause of Things by you assign'd?
>
> (Blackmore, 1712, V, ll.185-8)

Should the term merely indicate a chain of causes and effects, then it would lack any independent power and consciousness; it would be merely descriptive of how events are linked. This concept of "fate" is just an abstraction and thus cannot guide the universe. Blackmore challenged the Fatalists to explain the origin or reason for the "necessity" they claim governs everything: how could such a system have come to be arranged in such a specific way without any guiding intelligence behind it? If all things truly happened by mere necessity, there should be an explanation of why they are arranged so beautifully and harmoniously in nature.

Blackmore did not outright oppose the notion of necessity, though. Fatalists perceive the world as a product of inevitable forces, but the poet could not conceive of a creation devoid of a deliberate design:

> We grant with Ease there is Necessity,
>
> The Source of Things should Self-existent be;
>
> But then he's not a Necessary Cause,
>
> He freely acts by arbitrary Laws.
>
> He gave to Beings motive Energy,
>
> And active Things to passive did apply;
>
> In such wise Order all Things did dispose,
>
> That of Events Necessity arose:
>
> Without his Aid, say, how you will maintain
>
> Your fatal Link of Causes; hence 'tis plain
>
> While the Word Fate you thus affect to use,
>
> You coin a senseless Term th'unwary to amuse.
>
> (Blackmore, 1712, V, ll.219-30)

Things are not as they are because they are necessarily bound to be so. The only self-containing necessity in the universe is God, who is the supreme first cause of all existence, independent of any external cause or will.

A further consequence of the fatalist conception of necessity is that "the World did ne'er commence" (l.231) and therefore it is eternal. To confute this position, Blackmore resorted to a very simple and straightforward physical example: if the Sun were eternal, it would have already "consum'd" its "glorious Stock" (l.242). As this is not the case, the Sun cannot be eternal. Only God is eternal. Pizzol Giacomini (2007, p. 53) argues that Blackmore's "view of God, which was opposed to the 'Fatalists', entailed that the Divine Being, who necessarily exists, has the power to choose independently of external causes. Hence, the creative world cannot but show the arbitrariness of the choice of its Author, which is what Blackmore has tried to demonstrate."

The next of Blackmore's targets is "*Aristotle*'s School" (l.272). This section is of particular interest in the economy of the poem and of his work *tout court*, as the physician received a typical Aristotelian education.[72] However, he eschewed the academic teachings of the Greeks. His critique of Aristotelian philosophy is a leitmotif of his *oeuvre*, with Book V of *Creation* serving as a foundational text for his subsequent publications. For instance, in the preface to the *Discourses of the Gout* (1726), Blackmore referred his readers to "*the Fifth Book of my Poem entituled* Creation" if they are "*desirous to see* Aristotle's *Philosophy fully display'd and confuted"* (Blackmore, 1726, p. xx). In the poem Blackmore offered a comprehensive dismantling of Aristotle's philosophy of nature, including his theories of motion, causation, and cosmology. He began by weighing the philosopher's argument that "[n]othing can move it self" (l.273) and that all movement originates from an external impulsive force. For Aristotle, motion is "[e]ternal" (l.278) and must have derived from an eternal source. Blackmore found fault with this argument, a mere "feeble Base" (l.286) that "upholds our Author's Hopes, / And all his mighty Superstructure props" (ll.286-7). Aristotle also postulated that time is the measure of motion (l.282) and, therefore, as eternal as motion itself. Conversely, Blackmore suggested that time represents the "Duration [...] / Of Beings" (ll.299-300), independent of whether they are in motion or at rest. He insisted that "[t]his single Blow will all the Pile subvert" (l.304), for time does not measure motion but simply reflects ongoing existence.

The poet then moved on to question Aristotle's idea of a "[s]upreme, unmov'd, unactive God" (l.318), an unperturbed mover who sets the cosmos in motion "mindless[ly]" (l.322), without "Providential Care" (l.323) for his creation. This God exists "[i]n Contemplation of himself alone" (l.321), detached and indifferent, entrusting lesser gods to maintain order in the cosmos. These "Gods Subaltern" (l.325), inspired by "Admiration" and "ardent Love" (l.328), are responsible for driving their respect-

[72] Allen (1949) explains that the classical texts that were usually studied included Aristotle's physical, astronomical, and biological works. Moreover, MS.284 cc.49v-50r from the Archivio Storico dell'Università di Padova records that, to earn his medical degree, Blackmore was examined on two subjects on digestion taken from Avicenna's *Canon of Medicine*, highly indebted to Aristotelan principles.

ive spheres.[73] Blackmore dismissed this as insufficient reasoning, arguing that admiration alone cannot justify continuous, purposeful cosmic motion.

Years later, in the preface to the *Discourses of the Gout* (1726, pp. xxvii–xxix), the poet would strongly carp at Aristotle's cosmology, which is but an arbitrary and incoherent "Scheme." Aristotle's model is riddled with "Absurdities" and "occult Qualities." The author was especially critical of Aristotle's theory of heavenly motion: the "supreme God" lies unmoved in a state of perfect happiness, unconcerned with the universe. Such an entity is the Prime Mover, which "occasions, but not designs all the Motion in the Universe." To complete this scheme, Aristotle introduces "inferior Divinities," or "Intelligences," that animate the celestial spheres by contemplating the supreme God's "great Perfections and Felicity." In Blackmore's view, this explanation was "senseless, puerile, and ridiculous," and dismissed the model as totally implausible. He could only conceive a world that was the result of the design of a "prudent Director or skillful Architect."

In Book V of *Creation*, too, Blackmore disparaged Aristotle's concept of a universe governed by "[n]ecessary Fate" (l.348) and devoid of conscious intention. While Aristotle's universe appears orderly, it lacks "Choice" and "Arbitrary Will" (l.346). In lines 383 to 409, Blackmore further challenged Aristotle's claim that "Nature wisely acts in all her Ways" (l.384), despite being devoid of understanding or purpose. He argues that such wisdom cannot arise from "Brute Necessity" (l.394). For Blackmore, true wisdom requires consciousness, and "[w]hat wisely acts, can never act by Fate" (l.398).

On this occasion, the poet addressed the contradictions he perceived in Aristotle's position. For instance, he accused the philosopher of acknowledging natural "Design and Judgment" (V, l.432), while at the same time rejecting an intelligent creator in his system. Yet, this creates a paradox: how can order exist without an architect? How can nature design "Beauty and Order" (V, l.522) without a purposeful director? The same reasoning can be applied to celestial order and motion. Blackmore saw no coherent reason in Aristotle's "necessity" to justify the complex motion of celestial bodies, which move in fixed regular patterns. Instead, he reasserted that intelligent design is necessary. As such, Aristotle's scheme resembles the "Epicurean" model of random, purposeless formation:

> But since th' applauded Author will demand
>
> For Complex Bodies no Director's Hand;

[73] Barrow (2012, pp. 9–12) explains that in 350 BC, Aristotle came up with his astronomical system. In his view, the world had always existed and would always exist, unchanged in essence. As the sphere is the most perfect of all shapes, the universe must have a spherical onion-skin structure, containing no fewer than 55 nested spheres of transparent crystal. In this model, the Earth lies at the centre and each heavenly body is attached to a crystal sphere, which moves at different angular speeds. The outer sphere is that of the stars, a spiritual realm where nothing material could exist. All the motions of the universe were initiated by a Prime Mover acting at the boundary of this realm and causing the outer sphere to rotate, then communicating the rotation inwards to the other spheres until the whole cosmos was in perfect rotation.

> Since Art without an Artist he maintains,
>
> A Building reers without a Builder's Pains:
>
> He comes at length to Epicurus' Scheme,
>
> Pleas'd by his Model compound Works to frame.
>
> [...]
>
> If artful Works from a brute Cause result,
>
> From Springs unknown, and Qualities occult;
>
> With Schemes alike absurd our Reason you insult.
>
> (Blackmore, 1712, V, ll.645-50 & ll.663-5)

To complete this section, it is necessary to mention another of Blackmore's works, the preface to *A Treatise of the Spleen and Vapours* (1725). There, the poet-physician openly criticised the application of Aristotle's teachings in medical education, dubbing it an "ill-managed System, supported neither by Reason nor Experiment" (Blackmore, 1725c, p. viii). The "Peripatetick" school "by a swift Growth acquired great Power and Authority" even within the medical field, thus causing corruption and depravity in "the Simplicity of the Art of Physick" (Blackmore, 1725c, pp. viii–ix). At length, though:

> a great Revolution happened in the Commonwealth of Learning, when the Authority of Aristotle, who had gained an Empire of vast Extent and long Duration over the Schools and Colleges of Knowledge, began to decline and grow out of Credit. And it is indeed wonderful that an Hypothesis of Philosophy should continue so long in great Reputation, that had only imaginary Foundations to rest upon. And now the Peripatetick Scheme began to be disgraced by many, that, from a generous Principle to assert their natural Right to the free Exercise of Reason, upon an impartial Examination of Things, threw off the Yoke of Servitude and Aristotelian Bigotry. And soon after, when the Colleges and Schools, that were defended by the Adherents of this Philosopher, had revolted and rebelled against the Prince of Science, which was then his Title, the greatest Part of the Heads of this Defection restored the Atomical or Corpuscularian Doctrine; and then the Physicians turning about with the Times, espoused this Hypothesis, and framed their Notions in Conformity to it. (Blackmore, 1725c, pp. viii–x)

The closing portion of Book V was consecrated to a patriotic tribute to contemporary England in the form of a literary celebration of "*Malbro*'s swift Conquests, and great *Anna*'s Name" (l.732). The passage opened with a survey of the triumphs of the Duke

of Marlborough[74] during the War of the Spanish Succession (1701–1714), sung as the fearless enterprises of an epic hero. First, Blackmore enumerated Marlborough's victories across Europe, especially in the "[e]ight renown'd Campains" (l.729) fought in "*Belgia*'s Hills, and *Gallia*'s Frontier Plains" (l.730). From line 768, then, the focus shifted to praising the British navy and the conquests of "*Britain*'s Sea-Chiefs, by *Anna*'s high Command" (l.768), commending the success of the British fleet in the Mediterranean during Queen Anne's reign (1702–1714).

The frequent patriotic digressions in *Creation* assume deeper meaning when read through the lenses offered by Professors Abigail Williams and David Womersley in their seminal *Poetry and the Creation of a Whig Literary Culture 1681-1714* (2005) and *"Cultures of Whiggism": New Essays on English Literature and Culture in the Long Eighteenth Century* (2005). The scholars argue that Whig poets like Blackmore

> saw themselves and were seen in their own time as part of an ambitious project to remodel and reform English literary culture alongside the contemporary transformation of political and social life. Whig authors responded to the imaginative challenges of post-Revolution England with enthusiasm and confidence, convinced that the political liberties established at the Revolution offered the opportunity to create a new native literary culture that was distinctively Whiggish. (Williams, 2005, pp. 2–3)

In her book, Williams comments on the tendency of Whig poets to extol the political and military achievements of their time. Especially after the accession of William III and Mary II, these authors endeavoured to legitimise the new political regimen. Williams comments on the grandiose tone through which contemporaneity was saluted, mentioning the glorification of Marlborough's militarism by Whig authors during Queen Anne's reign. Such a perspective seems to justify the tone Blackmore adopted here: highly pathetic and celebratory of the "Laurel Honours, that adorn [Britain's] Brows" (l.728).

1.3.5 The Style of the Poem

Having reviewed the structure and purpose of the poem, it is now time to turn to its style. *Creation* is the work of a physician turned poet due to moral reasons: "Blackmore [...] was made a poet not by necessity but inclination, and wrote not for a livelihood but for fame" (Johnson, 1896, p. 154). His poetical activity was motivated by the desire to correct the modern corrupted morals of young readers and inspire them towards virtue. Therefore, he had no pretensions to poetic greatness:

[74]John Churchill, first duke of Marlborough was a celebrated figure and a champion of the Whigs in Blackmore's day, especially in light of his heroic victories during the War of Spanish Succession (1701–1714) (Hattendorf, 2014). To the Duke of Marlborough, Blackmore also devoted two highly patriotic poems earlier in the century, namely *An advice to the poets: a poem occasioned by the wonderful success of her majesty's arms, under the conduct of the Duke of Marlborough in Flanders* (1706) and its sequel, *Instructions to Vander Bank, a sequel to the Advice to the poets: a poem, occasion'd by the glorious success of her majesty's arms, under the command of the duke of Marlborough, the last year in Flanders* (1709). See Appendix A.

> I am a gentleman of taste and culture, and though I cannot ever hope to build up the nervous lines of Dryden, or attain the polish and brilliance of Congreve, I believe I can write what the generation sorely needs—works that intelligent men may study with improvement, devout Christians may read without being offended, and pure-minded girls may peruse without blushing from shame. 'Tis true that I am a hard-worked doctor, spending my days in coffee-houses, receiving apothecaries, or driving over the stones in my carriage, visiting my patients. Of course a man so circumstanced must fail to achieve artistic excellence, but still I'll do my best.[75]
>
> (as quoted in Toomey, 1922, p. 183)

In the preface to *King Arthur* (1697), Blackmore had openly confessed his lack of literary education when commenting on his previous epic:

> *Another reason of the Defects that appear in that wrting* [sic] *is this, That when I undertook it I had been long a stranger to the Muses. I had read but little* Poetry *throughout my whole Life, and in fifteen years before, I had not, as I can remember, wrote a hundred Lines in Verse, excepting a Copy of Latine Verses*[76] *in honour of a Friend's Book.* (Blackmore, 1697, p. v)

This admission is striking given the deliberate adoption of the metre of the heroic couplet in *Creation*. The rhyming iambic pentameter was indeed typical of neoclassical verse of poets like Dryden and Pope. The cadence of the heroic couplet lends the poem a logical and balanced rhythm. While the versification is metrically consistent, it is not consistently elegant: Blackmore's style has often been described as redundant, ornate, and somewhat prolix.

On the linguistic level, *Creation* reveals Blackmore's partiality for certain rhetorical and stylistic devices. Alliteration, chiasmus, repetitions, and anaphora are employed liberally throughout the poem. Often, the redundancy of these figures of speech results in a difficult, heavy reading. The poet also makes ample use of images through personifications, similes, and metaphors. Many of these draw on the medical sphere and are set to clarify abstract philosophical concepts, although he often used elevated diction and complex syntactical constructions. Gerrard (2006, p. 42) maintains that the prevalence of visual imagery is to be ascribed to the legacy of Newton's optical

[75] Roger Lonsdale offers an insight into the famous legend whereby Blackmore used to write his poem while travelling from a patient to another in coaches:

> SJ quotes (loosely) the preface to *King Arthur* (1697), p. v. B was repeatedly mocked for writing his epics in his coach in *Commendatory Verses* and elsewhere [...], but SJ alludes to Dryden's prologue to *The Pilgrim* (1700), ll. 41–2: 'At leisure Hours, in Epique Song he deals, | Writes to the rumbling of his Coaches Wheels'. Addison twice referred to B writing 'an Heroic poeme in a Hackney coach' in 1701 and 1703 (*Letters*, 30, 47). (Johnson and Lonsdale, 2006, footnote 7)

[76] Blackmore's Latin verses appeared in William Cole's *Nova Hypothesis ad explicanda febrium intermittentium symptomata* (1693). See Appendix A.

experiments, which conditioned much eighteenth-century poetic diction and led to a reliance on predominantly visual poetry. During this era, sight was not only a sensory metaphor but a scientific and theological instrument of attaining knowledge: metaphors and imagery from the "New Science" provided poets with effective means of praising God, while describing the structure of the cosmos in microcosm and macrocosm. In *Creation*, this imagery supports the larger mission of balancing empirical observation and divine intention.

According to Fairchild (1939, p. 197), "Blackmore's favorite device is to describe complex phenomena and then ask how they are to be explained without positing a God." Indeed, from an argumentative point of view, the poet relies mostly on rhetorical questioning, hypothetical argumentation, and counterfactual reasoning. Each section of the poem generally adheres to a repetitive pattern of demonstration and counter-demonstration: an affirmation of divine order is followed by the refutation of untenable atheistic or materialistic counterarguments. This strategy frames *Creation* as both a poetic and an apologetic work.

Granted that Blackmore was not a man of letters, his style in *Creation* is greatly indebted to his illustrious literary models—though the output was not always equally accomplished. The most significant of these influences are John Milton and the Roman poet Lucretius. The poem retains a formal, grandiose style typical of the epic poetry of the era, which was designed to elevate the subject even on the formal level. Fairchild (1939, p. 207) claims that Blackmore was among the "early admirers, imitators, and critical champions of Milton." Gerrard (2006, p. 197) confirms that by the early eighteenth century, *Paradise Lost* had gained widespread admiration. In particular, Addison's *Spectator* helped to circulate Milton among more refined audiences, and Whig writers like Dennis and Blackmore praised him as the greatest modern poet for his use of religious themes. However, attempts to write in Miltonic style were rare at the time. Blackmore's early endeavours to adapt it for his historical epics received both praise and ridicule; he had more luck with *Creation*. While *Paradise Lost* provided an extraordinary example of the artistic potential of Christian poetry, Blackmore favoured descriptive sublimity and philosophical reflection (Shields, 1984). Lewis (2017, p. 171) also argues that *Creation* reminds of *Paradise Lost,* Book VII because, "like Milton's epic it tenders a theodicy," but basing its argument on the details of the physical world. Nevertheless, *Creation* does not quite match the greatness of Milton's poetry, though Jones (1966, p. 89) states that the poem "has occasional sublime moments far removed from the pedestrian and long-winded epics on which Blackmore's literary reputation seems to be based."

Blackmore's engagement with Lucretius in *Creation* is also quite complex. His main dependence, according to Harrison (1934, p. 55), is on rhetorical devices, phraseology, and poetic imagery, including "bits of illustrative natural description." Yet, whereas Lucretius's *De Rerum Natura* presents a universe ruled by atomism without gods, Blackmore uses these devices for opposite ends, as Section 1.3.6 will show in

more detail. He conveys "scorn on every point of [Lucretius's] theological and scientific teaching" and criticises notions such as "the Selfexistent, Independent and Eternal Being of Atomes" with "tonal assurance and rhythmic energy." In particular, Blackmore imitates "the Roman poet's insistent questions and his passionately enjambed versification" (Hopkins, 2007, p. 268). Another ingredient of Lucretius's success in popularising Epicurean atomism was his use of compelling analogies with visible phenomena, vivid descriptions, and vigorous scientific rhetoric (Clucas, 1991). Blackmore, who seemed to be closer to the original Latin than to seventeenth-century translations in his text, must have admired these features as well. Accordingly, throughout *Creation*, he followed Lucretius in the plentiful use of visual imagery and poetic *exempla*. The poem exhibits a certain "Lucretian sensuality," especially in its rich, sensory descriptions of nature—although within a diametrically different theological and scientific context (Lewis, 2017). It was because of all these reasons that John Dennis avowed that *Creation* was equal to Lucretius in the beauty of its verse and even surpassed it in the strength of its argument.

In conclusion, Blackmore's *Creation* is a synthesis of elements belonging to the Christian epic and philosophical poem, indebted to Milton and Lucretius, yet possessing its own argumentative and stylistic peculiarities. The poem combines the formal qualities typical of neoclassical verse with the thematic features of the physico-theological tradition. The result is a complex poem, rhetorically structured and scientifically informed. Even if its stylistic manner may at times appear heavy and burdensome, it is still recognised for a certain lucidity of argumentation and even moments of sublimity.

1.3.6 *Creation* as an Anti-Epicurean Poem

Lucretius's *De Rerum Natura* had been composed around 50 BC and was rediscovered by humanist Poggio Bracciolini (1380–1459) in 1417 in a remote German abbey (Greenblatt, 2012). Its beauty was remarkable, but the poem was the work of a disciple of Epicurus, the Greek philosopher whose thought Christian authorities had taxed with atheism. Despite attempts to suppress it, *De Rerum Natura* was often published but with disclaimers warning against its pernicious materialism. By the seventeenth century, the poem's appeal increased with the development of the new science and the growth of printing. In England, several writers became fascinated with Lucretius and tried to give him an English voice (Hopkins, 2007). The first near-complete attempt was Lucy Hutchinson's (1620–1681) verse translation in vernacular heroic couplets, which circulated only in manuscript form. Another experiment was *An essay on the first book of T. Lucretius Carus De rerum natura* (1656), the product of John Evelyn's (1620–1706) scientific curiosity (Chambers, 2008). Like Hutchinson, Evelyn was openly hostile to Lucretius's religious views, and while he did not manage to convey the beauty of the Latin poetry (Hopkins, 2007, p. 261), he admired it.

He did not consider Lucretius "being an altogether *Irreligious* and *Prophane*" author a good enough reason not to translate his work (Evelyn, 1656, Preface). As a translator of Lucretius, Evelyn was comfortably surpassed by Thomas Creech (1659–1700), the author of the first complete English translation of *De Rerum Natura*, published in Oxford in 1682. The text was a remarkable achievement and an immediate success. Creech's quickly became the "standard full-length English Lucretius throughout the eighteenth century" (Hopkins, 2007, p. 256) and influenced the subsequent reception of the poet in England (Goodrum, 2002, p. 213).[77] Of course, Creech, too, firmly rejected Lucretius's immorality,[78] particularly in the extensive apparatus of notes postponed to the text. In the preface, he even claimed that:

> I have heard that the best Method to overthrow the Epicurean Hypothesis (I mean as it stnds opposite to Religion) is to expose a full System of it to publick view: For Atheism usually enters at the Will, and That debauch't makes the Understanding as blind as it self: and alltogether unable to look abroad into the World, and sedulously examine the beautiful order, and curious disposition of Things: No, Ease is he study of the Atheist, Sense is the Reason, and Pleasure the Argument; and whatsoever twarts these must seem vain, and ridiculous, as disagreeable to his establisht Criterions. Thus troublesome Providence is deny'd, the notion of a Deity thrown out, to make room for Pleasures, such often as a Beast would disdain to stoop to.

Creech recognised the risks intrinsic in Lucretius's work but he appreciated the beauty and elegance of his poetry. These revisitations of *De Rerum Natura* did more than just popularise the composition—they also laid the groundwork for the development of the eighteenth-century "philosophic poem" (Janowitz, 2010), a genre that *Creation* epitomises (see Section 1.3.2). The reception and absorption of Lucretius in late seventeenth-century England is a fundamental context to account for the anti-epicurean programme of *Creation*. Among the English writers influenced by this revived interest in Lucretius, Blackmore stands out as a unique figure for his effort to reframe Epicurean materialism within a Christian worldview. *Creation* was "the only extended English poem devoted to [an] anti-Epicurean description of the world" (Harrison, 1934, p. 54), and it was also a creative adaptation of Lucretius's model. Blackmore's *Creation* did more than oppose Lucretius's materialism—it borrowed *De Rerum Natura*'s rhetorical tools while reframing its physics. As Harrison

[77] The next complete verse translation of the *De Rerum Natura* was to appear only a century later. It was the blank-verse work of John Mason Good (1764–1827), published in 1805 as *The Nature of Things: A Didactic Poem*.

[78] Some believed that the translation of Lucretius posed Creech some personal difficulties, ultimately inducing him to commit suicide (Mayo, 1970). Others, instead, suggested that these actions were driven by a desire to emulate Lucretius, who was said to have taken his own life. Another theory pointed to the failure of Creech's translation of Horace as the trigger for his suicide. However, the most plausible explanation is that Creech decided to end his life during a moment of acute depression (Real, 2004).

observes, Blackmore appropriated Lucretius's design, method, and poetic details, but to a different end, with only Book V chiefly concerned with non-Lucretian material (see Section 1.3.4).

As the previous sections showed, atheists were the chief targets of Blackmore's works, and "among all the ancient obdurate atheists, and inveterate Enemies of Religion, no One seems more sincere, or more implacable than Epicurus," he wrote (Blackmore, 1712, p. xiv). The poet charged ancient atomists with being the greatest asserters of impiety, whose doctrines had been recently revived by modern atheists such as Hobbes and Spinoza. Epicurus thus became a metonym for the whole group of ancient and modern atomists in the poem. According to Calloway (2016, p. 185), Blackmore's *Creation* explicitly adopted the strategy of countering Lucretius's aesthetic appeal because Blackmore was persuaded that

> the Epicurean Philosophy had not liv'd so long, nor been so much esteem'd, had it not been kept alive and propagated by the famous poem of Lucretius. (Blackmore, 1712, pp. xxxii–xxxiii)

Therefore, the physician resolved to do the same for his own Christian beliefs. Like Lucretius, he introduced no new system of thought in *Creation* but followed the physico-theological tradition in prose to demonstrate the existence of God. John Dennis compared Blackmore to Lucretius, and later in his 1805 edition of *De Rerum Natura*, J.M. Good observed that many passages in *Creation* are "obviously deduced from Lucretius," even though Blackmore's "grand object" was to "subvert" the Roman's philosophy (Lucretius Carus, 1805, p. 47).

Blackmore's repudiation of Lucretius's philosophy mainly hinges on the rejection of chance as the governing principle of the universe and the refutation of materialistic theories of perception. The poet defends a vision of nature as divinely ordered, purposeful, and intelligible only by acknowledging God. In her seminal *Newton Demands the Muse* (1946), Marjorie Hope Nicolson argues that Blackmore "considered the challenge of the old Epicureanism and the new scientific atomism so serious that he devoted all the books of the *Creation* to disproving them" (Nicolson, 2015, p. 100). Stevenson (1928, p. 200) similarly notes that Blackmore allotted "many hundreds of lines" to an elaborate refutation of Epicurean theory, "with a violence which suggests something more than mere antiquarian interest." However, the poet did not oppose atomism *per se* or the idea that atoms are the fundamental building blocks of reality. In the second half of the seventeenth century, atomism was integrated into the mechanical philosophy that Blackmore embraced to some extent, and it was generally agreed that matter was composed of atoms (Meadows, 1969, pp. 110–1). More problematic was the notion of chance as the ruling principle of the universe. Blackmore mocked the idea that "stupid Atomes," lacking reason or intention, could randomly converge to create an ordered universe, and he ridiculed the importance Epicureans ascribed to chance.

As Chapter 3 will show, the critique of Epicurean physics in *Creation* culminates in the scorn of Lucretius's materialist understanding of perception and consciousness in Book VII. This theory was a product of Epicurean physics: all mental activity, including perception, is caused only by the motion of atoms. In contrast, Blackmore insisted that perception cannot be explained by mere material contact. His empirical understanding of sensory processes was highly indebted to the neurophysiological research of his day, and he attributed perception to the interaction between sense organs and external objects. The fact that the mind can perceive, reason, and will points to a non-material substance: an immaterial soul infused with divine purpose, something reminiscent of the "internal Energy" mentioned in the epigraph of *Creation* (see Section 1.3.3).

The complexity of the relationship between *Creation* and *De Rerum Natura* is the result of the intellectual *milieu* that produced Blackmore's poem at the turn of the eighteenth century. When he challenged Lucretius, he also participated in his poetic and philosophical legacy, reviving and adapting the classical work to suit his own needs. Blackmore wrote against Lucretius and Epicureanism not only in *Creation*, but in several of his works—including the *Lay-Monastery* (1714) and *Essays Upon Several Subjects*, volumes I and II (1716–1717). He continued to express strong anti-Epicurean views in later scientific works, such as the preface to his *Discourses on the Gout, Rheumatism, and the King's Evil* (1726), where he dismissed Epicurean and Democritean theories as

> whimsical and absurd. 'Tis certain then that the greatest Part of the Lucubrations of the Ancients either physical or metaphysical are false or despicable, inept and uninstructive, vain Philosophy, and Science falsly so called, as the great Apostle has declared them to be. (Blackmore, 1726, pp. xxxii–xxxiii)

Hence, that against Epicureanism was Blackmore's life-long battle and *Creation* was the most accomplished and complete of his attempts. Rosenberg (1953, pp. 103–4) insists that Blackmore intended to present the arguments in a great philosophical poem that would rival and surpass Lucretius; poetry was a means of making proselytes. By repurposing Lucretius's poetic form while reversing his metaphysics, *Creation* succeeded in becoming a "Christian *De Rerum Natura*" (Fairchild, 1939).

1.3.7 The Political and Ideological Implications of *Creation*

Creation was first and foremost a physico-theological endeavour, and as such it is studied in the present work. However, in passing, it should also be remarked that its design and some of its features convey the specifically Whiggish socio-political vision that scholars like Abigail Williams and David Womersley have investigated in their works. As they argued in their seminal *"Cultures of Whiggism": New Essays on English Literature and Culture in the Long Eighteenth Century* (2005), the literary culture of

the early eighteenth century was not neutral but it was a "distinctively Whiggish cultural arena" where the "modernity" of post-Revolutionary England was celebrated and thematised through panegyric and didactic verse (Womersley, 2005b, p. 149). In this light, Blackmore's poem does not merely describe the universe in a naturalistic way, but it thematises the ideology of the Whigs, whose poets "extolled political, military, and economic modernity and liberty" (Wilson, 2010, pp. 23–4). When read in this sense, the argument from design that informs the whole poem is linked to the capitalist anthropology emerging at the time of the scientific revolution. The earth is presented as a storehouse of resources intended for human "Art," which men are encouraged to take advantage of in the perspective of economic modernity and liberty.[79] The providential order described in *Creation* is thus not a static but a dynamic system that thrives in the hands of the "industrious."

This ideological undertone is most evident in Blackmore's depiction of the natural world, but it also emerges from his anthropomorphisation of physiological processes. When he describes the internal mechanisms of the body, the poet frequently resorts to the vocabulary of the manufactory. See, for instance, this passage from Book VI of *Creation*, where digestion is versified:

> These Liquors, which the wide Receiver fill,
>
> Prepar'd with Labour, and refin'd with Skill.
>
> (Blackmore, 1712, VI, ll.452-3)

As Philip Connell suggests, passages such as this demonstrate a "recognizably whiggish ideological inflection" (Connell, 2016, p. 181), in that the body itself is reimagined as a site of some sort of productive labour. The use of the terms "Skill" and "Labour" to describe involuntary biological functions seems to imply that the values of the "industrious man" are innate.

It can also be argued that the continuous tension between "freedom and order" that pervades the poem reflects the Whig concern regarding the stability of the post-revolutionary period. The Newtonian system, often wielded by Whig thinkers to argue for the physical legitimacy of their ideas, provided the concept of balanced gravitational forces that guaranteed celestial order (Williams, 2005, p. 187). The scholar Margaret C. Jacob delineates the socio-political background to Blackmore's poem. She argues that Newtonianism functioned as the "vindication of stability and harmony in the market society" (Jacob, 1977, p. 25) and suggests that the mechanical laws of the universe were intentionally mirrored in the social relations of the post-1688 era. By adopting this scientific model, Blackmore seems to support a cosmological justification for the new Whig political regime. According to Gerrard (2005, p. 202), Blackmore's "grand machine" of nature provides a reassuring blueprint for the status quo,

[79] I thank the reviewer Riccardo Capoferro for his valuable insights on this matter. For instance, he rightly observes that Blackmore's descriptions such as that of the geological strata—"Of sundry Forms, for sundry Ends design'd" (*Creation*, I, l.455)—presupposes the utility of natural resources for a "mercantile and proto-industrial society."

exalting nature as a system where God acts as a "great master mechanic." Through the portrayal of God in this role, Blackmore offers his readers a cosmos that is vast and full of competing life forces, and yet governed by divine laws.

When read in this light, *Creation* does not merely offer a naturalistic description of the universe; rather, its cultural effort is configured as part of a broader program. This was coordinated by the Whig Kit-Cat Club in London, around which Blackmore orbited and which he celebrated in his 1708 poem of the same name (see Appendix A). The "mighty Founder of the State" (Womersley, 2005b, p. 160), the aforementioned publisher Jacob Tonson (see Section 1.2.5), was the key figure in this tradition and the publisher of many of Blackmore's works, including *Creation* (see Section 1.3.3). It is also relevant to remember whom Blackmore wrote in opposition to: Scriblerian intellectuals such as Pope and Swift composed works with aesthetic and fundamental social and ideological differences. For the Tories, Blackmore was the quintessential representative of the City and the mercantile world of Cheapside (see Section 1.1.2), frequently accused of "didacticism and rampant commercialism" (Williams, 2005, p. 34). Indeed, Williams notes that the attacks on Blackmore were usually rooted in his "City connections," a *milieu* that may explain Blackmore's heavy reliance on metaphors of labour and craftsmanship. Through his work, he might have sought to ennoble the mercantile values championed by the Whigs against the aristocratic disdain of his adversaries.

Hence, *Creation* is not only a work of physico-theology but a product of a Whig cultural machine aimed at creating a "new Whig-sponsored literary culture [...], creating a symbiotic relationship between literature and public life" (Womersley, 2005b, p. 158).

1.3.8 Eighteenth-Century Reception of the Poem

"During the years immediately following the publication of *Creation*, Blackmore enjoyed a position of considerable prestige in the literary world," Rosenberg (1953, p. 104) records. *Creation* was received favourably by Blackmore's contemporaries and came to be regarded as his most successful work. According to Solomon (1980, p. 138), everyone read it. There were several editions published during the poet's lifetime (see Appendix B), and the poem drew attention and praise from major literary figures of the day, including Joseph Addison and John Dennis. Addison praised *Creation* in numbers 339 and 543 of *The Spectator*, commending the work for having "the Depths of Philosophy enlivened with all the Charms of Poetry" (Steele, 1961a, p. 62). He also shared some favourable observations on the elegance and zeal in the way Blackmore had managed to illustrate the workings of the human body in verse. It can be fairly supposed that Addison's words were instrumental in granting the fortune of the poem in the early eighteenth century. Blackmore had been engaged with Addison since 1695, when the two worked in preparation of an edition of Herodotus (Solomon,

1980, p. 29) and were reportedly in good personal terms (Blackmore, 1806, p. xv).

While there was some minor criticism—for instance, the satirical *Bibliotheca: A Poem Occasioned by the Sight of a Modern Library* (1712) and D'Urfey's humorous remarks in *A Letter. Concerning the late Alterations—Creation*'s reputation as a serious and ambitious devotional-scientific work was not tarnished. Several examples testify to this. For instance, the manuscript of a poem entitled "To Sr. Richard Blackmore upon his Poem called *Creation*" is held at the Bodleian Libraries[80] in Oxford and exemplifies the positive reception that Blackmore's work enjoyed:

> Britain at length can boast a finished Piece
> Without the Aid of Heathen Rome or Greece;
> A Work for which no Goddess leaves ye Skies
> And no inspiring Clio lends Supplies:
> A Christian Muse truly to Heav'n allied
> In Heavens great Ruler's Praise alone imploy'd
> To Poesy from vile abuse refind Its genuine
> Office has once more assign'd.
> (MS.Ballard.11.113f)

The unknown author praised Blackmore, "pious Sage," who composed this excellent "Antidotal Verse" against the ignorance and irreligiousness of their time.

In his "To Sir Richard Blackmore, on His Poem, entitled, *Creation*," poet and essayist Henry Needler (1690–1718), especially appreciated Blackmore's refined style, sublime intent, and effective reasoning:

> Fir'd with Sublimer Thoughts, thy daring Soul
> Wings her aspiring Flight from Pole to Pole,
> Observes the Footsteps of a Pow'r Divine,
> Which in each Part of Nature's System shine,
> Surveys the Wonders of this Beauteous Frame,
> And sings the Sacred source, whence all Things came.
> [...]
> Thy Learned Muse I with like Pleasure hear
> The Wonders of the Lesser World declare,
> Point out the various Marks of Skill Divine,
> Which thro' its complicated Structure shine,

[80] MS.Ballard.11.fols.113-5. The date in which the poem was composed is unknown.

> In tuneful Verse the Vital Current trace
>
> Thro' all the Windings of its mazy Race.
>
> (Needler, 1724, pp. 49–51)

Needler is especially enthusiastic about the way in which Blackmore treated the topic of the human body in *Creation*:

> Th' extensive Knowledge You of Man enjoy,
>
> You to a double Use of Man employ;
>
> Nor to the Body is your Skill confin'd,
>
> Of Error's worse Disease You heal the Mind.
>
> (Needler, 1724, p. 52)

Blackmore is recognised in his role as a physician but also as a reformer of morals:

> No longer shall the hardy Atheist praise
>
> *Lucretius'* piercing Wit and Philosophic Lays;
>
> But, by Your Lines convinc'd and charm'd at once,
>
> His impious Tenets shall at length renounce,
>
> At length to Truth and Eloquence shall yield,
>
> Confess himself subdu'd, and wisely quit the Field.
>
> (Needler, 1724, p. 52)

The poet is here compared to Lucretius, whom he is said to have surpassed in the beauty of his verses and power of convincing. Needler also runs over the main points used by Blackmore in *Creation* to demonstrate the existence of God, a further proof of the perceived weight of the encyclopaedic scope of the poem.

In 1720, contemporary writer Aaron Hill (1685–1750) wrote a poem called *Creation* and in the preface he owed his debts to his predecessors, namely Milton, Cowley, and Blackmore:

> Mr. Milton, Mr. Cowley, Sir Richard Blackmore, and now, lately, a young Gentleman, of a very lively Genius, have severally tried their Strength in this celestial Bow; Sir Richard may be said indeed to have shot farthest, but too often beside the Mark; He will permit me the Liberty of owning my Opinion, that he is too minute, and particular, and rather labours to oppress us with the noblest, and most differing. He is also too unmindful of the Dignity of his Subject, and diminishes it by mean, and contemptible Metaphors. (Hill, 1720, p. xii)

Blackmore, he considers the best of the three in the task of writing religious poetry, although he used too many metaphors and was often prone to digressions.

According to Solomon (1980, p. 139), Blackmore's *Creation* had a profound influence on other contemporary physico-theological poems as well. Among these, the scholar mentions: Richard Collins's *Nature Display'd* (1727), David Mallet's *Excursion* (1728), Samuel Edward's *The Copernican System* (1728), Richard Gambol's *The Beauties of the Universe* (1732), Henry Baker's *The Universe* (probably 1734), Henry Brooke's *Universal Beauty* (1735), James Thomson's *The Seasons* (1726–1730).

Later in Blackmore's life—when he had left London and retired—he was still fairly well known. Writer Giles Jacob (1686–1744) devoted a section of *The Poetical Register: Or, the Lives and Characters of all the English Poets. With an Account of their Writings* (1723) to the author of *Creation*. He declared that "Sir Richard is an Excellent Physician, and a good Poet: A Man of great Learning, good Manners, and extensive Humanity" (Jacob, 1723, p. 10). In 1753, using Jacob as his main source, Shiels spoke of *Creation* as "now deservedly become a classic" in Theophilus Cibber's (1703–1758) *Lives of the Poets of Great Britain and Ireland, to the Time of Dean Swift.* Thus, by the mid-eighteenth century, the poem had gained some measure of canonical acceptance. Cibber regarded Blackmore as a model for anyone wishing to compose Christian epics, and he declared that Blackmore, "to have written nothing contemptibly, must indicate a genius much superior to the common standard" (Cibber, 1753, p. 185).

In a letter date September 18, 1781, William Cowper (1731–1800) stated that, although Blackmore had "written more absurdities in Verse than any Writer of our Country," he "shines in his poem called Creation" (Letters, i, 1979, p. 521, as quoted in Johnson and Lonsdale, 2006). The academic also mentions the writer John Scott of Amwell (1731–1783), who approved of Johnson's discussion. He agreed that Blackmore, "with all his absurdities, was a poet; his poem on the 'Creation' (tedious as it is) sufficiently proves it. Pope and his brother wits were too hard upon Blackmore: it was very well to point out his faults, but ungenerous to stigmatise him as an absolute dunce."[81] Finally, in the *Life of Samuel Johnson* (1787), John Hawkins (1719–1789) claimed that *Creation* "yet live[d] in the esteem of every judicious reader" (Hawkins 1787, p. 348 as quoted in Johnson and Lonsdale, 2006). As a matter of fact, *Creation* became even more popular when Johnson included it in his *Lives of the Poet*s (1779–81). He commended the poem saying that it might have "transmitted [Blackmore] to posterity among the first favourites of the English Muse" if he had not written anything else (Johnson, 1896, p. 158). In the poem he succeeded in "establish[ing] the great principle of all religion" (Johnson, 1896, p. 163). Johnson considered *Creation* Blackmore's most noble work. In spite of his Whiggish politics and general unpopularity with Augustan critics, Johnson presented a courteous assessment of poem

[81] Letter to Beattie, 10 May 1782, in Sir William Forbes, *Life and Writings of James Beattie* (Edinburgh, 1806), ii. iii, as quoted in Johnson and Lonsdale, 2006.

and poet alike:

> The poem on *Creation* has, however, the appearance of more circumspection; it wants neither harmony of numbers, accuracy of thought, nor elegance of diction: it has either been written with great care, or, what cannot be imagine of so long a work, with such felicity as made care less necessary.
>
> Its two constituent parts are ratiocination and description. To reason in verse, is allowed to be difficult; but Blackmore not only reasons in verse, but very often reasons poetically; and finds the art of uniting ornament with strength, and ease with closeness. This is a skill which Pope might have condescended to learn from him, when he needed it so much in his Moral Essays.
>
> In his descriptions both of life and nature, the poet and the philosopher happily co-operate; truth is recommended by elegance, and elegance sustained by truth.
>
> In the structure and order of the poem, not only the greater parts are properly consecutive, but the didactic and illustrative paragraphs are so happily mingled, that labour is relieved by pleasure, and the attention is led on through a long succession of varied excellence to the original position, the fundamental principle of wisdom and of virtue. (Johnson, 1896, p. 167)

The most complete and insightful commentary on Johnson's *Lives* is to be found in Roger Lonsdale's edition, published in 2006 by Clarendon Press.[82] The scholar's long apparatus of notes to the *Life of Blackmore* is an incredibly rich source of critical information on Blackmore and *Creation*. Lonsdale records that Mrs. Hester Thrale (1741–1821) believed that Johnson's authoritative verdict and defence arose not just from admiration for Blackmore's Christianity and medical calling but also from a habit of opposing current critical prejudices (Johnson & Lonsdale, 2006, p. 75). According to Lonsdale, most of Johnson's information came from the *Biographia Britannica* (1780), which drew on Anthony Wood's *Athenae Oxonienses* (1680–), Jacob, and Shiels. However, Johnson also examined Blackmore's works directly and especially admired the moral and religious aim of *Creation*, its structural clarity, and its balance of science and devotional purpose. Indeed, Johnson had previously quoted Blackmore over 300 times in the *Dictionary* (Atkinson, 1952a), and even reused an anecdote from Blackmore's *Treatise on the Small-Pox* in earlier works (Johnson & Lonsdale, 2006).

Blackmore's *Creation* continued to be read throughout the century and probably even influenced works like Erasmus Darwin's (1731–1802) *Botanic Garden*[83] (1791)

[82] The text was published in print in 2006 and online in May 2014. In this thesis, the online version has been used.

[83] Rogers (2016) explains that, at the end of the century, Erasmus Darwin tried to versify detailed scientific matters in the wake of his work with the Botanical Society and the translation of Linnaeus. His

and William Paley's *Natural Theology* (1802). Dobree and Wilson (1959, pp. 502–3) affirms that *Creation* (1712) competed in popularity with Derham's *Astro-Theology* and *Physico-Theology,* and that it was more than just science in verse. In its reconciliation of poetry and science, it was particularly influential for a literary line apparent in several works of the early eighteenth century. The following pages will briefly give account of three of these instances, namely Henry Needler's verse and prose works, James Thomson's *The Seasons*, and Henry Brooke's *Universal Beauty*.

The poet who most of all benefitted from Blackmore's *Creation* was undoubtedly Henry Needler, a poet and essayist, who died at a very young age in 1718. His miscellaneous writings were published posthumously by William Duncombe (1690–1769) in 1724 as *The Works of Mr. Henry Needler,* with later editions in 1728 and 1735 (Inglesfield, 2004). According to Jones (1966, p. 94), Needler might have been a significant scientific poet, had it not been for his untimely death. He anticipated ideas later expressed by Addison and the Earl of Shaftesbury (1671–1713) in his poetry and prose. His poetry was clearly in the current scientific tradition, with texts like his verses on Blackmore's *Creation.* Like Blackmore, Needler desired to write a scientific poem to bring the sublime ideas of scientific discovery to English verse. Although he did not live long enough to compose this poem, several others of his writings show "the most imaginative treatment of science between Blackmore and Thomson" (Jones, 1966, p. 95). His short poems, familiar letters, and essays are full of natural philosophy and interest. The best example of this is the essay "On the Beauty of the Universe," where he gives his "aesthetic justification for nature poetry based on science" of all kinds to prove the "wisdom and goodness of God" in creating a world of order and beauty (Jones, 1966, p. 26). To him, the beauty of the universe was the most sensible proof of God's existence:

> The Beauty of the Universe plainly shews, that it is neither the Work of Fate nor Chance, but of a Powerful and Munificent Intelligence, who conside'd, in the framing of it, not only what was needful for the Preservation, but likewise the Ornament of Nature; and provided not only for the Necessity, but even for the innocent Delight and Entertainment of all his sensible Creatures. (Needler, 1724, p. 96)

Several features of this brief excerpt, emblematic of Needler's more extended production, betray a certain indebtedness to the work of Blackmore. The focus on beauty as the proof of the existence of an intelligent creator, the rejection of chance as the ruling principle of the universe, and the anthropocentric view—"How various are the Species of Trees, all entertaining to the Sight, as well as serviceable to the Conveniency of Mankind?" (Needler, 1724, p. 99)—all these features can be traced back to *Creation*.

project was ambitious: he wanted to turn botanical taxonomy into a complete, but not technical scheme like the Linnaean one. The apparatus of notes is especially interesting, as it offered an encyclopaedic survey of contemporary discoveries, like those by Benjamin Franklin (1706–1790) and Joseph Priestley (1733–1804).

Apart from this essay and the poem on Blackmore's *Creation*, Needler wrote two other interesting short poems on scientific topics. The first, 'A Vernal Hymn in Praise of the Creator,' is a grateful praise to God, whose divinity can be discerned everywhere:

> Thee, *BEST* and *GREATEST*! let my grateful Lays,
> Parent of Universal Nature, praise!
> All things are full of Thee! Where-e'er mine Eye
> Is turn'd, I still thy present Godhead spy!
> Each Her the Footsteps of thy Wisdom bears,
> And ev'ry Blade of Grass thy Pow'r declares!
> As yon' clear Lake the pendent Image shows o
> Oev'ry Flow'r that on its Border grows;
> So, in the fair Creation's Glass, we find
> A faint Reflection of th' Eternal Mind.
> Whate'er of Goodness and of Excellence
> In Nature's various Scene accost the Sense,
> To Thee alone their whole Perfection owe,
> From Thee, as from their proper Fountain, flow.
> (Needler, 1724, pp. 64–5)

Here, too, Needler expresses himself strongly against "false Philosophy," and explains that God's action in the universe has both a natural and moral impact. He also insists that man is God's favourite creation, as he can view "the spacious Earth and distant Sky" and detect "the various Marks of Skill Divine" (Needler, 1724, p. 68). Another poem included in the collection is one originally written in a letter "To Mr. D" from Portsmouth on August 16, 1711. This is an argumentative poem in blank verse trying to prove the existence of God and his attributes by looking at the beauty and design of nature and the body (Drennon, 1931, p. 1105). The latter part of his argument is quite similar to that of Derham and there are also elements traceable back to Blackmore's *Creation*, like the observation of the human body.

The scientific verse by Needler and Blackmore formed a prelude to the more accomplished and influential work of James Thomson. In particular, his four-book *The Seasons* employed scientific vocabulary and structure to celebrate God's providential presence in nature. His contemporaries recognised his ties with the physico-theological tradition, though, contrary to other physico-theological poems, *The Seasons* was one of the most accomplished poems of the first half of the eighteenth century. Thomson was a poet and literate, while many other scientific poems of the

time were composed by men belonging to other professions. The composition was divided into four sections, one for each season, and it contained a discrete amount of scientific ideas, examples of experimental technologies, and didactic passages. As Pizzol Giacomini (2007, p. 146) remarks, Thomson's work shows "a tangible bearing" of Blackmore's influence, an attestation to their common desire for a revival of spiritual poetry with scientific undertones; "[t]he lofty theme of Thomson's *Seasons* are, in fact, the magnificent acts of God in nature; and, throughout all his work, religious ideas nurture Thomson's imagination." At the close of the section entitled "Autumn," the Scottish poet summarised his view on all the branches of science that could enrich poetry:

> O Nature! all-sufficient! over all
> Enrich me with the knowledge of thy works;
> Snatch me to heaven; thy rolling wonders there,
> World beyond world, in infinite extent
> Profusely scattered o'er the void immense,
> Shew me; their motions, periods, and their laws
> Give me to scan; through the disclosing deep
> Light my blind way: the mineral strata there;
> Thrust, blooming, thence the vegetable world;
> O'er that the rising system, more complex,
> Of animals; and higher still, the mind,
> The varied scene of quick-compounded thought
> (Thomson, 1981, p. 125 – ll.1351-63)

Because of this, Jones (1966, p. 137) argues, Thomson was the true forerunner of a tradition of eighteenth-century scientific poets who combined nature description with science and religious contemplation. Natural philosophy was conceived as a sister of religion and poetry. Fairchild notes that Thomson's religion is inseparable from his conception of poetry; in the preface to the second edition of "Winter" he wrote that

> to scorn poetry, as many now do, is affronting the universal taste of mankind, and declaring against what has charmed the listening world from Moses down to Milton. In fine, it is even declaring against the sublimest passages of the inspired writings themselves, and what seems to be the peculiar language of heaven. [...] Let poetry once more be restored to her ancient truth and purity; let her be inspired from heaven; and in return, let incense ascend thither. (as quoted in Fairchild, 1939, p. 516)

Watts, Blackmore, and Dennis had hoped divine poetry could be revived with this very spirit. Thomson's combination of Virgilian motifs—especially from the *Georgics*—, biblical allusion, and the vocabulary of early eighteenth-century natural philosophy combine in a particularly well-crafted work in the tradition that *Creation* helped initiate (Thomson, 1981). Jones (1966, p. 108) adds that at the time of its publication, contemporaries recognised *The Seasons* as having connections with the physico-theological literature inaugurated by Reynolds and Blackmore. However, the *Seasons* is not scientific in the same, complete way *Creation* was: though there is an eclectic display of varied interests, the poet chooses what he wants to add and popular science appears only whenever he is reminded of it. Moreover, in the *Seasons*, the Creator is no absentee-God who merely started the world running. God's "unremitting energy" and beneficence pervade the complex scheme of things, and he "fills, surrounds, informs, and agitates the whole" (Bush, 1950). This is the same idea of God to be found in *Creation*, which promoted a line of thought that Thomson embraced (Rogers, 2016, p. 324). Thomson's *Seasons* was one of the most consequential nature poems of the eighteenth century (Hitt, 2004), also influencing the last of the examples of the impact of *Creation*, Henry Brooke's *Universal Beauty* (1735).

Henry Brooke was an Irish writer and playwright best known for his *The Fool of Quality* (1760–1772), a sentimental novel. Nicolson (2015, p. 58) thought that Brooke was likely the most "scientific" poet of his generation. With *Universal Beauty*, he established his initial fame and gave the natural world a central role in his poetry (Leerssen, 2004). The scholar adds that

> Booke's treatment of the new scientific theories was an able encyclopaedia in verse; his notes are often illuminating, and more intelligible than his compressed text. And in spite of his technicalities and abstrusities, there is no question that Henry Brooke felt profoundly, and transmitted to his generation his belief that the discoveries of science proved what certain philosophers had only surmised— that there is universal beauty in the works of God. (Nicolson, 2015, p. 58)

His main sources of inspiration were Thomson's *The Seasons* and Henry Needler. Indeed, in the Advertisement to the 1728 edition of his *The Works of Mr Henry Needler*, William Duncombe wrote that

> The Essay on the Beauty of the Universe, *tho' very just and rational, is but a Sketch, (as Mr.* Needler *himself owns) and therefore seem'd to require the largest Number of Notes. I wish it may incite some* able Hand *to treat more amply so useful and entertaining a Subject.* (Needler, 1728)

According to Fowler and Ingram (2015, p. 42), "Brooke is singularly receptive and sensitive to the beauty of the world, and sees in the manifestations of Nature, in its all-persuasive aesthetic quality, ethical lessons and messages that man should listen

to, model himself on and live by." While Jones (1966) believes *Universal Beauty* was perhaps the longest and most tedious of these early poetical essays, ambitious and rhapsodic to the point of becoming often incoherent, the text abounds in scientific examples that illustrate the harmony of the universe in the manner already seen in Blackmore.

Several scholars have acknowledged the relevance of Brooke's poem. However, they have expressed different opinions. On the one hand, Gerrard (2006) argues that *Universal Beauty* recognises the wonders of divine creation while underscoring the special intellectual potential of humankind to comprehend the nature of divine wisdom. On the other hand, Dobree and Wilson (1959, pp. 508–9) states that in the 1730s poets started to turn away from "sheer unadulterated science" and to challenge the limitations of reason. In such an atmosphere, Brooke's poem provided an emblem of physico-theology in verse, but one that showed the new impatience with purely rational inquiry. Jones (1966), too, situates the work within the context of a wave of physico-theological poetry that appeared after Newton's death in 1727, where the inability of science to explain everything gave rise to a widespread unease about human intellectual ambitions. In Brooke's case, this anxiety co-existed with a strong embrace of physico-theology: he saw no contradiction in praising divine design while decrying a scientific rationalism that he feared threatened the relationship between God and humankind. Finally, Fowler and Ingram (2015) observe a thematic shift in poetry of the 1730s, from cosmic views to botany, geology, and zoology. This change, partly initiated by Thomson's *The Seasons*, shows the gradual replacement of "the universe"—as seen in *Creation*—with "nature"—*Universal Beauty* is a case in point for this tendency.

This reorientation is part of the broader movement from Blackmore's physico-theological universalism to Thomson's natural sublime, and from there to the development of eighteenth-century naturalism. The Augustan belief that the natural world originated from, and reflected, the goodness, power, and wisdom of God continued to shape this poetic heritage, which culminated in the nature poetry of the Romantics (Williams, 1930). It was in such a line of literary evolution that *Creation* managed to maintain a certain prestige, escaping "the ignominy suffered by Blackmore's other epics" (Solomon, 1980, p. 140). As Solomon (1980) well condensed, Blackmore's importance in the history of English poetry lies more in the major influence he exerted on eighteenth-century poetic sensibility rather than in his poetic works *per se.*

Chapter 2

Creation and the Natural World

Nature's high Birth her Heav'nly Beauties show;
By ev'ry Feature we the Parent know.
Th' expanded Spheres amazing to the Sight,
Magnificent with Stars and Globes of Light;
The Glorious Orbs, which Heav'n's bright Host compose,
Th' imprison'd Sea, that restless ebbs and flows;
The fluctuating Fields of liquid Air,
With all the curious Meteors hov'ring there,
And the wide Regions of the Land, proclaim
The Pow'r Divine, that rais'd the mighty Frame.
(Blackmore, 1712, I, ll.38-47)

The second part of this thesis is devoted to the analysis of the physico-theological and natural philosophical background of *Creation*. According to Gerrard (2006, p. 202), it was common among physico-theological poets such as Blackmore to extol the wonders of God's natural world and man's intellectual superiority in finding the key to His wisdom. Indeed, Blackmore is said to have "exalt[ed] nature as a 'grand machine,' and God as a 'great master mechanic'." In light of the considered thematic analogies, the analysis will be bi-partite: Chapter 2 will delve into the portrayal of the natural world as presented in Books I & II of the poem, while Chapter 3 will focus on the human being as the supreme example of God's design and providence, drawing on Books VI & VII. Each chapter will be divided into sections and subsections exploring the key features of the natural world that Blackmore sung in his physico-theological survey of the creation.

Chapter 2 investigates the natural philosophy that forms the background of the first two books of *Creation* to assess Blackmore's place in the English physico-theological

tradition outlined in Chapter 1. This chapter examines the natural world in its scientific and historical context to show the significance of Blackmore's encyclopaedia in verse in disseminating scientific knowledge (Jones, 1966). This approach helps identify the scientific theories that informed Blackmore's view of God's "marks and impressions of prudence and design" in nature (Blackmore, 1712).

Books I and II, sharing the common theme of the physico-theological survey of the natural world, are studied together due to their logical progression and common argumentative strategies. As declared in the opening lines to the poem, the inquiring gaze of the lyrical I intends to "soar above the skies" (I, l.10), after surveying the terrestrial wonders of creation in an upward motion. The thematic analysis respects Blackmore's design, for Books I and II were intended to be read together. Four major topics are isolated to offer a comprehensive insight into Blackmore's layered portrayal of the cosmos as the creation of an omnipotent and providential author.

The first portion of the natural world to be examined is the Earth, not so much as a heavenly body but as the home to nature and its beautiful features. This section focuses on three aspects : the Earth's position in the universe and its internal cohesion, to which the discussion of broader and yet extremely practical matters like atomism and magnetism follows. The celebration of the Earth's providential proximity to the Sun and the dialogue Blackmore establishes with the late seventeenth-century tradition of the Theories of the Earth are here reserved particular attention. After this, a section presenting his understanding of and stance on atomism leads to a consideration of magnetic theories and their relevance for seventeenth-century elaboration of magnetism.

The chapter then moves on to what Blackmore refers to as the Earth's "Finished Beauty" (I, l.421). Following the physico-theological prose tradition, the main foci of this portion of the poem are the mountains, the vegetable world, and the waters. The irregularity of the Earth's surface, an extremely controversial topic, is a crucial element of his review. The poet engages in the coeval debate regarding the usefulness of mountains for nature and man, particularly in their connection with rivers. This discussion leads to the typically seventeenth-century debate around the origin of springs and the cycle of water. The sea's saltiness and tide theories are the next step of Blackmore's physico-theological inquiry. Finally, the vegetable world completes the outline of the natural phenomena enrolled to stress the beauty and usefulness of the works of God. The poet's treatment of this subject also directs our attention to his conception of the hierarchy of the created world and the idea of the so-called "great chain of being" (Lovejoy, 2001).

The next portion of the chapter is devoted to Blackmore's illustration of the air and the meteors. In the physician's comprehension of the universe, air represents the link between the terrestrial world and the heavens. Making ample use of contemporary research on air, he dwells on its elastic nature and advantageous role in transmitting light and heat from the heavens to the Earth. Such an overview cannot but include

the treatment of the origin and providence of meteors like rain and wind.

The final section concentrates on the culmination of the lyrical I's soaring gaze: the solar system. The heavens were the portion of the creation that most fascinated poets at this time, their lines pullulating with references to the "Orbs sublime in Æther born" (II, l.73). The portrayal of the solar system occupies most of the second Book of *Creation*, which also covers the theory of the plurality of worlds, connected with the modern conception of an infinite universe. This section is divided into four subsections. In the first, the Sun's place in the universe and alleged motion are held accountable for the alternation of day and night and the seasons. As the Sun is also responsible for imparting light to the whole solar system, Blackmore reserves some lines to the appreciation of light, its usefulness, and its speed. Light is a central notion in the poem, for throughout *Creation*, the word "light" is employed both in its literal meaning and as a symbolic allusion to the Creator. More interesting, however, is the poet's handling of the most enthralling question of the seventeenth century: celestial dynamics. His concise but accurate historical survey of explanations of heavenly motions will be considered. Although the scientific truth of Copernicanism had been verified beyond any doubt by Newton's work, there were still some vestiges of the debate between geocentrism and heliocentrism, which Blackmore ambivalently maintains throughout Books I and II.

Let us now follow *Creation*'s survey of the natural world, starting from the Earth. Each section of this chapter explores a different aspect of the physician's encyclopaedic composition. Given the project's focus on assessing Blackmore's knowledge of scientific information to support his views, special attention is paid to his sources. These are not just mere references but an integral part of his physico-theological programme, and the close reading of the text justifies the abundance of direct quotations in the following pages.

2.1 The Earth

The celebration of the Earth in all of its facets is the subject of Book I. Here, the globe is admired not as a heavenly body but as the place in the universe God chose for nature and living beings. Blackmore illustrates and comments on several features of our planet, adhering to the physico-theological tradition in prose. As Solomon (1980) remarks, physico-theologians tended to reject the debilitating theories of nature's decay and imperfection and rather praised the spiritual and scientific progress afforded by empirical observation. Nature is thus conceived as a product of divine wisdom.

The poet's gaze moves from the land and the seas upwards to the heavens in a progression that embraces the entirety of the creation. In his description of the natural world, Blackmore adopts a strictly synchronical perspective. During the seventeenth century, scientific interest in the Earth and its origin developed into what Schneer (1954) defined as the "rise of historical geology." The works of the so-called

"world-makers" (Rossi, 1979, p. 95) deeply influenced the perception of the Earth, which had been based only on Scripture and ancient texts up to that moment. The works of natural philosophers such as Robert Hooke (1635–1703) and antiquarians like John Woodward (1665–1728) depicted an Earth that changed through time in cycles or because of catastrophic events like the biblical deluge (Ito, 1988). On the other hand, Blackmore's discussion of the Earth is strictly synchronical and mainly descriptive. According to the Biblical account, the Earth was about 6000 years old[1] and had been created by God in the shape and state of development men could see. In *Creation*, there is no reference to any popular theory that regarded the Earth as subject to change, not even to the diluvian tradition, which Greyerz (2022) holds as the second most popular physico-theological genre after the argument from design. Blackmore does not even mention fossils. The origin of fossils—deeply intertwined with that of the Earth—was at the basis of diluvian physico-theology, and they represented a source of fascination and debate among natural philosophers and antiquarians. Although they were a recurring topic of geological works of the day, Blackmore did not include them in his survey of the natural world.

2.1.1 The Earth: its Shape, Internal Cohesion, and Position in the Universe

After the introduction to the poem, the first topic of scientific interest in Book I is the position of the Earth in the universe. This is employed as the first example of God's providential creation:

> See how the Earth has gain'd that very Place,
> Which of all others in the boundless Space
> Is most Convenient, and will best conduce
> To the wise Ends requir'd for Nature's Use.
> You, who the Mind and Cause Supreme deny,
> Nor on his Aid to form the World rely,
> Must grant, had perfect Wisdom been employ'd
> To find, thro' all th' Interminable Void,
> A Seat most proper, and which best became
> The Earth and Sea, it must have been the same.
> (Blackmore, 1712, I, ll.68-77)

Following the tradition of the argument from design, Blackmore asserts God's discernment in choosing the best and most convenient spot in the universe for the Earth.

[1] This dating is to be found virtually in all works of physico-theology (cf. Grew, 1701, p. 7; Derham, 1713, p. 43). However, since the ancient Greeks, there had been a plentitude of opinion about the true age of the earth and the planets of the solar system (Paley, 2006, p. 299).

The very providential position of the planet in the infinite expanse of the heavens will be declared at various times. In the poem, the stress on the "wise Ends requir'd for Nature's Use" (l.71) is a case in point of Blackmore's appreciation of God's responsibility for this practical arrangement of the cosmos. Lines 54-67 argue that establishing a purposeful end for the work of creation requires "a Conscious, Wise, Reflecting Cause" (l.56), capable of reasoning, deliberating, and selecting appropriate means to reach those ends. Since "the World's wide Frame" lacks such a cause (l.60), the existence of an overseeing cause, "which *God* we name" (l.64), endowed with "perfect Wisdom" and "prudent Care" (l.66), must be inferred

Blackmore's point is similar to that of several fellow physico-theologians, including John Edwards, who in his *Demonstration of the Existence and Providence of God,* maintained that "[t]he End and Contrivance of things undeniably prove the Divinity, and confute blind Chance and Fortune, yea and Necessity too" (1696, p. 15). While Blackmore praises God's wisdom, the discussion affords him the first opportunity to oppose the materialism of the Epicurean thought. As remarked in Section 1.3.6, *Creation* was envisaged as an anti-Epicurean composition. In the Preface, when Blackmore mentions Epicureanism, he has Lucretius's *De Rerum Natura* in mind and fashions himself as an anti-Lucretius. In this first passage, the objected Epicurean view is that chance is the guiding principle of the universe. This is only the first of numerous instances of Blackmore's attack on the Epicurean philosophy, whose tenets were diametrically antithetical to those of a pious Anglican poet. The Epicureans believed that the chance concurrence of atoms through a swerve of their downward motion, called *clinamen,* was responsible for the Earth's formation and the place it occupied in the void universe (Konstan, 2022). This movement was not directed by any superior guiding hand but was entirely fortuitous. Although throughout *Creation* Blackmore gives voice to different opinions, conferring the poem a polyphonic and almos dialogical structure, he invariably shows their untenability. One of the most frequent strategies he employs to achieve this end is rhetorical questions and logical counterarguments that stress the absurdity of his opponents's hypotheses. For instance, in lines 79-82, he wonders how anyone could believe that the unguided composing elements of the Earth could accidentally end up in the perfect and most useful position out of the millions in empty space. According to Blackmore, an idea of the universe that does not presuppose the existence of a Creator and preserver of the observable harmony and beauty is unacceptable and illogical.

This telling example of Blackmore's argumentative style places him within the physico-theological tradition that flourished in England after 1691 (see Section 1.1). As per Section 1.3.6, physico-theologians and devout natural philosophers were in the habit of targeting Epicureans and their atomic theory of chance. Examples are virtually numberless, but a case in point is to be found in John Woodward's popular *Essay toward a Natural History of the Earth* (1695). In a revealing passage, the author remarked:

> Nor much more wonder is it that an *Epicurus*: one who could ever espouse a Notion so enormously absurd and senseless, as that the World was framed by Chance: that this vast, regular, and most stupendous Pile was owing to no higher a Principle than a fortuitous Congress of Atoms: and that either there was no God at all, or, which is much the same thing, that he was an impotent and lazy *Being*, and wholly without concern for the Affairs of this lower World: I say, 'tis in no wise strange that such a one should believe, as he did, that things were blindly shuffled and hurled about in the World. (Woodward, 1695, p. 58)

In Blackmore's view, the Epicureans cannot explain the Earth's position in the universe with their theory of the chance concurrence of atoms. They cannot even furnish a plausible explanation for the cohesion of the several parts of the globe, which, instead, is "by experience uncontested found" (l.122). He challenges the belief in the mere collision of atoms as the basis for the Earth's cohesion by resorting to the empirical observations of everyday phenomena in nature. They disprove ridiculous theories:

> What Cause of their Cohesion can you find?
>
> What Props support, what Chains the Fabrick bind?
>
> Why do not Beasts that move, or Stones that lye
>
> Loose on the Field, thro' distant Regions fly?
>
> Or why do Fragments, from a Mountain rent,
>
> Tend to the Earth, with such a swift Descent?
>
> (Blackmore, 1712, I, ll.130-5)

In this excerpt, Blackmore's emphatic tendency towards anaphora and pressing rhetorical questions is intentionally exasperating. At the end of the seventeenth century, Newton found the explanation for the cohesion of the parts of the Earth to be gravity. In the popular *Astro-Theology* (1715), physico-theologian William Derham illustrated this principle, relying on the same argument employed by Blackmore:

> Upon a supposition that every of the Globes revolves round its own Axis [...] we shall find, besides the Benefits already specified, another very great use of Gravity to the Good, yea, the very Existence of our own and the other Globes, and that is the preservation of their Integrity against the Centrifugal force of this their Revolution, or Diurnal motion. For without such a Band, as Gravity, to keep their parts together, the whirling about of those Globes would shatter them into pieces, and dissipate them abroad into the circumambient space. Thus must it needs befall our own Globe. (Derham, 1715, pp. 139–40)

To explain the cohesion of the several parts of the Earth, the poet takes into consideration two alternatives: some kind of "Gravitating Force" (l.137) and "Magnetic Pow'r" (l.143). Section 2.1.3 will be devoted to Blackmore's use of magnetic ideas in *Creation*, so let us focus on the first alternative:

> Those who ascribe this one determin'd Course
>
> Of pondrous Things to Gravitating Force,
>
> Refer us to a Quality occult,
>
> To senseless Words, for which while they insult
>
> With just Contempt the famous Stagyrite,
>
> Their Schools should bless the World with clearer Light.
>
> (Blackmore, 1712, I, ll.136-41)

These lines indicate a "Gravitating Force" applied to "pondrous things," which is a "Quality occult." While any reference to "gravitation" leads us to think of Newton's theories, this might not have been the case at the beginning of the eighteenth century. Newton had not invented gravity,[2] a concept already present in ancient philosophies (Hecht, 2019). He offered a new interpretation of the physical phenomenon relying on empirical observation and mathematical certainty. Moreover, Fisher (2023, p. 106) maintains that in the early seventeenth Epicurean philosophy started to emerge as an alternative to Scholasticism and, as far as gravity is concerned, their understanding started replacing the Aristotelean notion of "heaviness" and his theory of natural place. Therefore, the concept of "gravitating force" mentioned here is not to be confused with Newton's concept of gravity. Section 2.4. will show that Blackmore was perfectly aware of Newton's ideas and understood his physics well. More likely, the poet refers to Epicurean gravity:

> If pondrous Atomes are so much in Love
>
> With this one Point, that all will thither move,
>
> Give them the Situation they desire;
>
> [...]
>
> Those who ascribe this one determin'd Course

[2]The idea of gravity was not invented by Newton and it had ancient roots, as Hecht (2019) outlines in his paper "Kepler and the Origins of the Theory of Gravity." Initially, it was a terrestrial concept: on Earth, material things had weight and fell due to gravity. Aristotle, following Plato, believed terrestrial matter consisted of varying amounts of the four classical elements: fire, air, earth, and water. Any earthy body, or heavy object, had gravitas, meaning it possessed weight and naturally sought its place at the centre of the Universe, which was the centre of the Earth (p. 177). Copernicus believed that the Earth is a sphere, with its parts naturally seeking the universe's centre and, although *De revolutionibus* does not explicitly discuss gravitational force, Copernicus refers to the "force of weight" (p. 178). In 1600, Gilbert's *De Magnete* was among the first books to describe several known forces. He viewed gravity as a "motion of aggregation" but vaguely distinguished between gravity and magnetism, referring to them as "terrestrial and magnetic coition."

Of pondrous Things to Gravitating Force,
Refer us to a Quality occult,
To senseless Words, for which while they insult
With just Contempt the famous Stagyrite,
Their Schools should bless the World with clearer Light.
(Blackmore, 1712, I, ll.126-41)

The same idea is described at length also in Book IV, where Epicurean gravity is explained in more detail as a force depending on the atoms's supposed inherent weight. The poet presents a highly sceptical inquiry into this notion by questioning the consistency of the atoms' movement. He provocatively asks why these particles consistently follow the same path and direction without deviation, if they move through the vast void. The Epicureans attribute this to an "Innate Gravity" (IV, l.284) that pulls heavier bodies downward, eliciting Blackmore's sarcastic praises. The physician also challenges the Epicurean assertion by pointing out that simply claiming atoms move "[b]ecause it is their Nature" (IV, l.304) is circular reasoning and does not constitute substantial proof. Hence, their argument remains unconvincing. He presses further, asking again why atoms move in one direction rather than another, to which the answer again cites "inbred Gravity" (IV, l.309)—a property, however, they cannot adequately define. Blackmore concludes that without a clarification of the Epicurean notion of gravity, such explanations are merely empty, "senseless" words (IV, l.312).

The discussion of the cohesion of the several parts of the Earth naturally gives way to curiosity about the planet's internal structure. Blackmore focuses on the globe's composition, stability, and solidity. In her *Mountain Gloom and Mountain Glory* (1963a), Marjorie Hope Nicolson remarks that "Blackmore devoted a long passage of over one hundred and fifty lines in the first book of the *Creation* to the 'amazing skill' shown in the structure of the earth" (pp. 345-6) as a central topic to his argumentation. A metaphor likening God's relationship to the Earth to that of an architect to a building opens the section in a typically physico-theological fashion. In this tradition, God was often compared to a wise architect or, in a more mechanistic view, to a clockmaker responsible for designing the perfect contrivance of the world. The metaphor of the building is particularly fitting here, for Blackmore describes the Earth's internal makeup as a solid construction comprising metals and stones:

Besides, the Structure of the Earth regard:
For Firmness how is all its Frame prepar'd?
With what amazing Skill is the vast Building rear'd?
Metals and Veins of solid Stone are found
The chief Materials, which the Globe compound.
(Blackmore, 1712, I, ll.337-41)

This portion of the text testifies to Blackmore's attention to the coeval scientific debate. Given the lack of adequate instruments to investigate it, the Earth's internal structure remained largely unknown during the seventeenth and eighteenth centuries. Observations and superficial mining and digging allowed inquirers to discover the stratification of rocks (Taylor, 1948) and led them to form suppositions regarding the planet's internal composition. As a consequence, geological ideas were usually not based on empirical evidence but on the works of ancients such as Aristotle and Pliny, as they were taught at university (Ito, 1988). Various theories existed, with natural philosophers like Edmund Halley (1656–1742) proposing models of a hollow and uneven Earth, following the Aristotelian tradition (Kollerstrom, 1992). Many seventeenth-century natural philosophers believed that the Earth was "riddled with passages, large caverns, smaller channels and cavities, all capable of transmitting air, water and other substances" (Willmoth, 2007, p. 24). Albeit widespread, this interpretation does not seem to have informed Blackmore's portrayal of the globe. His view is closer to that of the first Royal Astronomer, John Flamsteed (1646–1719), who argued for the Earth's virtual solidity (Willmoth, 1987). It appears that Blackmore adhered to this latter interpretation when he wrote:

> See, how the Hills, which high in Air ascend,
> From Pole to Pole their lofty Lines extend.
> These strong unshaken Mounds resist the Shocks
> Of Tides and Seas tempestuous, while the Rocks
> That secret in a long continu'd Vein
> Pass thro' the Earth, the pondrous Pile sustain:
> These mighty Girders,[3] which the Fabrick bind,
> These Ribs robust and vast, in Order joyn'd;
> These subterranean Walls dispos'd with Art,
> Such Strength, and such Stability impart,
> That Storms above, and Earthquakes under ground
> Break not the Pillars, nor the Work confound.
> (Blackmore, 1712, I, ll.342-53)

These lines expand on the metaphor of the Earth as a building, stressing the globe's solidity due to its materials, a comparison Blackmore would employ again in Book

[3] In the 1773 edition of the *Dictionary*, Johnson employs these lines from *Creation* to explain the meaning of the noun "girder," along with John Harris's *Lexicon Technicum* (1704) and Joseph Moxon's *Mechanick Exercises: Or, The Doctrine of Handy-Works* (1694). Retrieved from Johnson's Dictionary Online <https://johnsonsdictionaryonline.com/views/search.php?term=girder> on April 3, 2024.

I acknowledge the use of Johnson's Dictionary Online, copyright of the University of Central Florida–BOT, which has been an indispensable tool in this project.

III, ll.422-4. The insistent use of alliteration as well as of anaphoric structures serves to reinforce the image of the Earth's compactness conveyed by this passage. While it cannot be excluded that Blackmore had the chance to know Flamsteed and his work in London, it is more likely that he formed this conception of the globe thanks to those popular works of physico-theology to which he declared his indebtedness in the Preface (see Section 1.3.3). Such an idea was held, for instance, by Derham; in his *Physico-Theology* (1713), Book II, Chapter II, he writes that the globe is made of "A Mass of above 260 Thousand Millions of Miles solid Content" (1713, p. 43).

The lines mentioned above are worth analysing also for other reasons. Firstly, the mention of "metals" in line 340 is consistent with the assimilation of the Earth with a giant magnet that Blackmore adopts in *Creation*. Secondly, the poet chose to mention earthquakes only in passing. In light of some recent catastrophic occurrences,[4] earthquakes became a topic of great scientific interest in the late seventeenth century (Willmoth, 1987, 2007). Physico-theologians often discussed the potential origins of these mysterious phenomena in their works,[5] ultimately attributing them to God's overarching plan. Contrary to the pathetic and almost sublime way in which earthquakes were sometimes employed to celebrate the Creator's providence, Blackmore's brief mention is very matter-of-fact, implying that earthquakes originate underground, without providing any further explanation (ll.350-3).

The Earth's shape was also a topic of fascination in the late seventeenth century. In his *Telluris Theoria Sacra* (1681), the so-called "Theorist" Thomas Burnet proposed the thesis that the Earth, when it was formed from primitive chaos, had acquired an egg shape. When he sent his work to Newton, the natural philosopher had no objections against this theory of the ovoid shape (Magruder, 2008). Derham, however, found Burnet's opinions regarding the shape of the Earth inconsistent with the belief in God's "creating, especially his governing and ordering the World" (1713, p. 47). In his *Astro-Theology* (1715), the clergyman referred to Newton's physics and observed that

> [i]n the Earth itself there is manifestly such a thing as Gravity, which might as well be the Natural Cause of the Sphericity of our Globe, as it is in that of lesser Masses, but then, as I demonstrated in the last Book, it is also evident, that an over-ruling Power, and a wise Providence not only gave Matter this Gravitating power, but guided and managed it in the formation of the World. (Derham, 1715, p. 137)

As Blackmore ultimately accepted the Copernican System, which saw the Earth as one of the planets orbiting around the Sun, he describes it as having an "orbicular

[4] In her *Mountain Gloom and Mountain Glory* (1963), Marjorie Hope Nicolson comments that: "After the Lisbon earthquake of 1755 shocked the civilised world, there was naturally a great outpouring of verse upon the subject, yet well before that the violence of Nature had become an integral part of descriptive poetry. Blackmore and Young, Thomson, Smart, and Brooke, with many others, introduced long descriptions of thunderstorms, earthquakes, and volcanoes" (Nicolson, 1963a, pp. 339–40).

[5] See, for instance, Edwards (1696, pp. 151–2) or Derham (1713, pp. 69–70).

form" and being suspended in "ambient air" (ll.354-5). In the *Dictionarium Anglo-Britannicum* (1708), philologist John Kersey[6] defined the adjective "orbicular" as "round like a Ball or Globe." The spherical shape of the Earth was indeed taken for granted at the turn of the century, as John Ray averred in his seminal *Wisdom of God* (1691):

> The roundness of the Earth from North to South is demonstrated from the appearance of Northern Stars above the Horizon, and loss of the Southern to them that travel Northward; and on the contrary the loss of the Northern and appearance of the Southern to them that travel Southward. (Ray, 1691, pp. 135–6)

Let us briefly remark here on another aspect of Blackmore's description: the idea that the Earth hung in the air. Whereas debates regarding the nature of interplanetary space were still debated by this time, the picture of the Earth "hanging" in the air was pretty standard, especially in more colourful physico-theological passages. For instance, Clement Ellis (1633–1700), clergyman and poet, in *Folly of Atheism* (1692) commented that the Earth "hangs like a little round Ball in the midst of the thin Air incompassing it round about, notwithstanding its prodigious bulk" (Ellis, 1692, p. 94).

Having thus commented on the shape, composition, and cohesion of the Earth, the poet shifts his attention back to the planet's convenient position in the universe:

> Give it [the Earth] the Situation to the Sun
>
> Such as is only fit; when this is done,
>
> Suppose it still remain'd a lazy Heap;
>
> From what we grant you no Advantage reap.
>
> You either must the Earth from Rest disturb,
>
> Or roll around the Heav'ns the Solar Orb.
>
> (Blackmore, 1712, I, ll.356-61)

Blackmore's ambiguity regarding geocentrism and heliocentrism will be discussed later in this chapter, but his emphasis on the relative position between the two orbs is relevant. Even more than the defence of a system of the universe or another, the providential distance of the Earth from the Sun was a *topos* of physico-theological literature. A case in point is Sermon VIII of Richard Bentley's *Folly of Atheism* (1693), one of the first effective and accurate popularisations of Newtonian physics, composed with the astronomer's *placet*.[7] The philologist credits the Sun and Earth's relative

[6] According to the *Oxford Dictionary of National Biography*, John Kersey the younger, the son of the mathematician John Kersey the elder (bap. 1616, d. 1677), was born around 1660 and died in or after 1721). cf. *"Kersey the younger, John (b. c. 1660, d. in or after 1721), lexicographer"*

[7] Newton and Bentley famously corresponded in 1692, while Bentley was drafting the last three of his Boyle Lectures. Bentley questioned Newton about the appropriate application of his physics to theological matters. The two exchanged a total four letters and the author of the *Principia* readily authorised the Cambridge scholar to exploit his physics to sustain arguments on the existence of

positions for the existence of animal and vegetable life on our planet (Bentley, 1693, p. 247). There is no doubt that Blackmore knew Bentley's work,[8] as well as John Edwards's, who also remarked on the providential disposition of the planets, especially highlighting the advantages for man:

> the Diversity of the Situation and Position of the Earth is remarkable. It was the Wise Contrivance of the Creator to place it in that Oblique Posture that it is now in, it being most convenient for the Good of Mankind. (Edwards, 1696, p. 96)

Blackmore's comment is not limited to the Earth's situation. It rather extends to the relative movement of our planet and the Sun, which also appears providential: if the two orbs remained still, there would be no advantage and life and the natural world would have no means to flourish. This is extremely clear to the physician, who repeatedly draws attention to this specific aspect of celestial dynamics in the first two Books of *Creation*. Clymer (2005) contends that one of the poet's preferred lines of argument to celebrate nature's existing beauty and order is to consider the fatal consequences that a different arrangement would have caused. The kind of hypothetical reasoning employed to illustrate this feature is emblematic:

> You either must the Earth from Rest disturb,
>
> Or roll around the Heav'ns the Solar Orb.
>
> Else what a dreadful Face will Nature wear?
>
> How horrid will these lonesome Seats appear?
>
> This ne'er would see one kind refreshing Ray;
>
> That would be ruin'd, but a different way,
>
> Condemn'd to Light, and curs'd with endless Day.
>
> (Blackmore, 1712, I, ll.360-6)

Powell (2021, p. 54) maintains not only that the Earth's location is a product of design but also that Blackmore "displays the variety of the ordered system as an argument for the chosen status of earth, which a Cartesian universe of identical planets would not permit."

God. Bentley's use of Newtonian physics appears most evidently in his treatment of the concept of gravity, professing that "[g]ravitation" was "the powerfull cement, which holds together this magnificent structure of the world" and identified gravity as the "immediate *Fiat* and Finger of God" (Bentley, 1693, IV, pp. 5-6). *The Newton Project* collected all the available letters the two exchanged: <https://www.newtonproject.ox.ac.uk/texts/correspondence/all>, last accessed on September 15, 2025.

[8] Solomon (1980) comments that in *A Satyr against Wit* Blackmore praised Bentley's scholarship, though he censured his arrogance. Both Blackmore and Bentley were in disfavour with the wits and Rosenberg (1953, p. 44) maintains that "Blackmore, in his battle with Garth and the Wits, found himself allied with Richard Bentley." Bentley fought against the Christ Church Wits, whom also Blackmore antagonised because of their loose behaviour and Jacobite sympathies.

In conclusion, Blackmore describes the Earth as a spherical, solid, and compact planet composed of metals and stones, hanging in the air at a providential distance from the Sun and having a providential motion relative to it. None of his ideas strike the reader for their originality, since to present an original worldview was not Blackmore's intention (see Section 1.3.3). With *Creation*, the poet meant "to bring Philosophy out of the secret Recesses of the Schools, and strip it of its uncouth and mysterious Dress, that it may become agreeable, and admitted to a general conversation" (Blackmore, 1712, p. xxxv). Blackmore drew his ideas and his argumentative strategies on his physico-theological predecessors like Derham, Edwards, Bentley, and Ray. While it is not to be excluded that he knew the works of the so-called "world makers" such as Thomas Burnet or John Woodward, which were incredibly popular and widely read at the time, direct references to their texts are not traceable in the composition.

2.1.2 Atomism

In her *Newton Demands the Muse*, Marjorie Hope Nicolson argues that Blackmore "considered the challenge of the old Epicureanism and the new scientific atomism so serious that he devoted all the books of the *Creation* to disproving them" (2015, p. 100). One of the central themes of Book I, developed together with the discussion of the Earth, is the refusal of atomism. From its origin, atomism was deeply intertwined with Epicurean philosophy and gained prominence through the work of mechanical philosophers in early modern Europe. This subsection sheds light on Blackmore's treatment of this topic to show that, although he repeatedly lashes out at the Epicureans and their physical theories, he does not oppose atomism *per se* or atoms being the fundamental building blocks of reality.

In the seventeenth century, atomism was integrated into mechanic philosophy and "it was generally agreed in Britain that [...] matter was atomic in structure" (Meadows, 1969, pp. 110–1). Chalmers's *The Scientist's Atom and the Philosopher's Stone* (2009) covers the history of atomism and shows that the ancient atomism of Democritus (fifth/fourth century BC) and Epicurus failed to gain traction until its revival in the early modern period. During antiquity and the medieval period, the predominant philosophical framework was the Aristotelian one, which was slowly replaced by mechanism in the seventeenth century. Mechanical philosophers who embraced atomism endeavoured to align it with their new philosophy, creating a version resembling Democritus and Epicurus's. This resemblance often led to the mistaken belief that ancient theories were being directly revived. In France, Reneé Descartes introduced the first comprehensive framework of mechanical philosophy, focusing on the two principles of matter and motion. However, he was not an atomist because he saw the world as a plenum and matter indefinitely divisible. French mechanical philosopher Pierre Gassendi was an explicit atomist and presented his views as a re-

vised version of Epicurean atomism.[9] In England, Robert Boyle propounded the new philosophy and his work marked a significant advancement towards an experimental atomic theory of matter. He championed a strict form of mechanism, positing that the material world comprises corpuscles—indivisible particles with specific shapes and sizes that can move.

In *Creation*, Blackmore principally addresses Epicurean atomism, and he opposes the idea of chance as the ruling principle of the universe. Indeed, the Epicurean disposal of God in their world description was totally incompatible with the poet's understanding of the universe. This is also why he describes the Epicurean as atheists,[10] "who the Mind and Cause Supreme deny, / Nor on his Aid to form the World rely" (ll.72-3). In the Preface to *Creation*, he opposed the idea of a God "who is entirely regardless of Things without him, who is perfectly unconcern'd with the Direction and Government of the World" (Blackmore, 1712, p. x). The Epicureans believed space to be empty, and they embraced the possibility of void, assuming that the Earth's position in the universe resulted from the random collision of atoms in an unobstructed space. Blackmore challenges the idea of the "Event Fortuitous[11]" (l.79):

> Could stupid Atomes with impetuous Speed
>
> By diff'rent Roads and adverse Ways proceed;
>
> From Regions opposite begin their Flight,
>
> That here they might Rencounter, here Unite?
>
> What Charms could these Terrestrial Vagrants see
>
> In this one Point of all Immensity,

[9] Brazier (1984, p. 54) explains that "Gassendi, although rejecting Aristotelianism, retained from it a belief in the unity of all nature and included this concept when he embraced the skeleton of Epicurean atomism. A Religious, having taken holy orders at Aix, he rejected the atheism inherent in atomism by declaring God as Creator of the atoms and their movements, and he removed the human soul from the main concept by declaring it to be immaterial. His ideas, transmitted to Descartes by their mutual correspondent, Father Mersenne, provoked an argument even before publication. Gassendi's major exposition of his views (in *Animadversiones*, in 1649) crossed the channel to upset puritan England. In the second (posthumous) edition (1658) an appendix was added specifically embracing the fundamental corpuscular theory but insisting on its divine origin. Matter, according to Gassendi, was not inert but was composed of atoms perpetually in motion, indivisible, and indestructible. God created the atoms and directed their motion. Our ideas, he proposed, came to us through the movement of atoms in our senses leaving traces in the brain. Anticipating John Locke, Gassendi held that every idea that exists in the mind originates in the senses."

[10] This is an improper conception, as Epicureans believed in the existence of gods. Nevertheless, in their conception the gods were not concerned with the world or its creation and with human beings. Chance was the ruling principle of Epicurean physics (Epicurus, 2012, pp. 39–43).

[11] See Johnson's *Dictionary* (1773):

> **Fortu'itous**. *adj*. [*fortuit*, French; *fortuitus*, Lat.] Accidental; casual; happening by chance.
> [...]
> If casual concourse did the world compose,
> And things and acts *fortuitous* arose,
> Then any thing might come from any thing;
> For how from chance can constant order spring. –*Blackmore*.

Last accessed on July 9, 2024 from <https://johnsonsdictionaryonline.com/views/search.php?term=fortuitous>

That all th' enamour'd Troops should thither flow?
Did they its useful Situation know?
And when the Squadrons with a swift Career
Had reach'd that Point, why did they settle there,
When nothing check'd their flight, but Gulphs of Air?
Since Epicurus and his Scholars say
That unobstructed Matter flies away,
Ranges the Void, and knows not where to stay.
(Blackmore, 1712, I, ll.83-96)

The phenomenon Blackmore illustrates took the name of *clinamen*, which had been poetically described by Lucretius in his *De Rerum Natura*, Book II (ll.216-24):

Illud in his quoque te rebus cognoscere avemus,
corpora cum deorsum rectum per inane feruntur
ponderibus propriis, incerto tempore ferme
incertisque locis spatio depellere paulum,
tantum quod momen mutatum dicere possis.
quod nisi declinaròle solerent, omnia deorsum
imbris uti guttae caderent per inane profundum
nec foret offensus natus nec plaga creata
principiis; ita nihil umquam natura creasset.[12]

[12]Translation:

In these affairs
We wish thee also well aware of this:
The atoms, as their own weight bears them down
Plumb through the void, at scarce determined times,
In scarce determined places, from their course
Decline a little- call it, so to speak,
Mere changed trend. For were it not their wont
Thuswise to swerve, down would they fall, each one,
Like drops of rain, through the unbottomed void;
And then collisions ne'er could be nor blows
Among the primal elements; and thus
Nature would never have created aught.

Translation from Lucretius. *De Rerum Natura*. William Ellery Leonard. E. P. Dutton. 1916. Text digitalised by *Perseus Digital Library*
(<http://data.perseus.org/citations/urn:cts:latinLit:phi0550.phi001.perseus-eng1:2.216-2.293>). Last accessed on September 15, 2025.

In *Creation*, Blackmore further elucidates the concept of the *clinamen* from his point of view. Atomists claim that atoms, driven by their inherent weight, naturally settled into that ideal position, moving downward in empty space from all directions to that single point. In this description, the influence of Lucretian diction is discernible: where Blackmore mentions the movement of atoms "downward thro' the spacious Void" (l.112), he echos Lucretius' *per inane* (l.217), where he holds the atoms's "inbred Weight" (l.111) as responsible for their downward motion, he seems to recall the Latin *ponderibus propriis* (l.218).

Despite Creech's translation being widely available since 1682 (see Section 1.3.6), Blackmore appears to have consulted the original Latin source.[13] The 1682 edition was extremely popular and the "standard full-length English Lucretius throughout the eighteenth century" (Hopkins, 2007, p. 256), so many of Blackmore's contemporaries knew the *De Rerum Natura* thanks to this translation, supplied with a long apparatus of notes. If Creech was recognised as a precise translator of Lucretius, he also repudiated the Roman's views (Hopkins, 2007, p. 262), and he debunked the central tenets of Epicurean philosophy in the notes. For instance, he commented that Democritus had attributed to atoms the properties of "bulk" and "figure," while Epicurus had endowed them with that of "weight" (Lucretius Carus, 1682, Notes, 16-17). Creech held this notion as untenable and he confuted the belief that atoms are endowed with weight by referring to experiments on air by contemporary natural philosophers like Francis Glisson (1597–1677) and Robert Boyle.[14]

In his discussion of matter and atoms, Blackmore describes them as "Brute" (l.80), "stupid," (l.83), and fast (possessing "impetuous Speed," l.83). All these attributes stress the fundamental feature of atoms in Blackmore's view: their lack of sentience and intentionality, which makes their motion in the universe solely dependant on chance. He alludes to the idea of the atoms's motion as guided by an innate force, of which, however, Epicureans do not seem to discern the origin (ll.100-3). In the eyes of a devout Christian, who was firmly convinced that God was responsible for the creation and preservation of the world, a theory based only on chance was inadmissible.

Blackmore criticises another aspect of Epicurean physics, according to which atoms move through the infinite void with a downward movement. Epicurus's *sursum* and *deorsum* (as quoted in Coture, 2022) were absolute concepts. Therefore, the void space of Epicurus and Lucretius was anisotropic. In the *Animadversiones* (1649), French philosopher Pierre Gassendi modified this view and propounded an isotropic void space, where the terms *sursum* and *deorsum* are not relative to humans or astronomical coordinates, but are defined by the relative movement of atoms through space. If an atom travels infinitely from point A to point B, A is always *sursum* (upwards), and B is always *deorsum* (downwards). Conversely, if an atom travels from B to A, B becomes

[13] In Book III of *Creation* (ll.185-234), Blackmore himself translated a portion of *De Rerum Natura*, Book II (ll.177-ff), where Lucretius comments on the nature of matter, describing it as ungenerated and eternal.

[14] Glisson was a physician, philosopher and the author of *Anatomia Hepatis* (1654) (Giglioni, 2006). In Oxford, Boyle famously experimented with the air pump with the aid of Robert Hooke West, 2005.

sursum and A becomes *deorsum*. Yet, Epicurus and Lucretius posited that without declination, all naturally moving atoms would follow a strictly parallel-linear path from A to B (Coture, 2022, p. 161). Blackmore must have been familiar with Gassendi's development of the theory[15] as he mentions Epicurus's "famous *Gallic* Friend" (IV, l.297), who claimed that

> That is Superior, whence your Atomes start,
> And that Inferior in the empty Space,
> To which they all direct their rapid Race.
> (Blackmore, 1712, IV, ll.298-300)

Blackmore's criticism extends to the cohesion of atoms and the Epicurean inability to ultimately explain it. To do that, he avails himself of empirical evidence gathered from experience. He employs hypothetical clauses and reasoning, and rhetorical questions grounded in natural observations to dismantle his opponent's opinions:

> 'Tis by Experience uncontested found,
> Bodies Orbicular, when whirling round,
> Still shake off all Things on their Surface plac'd,
> And to a distance from the Center cast.
> If pondrous Atomes are so much in Love
> With this one Point, that all will thither move,
> Give them the Situation they desire;
> But let us then, ye Sages, next enquire,
> What Cause of their Cohesion can you find?
> What Props support, what Chains the Fabrick bind?
> Why do not Beasts that move, or Stones that lye
> Loose on the Field, thro' distant Regions fly?
> (Blackmore, 1712, I, ll.122-33)

These lines illustrate the use of anaphora Blackmore often employs in the poem to reinforce his point. The Earth's daily rotation on its axis disproves the atomists's view of the planet as a mere and casual conglomeration of atoms, for it does not disperse what is on its surface. Throughout Book I, Blackmore does not object to the existence of atoms *per se* but rather to the idea of chance and the disposal of God's intervention in the creation and guidance of the universe, including atoms. As Nicolson contends,

[15] In the preface to his *Discourses on the Gout, Rheumatism, and the King's Evil* (1726), Blackmore mentions the work of "Gassendus *on* Epicurus" (p. xi), demonstrating his knowledge of the French philosopher's work on Epicureanism.

Blackmore opposed "that power, which erring men call Chance" (2015, p. 58), that is, the fortuitous concourse of these particles. He was so committed to the dismantling of atheistic atomism that he had already expressed his position on the divine origin of atoms in Book II of his first epic, *Prince Arthur*:

> Th' Eternal's Voice compos'd these Atoms jars,
> And justling Elements intestine Wars.
> He sets imprison'd Heat and Vigour free,
> And suits and ranges Natures that agree.
> He through the Mass a mighty Ferment spread,
> And where it came mis-shap'd Confusion fled.
> Dark Chaos now throws off his gloomy Face,
> Puts on fresh Beauty, and a Heav'nly Grace.
> (Blackmore, 1695, p. 37)

Blackmore extensively commented on Epicureanism and atheistic atomism in virtually all his works, including the *Lay Monastery*. In Essays XIX and XX, he wrote on Epicurus and Lucretius, opposing their theories and showing the omnipotence of God through arguments accessible to everyone. If Blackmore appears particularly impatient in his opposition to Epicurean atomism, he was by no means the only one to express such opinion, and physico-theological literature abounds with examples. Richard Bentley, for instance, employed similar arguments in his *Folly of Atheism*:

> the Atoms or Particles which now constitute Heaven and Earth, being once separate and diffused in the Mundane Space, like the supposed Chaos, could never without a God by their Mechanical affections have convened into this present Frame of Things or any other like it. (Bentley, 1693, p. 203)

In sum, Blackmore does not reject the physical grounds of the atomic mechanical theories. Instead, his critique of Epicurean atomism centres on the absence of a guiding intelligence and the inadequacy of chance to explain the order and harmony of the universe. Nature is understandable only if we consider a wise, omnipotent cause behind it. Blackmore's discussion of atomism must have been received favourably by his contemporaries, as testified by Dr Johnson's using lines from Book IV to illustrate the meaning of the noun "atomist" in the *Dictionary* (both 1755 and 1773 editions):

> **A'tomist**. *n.s.* [from atom.] One that holds the *atomical* philosophy, or doctrine of atoms.
> [...]
> Now can judicious *atomists* conceive,
> Chance to the sun could his just impulse give? – *Blackmore*.[16]

[16]Retrieved from *Johnson's Dictionary Online*

Indeed, Atkinson (1952a) observes that, when he composed the *Dictionary*, Johnson read the physico-theologians of the late seventeenth and early eighteenth century and thanks to this physico-theological ideas circulated among a wider public. Blackmore is one of the authors the lexicographer quotes most frequently and whose scientific work he must have admired.

2.1.3 Magnetism

The Earth's magnetism is one of the chief natural phenomena that Blackmore contemplates in the first two books of *Creation*. The history of magnetism traces back to antiquity, and an enduring wonder has accompanied it. In the sixth century BC, Thales of Miletus observed the attractive properties of the lodestone (magnetite) for the first time, and described them in animistic terms (Merrill & McElhinny, 1983). The Romans later inherited this interest, and even the Epicurean Lucretius illustrated several properties of the magnet in his *De Rerum Natura*, including the attraction at a distance and concepts close to permanent magnetisation and magnetic stability (Courtillot & Le Mouel, 2007, p. 2). Lucretius's choice to include a description of these phenomena in his poem was particularly significant, as Epicurean materialism was fundamentally incompatible with the idea of action at a distance of magnets (Wallace, 1996).[17]

In the Middle Ages, interest in magnetism peaked with the work of the thirteenth-century French mathematician Pierre de Maricourt, better known as Petrus Peregrinus. In the thirteenth century he performed remarkable experiments on spherical pieces of magnetite, recounted in his *Epistola De Magnete* (1269), a seminal stage in the development of magnetic science. [18] In the letter, he defined the concept of magnetic polarity for the first time and understood a central property of magnets: cutting a magnet generates other smaller magnets that maintain the same attractive virtue (Blundell, 2012).

<https://johnsonsdictionaryonline.com/views/search.php?term=atomist>. Last accessed on April 3, 2024.

[17] Observations of the mysterious behaviour of loadstones and their potential uses were not limited to the Western world. In first-century China, the magnetic compass was allegedly discovered, and as a navigation instrument, it was adopted in Europe around the twelfth century AD. Early thirteenth-century philosophers endeavoured to understand its workings, looking at the heavens to find explanations for magnetic occurrences. According to Merrill and McElhinny (1983), the most widespread idea was that the compass needle pointed towards the pole star, though another also became popular. It involves the transmission of the magnetic virtue from the pole star to polar loadstone mountains on the Earth, which in turn transferred this virtue to the needle of the compass that directed itself towards the polestar. It was the first time that theories of magnetic directivity moved from the heavens to the Earth. In Book V, Blackmore briefly alludes to the use of magnetism in the workings of compasses, tough he does not dwell on the matter:

> How late was found the Loadstone's magick Force,
> That seeks the North, and guides the Sailor's Course?
> (Blackmore, 1712, V, ll.721-2)

[18] As the mathematician based his conclusion on his experimental data, many historians of science consider his work the first scientific treatise ever written (Merrill & McElhinny, 1983, p. 5).

The early modern period witnessed a renewal of attention to this phenomenon, primarily due to the 1600 publication of *De Magnete* by William Gilbert (1544?–1603), Queen Elizabeth I's physician (Pumfrey, 2004). Gilbert's treatise presented an impressive natural philosophy based on his experiments with a spherical loadstone called *terrella*, a "little Earth." Thanks to these, the physician concluded that the Earth was a giant magnet possessing a magnetic "soul" that caused its daily rotation (Merrill & McElhinny, 1983, p. 12). He also attributed the motions of the other heavenly bodies to their "souls," assimilating the Earth to other planets of the solar system (Pumfrey, 2004). Despite his continued use of scholastic vocabulary, Gilbert embraced the new Copernican theory that saw the Earth as one of the planets (Blundell, 2012) and was the first to advance a physical explanation of Copernicus's geometrical description of the heavens. Gilbert also performed experiments with electricity, a phenomenon distinct from magnetism that he held responsible for Earth's gravity. He realised that gravity could not be a form of magnetic attraction, as it does not work on non-magnetic elements and is not directed to the centre of the body that exerts it. The physician believed the Earth was kept together by electrical effluvia, but it rotated because of what he called "magnetic coition" (Freudenthal, 1983). The very term "coition" refers to a mutual pull, whilst "attraction" is unilateral. For at least half a century following the publication of *De Magnete*, Gilbert's magnetic philosophy was used to account for a range of phenomena (Vershuur 1993, p. 31 as quoted in Courtillot and Le Mouel, 2007, p. 5), including astronomical ones (Baldwin, 1985, p. 155). However, seventeenth-century natural philosophers tended to reject Gilbert's animistic tendencies and preferred "to seek in magnetism a physical explanation of various celestial phenomena" (Baldwin, 1985, p. 156; Henry, 2001, p. 117).

In the seventeenth century, Descartes's work was also crucial for comprehending Earth's magnetism (Merrill & McElhinny, 1983). Descartes was the chief proponent of the mechanism that sought to explain all natural phenomena in terms of matter and motion. His conception of magnetism was materialistic, for he envisioned small threaded particles responsible for the Earth's magnetic field (Descartes, 1983, pp. 252–3). Also thanks to Descartes's work, fascination with magnetism in England survived well into the century. For instance, natural philosopher and physician Henry Power (1626–1668) attempted to reconcile magnetism with mechanism in his *Experiments Magnetical* (1663) (Power, 2009). He resorted to material effluvia to account for the production of magnetic effects mechanically and cleanse "magnetism from its occult and vitalist past" (Pumfrey, 1987). Natural philosophers Robert Boyle and Robert Hooke, too, were interested in magnetism, and they performed experiments with their air pump and loadstones, demonstrating that magnetic action also occurs in a vacuum (Boyle, 1660, pp. 105–6). This result undermined Boyle's position as a great follower of the corpuscular philosophy, for it demonstrated that magnetic attraction does not need contact to work. William Petty (1623–1687) was another critical figure promoting mechanism in England. In 1674, he delivered a famous speech at the

Royal Society, in which he maintained that matter is made of atoms that he described as tiny magnets characterised by the same motions that Copernicus had attributed to the Earth (Kargon, 1965; Petty, 1674).

The second half of the seventeenth century saw the emergence of various "magnetic schemes" and theories,[19] although significant advancements occurred mainly during the following century (Courtillot & Le Mouel, 2007). At the turn of the eighteenth century, Blackmore's *Creation* still registered a strong interest in magnetic theories.[20] Magnetism makes its first appearance very early in Book I of *Creation*, where the physician considers the possibility that magnetic power is responsible for ensuring the cohesion of the Earth's parts:

> Some, the round Earth's Cohesion to secure,
>
> For that hard Task employ Magnetic Pow'r.
>
> Remark, say they, the Globe, with Wonder own
>
> Its Nature, like the fam'd attractive Stone.
>
> This has its Axis, so th' Observer tells,
>
> Meridians, Poles, Æquator, Parallels.
>
> (Blackmore, 1712, I, ll.142-7)

Following Gilbert's tradition, Blackmore likens the Earth to a giant magnet, suggesting that each of its parts possesses attractive properties (ll.144-5 & ll.158-9). To stress this, he compares the Earth's axis of rotation, meridians, equator, parallels, and poles to those of a magnet (ll.146-7). Gilbert had introduced this idea in *De Magnete*[21] (1600) as a "new and till now unheard-of view of the Earth" (Gilbert, 1958, p. 64), according to which "every separate fragment of the Earth exhibits in indubitable experiments the whole impetus of magnetic matter" (Gilbert, 1958, p. 71). Such an understanding of the planet had been revived around the half of the century by the physician Walter Charleton. He was a pivotal figure in British natural philosophy, and he was responsible for popularising Gassendi's atomism and physical Epicureanism in England (Henry, 2010). In Chapter CVI of his *magnum opus*, *Physiologia Epicuro-Gassendo-Charletoniana* (1654), he wrote:

[19] An example is the theory proposed by Edmund Halley (1656–1742) in 1692. According to his theory, the interior of the Earth consisted of two concentric magnetic shells: an outer solid shell fixed to the surface and a deeper, solid nucleus separated from the crust by a fluid and rotating at a different velocity. Each sphere carried a dipole, hence the theory of four magnetic poles (Halley, 1692).

[20] While Blackmore's physico-theological poem stands out for its exceptional inclusion of scientific theories, other seventeenth-century works of literature made use of the new natural philosophy, including magnetism. Llasera (1981) provides several examples of the circulation of magnetic imagery in seventeenth-century English poetry. In particular, he stresses the link between magnetism, attraction, and love in poetry. A striking example of the pervasive presence of magnetism in seventeenth-century culture is Ben Jonson's (1572–1637) final comedy, *The Magnetic Lady*, first performed in 1632. Not only does the title clearly refers to the magnetic tradition but all the characters have magnetic-related names (McFarland, 1971).

[21] He devoted the entirety of Chapter 1 of Book VI to the topic "Of the globe of Earth as a magnet."

> For, as the Terraqueous Globe hath Two Poles, by which it owns a respect to the Poles of the Heavens, the one Boreal, the other Austral: so likewise hath the Loadstone two contrary Poles, alwayes discoverable in the opposite parts or extremes thereof, especially if it be turned into a sphere. And, as the Globe of the Earth hath an Aequator, Parallels and Meridians; so hath the Loadstone. (Charleton, 1654, p. 399)

Blackmore likely knew Gassendi through Charleton's work, and appeared aware of this tradition. In Book I, he draws attention to another fundamental magnetic property that Gilbert popularised:

> And should you, so Experience does decide,
>
> Into small Parts the wondrous Stone divide,
>
> Ten Thousand of minutest Size express
>
> The same Propension, which the large possess.
>
> (Blackmore, 1712, I, ll.154-7)

It had been known since the publication of Peregrinus's *Epistola* that magnetic properties are maintained by the smaller pieces obtained by cutting a magnet. This passage is important also because it highlights a recurring feature of *Creation*: the stress on observation and experience, which testifies to the author's empiricism and reliance on experimental knowledge in his description of nature.

As Book I progresses, Blackmore demonstrates to be *au courant* with the latest magnetic theories of his day. For instance, when he describes magnetic power as a "strong, tho' subtile Force," he seemingly points to its material nature (ll.165-6). Gilbert rejected the idea of action at a distance, and seventeenth-century philosophers endeavoured to explain magnetism in material terms, especially when it was absorbed into mechanical philosophy. Blackmore is probably influenced by these views when he describes magnetic power as a material force "[o]bedient to Mechanic Laws" (l.238), which works through rays irradiating from the centre of the globe:

> Its active Rays ejaculated thence,
>
> Irradiate all the wide Circumference.
>
> While ev'ry Part is in Proportion blest,
>
> And of its due attractive Pow'r possest;
>
> (Blackmore, 1712, I, ll.166-9)

This passage reminds of the description of the same phenomenon that Charleton offers in his *Physiologia* (1654):

> the Magnetique Species being diffused by Deradiation Excentrical, and the Attraction of the Loadstone (of a Spherical figure) being therefore Circumradious, or from all points of the circumference of its Sphere of Energy. (Charleton, 1654, p. 391)

Blackmore's use of the word "Effluvia"[22] (l.244) as a synonym for "magnetic rays" is worth mentioning here. Gilbert, too, employed the term "effluvium" in *De Magnete* but with a slightly different acceptation. The physician used this term in connection to electrical attraction and believed that things were kept on the Earth's surface by "electrical effluvia." Later in Book I, Blackmore underlines that magnetic power is not unilateral, like electrical attraction, but entails a double attraction:

> For while the Parts by Laws Magnetic act,
>
> And are at once attracted and attract
>
> (Blackmore, 1712, I, ll.303-4)

The use of magnetic theories in *Creation* also extends to the discussion of atomism in Book I, where atoms are portrayed as possessing magnetic force. By virtue of this property, they are held responsible for the Earth's original formation, the cohesion of its parts, and the preservation of its structure and position in the universe (ll.176-9). In England, Charleton already referred to "magnetical atoms" (1654, p. 388), but it was natural philosopher William Petty who presented a theory of atoms as tiny magnets in the latter part of the seventeenth century. In a discourse delivered before the Royal Society in 1674, Petty supposed that:

> in every Atome three such points as we all see and know to be in the Globe of the Earth, and in every Magnet, viz. two Poles in its Superficies, and a Central point within its substance, which I call its Byas. (Petty, 1674, pp. 125–6)

While Petty's ideas were fascinating, the concept of magnetic particles in the context of mechanical philosophy was not his invention; rather, it originated in Descartes's mechanism. Blackmore was well aware of this, and his thorough illustration of Descartes's theory reveals the poet's intimate knowledge of the French philosopher's work:

> Incessant Streams of thin Magnetic Rays,
>
> Gush from their Fountains, with impetuous Force,
>
> In either Pole, then take an adverse Course:

[22] Johnson's *Dictionary* (1773):

> **Efflu'via. Efflu'vium**. *n.s.* [from *effluo*, Latin.] Those small particles which are continually flying off from bodies; the subtilty which appears from their being able, a long time together, to produce very sensible effects, without any sensible diminution of the body from whence they arise. *Quincy*.
>
> [...]
>
> If these *effluvia*, which do upward tend,
>
> Because less heavy than the air, ascend;
>
> Why do they ever from their height retreat,
>
> And why return to seek their central seat? –*Blackmore*.

Last accessed on July 7, 2024 from <https://johnsonsdictionaryonline.com/views/search.php?term=effluvia>.

> Those from the Southern Pole, the Northern seek;
> The Southern those, that from the Northern break:
> In either Pole these Rays emitted meet
> Small Pores provided, for their Figures fit:
> Still to and fro they Circulating pass,
> Hold all the Frame, and firmly bind the Mass.
> Thus he the Parts of Earth from Flight restrains,
> And girds it fast by fine Imagin'd Chains.
> (Blackmore, 1712, I, ll.260-70)

According to Sander (2022), the most extended section of Descartes's *Principia Philosophiae* (1644), which comprises 55 paragraphs—around 15% of the book—is devoted to magnetic phenomena. Descartes believed that solid bodies were pervaded by a "subtle matter," and, like Gilbert, envisioned the Earth as a magnet. When he composed these lines, the author must have had Descartes's Article 133 and its illustration in Plate XXII (see Figure 2.1) in mind:

> The same particles can enter through only one end of these pores, and cannot return through the opposite one because of certain extremely tiny extremities of branches in the windings of these pores, which have been bent in that direction in which the grooved particles are accustomed to pass, and which spring back in the opposite direction in such a way as to prevent their return. As a result, after these grooved particles have traversed the whole intermediate Earth from one hemisphere to the other along straight lines, or lines equivalent to straight, parallel to its axis; they return through the surrounding aether to that same hemisphere through which they earlier entered the Earth; and thus flowing through the Earth again, form a kind of vortex. (Descartes, 1644, p. 243)

Blackmore's intellectual relationship with Descartes's philosophy is one of the few certain pieces of information regarding the physician's intellectual formation. In the preface to his second epic, *King Arthur* (1697), he claimed that he "was once enamour'd with the Cartesian System but the warmth of [his] Passion [was] quite extinguish'd" (Blackmore, 1697, p. ix). It is then not surprising that, after detailing Descartes's view, Blackmore ultimately refutes it. The reason for this is not so much the philosopher's physics but rather his disposal of God's intervention in his physical description of the phenomenon. *Creation* is a physico-theological poem, and the role of God in the universe that emerges from each Book differs significantly from Descartes's. According to the poet, God intervenes directly in the world's creation, preservation, and guidance: every natural phenomenon is ultimately ascribable to

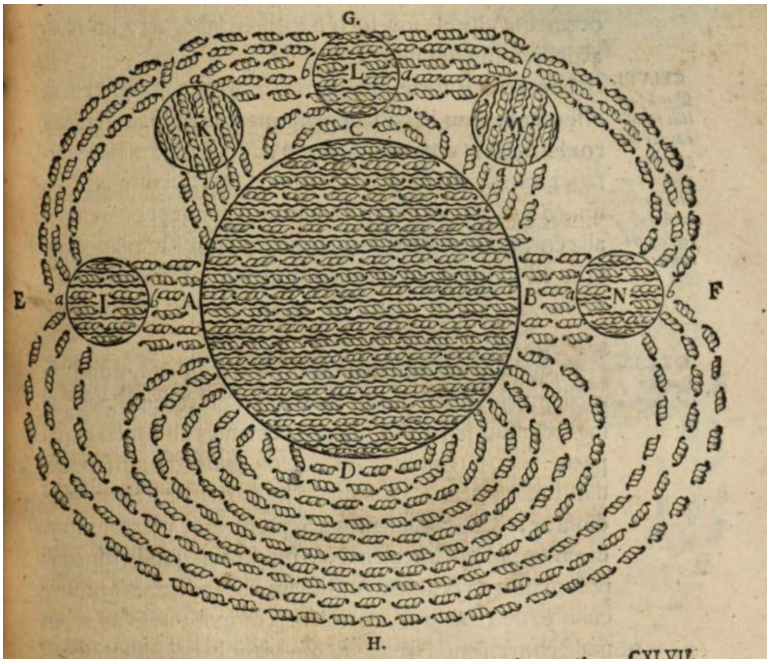


Figure 2.1: The illustration is taken from Plate XXII, which depicts Descartes's understanding of the Earth's magnetism (Descartes, 1644, p. 271).

God's intention. Human reason and intelligence, even if advanced, are limited and inadequate when taken on their own. Without invoking the Creator, who understands and governs all aspects of nature, human efforts to understand "dark Nature" (l.274) are "vain" (l.272). True knowledge requires the acknowledgement of God's hand in guiding the workings of the world, for "[t]here's no Philosophy without a God" (l.280). Magnetic power is a testament to God's providence since its precise measure and fitness to fulfil "its destin'd Task" (l.218) indicate divine design and wisdom (ll.211-9). As physico-theologian and Boyle lecturer John Hancock well summarised in his *Arguments to Prove the Being of a God*,

> Cartesius himself, being too much addicted to his Mechanick Principles, tells us, It is not for us to guess for what End God made such and such Things thus or thus; and that we are not able to judge of the Designs of God. (Hancock, 1707, p. 45)

Studying nature became almost a religious duty, akin to the practice of a "priest of nature"[23] that became popular among natural philosophers in the second half of the seventeenth century. Descartes recognised God as the original source of motion in the universe, but his mechanistic perspective excluded an actively intervening godlike presence in the operations of the world, which he believed could be comprehended

[23]Park and Daston (2006, p. 181) explain that "[w]hen some seventeenth-century practitioners circulated a conception of natural philosophers as "priests of nature," they meant to display the theological equivalence of the Books of Nature and Scripture and also to imbue scientific work with the aura surrounding the formally religious role."

solely through reason. Indeed, in his review of the "fam'd hypothesis," Blackmore suggests that magnetism *per se* is not to be dismissed but cannot be accepted as long as it relies only on the mechanical action of atoms. To be reasonable, such a theory must include the will of the "Almighty's" (l.316) "Knowing Mind" (l.311).

Next, magnetism is called into play when Blackmore discusses tides at the end of Book I. The author concludes that the Moon causes this effect, but among the possible explanations he evaluates, he considers the attractive action of magnetic power as well:

> This strong Mysterious Influence explain,
> By which, to swell the Waves, they press the Main.
> But if you chuse Magnetic Pow'r, and say
> Those Bodies by Attraction move the Sea;
> Till with new Light you make this Secret known,
> And tell us how 'tis by Attraction done,
> You leave the Mind in Darkness still involv'd,
> Nor have you, like Philosophers, resolv'd
> The Doubts, which we to Reas'ning Men refer,
> But with a Cant of Words abuse the Ear.
> (Blackmore, 1712, I, ll.706-15)

The theory whereby magnetic power was responsible for the tides had already appeared in Gilbert's *De Mundo* (1651), a treatise in which the physician attributed the ebb and flow of sea to the influence of the Moon, incorrectly thinking that it was due to magnetism[24] (Blundell, 2012; Ekman, 1993; Hecht, 2019). This idea was embraced by the German Johannes Kepler (1571–1630) in his *Astronomia Nova* (1609). The astronomer knew Gilbert's work well, and he suggested that the gravitation of the Moon was the cause of the tides and compared it to a kind of magnetic attraction. Later, in a note to the unfinished novel *Sominum* (1634), Kepler explained that "the causes of the ocean tides seem to be the bodies of the sun and moon attracting the ocean waters by a certain force similar to magnetism" (Kepler, 1967, p. 123). The German astronomer is also the object of the last major reference to magnetism in *Creation*, which occurs in Book II. In a survey of the history of celestial dynamics, Blackmore acknowledges the significance of the astronomer's explanation of the planets's movement in the solar system:

[24] "Duae sunt primariae causae, Luna & diurna revolutio. De accidentibus vero, quibus variae dissimilitudines in singulis contingunt, postea dicendum. Luna non radio, non lumine, maria impellit. Quomodo igitur? Sane corporum conspiratione, atque (ut similitudune rem exponam) Magnetica attractione. Ob eamque cauam, in meridiani utraque sectione, tam supra horizontem, quam infra, plenum cogit mare, in Oriente & Occidente vacuum, & exinanitum" (Gilbert, 1651, p. 307).

Kepler asserts these Wonders may be done
By the Magnetic Virtue of the Sun,
Which he, to gain his End, thinks fit to place
Full in the Center of that mighty Space,
Which does the Spheres, where Planets roll, include,
And leaves him with Attractive Force endu'd.
The Sun, thus seated, by Mechanic Laws,
The Earth, and every distant Planet draws;
By which Attraction all the Planets found
Within his reach, are turn'd in *Ether* round.
(Blackmore, 1712, II, ll.444-53)

Baldwin (1985) claims that in the *Astronomia Nova*, Kepler styled himself as an elaborator of Gilbert. He was convinced that a force from the Sun moved all the planets—including the Earth—around it. Therefore, the astronomer endowed the Sun with a motion around its axis to account for the diffusion of its motive virtue in the air. That force drove the planets around but did not attract them, and the planets did not attract the Sun in turn: in Kepler's conception of the solar system, there was no mutual attraction between the Sun and the planets. Blackmore understood this, though probably not thanks to his astronomical knowledge. Kepler's theories had already been put into verse by the greatest English poet of the seventeenth century. In Book III of *Paradise Lost*, Milton reviews cosmological hypotheses, and he describes the rotation of the planets and their movement around the Sun as being caused by the "golden Sun['s]" magnetic power (Llasera, 1981, p. 30), distributing light and warmth throughout the universe "[b]y his Magnetic beam:"

above them all
The golden Sun in splendor likest Heaven
Allur'd his eye: Thither his course he bends
Through the calm Firmament; but up or downe
By center, or eccentric, hard to tell,
Or Longitude, where the great Luminarie
Alooff the vulgar Constellations thick,
That from his Lordly eye keep distance due,
Dispenses Light from farr; they as they move
Thir Starry dance in numbers that compute
Days, months, & years, towards his all-chearing Lamp

> Turn swift thir various motions, or are turnd
> By his Magnetic beam, that gently warms
> The Univers, and to each inward part
> With gentle penetration, though unseen,
> Shoots invisible vertue even to the deep:
> So wondrously was set his Station bright.
> (Milton, 2020, III, ll.571-87)

Given his indebtedness to Milton and his desire to emulate him (Solomon, 1980, p. 105; Rosenberg, 1953), Blackmore likely had these lines in mind when he wrote about Kepler in *Creation*.

Curiously, magnetism makes another appearance in Book II in relation to Newtonian physics. When he describes the action of gravity as an "active force" theorised by "[t]he Masters form'd in *Newton*'s famous School," the poet calls it "Magnetic Pow'r" (Blackmore, 1712, II, ll.554-63). Gilbert's followers often drew parallels between gravity and magnetic force, and sometimes they considered magnetism as the force that guided the planets (Wang, 2016). Charleton, for instance, defined gravity as "a certain Magnetick attraction of the Earth" (Charleton, 1654, p. 277). Before him, Francis Bacon, too, had employed magnetism to illustrate gravitational attraction, and in Aphorism 37 of his *Novum Organum* (1620), he compared magnetism to gravity as an example of action at a distance[25] (Bacon, 2000, pp. 169–70). As in the seventeenth century many read Gilbert through Baconian lenses (Wang, 2016, p. 719), Blackmore's use of the adjective "magnetic" here might be interpreted this way. Another possible explanation sees Blackmore employing the adjective "magnetic" as a synonym for "attractive," and Meadows (1969) remarks that the expression "magnetic power" was often used interchangeably with gravitation in the early eighteenth century.[26] The physician seems to have a clear grasp of Newtonian gravity, for he stresses that

[25] "Similarly, let the natures under investigation be physical body and natural action. Natural action seems only to occur when existing in a body. Even so there might perhaps be an instance of divergence in this matter. This is the magnetic action by which iron is drawn towards a magnet, heavy objects towards the globe of the earth. We might add some other operations at a distance. For such action happens both in time, at intervals and not at one point of time, and in space, by degrees and through distances. There is therefore some moment of time and some interval of space in which the force or action hangs in the midst between the two bodies which are causing the motion. Hence our reflection is focused on this question: whether the bodies which are the terminals of the motion affect or alter the bodies between, so that the force moves from one terminal to the other by succession and true contact, and for a time subsists in the body between; or is there nothing there but bodies and forces and spaces? And in optical rays and sounds and heat and some other things that work at a distance, it is probable that the bodies in between are affected and altered: the more so as this requires a medium suited to carrying such an operation. But magnetic or connective force is indifferent as to medium, and the force is not impeded in any kind of medium. But if the force or action has nothing in common with the intervening body, it follows that it is a natural force or action subsisting for some time in some space without a body, since it is not subsisting either in the terminals or in the medium. And thus magnetic action may be an instance of divergence in a physical substance and a natural action" (Bacon, 2000, pp. 169–70).

[26] To illustrate the meaning of the adjective "attractive," among other examples, Johnson resorts to those lines in *Creation* that deal with magnetic attraction:

the force that Newton describes mathematically entails a double attraction between bodies which at once attract and are attracted by each other (ll.558-63), proportionally to their mass (ll.564-7).[27]

Blackmore's final debt to the magnetic tradition is detectable in the metaphors he uses to express the concept of "attraction" throughout Book I. Here are some examples:

> What Charms could these Terrestrial Vagrants see
>
> In this one Point of all Immensity,
>
> That all th' enamour'd Troops should thither flow?
>
> [...]
>
> If pondrous Atomes are so much in Love
>
> With this one Point, that all will thither move,
>
> Give them the Situation they desire;
>
> [...]
>
> And when of this Position dispossest
>
> They move, and strive, nor ever will they rest,
>
> Till their lov'd Situation they regain,
>
> Where pleas'd they settle, and unmov'd remain.
>
> (Blackmore, 1712, I, ll.87-9, ll.126-8, ll.150-3)

The metaphor of love to convey this idea was not original of Blackmore. In "Magnetism and English Poetry in the Earlier Seventeenth Century" (1981) Margaret Llasera provides several examples of the circulation of magnetic imagery in seventeenth-century English poetry, particularly stressing the link between magnetism, attraction, and love in the literature of this period. While this image was easily adapted from even superficial scientific knowledge, "love" as a magnetic attraction metaphor was employed in a scientific context, too. Gilbert, for instance, used it in *De Magnete* (1958, p. 148), and when Charleton described iron's attraction for the loadstone, he referred to it as its "beloved Mistress" (1654, p. 389).

Attra'ctive. adj. [from *attract*.]

1. Having the power to draw any thing.

> [...]
> Some the round earth's cohesion to secure,
> For that hard talk employ magnetick power;
> Remark, say they, the globe, with wonder own
> Its nature, like the fam'd *attractive* stone. – *Blackmore*

This entry was taken from the 1773 edition of the *Dictionary*. Retrieved from *Johnson's Dictionary Online* <https://johnsonsdictionaryonline.com/views/search.php?term=atomist> on April 3, 2024.

[27] The discussion of Blackmore's use of Newtonian physics will be the object of Section 2.4. of this chapter.

2.2 The Earth's "finish'd Beauty"

> *Now view the Earth in finish'd Beauty drest:*
>
> *The various Scenes, which various Charms display,*
>
> *Thro' all th' extended Theater survey.*
>
> (Blackmore, 1712, I, ll.421-3)

The next topic of this survey concerns all the features of the natural world that enrich and embellish the Earth, making it a testament to God's goodness and providence. The principal stress is again on sight, and Blackmore employs the metaphor of nature as a theatre, offering a spectacle to admire to those open to do so. According to Powell (2021, p. 119), "[e]ighteenth-century topographical poems frequently present an enlightened viewer surveying the landscape from a point of elevation," and this image of the natural world as a theatre probably came from Fontenelle's popular *The Plurality of Worlds* (see Section 1.3.3). The same image would recur also in the thirty-first essay of the *Lay Monastery* (1714):

> With what wonderful Success has Nature painted all the Scenes of this wide Theatre, the World? How masterly are her Designs, how strong and bold her Draughts, how delicate her Touches, and how rich and beautiful is her Colouring? It is with inimitable Skill that she manages and proportions her Lights and Shades, and mixes and works in her Colours; the Gardens smile with her Fruits of different Dye, and the Verdure of the Fields is beautifully varied by different Flowers. (Blackmore & Hughes, 1714, p. 181)

This segment of *Creation* begins with an overview of all the beautiful natural features the eye can see, including mountains, cliffs, shores, valleys, vegetation, fruits, brooks, meadows, springs, streams, lakes, groves, plains, minerals, and stones (ll.424-50; ll.453-71). Hence, the stress on sight and visual description in the poem. Three topics are discussed in greater detail and will be the focus of the subsequent sections: the mountains, the waters, and the vegetable world. They create a picturesque scene whose beauty is embodied in the poem itself:

> when I reflect upon the Beauty, Variety and Harmony of the Universe, I am apt to consider [Nature] as a fine Poem which you look on as a finish'd Picture. (Blackmore & Hughes, 1714, p. 182)

Nature's beauty, richness, variety, abundance, and usefulness are particularly emphasised in a typically physico-theological fashion. The natural world described in this manner acquires an almost blessed quality (l.450), for the wisdom (l.453) and artfulness (l.452) discernible behind all the parts of the created world are indications of a providential design.

Anthropocentrism underlies Blackmore's description of nature: the world was skilfully made to be fit for man to inhabit (l.467). The anthropocentric view of creation is patent throughout the composition. Man is presented as the "lord" of plants and animals (ll.482-3), as in *Genesis* 1.26:

> And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth.
>
> (*The Bible*, 2015, p. 1)

This conception permeated much physico-theology of Blackmore's day, when "both Earth and Water" appeared to be "stock'd, and plentifully furnished with all sorts of things which are useful for the service of men" (Ellis, 1692, p. 94).

Such an understanding of man's place in the universe also resonates with the tradition of the so-called "chain of being." Its historical evolution and intellectual relevance in the Western world are thoroughly investigated by Lovejoy in his momentous *The Great Chain of Being*, first published in 1936. The metaphor of the chain of being originally came from Plato's philosophy, transformed through time, and was shaped by different intellectual currents. In the seventeenth century, for instance, it felt the impact of scientific developments, such as the heliocentric model of the universe, which called into question man's place in the cosmos. Eighteenth-century thinkers then began to challenge the idea of traditional authority and the rigid hierarchical structure of the chain of being. In Blackmore's day, divine goodness was not celebrated in light of the rigid scheme of things but rather because of the variety and abundance of nature. The author of *Creation* is right in the middle of this process, for he "on the whole accepts the Copernican theory, though he seems to waver on the question a little" (Lovejoy, 2001, p. 134), and he still relied on a hierarchical organisation of nature.

The chain of being was a popular notion in the literature at the turn of the century, and examples are plentiful, even among the poet's acquaintances. Only a few months after *Creation* was published, Joseph Addison celebrated the plenitude of nature and life in No. 519 of *The Spectator* (October 25, 1712). Addison introduces his reflection on the "Scale of Beings" (Steele, 1961b, p. 137) by noting that the "Infinite Goodness" (Steele, 1961b, p. 137) of the Creator desires to give life to all levels of perceptive beings:

> It is wonderful to observe, by what a gradual Progress the World of Life advances through a prodigious Variety of Species, before a Creature is formed that is com-pleat in all its Senses, and even among these there is such a different degree of Perfection in the Sense, which one Animal enjoys beyond what appears in another, that though the Sense in different

> Animals be distinguished by the same common Denomination, it seems almost of a different Nature. (Steele, 1961b, p. 137)

Addison suggests that if the chain of being ascends orderly up to humans, it likely continues to rise gradually through higher entities as well, until reaching the "Supreme Being" (p. 138). In this hierarchy, humans occupy the middle ground between animal and higher natures, and the visible and invisible worlds (p. 139). Blackmore himself expressed a similar view in Book II of *Prince Arthur* (1695, p. 41), where he describes how humans were created with meticulous care and consideration by the Divine Creator, who endowed them with a "[m]ind made up of pure Etherial Air" in an earthly body made of "clay." Man is then portrayed as "[i]n part [...] Angel, Animal in part," making it the link between the terrestrial and celestial worlds.

Blackmore would return to the topic of the chain of being in Essay V of the *Lay Monastery* (1714). The vast array of living creatures—ranging from the highest angel to the lowest insect—illustrates the power of the Divine Creator. He marvels at the "gradual Ascent from Minerals to Plants, from Plants to Animals, and from Animals to human nature" (Blackmore & Hughes, 1714, p. 28), and metaphorically compares man to the equator line of the natural order:

> As Man, who approaches nearest to the lowest Class of Celestial Spirits (for we may justly suppose a Subordination in that excellent Order) being half Body and half Spirit, becomes the AEquator, that divides in the Middle the whole Creation, and distinguishes Corporeal from the Invisible Intellectual World; so the Ape or Monkey, that bears the greatest Similitude to Man, is the next Order of Animals below him. (Blackmore & Hughes, 1714, p. 29)

The physician repeatedly stresses the variety and wealth of nature, an idea that would lead him to embrace another popular theory of the time, that of the plurality of worlds (see Section 2.4). Blackmore's interpretation of the natural world as a hierarchical scale is also mirrored in the choice of topics he surveys in *Creation* and the order in which he presents them. While the first two books are concerned with the inanimate natural world, starting from the Earth to reach the heavens in an upward progression, the last two books are devoted to man as a unique product of God's design.

Before moving on, it is essential to note the significance placed on the beauty of the cosmos in Book I. Said emphasis aligns with a characteristic feature of physico-theological literature, which emerged in the late seventeenth century, particularly due to the popularity of Thomas Burnet's *Telluris Theoria Sacra* (1682). Burnet's work illustrated a perspective in which the present world's imperfections and irregularities were viewed as a corruption of the originally perfect world created by God before the Deluge (Magruder, 2008; Mandelbrote, 2004; Rossi, 1979). Blackmore's stance significantly differed from Burnet's and aligned more closely with the celebration of the beauty of the natural world and its mechanisms, as advocated by physico-theologians

like John Ray, John Edwards, and William Derham, all of whom found fault with Burnet.

2.2.1 Mountains

The mention of Thomas Burnet's *Telluris Theoria Sacra,* a seminal work trying to establish the Earth's geological history, provides the perfect introduction to the first element of the natural world Blackmore extensively comments on: the mountains.

Thomas Burnet was a natural philosopher and theologian who endeavoured to write a Sacred History of the world that would combine the Biblical account and natural philosophy. According to Mandelbrote (2004), a significant component of Burnet's purpose was to demonstrate that his theory was also compatible with what could be known of ancient accounts of creation. He proposed that the original surface of the Earth was smooth and uniform, resembling an oval shape with flattened sides, something akin to an egg. Before the flood, a crucial moment for the globe's evolution, it possessed ideal conditions for sustaining life and was covered in moist, oily soil. The Earth's axis was positioned in a way that allowed for a perpetual heavenly spring, where the vapours that condensed from warmer areas of the Earth and fell as rain at the poles formed rivers that flowed towards the equatorial regions. However, this changed as a result of the Biblical deluge, which fractured the planet's perfect surface, giving rise to the modern world characterised by irregularities and imperfections such as the mountains and seas.

In *Creation*, Blackmore adopts an entirely different perspective.[28] Following the physico-theological tradition inaugurated by John Ray, the poet celebrates the beauty and usefulness of the seas and, especially, of mountains. Ray expressed his views on mountains in *The Wisdom of God* (1692) but chiefly in *Three Physico-Theological Discourses* (1693). His position was later praised and revived by clergyman William Derham, Ray's friend and editor of his correspondence, who recognised the naturalist's merit in opposing Burnet's idea of the mountains as imperfections on the Earth's surface. Such an interpretation had ancient roots, as essayist Thomas Pope Blount (1649–1697) reminds in his *A Natural History* (1693):

> Though there are some, who think MOUNTAINS to be a deformity to the Earth, as if they were either beat up by the Flood, or else cast up like so many heaps of Rubbish left at the Creation; yet, if well consider'd, they will be found as much to conduce to the Beauty and Conveniency of the Vniverse, as any of the other parts. Nature (saith Pliny) purposely framed them for many excellent uses; partly to tame the violence of greater Rivers, to strengthen certain joynts within the Veins and Bowels of the Earth, to break the force of the Seas inundation, and for the safety of the Earths Inhabitants, whether Beasts, or Men. (Blount, 1693, p. 381)

[28] The same attitude and arguments are reinforced in the first portion of Book III (ll.380-472).

In her *Mountain Gloom and Mountain Glory* (1963), Marjorie Hope Nicolson reflects on the fascination mountains have always exercised on men and outlines the changing attitudes towards these in the late seventeenth and early eighteenth centuries. While seventeenth-century poets showed an ambivalent attitude towards these natural features, in the eighteenth century writers often included mountains in long passages of their descriptive poetry. These sentiments would pave the way to the sacralisation of the mountains typical of Romantic poetry. If, on the one hand, Blackmore's *Creation* benefitted from the physico-theological influences coming from Ray and, more likely, from Derham, it is also true that he embodied the change of sensibility that Nicolson registers:

> If the "Mountain Glory" did not shine in full splendor in the earlier eighteenth century, the "Mountain Gloom" was gone. [...] Mountains had ceased to be monstrosities and had become an integral part of varied and diversified Nature. One of the most striking changes that has come about is the extensiveness of the mountain descriptions in both the "excursion" and the "physicotheological" poets. Poets like Richard Blackmore and Henry Needler, to be sure, were still conventional in their treatment of mountains, still inclined to justify them intellectually rather than enjoy them emotionally. Their position was largely that of Ray and Derham, whom they were evidently reading. (Nicolson, 1963a, pp. 345–6)

Nicolson (1963a, pp. 345–6) further comments on the poet's engagement with what she dubs "the Burnet controversy," a debate central to the appreciation of mountains in his day. According to the scholar, Blackmore raises three of the main issues late seventeenth-century thinkers were debating regarding mountains: the role of mountains in producing minerals and precious stones, the problem of the stratification of the Earth, and the relationship of mountains to the origin of springs. Blackmore first dwells on the mountains as the site where gems and minerals are generated:

> Here in their Beds the finish'd Minerals rest,
> There the rich Wombs the Seeds of Gold digest
> Here in fit Moulds, to Indian Nations known,
> Are cast the several kinds of precious Stone;
> The Diamond here, by mighty Monarchs worn,
> Fair, as the Star that beautifies the Morn;
> And, splendid by the Sun's embody'd Ray,
> The Rubies there their Crimson Light display.
> There Marble's various colour'd Veins are spread;
> Here of Bitumen unctious Stores are bred.
> (Blackmore, 1712, I, ll.456-65)

The anaphoric use of adverbs such as "here" and "there" surrounds the stones under examination, much like rocks are encased within mountains. The theory that minerals grew inside the Earth, a personified mother, was quite popular. For instance, in the first of his *Three Physico-Theological Discourses* (1693), John Ray devotes a section to defending the mountains from Burnet's theories. There, he extensively comments on their usefulness, including their part in the formation of minerals and stones:

> All manner of Metals, Minerals and Fossils if they could be generated in a level Earth, of which there is some question, yet should they be dug or mined for, the Delfs must necessarily be so flown with Water, (which to derive and rid away no Adits or Soughs could be made, and I much doubt whether Gins would suffice) that it would be extremely difficult and chargeable, if possible to work them at all. (Ray, 1693, pp. 37–8)

Another of the protagonists of the Burnet controversy, antiquarian and naturalist John Woodward defended a similar position. In Part IV of his *Essay* (1695), he places the origin of stones and minerals within the Earth as part of the history of the planet. He explains that various minerals, such as bitumen, salt, or vitriol, found in different types of springs, originate from the layers of stone, coal, and earth within the globe (Woodward, 1695, p. 197). In his treatment of this subject, Blackmore pays particular attention to the precious stones the Earth produces along with more generic minerals, highlighting their aesthetic qualities. In *Newton Demands the Muse* (2015), Nicolson comments that eighteenth-century poets were interested in precious stones in the wake of the publication of Newton's *Opticks*[29] (1706), and they often interpreted precious stones in connection with Newton's prism, hence focusing on their colour. Many writers associated colour with beauty and light with sublimity in a physico-theological manner.

In this passage, Blackmore also introduces elements that allow him to pay patriotic tribute to Britain.[30] The allusion to India winks at British colonial power in the East, which had been particularly fruitful thanks to the work of the East India Company (1600–1757) and flourished in the physician's day. This reference to British overseas power will also be found in Book II of *Creation*, where Blackmore praises the wind for allowing ships to sail the ocean and trade with remote and exotic countries (ll.746-67). Such praise of his homeland and all optimistic reflections on Britain's greatness in the physician's work were part of the Whiggish myth of progress that Blackmore partly embraced and partly contributed to building (Thomson, 1981, p. 227; Williams, 2005).

As the above-quoted excerpts suggest, the question of the origin of minerals was intertwined with the problem of the stratification of the Earth. Derham expresses this

[29]Originally published in Latin in 1704 as *Optice*, Newton's theories of colour and some aspects of his theories of light were known also before this publication, though early poetic references were few and generally insignificant. However, Newton's *Opticks*, which went through four editions during his lifetime, became even more familiar to poets than his *Principia,* Nicolson (2015) maintains.

[30]This was the case with previous poems as well, for instance, the *Nature of Man* (1711), *An Advice to the Poets* (1706), and *Instructions to Vander Bank* (1709). See Appendix B.

connection in his *Astro-Theology* (1715). In Book V, Chapter III, "Uniformity of the Globes argue them the Work of God not Chance," the clergyman describes how the Earth's solids and fluids are meticulously organised. He observes that the globe's layers are strategically placed: the uppermost strata support plant life, while deeper layers contain minerals, metals, stones, and fossils, accessible when needed. Strata containing water are particularly noteworthy for their permeable nature, universal presence, and suitable depths to form fountains or wells. This showcases God's wise and purposeful design (Derham, 1715, pp. 126–7):

> By the Strata or Beds, I mean those layers of Minerals, Metals, Earth, and Stone, lying under that upper stratum, or Tegument of the Earth last spoken of, all of prodigious Use to Mankind. (Derham, 1713, pp. 63–4)

Blackmore thematised the same concepts in *Creation*:

> Now, see, with how much Art the Parts are made;
>
> With how much Wisdom are the Strata laid,
>
> Of different Weight, and of a different Kind,
>
> Of sundry Forms, for sundry Ends design'd?
>
> (Blackmore, 1712, I, ll.452-5)[31]

In the seventeenth century, the study of geological strata gained significance. It generated several different theories, contributing to the foundation of stratigraphy and the historical science of the Earth. Danish natural philosopher Nicolaus Steno (1638–1686) was a pioneering figure in this tradition. According to Vaccari (2001), Steno was influenced by Descartes and integrated the Cartesian model with a geological history that aligned with the accepted Biblical timeline. Steno demonstrated the organic origin of fossils and formulated the fundamental laws of stratigraphy: strata are deposited with the youngest layers on top in approximately horizontal positions. In his view, the age of any layer could be inferred from its position in a column with different materials and fossils could help differentiate between rocks (Schneer, 1954, p. 262). Steno's influence was widespread in Europe, and the secretary of the Royal Society Henry Oldenburg (c.1619–1677) translated and circulated his work in England.

[31] A testament to Blackmore's scientific knowledge is his frequent use of technical terms to describe natural features and phenomena in a way that allowed them to be easily understood and illustrative to the untrained reading public. Examples are many but a case in point his use of the term "strata" in Book I and Johnson incorporated this very passage in the *Dictionary* (1773):

> **Stra'ta**. n.s. [The plural of *stratum*, Lat.] Beds; layers. A philosophical term.
>
> [...]
>
> With how much wisdom are the *strata* laid,
>
> Of different weight and of a different kind,
>
> Of sundry forms for sundry ends design'd! –*Blackmore*.

Last accessed on July 7, 2024, from <https://johnsonsdictionaryonline.com/views/search.php?term=strata>

The English naturalist Martin Lister (bap.1639–1712) was another influential figure, one of the first to advance towards a historical science of the Earth. He described fossils and introduced maps that delineated the boundaries of different kinds of rocks and soil, thus moving in the direction of a quantitative analysis of the Earth's crust (Woodley, 2004). His integration of historical and antiquarian interests with the collection and classification of natural objects helped shape the development of geological science. John Woodward also contributed to the the conceptualisation of Earth's strata. In his *Essay Toward a Natural History of the Earth* (1695), he posits that the Earth's crust was fragmented during the Universal Deluge due to a suspension of gravity by divine intervention. The resulting mixture of particles, along with animal and vegetable bodies, settled in the order of their specific gravity, with heavier bodies sinking first and forming the lower strata and lighter bodies settling later to form the upper layers. His interpretation, however, led to criticism from contemporaries like the Scriblerian Dr John Arbuthnot (1667–1735). In *Examination of Dr Woodward's Account of the Deluge* (1697), the physician argues that though the near-surface strata resembled sediment deposited according to gravity, their general arrangement often contradicted this pattern, with heavier layers sometimes found above lighter ones. Arbuthnot proposes that the strata were deposited gradually over time rather than all at once, supporting the idea of cyclic sedimentation. According to Ito (1988, pp. 307–8), the concept of cyclic deposition of strata became more widely accepted in the seventeenth century, laying the foundation for modern geology. Blackmore does not seem to have any particular knowledge of the geological science of his day. Still, he certainly knew about concepts like that of "strata" thanks to the physico-theological literature he perused, and he integrated it into his encyclopaedic composition.

Lastly, Blackmore considers the origin of springs and the providential design of mountains's declivity and position, which enable streams to flow and distribute water across the surrounding land. The placement of mountains "in the middle " (ll.576) of the land favours the even distribution of water "thro' the valleys" (l.578). The empirical background of *Creation* emerges clearly from Blackmore's choice to supply each of these claims with actual geographical references regarding mounts and rivers in Africa, Europe, and Asia (ll.493-510; ll.557-72; ll.575-95). Resorting to one of his favourite modes of argumentation, Blackmore underlines the catastrophic consequences that a different disposition of mountains and, therefore, a different circulation of the waters on Earth would cause (ll.511-6), reiterating the providence of such an arrangement. Divine art is discernible in the works of creation: "[a] wise Director's providential Care" (l.598) must be recognised behind the "great Blessing" (l.605) of the wealth of nature.

2.2.2 Waters

One of the reasons why Blackmore pays tribute to the mountains in *Creation* is their fundamental role in distributing water throughout the land and their being the seat of fresh-water springs (ll.509-10). Water is central to the natural world in *Creation* and the poet's interest in the subject manifests in several declinations. First, he extols the generative power of water and its circulation through rivers. He reflects on the origin of springs, and lastly, he contemplates the seas.

Water is the vital element that providentially allows for life on Earth:

> See how the Mountains in the midst divide
> The noblest Regions, that from either side
> The Streams, which to the Hills their Currents owe,
> May ev'ry way along the Vally flow,
> And verdant Wealth on all the Soil bestow.
> [...]
> Thro' crooked Channels draw their Chrystal Train.
> While lingring thus they in Meanders glide,
> They scatter verdant Life on either side.
> The Valleys smile, and with their flowry Face
> And wealthy Births confess the Floods embrace.
> (Blackmore, 1712, I, ll.488-92 & ll.600-4)

Thanks to its generative power, water permits vegetation to thrive. Rivers are allocated the essential task of taking water to all the extreme parts of the land and the wise designer gave rivers a crooked course to reach wider surfaces and bring water everywhere. Had the disposition of mountains and rivers been different, the consequences on vegetation would have been radical (ll.605-8). In this portion of the text, Blackmore makes ample use of geographical references to corroborate his point. Major rivers in Europe, Asia, Africa, and South America (ll.557-92) are mentioned to demonstrate the usefulness of their winding progression and the providential disposition of the mountains.

Any reflection on the providence of the mountains's declivity and the course of streams cannot prescind from discussing their origin in mountain springs. The origin of springs was a central topic in the late seventeenth century, and Blackmore reveals his awareness of the matter. Many natural philosophers reflected on the distribution of water on Earth and the modes of its circulation. At this time, the first scientific theories regarding the water cycle were put forward and fed this philosophical debate. Blackmore was mindful of its centrality and registered it in one of the most significant portions of Book I.

First, the view that springs originate in the sea is evaluated. The passage opens with rhetorical questions about the water cycle and the idea that the water of springs is the same that is found in the sea. According to the most widespread hypotheses, that is made possible by underground passages taking the seawater to the mountains in an upward motion:

> The Sea would pass the Shores, and drown the Land.
> Tell, by what Paths, what subterranean Ways,
> Back to the Fountain's Head the Sea conveys
> The refluent Rivers, and the Land repays.
> Tell, what superior, what controuling Cause
> Makes Waters in contempt of Nature's Laws,
> Climb up, and gain th'aspiring Mountains height,
> Swift and forgetful of their Native Weight.
> What happy Works, what Engines under Ground
> What Instruments of curious Art are found,
> Which must with everlasting Labour play,
> Back to their Springs the Rivers to convey,
> And keep their Correspondence with the Sea?
> (Blackmore, 1712, I, ll.516-28)

The theory Blackmore illustrates and enriches using anaphoras and alliteration is based on the assumption that seawater would rise to the mountains through subterranean passages winding into the internal structure of the globe. These passages would not only transport water from the sea to the mountains, but also purify the seawater by removing its brackish element. This view was predominant at the time, as Luzzini (2015, p. 174) summarises:

> The thesis of a compound origin of fresh water and of hidden passages — dark and mysterious paths — connecting oceans and mountains [...] was not an exception among early modern scholars. Its persistence to the midpoint of the eighteenth century, and probably even later, had scientific, philosophical, and religious causes. On one hand, it attempted to justify many apparent measurement deficits in hydrologic balances, which could not be otherwise explained [...]. On the other hand, it was a magnificent way to harmonize doctrines (such as Cartesianism), experimental data, and religious orthodoxy.

This interpretation enjoyed such a fortune because of its ancient roots, for Aristotle had first theorised it in Book I of his *Meteorologica*. In the second half of the seventeenth century, Descartes contributed to popularising this hypothesis with his *Principia Philosophiae* (Part IV, Articles 64-ff), whose resonance also reached England. It was famously embraced by naturalist Robert Plot (1640–1696).

Plot was curator of experiments at the Ashmolean Museum in Oxford (Turner, 2004) and nurtured an interest in geology and natural history, leading him to author the famous *The Natural History of Stafford-shire* (1686). Plot first communicated his studies on the origin of springs and rivers in *De origine fontium tentamen philosophicum* (1685) in a Latin translation by Christopher Wase (1684), before including the English original in his later work. Plot incorporated empirical observations, seventeenth-century natural philosophy, historical accounts, quotations from poets like Homer, and evidence from the Scriptures to support his arguments. Indeed, Luzzini maintains that "in order to explain the origin of a part of fresh water without detriment to the Ecclesiastes, he [Plot] followed Aristotle (in *Meteorology*, I: 13) in supposing that seawater would rise through hidden passages up the mountains" (2015, p. 173). The section entitled "Of waters" deals with the rivers, pools, and springs of Staffordshire and dwells on their characteristics. Plot categorises springs into temporary and perennial, further dividing them depending on features such as purity and temperature. The most interesting section of this chapter is the debate on whether springs are primarily replenished by rainwater or originate from the sea through subterranean passages. Plot disputes the prevailing belief that springs are solely fed by rainwater because "as there are Springs where there is little or no rain, so in many places in the World there are no Springs at all, though there fall rain enough" (1686, p. 67). Instead, he argues for a more complex mechanism that involves underground channels connecting the mountains to the sea. Plot also refutes opposing theories after addressing practical challenges and offering physical explanations for the movement of saltwater from the sea upwards to the mountains. Drawing on evidence from coastal towns, geological formations, and observations of saltwater bodies, he suggests that the sea directly supplies some springs. He argues that most springs do not rely chiefly on rainwater, as commonly believed, and rather stresses the evidence that springs are supplied through underground channels from the sea. This implies a continuous subterranean circulation of water, ensuring that rivers do not run dry and the sea does not overflow, concluding that:

> That some Springs are maintained immediately from the Sea, I take to be so certain, that there is scarce a maritime Towne in any nation but will readily subscribe it, their waters being generally brackish, but more or less according as they are nearer, or more remote from the Sea. (Plot, 1686, p. 68)

In order to account for the change in nature that occurs between seawater and fresh-

water, Plot resorts to a phenomenon called transcolation. This is the filtering of water through "mighty indroughts, which perhaps are after divided into smaller passages, that at length diminish (before they come very near the Spring head) into capillaries" (Plot, 1686, p. 69). In this understanding, mountains functioned as "Alembicks to distil fresh Water for the Use of Man and Beasts" (Edwards, 1696, p. 114).

Plot's work was quite well-known but it was popularised when physico-theologians used it in their treatises. A case in point is William Derham, who drew on it in his *Physico-Theology* (1713), Book II, Chapter V. In Footnote (5), the natural philosopher argues that "the Springs have their Origine from the Sea, and not from Rains and Vapours" (1713, p. 50), for they always have the same quantity of water, and since rains and vapours are not always constant they cannot be the source of springs. Derham also provides experiments to illustrate "the manner how the Waters are raised up into the Mountains, and higher Lands" (p. 52). He maintains that the two main causes among the many that have been supposed for the ascent of water are the pressure of the atmosphere and Newtonian attraction. While experiments disprove the first hypothesis, the second is more probable, and its truth is evident from the experiments conducted before the Royal Society by "some of our late English Authors."

Plot's account of the origin of springs is also worth dwelling on because he mentions and opposes the competing theory according to which springs owe their origin to the water coming from precipitations:

> I know that Mr Ray would have this performed by the superior Circulation through the Clouds, and not by subterraneous passages, that is, that the Sun exhales water out of the Sea, which being poured down again from the clouds upon the Earth from part thereof falling upon and soaking into the higher grounds, He would have the Springs and Rivers arise; and that this way, whence the Rivers come, they should return again. (Plot, 1686, pp. 74–5)

Blackmore, too, expounds this view in *Creation*, Book I:

> Perhaps you'll say, their Streams the Rivers owe
>
> In part to Rain, in part to melting Snow;
>
> And that th'attracted watry Vapours rise
>
> From Lakes and Seas, and fill the lower Skies:
>
> These when condens'd the airy Region pours
>
> On the dry Earth in Rain, or gentle Show'rs.
>
> Th'insinuating Drops sink thro' the Sand,
>
> And pass the porous Strainers of the Land;
>
> Which fresh Supplies of Watry Riches bring

> To ev'ry River's Head, to each exhausted Spring.
> The Streams are thus, their Losses to repair,
> Back to their Source transmitted thro' the Air.
> The Waters still their circling Course maintain,
> Flow down in Rivers, and return in Rain.
> (Blackmore, 1712, I, ll.529-42)

The poet introduces the idea of the cycle of water. According to it, rivers take their water from the rain and melting snow after the water from lakes and seas evaporates and condenses into clouds, which form precipitations. The circular structure of this text portion mirrors the described cycle of water.

A decisive figure in the definition of this theory in the second half of the seventeenth century was Edmund Halley. He is better known as one of the most prestigious members of the Royal Society of London, and he was responsible for persuading Sir Isaac Newton to compose and publish the *Principia* in the 1680s. He was also an excellent astronomer and followed John Flamsteed as Astronomer Royal in 1720. Most importantly, as it was customary at the time, he was a polymath (Cook, 2004) and his scientific interests encompassed several disciplines, including hydrology. As an empiricist, he conducted first-hand research all over the world to find materials to support his philosophical conclusions. In 1687 and 1691, he published two papers in the *Philosophical Transactions of the Royal Society*, one on evaporation and the other on water circulation. These documents are extremely valuable for the history of hydrogeology in seventeenth-century Britain. Halley's first hydrogeological paper details an experiment he conducted to measure the amount of water evaporated from the Earth's oceans. He noted that the proportion of these vapours—which contribute to rain, springs, and fountains—had not been thoroughly studied (Halley, 1687, p. 366). The experiment involved heating water over coals until it reached a temperature comparable to the hottest summer air. Halley then measured the rate of water evaporation and estimated it to be sufficient to account for rainfall, springs, and dew formation. However, he acknowledged that wind could also affect the evaporation rate. Halley used these findings to explain the constant flow from the Atlantic Ocean to the Mediterranean Sea. Although the astronomer's methods were rudimentary by today's standards, his quantitative and experimental approach was essential for advancing the research on atmospheric processes.

On the other hand, in the 1691 paper, *An Account of the Circulation of the Watry Vapours of the Sea, and of the Cause of Springs, presented to the Royal Society*, Halley presented a comprehensive picture of the hydrologic cycle, grounded in both observation and theoretical conjecture. He opposed the theory of springs originating in rainwater and that of the percolation of salt-water from the seas:

> I doubt not but this Hypothesis is more reasonable than that of those

> who derive all Springs from the Rain-waters, which yet are perpetual and without diminution, even when no Rain falls for a long space of time: Or than that that derives them from a Filtration or Percolation of the Sea-waters through certain imaginary Tubes or passages within the Earth, wherein they lose their salinity. (Halley, 1691, pp. 472–3)

The paper focuses on nature's method of returning water as vapour to the sea, ensuring the equilibrium between the water's receipt and expense. Halley demonstrates the evaporation process, illustrating how higher temperatures facilitate the separation and evaporation of water particles. The natural philosopher details the journey of vapour, explaining how it originates from seas and rivers, it is carried over land by winds to mountain ridges, where it ultimately condenses and forms springs, from which rivers and streams stem. An interesting aspect of Halley's theory is the association of the magnitude of a river with the length and height of its originating mountain, which the natural philosopher grounded in his observations on the island of Saint Helena at the end of the 1680s. Hence, Halley's theory of springs relied on experience and regarded condensation at high altitudes to be responsible for the formation of springs. The philosopher's conclusions were shared by several physico-theologians, such as the already mentioned John Ray in the second of his *Three Physico-Theological Discourses* (Chapter 2, p. 89), whose words were elaborated by his successor William Derham in *Physico-Theology*, Book I, Chapter IV:

> And, as to these Uses [of the Rain], we should add the Origine of Fountains and Rivers, to Vapours and the Rains, as some of the most eminent modern Philosophers have done, we should have another Instance of the great Use and Benefit of that Meteor. (Derham, 1713, pp. 23–5)

In replenishing rivers, a decisive part is also played by melting snow, a thesis Plot takes into consideration as well:

> Mr. Ray says that the Rivers which flow from the Alps run lowest in the Winter, and abound most with water in the Summer time, so that sometimes they overflow in the hotest Months when no rain falls; and that He testifies the same of the River Rhodanus; but attributes it wholy to the melting of the Snows at that time of Year, which lye thick on those Mountains for 6 months together, no rain falling on them all the winter Season (excepting the lower parts) but only Snow, and perhaps indeed it may be so. (Plot, 1686, p. 58)

In *Creation,* Blackmore offers an effective synthesis of this coeval debate referring to different theories and points of view.

Finally, in the last 150 lines of the poem, he focuses on the "wise Contexture of the Sea" (l.647) and the providence of its attributes: its saltiness and periodical ebb and flow particularly show "Marks of perfect Skill" (l. 610). The magnitude and beauty of

the sea, almost sublime in its depiction, is preserved in its allocated basins by natural rock boundaries:

> What, but a Conscious Agent, could provide
> The spacious Hollow, where the Waves reside?
> Where barr'd with Rock, and fenc'd with Hills, the Deep
> Does in its Womb the Floating Treasures keep;
> And all the raging Regiments restrain
> In stated Limits, that the swelling Main
> May not in Triumph o'er the Frontier ride,
> And thro' the Land licentious spread its Tide?
> (Blackmore, 1712, I, ll.632-9)

In the text, Blackmore already expressed the idea that if the deep oceans had not been formed to contain the vast amounts of water, the Earth would be completely submerged and uninhabitable for humans (ll.474-7).

The sea is worthy of the poet's celebration also because of its relevance in British maritime fortune:

> This apt, this wise Contexture of the Sea,
> Makes it the Ships driv'n by the Winds obey;
> Whence hardy Merchants Sail from Shoar to Shoar,
> Bring *India*'s Spices Home, and *Guinea*'s Oar.
> (Blackmore, 1712, I, ll.647-50)

England boasted a rich seafaring history and thrived on trade by sea, to which Blackmore would devote significant lines also in Book II (ll.746-67). Dobree and Wilson (1959) note that Britain's naval and mercantile strength was a favourite subject of early eighteenth-century poets, and Blackmore's was by no means the only attempt to versify this.

The next few lines reflect on the immense expanse of the sea. While he celebrates its sublime beauty and usefulness, Blackmore also points to the prospect that such an amount of water might stagnate given its bulk and lack of continuous movement. Stagnation and decay, though, are avoided thanks to the design of the "Wise Contriver" (l.655), who equipped the sea with a combination of salt and tide. He begins with the saline nature of the sea, reviewing two hypotheses about its potential origin:

> When you with Liquid Stores have fill'd the Deep,
> What does the Flood from Putrefaction keep?
> Should it lye Stagnant in its ample Seat,

> The Sun would thro' it spread Destructive Heat.
> The Wise Contriver on his End intent,
> Careful this fatal Error to prevent,
> And keep the Waters from Corruption free,
> Mixt them with Salt, and Season'd all the Sea.
> (Blackmore, 1712, I, ll.651-8)

The vivid antithetical imagery of these lines contrasts stagnation and movement, decay and preservation, illustrating the natural processes and divine intervention at play. At the same time, the hyperbaton in l.654 emphasises the effect of the Sun's action on stagnant water. Indeed, Blackmore first evaluates the idea that "Solar Beams" (l.661) are responsible for making sea water salty through heating, a theory believed to be originally Aristotelian. In *Meteorologica*, Book II, Chapter III, Aristotle considers previous views and explanations regarding the sea's salinity. He then advances his own, according to which it is due to dry exhalation,

> since [...] the moist and vaporous exhalation is mixed with the dry, when it condenses into clouds and rain it must necessarily include a certain amount of this property [i.e. the dry exhalation which being a residue is salty] which will subsequently be carried down in rain. The process follows a regular order, so far as things in this world admit of regularity. This then accounts for the presence of salt in sea water. [...] This cause is always operating to make the sea more brackish. (Aristotle, 1952, pp. 153–5)

In her *Scientists and the Sea 1650-1900: A Study of Marine Science* (1997), Margaret Deacon comments that this account in *Meteorologica* actually differs from the interpretation commonly ascribed to Aristotle by early modern authors. Instead, it proposes that the salt in the sea is residual, similar to how ashes remain after combustion, left behind as water evaporates. This explanation also aligns with the one proposed by Pliny the Elder in *Naturalis Historia* in the first century AD. Pliny's explanation persisted through the Middle Ages and into the seventeenth century, when it was assimilated into the Aristotelian tradition. Indeed, few writers recognised that Pliny's explanation differed from the Aristotelian, and many, including Robert Boyle, assumed they were the same. If the Roman naturalist's account initiated this confusion, then it is also responsible for another misconception: the idea, erroneously attributed to Aristotle, that salt was to be found only in surface water (1997, p. 7). This, however, disappeared after the publication of Boyle's work.

A figure embodying the seventeenth-century interest in the brackish[32] nature of sea water was indeed Robert Boyle, who devoted his *Observations and Experiments*

[32] In the *Dictionary* (1755 & 1773), Johnson repeatedly made use of Blackmore's lines as examples to illustrate the meaning of several lemmas, such as the definition of the adjective "brackish:"

about the Salinity of the Sea (1674) to this very matter. The natural philosopher opens his work by challenging the Aristotelean view and arguing that, to his knowledge, no water exposed to the Sun or heat becomes salty unless it initially contains salt or a similar saline substance. He supports this by noting the existence of many freshwater lakes and ponds in hot countries that are exposed to the Sun and yet remain fresh (Boyle, 1674c, p. 2). While Aristotle's influence dominated scientific thought for centuries, Boyle's experimental approach provided a new perspective, showing that:

> if the degree of the salinity of Sea-water may be safely determined by its greater or lesser weight, then so far forth as this single Experiment informe'd me, the salinity is equal at the top and bottom of the Sea. (Boyle, 1674c, p. 10)

Moreover, the natural philosopher proposed that the sea's saltiness was derived from dissolved minerals: not just from rocks at the sea's bottom but also from salts carried by rain and rivers. In the treatise, Boyle recounts the experiments he conducted comparing the salinity of seawater at different depths and locations, finding little variation. He included observations of navigators to confirm his findings, recording regional differences in seawater salinity based on latitude and longitude. Given his well-known interest in chemistry, Boyle also performed chemical experiments, including distillation, to quantify the seawater's salt content. His conclusions significantly departed from Aristotle's theories and helped revive the pre-Aristotelian belief that seawater's salinity stemmed from dissolved minerals, a concept many seventeenth-century natural philosophers embraced.

The second hypothesis that Blackmore appraises is that sea water is fed by "Mountains of Salt," whose presence always grants the right amount of salt in the sea:

> Others, but oh how much in vain! erect
>
> Mountains of Salt, the Ocean to infect.
>
> Who, vers'd in Nature, can describe the Land,
>
> Or fix the Place on which those Mountains stand?
>
> Why have those Rocks so long unwasted stood,
>
> Since, lavish of their Stock, they thro' the Flood,
>
> Have, Ages past, their melting Chrystal spread,

Bra'ckish. *adj*. [*brack*, Dutch.] Salt; somewhat salt: it is used particularly of the water of the sea.

[...]

The wise contriver, on his end intent,
Mix'd them with salt, and season'd all the sea.
What other cause could this effect produce?
The *brackish* tincture through the main diffuse? – *Blackmore*.

Last accessed on July 7, 2024, from <https://johnsonsdictionaryonline.com/views/search.php?term=brackish>.

> And with their Spoils the Liquid Regions fed?
>
> (Blackmore, 1712, I, ll.667-74)

The tone here is one of wonder and slight scepticism. The image of infection in line 668 hyperbolically exaggerates the impact of the salt mountains on the ocean, conveying a sense of doubt. The argument against the existence of mountains of salt—emphasised by the enjambement between lines 672 and 673—rests on the absence of any observed evidence by natural philosophers. Blackmore challenges the logic behind the theory through rhetorical questions, deducing its futility, as it directly contradicts both observation and experience. The notion of "mountains of salt" was not that widespread in Blackmore's day, but it was referenced in several popular works. For example, Charles Leigh's *Natural History of Lancashire* describes "mountains of Salt that supply Russia, [and] Persia" (1700, p. 44). Similarly, Nicolas Lemery's *A Course of Chymistry* (1686) discusses the presence of fossil salt in European mountains and speculates about inexhaustible salt reserves at the bottom of the sea. In *The Six Voyages* (1678), John Baptista Tavernier evokes mountains in Persia as well, where salt is extracted like stones from a quarry. Lastly, Thomas Sherley's *A Philosophical Essay* (1672) also describes large salt mountains, drawing on the work of the German iatrochemist Matthias Untzerus (1581–1624), who in *De Sale*

> produceth many Testimonies from credible Authors, that besides that which is made of Salt-Springs, there are in Spain, the Indies, and divers other parts of the World, large Mountains of Salt, which as fast as they can be digg'd, grow again, and are quickly filled with Salt. (Sherley, 1672, p. 68)

None of these works are immediately linked to Blackmore, and while some were reviewed in the *Philosophical Transactions*,[33] none of them directly supports his argument. Rather, they offer a glimpse of the historical discourse surrounding the topic and its varied perspectives.

Blackmore's decisive dismissal of this theory closes the treatment of salt, and introduces the question of tides. According to Deacon (1997) and Ekman (1993, p. 585), tides have been one of the most fascinating and mysterious objects of scientific inquiry since antiquity. The poet believes the tide to be the second method God used to prevent the sea from stagnating at the time of creation (ll.675-9) and considers several

[33] See "XIII. A catalogue of books lately publish'd, not mentioned in these transactions" (31 May 1698, Volume 20, Issue 240), "An account of two books. I. The true intellectual system of the universe. The first part. Wherein all the reason and Philosophy of atheism is confuted, and its impossibility demonstrated, II. The six voyages of John Baptisa Tavernier, Baron of Aubonne, through Truky into Persia and the East-Indies. In English. London 1678. in fol" (10 February 1678, Volume 12, Issue 137), "More observations of Monsieur Taverniers Voyages; promised in the next foregoing tract" (14 December 1676, Volume 11, Issue 130), "An accompt of some books. I. Plantarum umbelliferarum distributio nova per tabulas cognationis & affinitatis ex libro natura observata & detecta; A. Rob. Morison Med. & Prof. Botan. Regio, &c. Oxonii è theatro sheldoxiano, 1672. To be sold by John Martyn at the Bell in St. Pauls Church-yard - II. Aoimoati'a five Pestis nuperæ Londini grassantis narratio historica. Auth. Nathan. Hodges M. D. &c. - III. A philosophical essay, declaring the probable causes of stones in the greater world" (25 March 1672, Volume 7, Issue 81).

theories. Given his physico-theological perspective, Blackmore works on the assumption that the "great Directing Mind" (l.678) of God is the only reasonable "Cause" of the "Effect" (l.679) that is the ebb and flow of the sea.

Blackmore first probes the hypothesis attributing tides to the rotation of the Earth (ll.680-9), swiftly rejecting it as inadequate: the provided "impertinent and vain" (l.691) experiments confute this supposition, since water should be thrown away in the air due to the centrifugal force of the rotating planet. Blackmore's approach closely resembles that of John Edwards in his physico-theological treatise *Demonstration of the Existence and Providence of God* (1696). Edwards also ascribes the crucial function of preventing the stagnation of the sea to the tides (1696, p. 170) and delves into various theories about their nature from an original perspective:

> But if neither Sun nor Moon can do the Work, the Earth must, according to Galilaeus and Dr Wallis, who make the Motion of the Earth the sole Cause of the Flux and Reflux of the Sea. But first they must prove that the Earth moves: which will be a hard Task, though 'tis so Modish a Piece of Philosophy among the Moderns: and then they must render a Reason why Lakes, Meres and Rivers do not flow and ebb as well as the Sea, at least why they do not move in some small measure, seeing they cannot but be affected some what with the Agitation of the Earth, as well as the Broader Waters. (Edwards, 1696, p. 168)

This excerpt mentions Galileo Galilei (1564–1642) and Dr Wallis as the two chief exponents of this point of view. Galileo's *Discorso Del Flusso e Reflusso del Mare* (1616) rejects the lunar theory of the tides and endeavours to explain the phenomenon as the result of the Earth's combined rotation around its axis and revolution around the Sun. He believes the Earth's rotation made the oceans move slower or faster, generating two tides per day.[34]

In seventeenth-century England, a similar position was held by mathematician John Wallis (1616–1703). He presented his hypothesis in a letter to Robert Boyle, emphasising the role of the Earth's and Moon's motion in governing tides. The paper

[34] He wrote:

> Mostraci l'esperienza sensata che il flusso e reflusso delle acque marine non è un rigonfiamento o restringimento delle parti di esso elemento, simile a quello che veggiamo farsi nell'acqua posta al calor del fuoco, mentre ella per caldo veemente si rarefà e solleva, e nel ridursi alla natural freddezza si riunisce et abbassa; ma è nei mai un vero moto locale e, per così dire, progressivo, hor verso l'uno, hor verso l'altro termine estremo del seno del mare, senza alcuna alterazione di esso elemento, proveniente da altro accidente che da local mutazione. (Galilei, 2017, p. 234)
>
> [...]
>
> ciascuna parte della superficie terrena, benché mossa di due movimenti equabili in se stessi, nulla di meno dentro allo spazio di 24 hore si muove alcuna volta velocissimamente, altra volta tardissimamente, e due volte mediocremente, considerando la mutazione risultante dal congiugnimento di essi due moti equabili, diurno ed annuo. (Galilei, 2017, p. 240)

was published in 1666 in the *Philosophical Transactions*, where

> [h]e observed correctly that it was the center of gravity of the Earth-Moon system which orbits the Sun. As a consequence, the tides result from the Earth's rotation combined, not only with the Earth's motion around the Sun but also with rotation around the center of gravity. (Woodworth, 2023, p. 12)

When he was Professor of Geometry at Oxford, Wallis expanded on Galileo's work and addressed the absence of the Moon in the Italian's model. Wallis recognised that "the Common Center of Gravity of the Earth and Moon" (Wallis, 1666, p. 264) influences the tides not only through the Earth's rotation and its orbit around the Sun but also through its rotation around this shared centre of gravity. Consequently, the Earth orbits this common centre, too (Deacon, 1997, p. 94). This viewpoint accounted for only one tide per lunar day, contrasting Galileo's theory of two tides occurring at noon and midnight. Although the English philosopher's revision fell short of explaining the observed two tides per day, it represented an advancement from Galileo's physics. For many, Wallis's work on tides was a point of reference, as Nehemiah Grew's *Cosmologia Sacra*[35] (1701) testifies:

> The Diurnal Vicissitudes of the latter [the tide], being effected by the Diurnal Motions of the Earth; and the Monthly Revolutions of their set times, by those of the Earth and Moon together; according to our Learned Geometry-professor Dr Wallis. (Grew, 1701, p. 10)

While Woodworth (2023) remarks that Wallis's paper could be considered the first scientific journal publication on tidal theory, the *Philosophical Transactions* had already published the work of natural philosopher and fellow of the Royal Society Sir Robert Moray (1608/9?–1673) on the same topic. His article "A Relation of some Extraordinary Tydes in the West-Isles of Scotland, as it was Communicated by Sr. Robert Moray" (1665) is a testimony to the philosophical interest in matters regarding the sea in the seventeenth century. It highlights how tidal currents between islands observed in the Hebrides exhibit a diurnal pattern within an otherwise semidiurnal tidal regime, which was not fully comprehended until recently (Woodworth, 2023, p. 19). The paper details observations of specific tides in Scotland and offers meticulous data and measurements collected over several months. In 1666, Moray published another paper in the *Philosophical Transactions* intended to respond to Wallis's 1666 treatise on tides. Here, Moray particularly focuses on analysing the proportions of tidal increases and decreases.[36]

[35] According to Andrault (2021, p. 367), *Cosmologia Sacra* was not a simple natural history but a work of "Physico-theology which aimed at 'demonstrating the Truth and Excellency of the Bible,' against the Anti-Scripturits, like 'Spinoza and some others.'" A decade later, Blackmore would write *Creation* moved by similar intentions.

[36] In this paper, Moray also proposed the construction of an "apparatus" (Moray, 1666, p. 299) de-

Blackmore then proceeds to the next hypothesis, which ascribes the tides to the "impulsive force" of either the Sun or the Moon:

> If you, to solve th' Appearance, have recourse
> To the bright Sun's, or Moon's impulsive Force;
> Do you, who call for Demonstration, tell
> How distant Orbs th' Obedient Flood impel.
> This strong Mysterious Influence explain,
> By which, to swell the Waves, they press the Main.
> (Blackmore, 1712, I, ll.702-7)

Emphatic rhetorical questions stress the necessity of finding valid explanations for natural phenomena. The poet calls into question this hypothesis, too, labelling it as a "Mysterious Influence" (l.706), eluding explanation from natural philosophers "who call for Demonstration" (l.704). The lines contrast the call for empirical demonstration with the enigmatic nature of the influence of celestial bodies. This theory would require some form of action at a distance; in the seventeenth century, accepting the viability of such a concept was challenging. Some even regarded it as an occult circumstance (Woodworth, 2023, p. 10), as they favoured the idea that forces between objects were transmitted mechanically through collisions of invisible particles (Hecht, 2019, p. 178). In this portion of the text, Blackmore likely drew again on Edwards's *Demonstration* (1696). Among the alternative explanations to account for the tides proposed in Part I, Chapter VIII, there is one according to which if the Moon cannot produce the reciprocal movement of the sea, perhaps the Sun can. As Edwards claims, tidal motion is attributed to the Sun lifting vapours and exhalations from the sea. While this notion traces back to ancient thinkers like Aristotle, it lacks empirical support, since exhalations occur universally in bodies of water without necessarily resulting in tidal patterns everywhere. Another perspective Edwards assesses in the same chapter is the one linking the tide to the Sun's east-west movement.[37] He was fundamentally against the Copernican hypothesis, a mere fashion in his eyes, and was more inclined towards a geocentric Tychonic model (Edwards, 1697). Although this second conjecture aligns more with his cosmological views, the physico-theologian believes this argument to be flawed, for it fails to explain why the tide also moves from west to east during its ebbing. In *Creation*, Blackmore does not linger on this belief or use the same arguments but ultimately rejects the position.

signed for measuring tides. Such a device would consist of a float and a stilling well. He details the machinery required for accurate measurements, including items such as "a good pendulum-watch," an instrument for wind strength measurement, a thermometer, barometer, hygroscope, and others (Moray, 1666, pp. 299–300).

[37] This theory had been first expressed by Isaac Vossius (1618–1689) in his *De motu marium et ventorum* (1663). He claimed that the tide is caused by the motion of the Sun, which is from East to West like the Flux of the Sea. According to Edwards, Pliny and Ptolemy shared the same opinion (Edwards, 1696, pp. 167–8).

As discussed in Section 2.1.3, the attractive action of magnetic power is also numbered among the potential alternatives (ll.708-15). However, it is deemed inadequate because there is no satisfactory explanation for its mechanisms.

At last, attention is tentatively moved to the Moon's role in the formation and alternation of tides:

> Those, who assert the Lunar Orb presides
> O'er Humid Bodies, and the Ocean guides:
> Whose Waves obsequious ebb, or swelling run
> With the declining or increasing Moon;
> With Reason seem her Empire to maintain,
> As Mistress of the Rivers and the Main.
> Perhaps her active Influences cause
> Th' alternate Flood, and give the Billow Laws,
> The Waters seem her Orders to obey,
> And ebb and flow, determin'd by her Sway.
> (Blackmore, 1712, I, ll.716-25)

Employing metaphoric language that suggests the Moon's dominion over water, Blackmore concludes that this hypothesis is the most reasonable because it is the only one fitting observation. He appears cautious, though, using edging expressions such as "seem" (ll.720, 724) and "perhaps" (l.722) to avoid advancing too conclusive statements. The mechanism of the Moon's sway on the Earth's waters remains difficult to clarify exhaustively, prompting questions about the nature of the force and the consistency of tidal patterns. Isaac Newton and Edmund Halley were key figures in promoting this thesis, and there is little doubt that Blackmore was familiar with their work. In his *Philosophiae Naturalis Principia Mathematica* (1687), Newton proposes that tides arise from gravitational attraction between the Earth and its satellite. The *Principia* was an extremely difficult text, so Halley published a simplified synthesis of Newton's theory of tides in the *Philosophical Transactions of the Royal Society* in 1697. *The True Theory of Tides*,[38] which offers a detailed explanation of tidal phenomena in connection to gravitational forces, underscores the centrality of gravity as the primary force governing a number of celestial and terrestrial natural occurrences. Drawing on Newton's work, Halley demonstrates how the combined gravitational forces of the Sun and Moon affect the Earth's oceans. He attributes the variation in tidal patterns to the changing gravitational forces exerted by these celestial bodies as they move relatively to each other. Diagrams illustrating the mechanism behind tidal movements

[38]The full title reads *The True Theory of the Tides, Extracted from That Admired Treatise of Mr. Isaac Newton, Intituled, Philosophiae Naturalis Principia Mathematica; being a Discourse Presented with That Book to the Late King James, by Mr. Edmund Halley.*

reinforce the text, particularly stressing the influence of lunar position on tidal height: when the Moon is directly above or below the horizon, the force of gravity exerted on water is diminished, causing the ocean to swell in those areas. Halley also discusses the concept of libration, which accounts for the persisting ebb and flow of the sea even after the direct influence of the Sun and Moon has ceased. This conservation of motion affects the timing and intensity of tidal cycles, leading to variations in the highest spring tides. Ekman (1993) observes that the origin of tides was unknown until they were attributed to the gravitational pull of celestial bodies, which varies with distance. Newton was able to illustrate how this unequal gravitational attraction affects the behaviour of water in Book I:

> let the body S come to act upon it [the globe], and by its unequable attraction the water will receive this new motion. For there will be a stronger attraction upon that part of the water that is nearest to the body, and a weaker upon that part which is more remote. (Book I, Section IX, Cor.19 as quoted in Ekman, 1993, p. 588)

This interpretation succeeded in elucidating the primary characteristics of tides, such as the twelve-hour cycle, amplitude variation with lunar phases, and daily inequality. It also enabled the calculation of the tidal forces exerted by the Sun and Moon individually. With their works, Newton and Halley established a mechanistic explanation that dispelled the need for earlier, more convoluted theories.

While Blackmore posits that it is most likely "the Moon that guides / His swelling waters, and alternate tydes" (Pope, 2017, p. 59, ll.331-2), this cannot prescind from the direction of a divine guide:

> A Mind Supream you therefore must approve,
>
> Whose high Command caus'd Matter first to move:
>
> Who still preserves its Course, and with respect
>
> To his wise Ends, all Motions does direct.
>
> (Blackmore, 1712, I, ll.736-9)

The physico-theological conclusion of this passage proposes that God granted the Moon its influence over the seas to prevent stagnation, and providential rock boundaries ensure that the waters do not overflow disastrously. A final remark on the fitness and usefulness of the natural order observed in nature closes the first Book, conforming to the tradition of the argument from design.

It is interesting to remark that Blackmore demonstrated to be *au courant* with Cartesian philosophy, but when it comes to tides, he does not make any reference to Descartes's theory, which he must have known. In his attempt to delineate a comprehensive description of the cosmos in *Principia Philosophiae* (1644), Part IV, Descartes attributed the origin of the ebb and flow of the sea to the same vortices moving the

heavenly bodies. In particular, the pressure waves transmitted by the moon through the aether were held responsible for alternating tides on Earth. In *Creation*, there is no hint of this, and Blackmore's reasoning rather follows his physico-theological predecessors. This supports the supposition that Blackmore's source in this passage was Edwards's treatise, which does not mention Descartes's tidal hypothesis either.

In sum, Blackmore's arguments and reflections regarding the sea in *Creation*, Book I are indubitably indebted to the physico-theological tradition in prose and, in particular, John Edwards's *Demonstration* (1696). Solomon (1980, p. 125) contended that the poet drew heavily on Edwards's work, and his treatment of the seas is a case in point: the argumentative structure closely mirrors Edwards's and he often resorts to the same examples. Specifically, Edwards was the only contemporary who singled out salt and tides as the two mechanisms preserving the sea from degradation. Later in this chapter, another connection to Edwards's work will further demonstrate the relationship between the clergyman's prose and Blackmore's poem.

2.2.3 The Vegetable World

To conclude the section of Chapter 2 on the beauty of the created world, let us now turn our attention to Blackmore's portrayal of the vegetable world. This shift in focus showcases the central role the poet attributes to all natural elements within God's plan:

> What Skill on all its Surface is bestow'd,
> To make the Earth for Man a fit Abode?
> The upper Moulds, with active Spirits stor'd,
> And rich in verdant Progeny, afford
> The flow'ry Pasture, and the shady Wood,
> To Men their Physick, and to Beasts their Food.
> (Blackmore, 1712, I, ll.466-71)

These lines reflect a fundamentally anthropocentric view of creation: the Earth is crafted precisely to be suitable for human habitation and nature seems designed for humanity's benefit.

The upper layers of the Earth's surface possess "active Spirits" (l.468), which are said to facilitate the production of various essential elements, including vegetation, flowers, pastures, woods, medicinal resources for humans, and food for animals.[39]

[39] In her 2011 article "Ontological Tensions in Sixteenth and Seventeenth Century Chemistry: Between Mechanism and Vitalism," Banchetti-Robino describes the relationship between the mechanistic and vitalistic approach to understanding chemical processes. She mentions the influence of the work of Robert Boyle, who criticised the notion that all chemical phenomena could be explained solely by mechanical attributes, aligning instead with the idea of emergent properties arising from the interactions among corpuscles (p. 183). The author maintains that by the eighteenth century, chemical properties were in-

The mention of "active spirits" in the ground is recurring in the first two Books of *Creation*.[40] With this expression, Blackmore likely refers to the sap in the soil that gives life to the vegetable world. Physician and naturalist Nehemiah Grew worked extensively on plants, publishing his findings in the *Philosophical Transactions*. In the early 1670s he started presenting the results of his studies to the Society, of which he became a member thanks to natural philosopher and theologian John Wilkins (1614–1672). In November 1677, after the death of Oldenburg, Grew was appointed joint secretary of the society with Robert Hooke (Hunter, 2015; Andrault, 2021). The *Anatomy of Plants*[41] (1682) was an innovative work in the study of vegetation, with keen observation at the basis of the meticulous description and illustration of the vegetable world. Grew devoted his attention to all parts of plants, from roots to leaves, and was the first to study features, such as their cell-like structure[42] and the growth rings in wood. He was mainly interested in plant morphology and taxonomy, but also investigated physiological phenomena like bud growth or seed development. The underlying spirit that characterises Grew's work—as his physico-theological treatise *Cosmologia Sacra* (1701) would later attest—is the emphasis on the divine wisdom evidenced by all works of creation (Hunter, 2015).

In his text, Grew describes how water interacts with soil to support plant growth. He explains that for a plant's root to grow effectively, the soil needs to be adequately prepared. When rain falls and soaks into the ground, it dilutes "the Dissoluble Principles therein contained; and renders them more easily communicable to the Root" to absorb (Grew, 1682, p. 81). The water acts like a solvent, extracting these nutrients from the larger, less valuable parts of the soil. He illustrates how water combines with nutrients in the upper stratum of the soil to engender vegetable life. Given the success of Grew's work towards the end of the century, Blackmore's knowledge of plants

creasingly understood through empirical, physical characteristics without requiring a metaphysical life force.

[40] The mention of what Blackmore calls "active" or "genial spirit" in the ground occurs also in Book II, ll.193-7, 225-6, 234-6, 270-1, 286-8, 290-2, 827-38.

[41] The volume was the result of previous, shorter works that had been shared with fellow members of the Royal Society in London and which he later decided to publish together. The full title was indeed *The anatomy of plants with an idea of a philosophical history of plants, and several other lectures, read before the royal society*. As Christopher Wren (1632–1723), then president of the Royal Society, stated at the beginning of the volume:

> At a Meeting of the Council of the ROYAL SOCIETY, Feb. 22. 1681/2
>
> Dr *Grew* having read several *Lectures* of the *Anatomy* of *Plants*, some whereof have been already printed at divers times, and some are not printed; with several other *Lectures* of their *Colours, Odours Tasts,* and *Salts*; as also of the *Solution* of *Salts* in *Water*; and of *Mixture*; all of them to the satisfaction of the said *Society*: It is therefore Ordered, That He be desired, to cause them to printed together in one Volume.
>
> CHR. WREN *P.R.S.*
>
> (Grew, 1682)

[42] At first, Grew's method of inquiry relied solely on naked-eye observations, which was later integrated by microscopic investigation, thanks to Grew's collaboration with Hooke at the Royal Society. The very use of the term "cell" to describe the little bladders Grew observed in plant tissue was a debt to Hooke, had coined the term in his *Micrographia* (1666).

and their internal mechanisms was likely borrowed from the fellow physician's publications. While Book I is concerned primarily with the Earth and its natural features, Blackmore reserves only a little space for discussing vegetation *per se*. The topic is given much more attention in Book II, especially in the last lines that contemplate the vegetable world.

Although Book II is mainly devoted to astronomical topics, in a harmonious and divinely ordained universe the Earth and the heavens are deeply intertwined. The reciprocal motion between the Sun and the Earth is responsible for alternation of the seasons, which, in turn, allows for a continuous cycle of generation and decay in nature. This alternation thus represents a key feature of natural life and yet another example of God's providential design. As Hancock (1707, p. 48) puts it, "[i]f we look up to Heaven, the Heavenly Bodies do not shine only for themselves, but by their Benign Influence do assist the Vegetation and Growth of Plants and Animals on Earth." The Sun moves with "rapid Speed from East to West" (l.169), proceeding obliquely through the Zodiac between the poles. This movement causes the "needful Seasons of the Year" (l.173): as the Sun "advances" and "retreats" from the poles, it brings about "Winter Colds" and "Summer Heats" (l.175). Hence,

> Of Heat and Cold this just successive Reign,
>
> Which does the Balance of the Year maintain,
>
> The Gard'ner's hope, and Farmer's Patience props,
>
> Gives Vernal Verdure, and Autumnal Crops.
>
> (Blackmore, 1712, II, ll.184-7)

Blackmore's ambiguity regarding the Copernican hypothesis compels him to describe the Sun's progress in the heavens, causing the alternation of seasons.[43] Such a conception was presumably derived from Edwards, who claimed that "[i]t is this Vicissitude of Seasons that makes the Earth pregnant and fruitful, and gives Life and Increase to all Vegetables and Animals" (1696, pp. 52–3).

In Part I, Chapter III of his *Demonstration*, he discusses how the cycle of seasons makes the Earth fertile and supports life, resorting to the metaphor of the Earth as a mother that Blackmore employs as well (l.469). The celebration of the passing of the seasons continues in Chapter V, where the physico-theologian argues that the position and motion of the Sun are crucial for creating different temperatures on Earth, which are necessary for its fertility and the sustenance of life. In particular, the current position of the globe reveals a wise design, as the variation in heat and cold is essential for its fecundity (Edwards, 1696, pp. 102–5). Blackmore portrays the cyclical progression of seasons throughout the year as equally providential: the fluctuations

[43] Blackmore's cosmological position will be the object of following Section 2.4. His ambiguity regarding the Copernican hypothesis, however, was registered by Lovejoy (2001) and was also expressed by Blackmore himself when he concisely declared "[m]ove which will please you best, the earth or sun" (Blackmore, 1712, I, l.370).

in temperature characteristic of winter and summer serve the purpose of allowing nature to regenerate continuously, as they bring about a beneficial effect for both the Earth itself (l.181) and its inhabitants (ll.182-3). It was indeed part of God's plan to grant the Earth a providential succession of cold and heat—as Psalms 74.17 avows, it was God who "made Summer and Winter." The emphasis on the auspicious balance between seasons (l.185) also underscores the significance of climate phases for agricultural practices and for life. Blackmore's arguments are evocative and remindful of Edwards's comparison of the Earth to a fertile mother:

> [t]he Earth is yearly a Teeming Mother, from whose pregnant Womb all sorts of Fruits are produced for the nourishing and sustaining that numerous Company and Variety of Creatures that live upon it: And this wonderful Pregnancy and Fruitfulness argue a God. (Edwards, 1696, p. 128)

Blackmore applies hypothetical reasoning to illustrate the disastrous consequences of a lack of alternation, causing perennial winter or summer. Given the anthropocentric stance of the poet's portrayal of the natural world, the stress is unsurprisingly on agriculture and its implications for human life. The closing lines of this passage (ll.213-6) reaffirm the organisation and providence of creation and stress the perfect balance of light and heat that enables nature to thrive. While it is true that Blackmore often avails himself of hypothetical reasoning to convey the reasonableness of his argumentation, similar strategies were also recurrent in physico-theological literature. Towards the end of the seventeenth century, physico-theologians like Clement Ellis, Richard Bentley, and John Edwards advanced similar arguments in their crusade against atheism, stressing the crucial equilibrium between heat and cold to sustain the cycle of seasons. In his 1693 sermons, for instance, Bentley looks into the consequences of altering these cosmic arrangements: he envisions a scenario where the slightest variation in distance from the Sun would result in catastrophic extremes of temperature, making life impossible (Bentley, 1693, p. 248). Edwards also postulates how a perpetual state of either winter or summer would disrupt the delicate balance necessary for life on Earth and stresses the essential interplay between celestial dynamics and terrestrial life. As understood by these writers, the interconnectedness of the cosmos is evidence of the wisdom behind the observed natural order.

Blackmore then dwells on each season separately, starting with spring and ending with winter, to illustrate their unique contributions to preserving life on Earth. As the Sun's trajectory shifts from the north to the south pole, spring conveys regeneration and renewal to nature. The isotopy of new life informs these lines through expressions such as "fresh Conceptions" (l.220), "restores" (l.221), "genial Ferment" (l.225), and "regenerates" (l.226). Nature gladly undergoes a profound rebirth, with the emergence of new vegetation and the awakening of animals from hibernation. Sunlight is a critical factor in this process of regeneration:

> [i]t is good therefore, that there should be a Sun, to warm and cherish the

> Seeds of Plants, and excite them to Vegetation; to impart an uninterrupted Light to all parts of his System for the Subsistence of Animals. (Bentley, 1693, p. 245)

In spring, the soundscape also reflects the liveliness of natural regeneration, which is made more explicit by the consistent personification in this passage.

As summer arrives in lines 230-1, its heat ripens the Earth's fruits, and nature becomes lush with flowers, fruits, and flourishing trees. Sensory experience, especially taste and smell, evokes the richness that the season brings to nature, which Blackmore already synthesised in Book II of *Prince Arthur*:

> Some where the Sun gives more indulgent Heat,
> Transparent Gums, and Od'rous Juices Sweat.
> The fragrant Balsom-Tree distills around,
> Her healing Riches on the neighbouring Ground.
> The humble Jess' mine breaths Perfumes abroad,
> And wanton Zephyrs bear the balmy Load.
> (Blackmore, 1695, p. 39)

The Sun's gradual retreat signals the advent of autumn and the beginning of harvest, the culmination of nature's bounty and sensory delight. Winter follows, bringing with it a metaphorical and actual death of nature. Notwithstanding its harshness, winter serves a purpose within the divine design of creation like other seasons do. Even its frost has a providential function and is "to Nature kind" (II, l.289):

> Yet in their turn the Snows and Frosts produce
> Various Effects, of necessary Use.
> Th'intemperate Heats of Summer are controul'd
> By Winter's Rigour, and inclement Cold,
> Which checks contagious Spawn, and noxious Steams,
> The fatal Offspring of immod'rate Beams:
> Th'exhausted Air with vital Nitre fills,
> Infection stops, and Deaths in Embryo kills:
> Constrains the Glebe, keeps back the hurtful Weed,
> And fits the Furrow for the Vernal Seed.
> The Spirits now, as said, imprison'd stay,
> Which else by warmer Sun-beams drawn away,
> Would roam in Air, and dissipated stray.
> (Blackmore, 1712, II, ll.276-88)

Significant natural knowledge is condensed in these lines, evidence of the poet's acquaintance with coeval research. Meteorological studies gained traction among late seventeenth-century philosophers, and the role of cold and its effects were the objects of scientific inquiry. For instance, Boyle describes his and Robert Hooke's experiments with low temperatures in *Experimental History of Cold* (1665). In *The Anatomy of Plants* (1682), Grew[44] also reflects on these matters and concludes that cold ensures that the vital nutrients of plants are kept safe in the ground during winter. He was convinced that autumn stores these nutrients, winter locks them in the ground, occasional warm intervals help mature them without any loss, and spring releases them with warmth and rain, providing a rich diet for plants composed of water and other vital elements, such as "Earth, Salt, Acid, Oyl, Spirit, and Aer; or other Bodies of Affinity herewith" (Grew, 1682, p. 82). The critical apparatus of James Thomson's *The Seasons*, edited by James Sambrook in 1981, explains these chemical processes in detail. In line 282, Blackmore mentions the presence of "vital nitre" in the air and, as Sambrook explains, "the ether [...] was thought to contain substances, the most important of which was an acid which formed salt-peter or nitre [...], which supported vegetable life" (Thomson, 1981, p. 217). In an end-note, the critic also adds an excerpt from the later treatise *The Rational Farmer*[45] (1743), which furnishes a perfectly fitting explanation for Blackmore's above-quoted passage:

> It was thought that * a windy season and serene sky favoured the production of nitre, and that the east and north winds only bring with them the primogenial acid of the air which saturates the alkaline sulphureous parts of the earth and converts them into nitre ... long frosts and snows, especially after a hot summer mellow the ground and render it exceeding fertile, because the earth calcined and rendered alkaline by the summer heats is by the frost and snow abundantly supplied with an acid and rendered nitrous. (Anon., *The Rational Farmer* [1743], pp. 50-1, as quoted in Thomson, 1981, p. 238)

Indeed, interest in the chemical processes involved in natural phenomena increased in the second half of the seventeenth century. For instance, chemist and physician John Mayow (1641–1679) conducted several studies and experiments on the topic of

[44] Grew was interested in matters relating to cold and in 1673 he presented the results of his studies to the Royal Society as "Some Observations Touching the Nature of Snow, Presented to the R. Society by Dr Nehemiah Grew."

[45] The full title was: *The rational farmer, and practical husbandman. Containing, remarks on the principles of vegetation, Viz. Salts of all kinds, Sulphurs, Earth, Water, Air, Heat, and celestial Influences; With The Reasons and Manner of their promoting Fertility in different Soils, apply'd to Practise in the various Branches of Husbandry and Gardening. Collected from the Ancient as well as Modern Writers, with many new Discoveries, for the Improvement of Land, and the Greek and Roman Husbandry compar'd with our own Calculated for the benefit and advantage of gentlemen of estates, as well as farmers and others concern'd in Tillage and Manureing of Land. To which is added, the British herbal, containing a description of upwards of sixty English plants, with the figure of each neatly engrav'd, and an account of the Places of their Growth, the Time of Gathering them; together with their several uses and Medicinal Virtues.*

human respiration. In one of his treatises, the *Tractatus Duo, prior de Respiratione alter de Rachitide* (1668), he mentions also the usefulness of nitre for plant life. In the review published on the *Philosophical Transactions of the Royal Society* of the same year, the author comments that "this *Aeral Niter* [Mayow] makes so necessary to *all* life, that even the Plants themselves do not grow in that Earth, that is deprived thereof, which yet, being exposed to the Air, and afresh impregnated by that fertilizing salt, becomes fit again to nourish those Plants" (1668, p. 833).

The usefulness of cold in the natural processes of decay and regeneration was also thematised in the poetry of the time. A case in point is Book II of the georgic poem *Cyder* (1708) by John Phillips (1676–1709):

> But nothing profits more
>
> Than frequent Snows: O, may'st Thou often see
>
> Thy Furrows whiten'd by the woolly Rain,
>
> Nutricious! Secret Nitre lurks within
>
> The porous Wet, quick'ning the languid Glebe.
>
> (Philips, 1708, ll.184-8)

Here, too, the alternation of seasons and their specific characteristics proves essential to vegetable life.

After arguing for the seasons's vital impact on the vegetable kingdom, Blackmore moves to the discussion of the origins of the motion of the Sun, which leads to the treatment of astronomical topics for the best part of Book II. The closing lines, however, briefly return to the Earth and dwell on the contemplation of "[t]he wondrous World of Vegetables" (l.808). This logical proceeding may be read in connection with Blackmore's idea of the chain of being: Book I and II are chiefly devoted to the inanimate world, starting from the Earth and reaching the heavens, and the animate world makes its way through the water element introduced by the treatment of meteors. In Essay V of *The Lay Monastery* (1714), Blackmore would write:

> Nothing is more surprising and delightful, than to observe the Scale or gradual Ascent from Minerals to Plants, from Plants to Animals, and from Animals to human Nature. (Blackmore & Hughes, 1714, p. 28)

The portion of the text introduced in lines 807-8 immediately qualifies the ensuing survey of the vegetable world as a "Contemplation" (l.807), echoing the centrality of sight already observed as a key feature of *Creation*. These verses illustrate various instances of nature's creations or "spontaneous Offspring of the Wood" (l.812), and through this catalogue several specimens are enumerated with their distinguishing attributes. For example, lines 813-20 draw attention to the robustness of trees like oak and pine, whose deep roots reflect their resilience. The plentiful variety of nature is also showcased in the diversity of plants, some recognisable for their delicate yet

resistant nature, such as briar, vine, and ivy. Although these images paint a rich picture of the natural world, they do not provide any real scientific substance to the text, but they collectively form a colourful inventory of botanical diversity. The following segment, on the other hand, looks more closely at the life and inner workings of plants:

> But ev'ry Tree from all its branching Roots
> Amidst the Glebe small hollow Fibres shoots;
> Which drink with thirsty Mouths the vital Juice,
> And to the Limbs and Leaves their Food diffuse:
> Peculiar Pores peculiar Juice receive,
> To This deny, to That Admittance give.
> Hence various Trees their various Fruits produce,
> Some for delightful Taste, and some for Use.
> Hence sprouting Plants enrich the Plain and Wood,
> For Physick some, and some design'd for Food.
> Hence fragrant Flow'rs with diff'rent Colours dy'd
> On smiling Meads unfold their gaudy Pride.
> (Blackmore, 1712, II, ll.827-38)

Blackmore describes sap as the "vital juice" (l.829) that sustains life in plants. The line "Peculiar Pores peculiar Juice receive" (l.831) suggests the specificity and importance of each part, and accentuates it through alliteration. In the enormously popular *The Wisdom of God* (1691), John Ray underscores the usefulness and beauty of plants, attributing specific purposes to roots, fibres, bark, and especially sap vessels. Similarly, in *The Anatomy of Plants* (1682), Nehemiah Grew discusses the structure of plants and sap vessels at length. The physician argues that both the vessels and parenchyma, the cellular tissue of plants, are necessary for sap ascension from the roots to all the other parts. Garrett (2003, p. 72) remarks that in *An Account of the Vegetation of Trunks* (1675), Grew offers an account of the motion and course of the sap and resorts to the sponge-like quality of the parenchyma to explain the circulation in a seemingly mechanistic way, appealing to pressure as the cause of the fluid's motion.

Blackmore follows the natural philosophical tradition of Grew and Ray, who also notice that nature has endowed plants with different fruits and uses, providing both aesthetic pleasure and practical utility. While some plants serve medicinal purposes, others nourish humans and animals (ll.468-71). Lastly, the closing lines of this passage pay tribute to the loveliness of flowers, harping on their captivating colours and fragrances. The celebration of flowers had roots in the Christian tradition Blackmore knew well. As Ray remembered:

> The Flowers [...] beside the elegancy of their Figure are many of them endued with splendid and lovely Colours, and likewise most grateful and fragrant Odours. Indeed such is the beauty and lustre of some Flowers, that our Saviour saith of the Lilies of the Field (which some not without reason suppose to have been Tulips) that Solomon in all his glory was not arrayed like one of these. (Ray, 1691, pp. 80–1)

This observation of the usefulness and beauty of flowers and the vegetable world in general leads to the closing of Book II, where a final remark on the "wide Field of Wonders" (l.841) confirms once again the divine design behind all works of creation.

Section 2.2 endeavoured to show that Blackmore's interest in science extended beyond astronomy and physiology, encompassing earth sciences such as botany, geology, and mineralogy, which were starting being developed. At the same time, his knowledge of the subject was mainly borrowed from other works of physico-theology rather than from original sources, though some of these were also taken into account. The survey that emerges from the first two books of *Creation* testifies to the poet's curiosity for the complexity of the natural world.

Having thus reviewed the portrayal of the Earth and natural elements, let us move on to the final portion of the terrestrial world to be examined: the air.

2.3 The Air and Meteors

Among the topics announced in the argument at the opening of Book II of *Creation*, we find the

> [w]isdom and design discovered in the air; in its useful structure, its elasticity, its various meteors; the wind, the rain, thunder and lightning. (Blackmore, 1712)

This section expands on the presentation of the solar system and its workings and leads to the book's final portion devoted to the vegetable world. The structure is bipartite: the first part dwells on the air, its elastic nature, and its usefulness in transmitting light and heat; the second part focuses on the meteors and their origin, particularly rain and wind. As the previous section already mentioned, meteorology as a field of inquiry gained a certain traction in the second half of the seventeenth century. The analysis will reveal that Blackmore had a good understanding of atmospheric phenomena that was not merely borrowed from his physico-theological sources. Instead, he incorporated recent research on air, including studies by Boyle and Newton.

2.3.1 The Nature of Air

The portion of Book II reserved to air is relatively substantial and encompasses almost 200 lines (ll.618-806):

Remark the Air's transparent Element,
Its curious Structure, and its vast Extent:
Its wondrous Web proclaims the Loom Divine,
Its Threads, the Hand that drew them out so fine.
This thin Contexture makes its Bosom fit,
Celestial Heat and Lustre to transmit;
(Blackmore, 1712, II, ll.618-23)

The passage employs several rhetorical figures to convey wonder about divine design. Personification gives air human-like qualities, while metaphors compare it to finely woven fabric, emphasising its complexity. Imagery describes air as a "thin Contexture" transmitting "Celestial Heat and Lustre," reinforcing its functional beauty. Indeed, divine hands weave strands of light, revealing the patterns behind how transparent air bends light, offering a clear model for the movement of heat and light (Powell, 2021, pp. 148–9).

To understand Blackmore's interpretation of the term "air," it is helpful to resort to William Derham's *Physico-Theology*. In Book I, Chapter I, he contends that the atmosphere—composed of air, vapours, and clouds—demonstrates divine intention because of its nature, function, and importance for life on Earth:

> The Atmosphere, or Mass of Air, Vapours and Clouds, which surrounds our Globe, will appear to be a matter of Design, and the infinitely wise Creator's Work, if we consider its Nature and Make, and its Use to the World. (Derham, 1713, p. 4)

The air, metaphorically compared to a web, is transparent and has the essential function of allowing the transmission of light and heat from the Sun and stars in the heavens. Its interwoven structure of threads (l.627) gives air a springy nature that prevents it from weighing upon us.

Observe its Parts link'd in such artful sort,
All are at once Supported, and Support.
The Column pois'd sits hov'ring on our Heads,
And a soft Burden on our Shoulders spreads.
So the Side-Arches all the Weight sustain,
We find no Pressure, and we feel no Pain.
(Blackmore, 1712, II, ll.626-31)

The springy texture of air is also responsible for its elasticity, which makes the air's "Strings" (l.632, l.639) "vibrate" (l.634) harmoniously like the strings of a lute.

Some years later, in his *Treatise of Consumption and other Distempers belonging to the Breast and Lungs*, Blackmore would describe the air in very similar terms:

> The Air is a thin and fluid Expansion consituted intirely, or for the greatest part, of the Effluvia, or Exhalations, that attenuated by the Beams of the Sun ascend from the Surface of the Earth, and encompass it round with a transparent Covering: Among a great Variety of Effluvia, or Vapours, that steaming from the Hills and Vales, the Ocean, Floods, Rivers and Lakes, contribute to the Formation of this fluid Element, great Plenty of nitrous Particles, refined to a proper Degree, and assisted by fit Combinations, float in its Bosom, and drawn into the Lungs by Inspiration. (Blackmore, 1725b, p. 116)

The physician does not seem to differentiate between atmospheric air and the ether in the heavens in the above-quoted portion of *Creation*. At the time, though, it was generally believed that the two had a different composition. As Blackmore's only openly declared source, Fontenelle (see Section 1.3.3), wrote:

> the Air which encompasseth the Earth, doth not extend above a certain height, perhaps 20 leagues it follows us and turns with us. [...] So the Earth which is solid, is covered from the surface 20 Leagues upwards with a kind of Down, which is the Air [...]. Beyond the Air is the Celestial Matter, incomparably more pure and subtle, and much more agitated than the Air. (Fontenelle, 1702, p. 32)

The French philosopher also suggests that our atmosphere acts like a mist, distorting the true light and colours of the sky, the Sun, and the stars, which only the celestial matter can convey in the purest form. The air above us causes phenomena like daybreak and twilight, additional beautiful gifts from nature. In both *Physico-Theology* (1713) and *Astro-Theology* (1715), Derham too comments on the role of the atmosphere in imparting light and heat from the heavens to the Earth: the air surrounding the planet contributes to illuminating the world by reflecting light from heavenly bodies and refracting sunlight before it reaches the horizon:

> The Air beat out, and purify'd does lye,
>
> A Crystal deep between the Earth and Sky.
>
> Through this thin Void the Sun's indulgent Beams,
>
> Flow gently on the Earth in Golden Streams.
>
> (Blackmore, 1695, p. 38)

Nicolson (2015, p. 66) rightly observes that in his discussion of the transmission of light Blackmore concerns himself almost exclusively with air rather than with ether.

In the quotation, Blackmore also briefly takes into account the air's weight. The weight and physical properties of air had been subjects of inquiry throughout history, with notable contributions from Aristotle, Galileo, and Torricelli. In his account of the

history of the study of barometric pressure, Frisinger (1977) remarks that while Aristotle demonstrated that air has substance by showing that a vessel must be emptied of air before it could be filled with water, he still believed air to be weightless. In the sixteenth century, Galileo better distinguished between air weight and air pressure and his disciple Evangelista Torricelli (1608–1647) invented the barometer and conducted the renowned Torricellian Experiment, which demonstrated the weight of air using a mercury barometer.

Robert Boyle's experiments in the seventeenth century shed further light on the nature of air. He likened the air near the Earth's surface to a dense mass of "tiny bodies," similar to a fleece of wool, each having the potential to stretch and compress, much like a spring. Blackmore must have considered Boyle's work on "elastic air" when he wrote *Creation* (Nicolson, 2015, p. 66). Indeed, the natural philosopher famously devoted a great part of his career to the study of air and with the aid of the "mechanical genius" Robert Hooke, he perfected and popularised the air pump (West, 2005, p. 32). In 1660, Boyle published his seminal *New Experiments Physico-Mechanicall, Touching the Spring of the Air, and its Effects*, in which he illustrated his experiments with air. Experiment 1 is a good introduction to the topic of springiness:

> conceiving the Air near the Earth to be such a heap of little Bodies, lying one upon another, as may be resembled to a Fleece of Wooll. For this (to omit other likenesses betwixt them) consists of many slender and flexible Hairs; each of which, may indeed, like a little Spring, be easily bent or rouled up; but will also, like a Spring, be still endeavouring to stretch it self out again. (Boyle, 1660, p. 23)

The elasticity of air is the next point Blackmore explores, inviting "curious Minds, who would the Air inspect, / On its Elastic Energy [to] reflect" (II, ll.636-7). The analogy of air to a sponge—also employed by Boyle in *New Experiments* (1660, p. 24)—is used to illustrate its capacity for both shrinking and expanding:

> The spungy Parts, now to a straiter Seat
> Are forc'd by Cold, and widen'd now by Heat.
> By Turns they all extend, by Turns retire,
> As Nature's various Services require.
> They now expand to fill an empty Space,
> Now shrink to let a pondrous Body pass.
> If raging Winds invade the Atmosphere,
> Their Force its curious Texture cannot tear,
> Make no Disruption in the Threads of Air;
> Or if it do's, those Parts themselves restore,

> Heal their own Wounds, and their own Breaches cure.
>
> (Blackmore, 1712, II, ll.640-50)

The author of *Creation* uses precise yet clear vocabulary to explain the physical reactions attaining air, and he resorts to rhetorical figures to convey the idea of elasticity. Antithesis is used to juxtapose contrasting actions, such as "[b]y Turns they all extend, by Turns retire" (l.642) or "[t]hey now expand to fill an empty Space, / Now shrink to let a pondrous Body pass" (ll.644-5). This highlights the flexibility of the element. The personification and medical metaphor in l.650 attribute human qualities to the air, likening it to a wounded person in need of medical attention. The frequent use of enjambment favours the flow of the description and together with parallelism it mimics the springiness of air.

In his *New Experiments*, Boyle also discusses the spring-like quality of air, where compressed particles exert a force to return to their original state when pressure is removed (Boyle, 1660, p. 22). The natural philosopher's pneumatic work was tremendously popular and affected the imagination of many of his contemporaries, from whom Blackmore might have accessed these ideas. For instance, in the eighth sermon of the *Folly of Atheism* (1693), Bentley borrows from Boyle and affirms that air is "a thin fluid Body, endued with Elasticity or Springiness, and capable of Condensation and Rarefaction" (Bentley, 1693, p. 262). As he argues that these characteristics of air were ideally suited for supporting life on Earth, he naturally attributes the design of such a providential element to "an Intelligent Being" (Bentley, 1693, p. 263). The same physico-theological attitude underlays *Creation*.

A final property of air is then reviewed: its role in enabling the evaporation and condensation of terrestrial water through the influence of solar heat (ll.655-8). In the *Plurality of Worlds* (1702), Fontenelle expressed this idea well:

> The Sun draws from the Earth and Water, Exhalations and Vapours, which mounting to a certain height in the Air, do there assemble and form the Clouds. (Fontenelle, 1702, p. 69)

The air surrounding our globe permits the passage of light and heat, ensuring the constant repetition of the cycle of water described in Book I: the land maintains its "gainful Traffick" (l.663) by exchanging "crude Vapours" for rain (l.664). Warmed by the Sun, the "flowry Garden and the verdant Mead" (l.665) release exhalations that return as "Show'rs and balmy Dews" (l.667). Similarly, the water from streams becomes "wandring Clouds above" (l.668). The air thus provides the perfect medium through which the Earth and the skies above are intertwined in a mutually enriching cycle of generation and regeneration.

2.3.2 Meteors and their Origin

In *The Plurality of Worlds*, Fontenelle effectively synthesises the main phases of the cycle of water:

> Our Clouds which we see in the Air, are nothing but Exhalations and Vapours, which at their coming out of the Earth, were separated into such minute Particles, that they could not be discern'd; but as they ascend higher, they are condens'd by the Cold, and by the re-union of their Parts, are rende'd visible; after which they become great Clouds, which fluctuate in the Air, till they return back again in rain. (Fontenelle, 1702, p. 72)

The condensation of vapour in clouds suspended in the air forms meteors. Blackmore's choice of treating meteors right after the heavens is coherent with his classical formation and the contemporary perception of meteorological phenomena. Likely, Blackmore's understanding of the natural world was initially shaped by Aristotelian philosophy, which remained the foundation of higher education until the seventeenth century.[46] While "a majority of eighteenth-century meteorologists perceived their subject within a framework established by the ancients" (Jankovic, 2000, p. 15), a more properly scientific interest in meteors as atmospheric phenomena developed in the latter half of the seventeenth century. In England, such an interest can be appreciated by looking at several publications, especially in the *Philosophical Transactions of the Royal Society*, which regularly published papers on meteorological events (Jankovic, 2000, pp. 34–5). For instance, the astronomer Edmund Halley wrote on problems of barometric pressure, connecting Boyle's experiments to the latest theories on air pressure and his own observations in the Atlantic. Another case in point is the clergyman and natural philosopher William Derham, who performed several observations and measurements of meteors like rain and winds, which enriched the *Philosophical Transactions* and his own *Physico-Theology* (1713) (Atkinson, 1952b).[47]

In classical literature, the origin of meteors was often attributed to the Earth's elements. Blackmore held this perspective in Book II of *Creation*, where he describes how nature supplies the atmosphere with various elements, creating different weathers:

> These Regions Nature's Magazines on high

[46] The Statutes of the University of Oxford Codified in the Year 1636 under the Authority of Archbishop Laud, Chancellor of the University, the Caroline Code of 1636, was a revised set of existing statutes aimed at enhancing educational efficiency according to High Church principles. By the end of the century, the Caroline Code became outdated, impeding the introduction of scientific studies into the curriculum, which, according to Allen (1946, p. 119), hindered educational progress until the nineteenth century. Studies such as those by Allen (1949), Shapiro (1971) provide helpful context for understanding what kind of scientific knowledge penetrated university education when Blackmore was a student at Oxford.

[47] Some manuscripts held at the British Library in London demonstrate this widespread interest at the time. For instance, Sloane MS 4046 (ff. 43, 200, 271) contains some letters from William Derham to Sir Hans Sloane. Sloane MS 4039 (ff. 244, 259) contains letters from John Locke to Sir hans Sloane, including a register of the weather.

With all the Stores demanded there supply,
Their different Steams the Air's wide Bosom fill,
Moist from the Flood, dry from the barren Hill;
Materials into Meteors to be wrought,
Which back to these Terrestrial Seats are brought,
By Nature shap'd to various Figures, those
The fruitful Rain, and these the Hail compose
The Snowy Fleece and curious Frostwork; these
Produce the Dew, and those the gentle Breeze.
Some form fierce Winds, which o'er the Mountain pass,
And beat with vig'rous Wings the Valley's Face;
O'er the wide Lake, and barren Desart blow,
O'er *Lybia*'s burning Sand, and *Scythia*'s Snow;
Shake the high Cedar, thro' the Forest sweep,
And with their furious Breath ferment the Deep.
(Blackmore, 1712, II, ll.670-85)

A variety of rhetorical figures represents the interconnectedness of nature and, in particular, of the Earth and the atmosphere. The personification of air (l.672) and valleys (l.681), the use of vivid images such as the "[s]nowy Fleece and curious Frostwork" (l.678), consistent metaphors, parallelisms, and antitheses effectively convey this complex interaction. Nicolson (2015, p. 72) remarks that the word "meteor" had different meanings in the eighteenth century[48] but the occurrence of meteors was usually attributed to a terrestrial "Low Birth" (Reynolds, 1709, p. 22). One of Blackmore's sources was Derham's physico-theological work, in which he also discusses the composition of clouds and rain. In Book I, Chapter IV, Derham (1713, p. 20) claims that clouds are formed from vapour originating in terrestrial water or moisture alone, rejecting the idea of dry, terrestrial exhalations or fumes, often disputed

[48]See, for instance, the definitions given by Kersey in *Dictionarium Anglo-Britannicum: or, a General English Dictionary* (1708):

> **Meteors**, certain imperfectly mixt Bodies, consisting of Vapours drawn up into the middle Region of the Air, and set out in different forms.
>
> **Airy Meteors,** are those that are bred of flatuous and spirituous Exhalations, as Winds, &c.
>
> **Fiery Meteors**, are such as consist of a ?fat? sulphureous kindled Smoak, as Thunder, and Lightning, &c.
>
> **Watery Meteors**, are made up of Vapours separated from each other by the means of Heat, and variously modify'd, as Rain, Hail, Snow, &c.

by natural philosophers. In *Creation*, Blackmore lists a plethora of atmospheric occurrences stemming from clouds, including rain, hail, snow, frost, dew, and breeze (ll.677-85). Not all of them are the object of further analysis, though. These are essential components of the Earth's weather and they help shape the environment through their constant interaction.

In line 678, Blackmore refers to "snowy fleece and curious frostwork," an interesting oxymoronic juxtaposition that was probably indebted to the coeval research on snow. In particular, in 1673, a paper entitled "Some observations touching the nature of snow, presented to the R. Society by Dr Nehemiah Grew" was published in the *Philosophical Transaction*s. The paper relates the physician's research on meteorological phenomena. While Grew acknowledges the work of predecessors like Aristotle and Descartes, he remarks on their incomplete appreciation of snow. He proposed a comprehensive explanation of how snow, whether in its individual flakes or as part of a cloud, consists of countless icicles arranged in a regular pattern. Each droplet of vapour freezes into an icicle upon descent from the cloud to the Earth, forming the regular structure of a snowflake. The physician concludes that while snow "seem[s] to be soft, yet 'tis truly hard" (Grew, 1673, p. 5194).

The winds, classified as either hot or cold, are also among the atmospheric phenomena mentioned in the introductory part of this passage. Aristotle's *Meteorologica* (fourth century BC) was the oldest comprehensive treatise on meteorology, including topics on the formation of rain, clouds and mist, hail, winds, climatic changes, thunder and lightning, and hurricanes (Frisinger, 1977, p. 15). In the following centuries, interest in meteorology primarily revolved around Aristotle's work and throughout the medieval period, various scholars also explored meteorology, with Aristotle representing the primary source until the early modern. The development of scientific instruments in the seventeenth century represented a crucial advancement in weather studies, as it allowed for a more thorough examination of the atmosphere. The initial phase involved gathering data through meteorological observations, which came to rely more and more on instruments such as the thermometer, barometer, and hygrometer.[49] Pioneering figures in the study of meteorology in late seventeenth-century England were the curator of experiments of the Royal Society, Robert Hooke, considered by many "the Father of Modern Meteorology" (Frisinger, 1977, p. 102), and the astronomer and polymath Edmund Halley. Indeed, it was Hooke who, in 1663, proposed a method for investigating the weather; according to Frisinger (1977), the field of dynamic meteorology, that is, the study of the motion of the air motion in the atmosphere, emerged with the work of Halley. In 1686 the natural philosopher was studying the pressure-height problem and noted variations in barometric readings associated with different winds, which he published in the *Philosophical Transactions* as "An Historical Account of the Trade Winds, and Monsoons, Observable in the Seas

[49] For a comprehensive history of meteorology in the Western world and a history of the development of meteorological instruments, see Frisinger (1977) and Jankovic (2000).

between and near the Tropicks, with an Attempt to Assign the Physical Cause of the said Winds." His groundbreaking theory connected the circulation of the atmosphere with the distribution of solar heat across the Earth's surface: heated air rises, creating areas of low pressure into which cooler air flows, generating winds. This hypothesis managed to explain phenomena like the easterly trade winds near the equator. Hence, Halley's insights laid the foundation for studying winds as part of a global circulation system driven by solar heating.

All these observations led many natural philosophers and physico-theologians, including Blackmore, to conclude that "the wise Author's Providential Care" (II, l.687) is behind the intricate structure of the air and its atmospheric manifestations. The composition of the air allows for the existence of breathing creatures, hence life on Earth. The water cycle is another manifestation of God's divine providence, for it guarantees this element's continuous replenishment on Earth. Similar sentiments regarding God's providence in creating meteors are expressed in Stanza IV of John Hughes's *An Ode to the Creator of the World* (1713):

> The Meteor World is his, Heav'n's Wintry Store,
> The Moulded Hail, the feather'd Snow;
> The sunbred Breeze, the soft refreshing Show'r,
> The loose divided Cloud, and many-colour'd Bow;
> Th crooked Lightning darts around,
> His Sov'reign Orders to fulfull;
> The shooting Frame obeys th' Eternal Will
> (Hughes, 1713, p. 3)

Hughes and Blackmore knew each other and worked together on the periodical *The Lay Monk* between 1713 and 1714. The forty papers testify that the two shared a general understanding of the universe, which they expressed similarly in their poetic works.

Besides covering these matters, Blackmore's *Creation* elaborates on God's design underlying the benefits of air for blood circulation in arteries and veins, with line 694 highlighting the flow of blood carrying "Nitrous Food" in veins thanks to respiration.[50] The poet's medical expertise comes to the fore in lines 695-7, which draw attention to the distinctions between arteries and veins and their different functions in the circulatory system (see Section 3.1.2).

After the introductory section on air, the poem details two atmospheric phenomena: the wind and rain. Blackmore's discourse on winds is devoted about 70 lines (ll.698-767), as wind holds a multifaceted significance in *Creation*, extending well beyond mere atmospheric movements. In particular, Blackmore's utilitarian anthropocentrism stresses that the wind serves an "Important Use to humane Kind" (l.698).

[50] Blackmore would expand on this concept in *Creation*, Book VI, ll.431-67.

The wind also positively impacts air itself, preventing it from stagnating as the tide does with seawater (ll.700-3). This sign of God's artfulness was pointed out in *Physico-Theology*, too:

> To pass by other Considerations, whereby I might demonstrate the Winds to be the infinite Creator's Contrivance, I shall insist only upon their great usefulness to the World. As do great is their Use, and of such absolute Necessity are they to the Salubrity of the Atmosphere, that all the World would be poisoned without those Agitations thereof. We find how putrid, foetid, and unfit for Respiration, as well as Health and Pleasure, a stagnating, confined, pent up Air is. (Derham, 1713, pp. 14–5)

Blackmore reflects on hypothetical scenarios with different atmospheric conditions that, if they existed, would lead to noxious consequences, like "Deaths" or "Plagues" (II, l.707, l.711; III, ll.439-44). The risk of plagues developing from harmful air was well known then, as it is attested by Derham (1713, p. 15). The clergyman alludes to two works of early meteorology, namely *A discourse concerning the origine and properties of vvind with an historicall account of hurricanes and other tempestuous winds* (1681) by Ralph Bohun (bap. 1639–1716) and *Essays of the strange subtilty great efficacy determinate nature of effluviums* (1673) by Robert Boyle, both of which link the potentially noxious effects of the stagnating hot air with diseases like the plague.

In the same chapter, Derham also discusses the benefits of ventilation for both health and pleasure. In particular, the clergyman touches on how breezes in summer provide relief from heat and enable people to live comfortably. He also underlines the value of perpetual gales in the Torrid Zone of the world, making the climate there habitable and pleasant year-round (Derham, 1713, p. 17). Blackmore, too, when he transitions to the effects of wind on land, describes how it cools regions afflicted by excessive heat from the Sun in the torrid zones[51] (ll.716-43).

The poet then shifts his attention to the wind's influence on the sea and especially the momentousness of trade winds, persistent east-to-west winds that blow across Earth's equatorial region:

> As Active Winds relieve the Air and Land,
>
> The Seas no less their useful Blasts demand.
>
> Without this Aid the Ship would ne'er advance
>
> Along the Deep, and o'er the Billow dance,
>
> But lye a lazy and a useless Load,
>
> The Forest's wasted Spoils, the Lumber of the Flood.
>
> Let but the Wind with an auspicious Gale

[51] To the noxious effects of excessive heat on human beings, Blackmore devoted his *The Nature of Man* (1711). See Appendix B.

> To shove the Vessel fill the spreading Sail,
> And see, with swelling Canvass wing'd, she flies,
> And with her waving Streamers sweeps the Skies!
> Th' advent'rous Merchant thus pursues his Way
> Or to the Rise, or to the Fall of Day:
> Thus mutual Traffick sever'd Realms maintain,
> And Manufactures change to mutual Gain;
> Each others Growth and Arts they sell and buy
> Ease their Redundance, and their Wants supply
> (Blackmore, 1712, II, ll.744-59)

This passage expresses the importance of wind in navigation, particularly in building Britain's maritime power. Beside the physico-theological scope, *Creation* is notable for its patriotism. The patriotic tribute to Britain's seafaring prowess (ll.760-7) celebrates its commercial ventures with various lands, including Arabia for spices, gems, pearls, India for spices, Persia for silks, Spain for wines, Peru for drugs, and Guinea for gold. The reference to "fair Augusta" (l.766) is probably an allusion to Queen Anne and British exceptional maritime accomplishments during her reign.

Halley's state-of-the-art work from 1686 dwelt on the centrality of winds for navigation, and the paper and the attached map document global wind patterns, which are still valuable today. A case in point are the easterly winds encircling the Equator, known as trade winds. These were vital for navigation and establishing routes for commercial sailing vessels traversing between Africa, Europe, and the Americas. The significance of such winds did not fail to catch the attention of English physico-theologians, who perceived the providential nature of such occurrences from an anthropocentric point of view. For example, Nehemiah Grew extols the multifaceted utility of the atmosphere, for instance in generating winds and atmospheric phenomena essential for life on Earth, including trade winds. In part, he attributes their existence to the diurnal motion of the Earth, which propels them in a northeast-to-southwest direction between the Tropics throughout the year (Grew, 1701, p. 9). Derham (1713, pp. 18–9) also dwells on commerce and the practical importance of general and coastal trade winds for long-distance voyages and local navigation. As naturalist John Ray eloquently synthesised in *The Wisdom of God*, "[a]ll these things declare the Wisdom and Goodness of Him *who bringeth the Winds out of his Treasures*" (1691, p. 66). The full version of Psalm 135.7, quoted by Ray, reads

> He causeth the vapours to ascend from the ends of the earth; he maketh lightnings for the rain; he bringeth the wind out of his treasuries.
> (*The Bible*, 2015, p. 715)

The rain is the next meteoric phenomenon in which Blackmore discerns God's intervention. Lines 768 to 806 delve into the process whereby vapours assemble into clouds that, in turn, generate rain:

> See, how the Vapours Congregated reer
> Their gloomy Columns, and obscure the Air!
> Forgetful of their Gravity they rise,
> Renounce the Center, and usurp the Skies,
> Where, form'd to Clouds they their back Lines display,
> And take their Airy March, as Winds convey.
> Sublime in Air while they their Course pursue,
> They from their sable Fleeces shake the Dew
> On the parcht Mountain, and with Genial Rain
> Renew the Forest, and refresh the Plain.
> (Blackmore, 1712, II, ll.768-77)

The richness in visual imagery in these lines forms a vivid yet gloomy picture of the atmospheric phenomena described. Vapours, personified throughout the passage, move upwards, away from the Earth's centre of gravity, to form clouds, which produce rain that takes water back to the land following the water cycle. Such a description of the meteor was already present in physico-theological literature of the day, including Nehemiah Grew's *Cosmologia Sacra* (1701) and Derham's *Physico-Theology* (1713). Here, clouds and rain are attributed to the vapour emanating solely from water or moisture, which can ascend to form clouds due to its lighter weight than the atmosphere (Derham, 1713, p. 20). These texts, as well as Blackmore's, focus on the life-giving property of rain, which enables plants to grow and animals and humans to thrive. As Section 2.2.2 underlined, water is so essential for life on Earth that those places where rain is scarce have other means to receive the necessary water. The same argument was made in Book I, where the providential disposition of mountains and rivers to guarantee the appropriate circulation of water everywhere is discussed. John Ray already conveyed similar sentiments in his *Wisdom of God* (1691):

> the Clouds should be so carried about by the Winds, as to be almost equally dispersed and distributed, no part of the Earth wanting convenient Showers, unless when it pleaseth God for the punishment of a Nation to withhold Rain by a special interposition of his Providence; or if any Land wants Rain, they have a supply some other way, as the Land of Egypt, though there seldom falls any Rain there, yet hath abundant recompence made it by the annual overflowing of the River. This Distribution of the Clouds and Rain is to me (I say) a great Argument of Providence and divine Disposition. (Ray, 1691, p. 64)

These passages bring to the fore one of the critical arguments of English physico-theology and, more specifically, of Blackmore's understanding of the divine design of creation: when there is a deficiency in one aspect, another aspect compensates for it. Man's duty is to "see" God's intervention in the providential workings of the universe and "revere" (l.797) him. Hence, at the closing of his survey of rain, Blackmore remarks that God's plan is traceable even in those occurrences that, at first glance, may appear harmful:

> A dreadful Fire the floating Batt'ries make,
> O'erturn the Mountain, and the Forest shake.
> This Way and That they drive the Atmosphere,
> And its wide Bosom from Corruption clear,
> While their bright Flame consumes the Sulphur Trains,
> And noxious Vapours, which infect our Veins.
> Thus they refine the vital Element,
> Secure our Health, and growing Plagues prevent.
> (Blackmore, 1712, II, ll.799-806)

Metaphors deriving from the semantic field of war, personification, as well as alliterative expressions (l.799, l.802) and chiastic structures (l.800, l.806), stress the importance of lightenings in this system. These are said to purify the air from noxious vapours and to refine water, positively impacting human health. Rain consumes the sulphur present in the air, purifying it. A key document for the circulation of scientific knowledge in the early eighteenth century was Ephraim Chambers's (1680-1740) *Cyclopaedia, or, An Universal Dictionary of Arts and Sciences*,[52] first published in two volumes in 1728, with two supplement volumes appearing in 1753. According to Jankovic (2000), Chambers's *Cyclopaedia* explained that the presence of sulphur vapour in lightning is known by the sulphurous smell and stuffy heat in the air that precedes it. A similar account was also given earlier in the century by lexicographer John Harris (1667?–1719) in the *Lexicon Technicum* (1708), which in turn referred to a paper published by John Wallis:

[52]The subtitle of the first edition (1728) synthesises Chambers's comprehensive project: *Cyclopaedia, or, An universal dictionary of arts and sciences: containing the definitions of the terms, and accounts of the things signify'd thereby, in the several arts, both liberal and mechanical, and the several sciences, human and divine: the figures, kinds, properties, productions, preparations, and uses, of things natural and artificial; the rise, progress, and state of things ecclesiastical, civil, military, and commercial: with the several systems, sects, opinions, &c; among philosophers, divines, mathematicians, physicians, antiquaries, criticks, &c: The whole intended as a course of ancient and modern learning.*

The ARTFL Project of the University of Chicago digitalised the fourth edition of Chambers's *Cyclopaedia* (1741), which is now accessible and searchable here: <https://artfl-project.uchicago.edu/content/chambers-cyclopaedia>.

> Dr Wallis in *Philos. Trans. N°. 231. p. 655.* saith, That Thunder and Lightning are so very like the Effects of fired Gun-powder, that we may reasonably judge they proceed from the like Causes. Now the Principal Ingredients in Gun-powder, are Nitre and Sulphur (the Admistion of Charcoal being chiefly to keep the Parts separate, for the better kindling of it.) So that if we suppose in the Air a convenient Mixture of *Nitrous* and *Sulphurous* Vapors, and those by Accident to take Fire, such *Explosion* may well follow with such Noise and Light, as in the firing of Gun-powder; and being once kindled, it will run from place to place, as the Vapour leads it, like as in a Train of Gun-powder, with the like Effects. (Harris, 1708, headword: THUNDER)

All in all, in contemplating atmospheric phenomena, from the ascent of vapours to the descent of rain, Blackmore reminds his readers of the profound interconnectedness of creation. Through the lens Blackmore provides, a synthesis of the main physico-theological arguments relating to the natural world inevitably points to the divine hand guiding natural processes. As clouds form and rain falls, as winds blow and lightning strikes, early eighteenth-century readers were called to marvel at the beauty of nature's workings and at the providential care behind them.

2.4 The Solar System

The final section of this chapter analyses the portrayal of the solar system in Book II of *Creation*. In addition to being the most fascinating field of inquiry of the late seventeenth century, the heavens are paramount for Blackmore's physico-theological exploration of God's creation. In the poet's interconnected and divinely ordained cosmos, what happens in the macrocosm of the heavens significantly affects what happens in the microcosm of the Earth.

Throughout this section, Blackmore's characterisation of the greatness and mechanics of the cosmos will be retraced to contextualise his view of the solar system, including his stance on the theory of the plurality of worlds. The four main subsections are meant to draw attention to relevant aspects of his survey of the heavens. Firstly, the pivotal role of the Sun within the universe will be studied in relation to its celestial position, motion, the consequential alternation of day and night, and the seasons, all of which prove to be vital for life on Earth. The second subsection will dwell on Blackmore's reflections on the nature of light and its significance. Then, the origin of celestial motion and the dynamics governing heavenly bodies will bring to the fore Blackmore's ambivalence over geocentric and heliocentric hypotheses. Lastly, a historical survey of the evolution of explanations regarding celestial dynamics—from the ancient cosmologies of Ptolemy to the groundbreaking theories of Copernicus, Kepler, Tycho Brahe, and Newton—will form the backdrop to Blackmore's cosmolo-

gical reflections, highlighting the comprehensive scope of the poem.

The heavens and astronomical findings were a favourite topic of scientific poetry in the late seventeenth and early eighteenth centuries. Indeed, Jones (1966) notices that fashions in the study of science changed in the eighteenth century, with astronomy and the work of Newton having the monopoly at the turn of the century. Poets, who were typically not scientists, expanded upon the ideas they encountered in standard prose works of physico-theology—books that resembled popular summaries of science and theology—by creating literary pieces that celebrated the greatness of God in His creation. It was with this spirit that John Reynolds composed his *Death's Vision* (1709):

> Great God! what Pow'r and Skill Combine
>
> To manage this Mysterious Frame,
>
> Thy Glories in Each Portion Shine,
>
> 'Tis Big with thine Almighty Name!
>
> Ah! Happy Prospect, that Infallibly Confutes
>
> Old Prejudice, and Ends Theoretical Disputes!
>
> (Reynolds, 1709, pp. 23–4)

This section introduces Blackmore's general understanding of the solar system as part of the Creator's plan and his position on the plurality of worlds. As we learn from the opening argument, Book II is nearly entirely devoted to:

> The existence of a God demonstrated from the wisdom and design which appear in the motion of the heavenly orbs; but more particularly in the [solar] system. (Blackmore, 1712)

After discussing the value of the Christian religion as opposed to the atheistical Epicureanism of "Carus, by hardy Epicurus taught" (l.1), Book II illustrates the complexities of the solar system and the inability of science to fully explain them without acknowledging a divine power. Lastly, the final portion of the Book lingers over the design of atmospheric phenomena and plant life, closing the circle of the natural world presented in the first two books.

In the Preface of *Creation*, Blackmore outlines his intention to demonstrate the existence of a God, making the subject clearer and more engaging by using simple, familiar language and avoiding technical terms. He hopes this approach will make the work more accessible and enhance its usefulness:

> I have attempted, as Monsieur Fontenelle had done with great Success in his Plurality of Worlds, to bring Philosophy out of the secret Recesses of the Schools, and strip it of its uncouth and mysterious Dress, that it may become agreeable, and admitted to a general conversation. (Blackmore, 1712, p. xxxv)

In this passage, Blackmore names only one source, that is "Monsieur Fontenelle" (see Section 1.3.3). Bernard de Fontenelle's *Conversations on the Plurality of Worlds* (1686) was the most influential piece of popular science and astronomy of the late seventeenth century, a text in which the possibility of life on other planets relied on Descartes's theories and mechanical philosophy. According to Marsak (1959), the investigation of the handiwork of God in nature was, for Fontenelle, almost a religious duty and reflected his belief in the gradual enlightenment of humanity through science. The image of God that emerges from the *Plurality of Worlds* is that of "the watchmaker who gave moment to astronomical immensity" (Marsak, 1959, p. 28). The French philosopher believed that while God is omnipotent, nature is not. However, nature reveals God's omniscience and thus must be investigated. In Book II of *Creation*, Blackmore adopts a similar position when discussing the heavens. His indebtedness to Fontenelle lies in the conversational manner of relating the subject and the fundamental ideas presented, like in the opening of the section devoted to the heavens:

> Regard the Orbs sublime in *Æther* born,
> Which the blue Regions of the Skies adorn;
> Compar'd with whose Extent, this low hung Ball
> Shrunk to a point, is despicably small:
> Their Number, counting those th' unaided Eye
> Can see, or by invented Tubes descry,
> With those which in the adverse Hemisphere,
> Or near each Pole to Lands remote appear,
> The widest stretch of Human Thought exceeds,
> And in th'attentive Mind Amazement breeds:
> While these so numerous, and so vast of size,
> In various ways roll thro' the trackless Skies;
> Thro' crossing Roads perplext and intricate,
> Perform their Stages, and their Rounds repeat;
> (Blackmore, 1712, II, ll.73-86)

The height and magnitude of the "orbs sublime" are the object of the poet's admiration and survey. These celestial bodies are described as borne by aether, the subtle substance thought to fill the universe. In *Prince Arthur* (1695), Book II, Blackmore expressed this:

> Th' Almighty spake, and strait the Sprightly Light
> With lovely Looks broke from th' Abyss of Night;

> On Golden Wings it mounts, and in its way
> Its Smiles diffuse new Morn, and unripe Day.
> Aloft vast spreading Sheets of Ether rise,
> Matter for Sphears, and pure transparent Skies.
> (Blackmore, 1695, p. 37)

Despite his seemingly Aristotelean language, when Blackmore wrote, natural philosophers were prone to believe the whole universe to be filled with aether. Let us consider the definition of "aether" in two of the main popularisations of technical terminology of the time: John Harris's *Lexicon Technicum* (1708) and Ephraim Chambers's *Cyclopaedia* (1728). Both these works made the virtually ubiquitous technical jargon that began to permeate popular literature more accessible to the general reader (Layton, 1965). The term "aether" is a good example. Harris discusses aether using the definitions provided by the natural philosophers of his day. He references Hooke's description but distances himself from the Cartesian idea of a full universe. Harris explains that, unlike air, which has large, compressible gaps, aether is a finer fluid extending beyond the atmosphere to the planets. Although the exact nature of aether is unclear, it is considered "a very fine this Diaphanous Fluid, which some will have to surround the Earth up to as far as the Interstellar World, and which early penetrates and runs thro' all things, and lets all things run as easily tho' it" (Harris, 1708). Chambers also addresses the concept of aether, describing it as a thin, subtle substance that fills the space beyond Earth's atmosphere. Philosophers debated its nature: some saw it as a distinct substance occupying the voids between heavenly bodies, others believed it penetrated and pervaded all matter, and some denied its existence entirely, proposing that air itself might fill interstellar spaces. He concludes that

> there are abundance of considerations, which seem to evince the existence of some matter in the air, much finer than the air it self.—There is an unknown something, which remains behind when the air is taken away; as appears from certain effects which we see produced in Vacuo. (Chambers, 1741)

Similar musings regarding the puzzling nature of aether were absorbed into physico-theological works and Blackmore's poem as well. For instance, Bentley's eighth sermon from the *Folly* (1693), "Origin and Frame of the World," argues that the universe is filled with aether, as a fluid element that neither hinders nor aids the movements of planets. In his view, celestial bodies "rowl through those Regions as free and unresisted, as if they moved in a vacuum" (Bentley, 1693, pp. 248–9). On the other hand, in *Cosmologia Sacra* (1701), Nehemiah Grew contends that there are various types of aether with differing levels of rarity, which make it an ideal medium for transmitting

the light and influence of celestial bodies over vast distances (p. 9). Blackmore's vision of interplanetary space was a product of this *milieu* and popular literature. Nicolson (2015, pp. 48–9) adds that the term "ether" originally had a broad or specific meaning, referring to the sky or heaven; for instance, James Thomson in the *Seasons* employs the general meaning of "ethereal." Ambiguity was very much the rule rather than an exception when it came to understanding aether.

The introductory lines quoted above set the general tone of Book II. While Blackmore draws particular attention to the mechanisms governing the universe, he also repeatedly places emphasis on the beauty of the heavens, "adorn[ed]" by planets and stars (l.74). The stress on the usefulness and mechanically exceptional order of the universe, as well as on the awe inspired by the beauty of nature, places *Creation* in the physico-theological tradition outlined in Section 1.1.

Another feature of the universe immediately foregrounded in these lines is its vastness, and the smallness of the Earth compared to it. On the one hand, the reduction of the importance of the planet was a consequence of the Copernican revolution, which displaced the Earth from the centre of the universe and equated it to one of the other planets. The very number and size of the planets "exceed" "the widest stretch of human thought" (l.81), causing "amazement" (l.82) in those who behold them.[53] According to Gilbert (1923, p. 305) the idea that the Earth is extremely small compared to the heavens was sometimes inherent to the new astronomy, as Milton expressed through Adam's words in *Paradise Lost*, Book VIII:

> When I behold this goodly frame, this world
>
> Of heaven and earth consisting, and compute
>
> Their magnitodes, this earth a spot, a grain,

[53]The strand of physico-theology deriving from the philosophy of the Cambridge Platonists inherited a tendency towards amazement and admiration towards the natural manifestations of a divine hand (Mandelbrote, 2007). This is well illustrated by these lines from Henry More's poem *Democritus Platonissans, or, An Essay upon the Infinity of Worlds out of Platonick Principles* (1646):

> Tell me therefore
> When you behold with your admiring eyes
> Heavens canopie all to be spangled o're
> With sprinkled starres, what can you well devize
> Which causen may such carelesse order in the skies?
> [...]
> But though these lights do seem so rudely thrown
> And scattered throughout the spacious skie,
> Yet each most seemly fits in his own Throne
> In distance due and comely Majesty;
> And round their lordly feats their servants hie
> Keeping a well-proportioned space
> One from another, doing cheerfully
> Their dayly task.
> (More, 1646, p. 14)

> An atom, to the firmament compared
>
> [...]
>
> reasoning I oft admire,
>
> How Nature wise and frugal could commit
>
> Such disproportions.
>
> (Milton, 2020, Book VIII, ll.15-27)

The belief in the boundlessness of the universe led many seventeenth-century thinkers to accept the existence of an infinity of planets, which often translated into a plurality of inhabited worlds. The fundamental concept was that it would have been illogical to suppose that God's omnipotence had only expressed itself in the creation of our world. As Fontenelle put it, "[w]hy [...] should Nature which is fruitful to an excess here, be so very barren in the rest of the Planets?" (Fontenelle, 1702, pp. 90–1). In his "Bernard de Fontenelle: The Idea of Science in the French Enlightenment" (1959), Marsak traces a concise but precise history of the development of the idea of the plurality of the worlds. In the early modern, Copernicus's *De revolutionibus orbium coelestium* (1543) fostered speculations on the subject, as the Earth became one of several planets and was dispensed with any particular uniqueness. At the end of the following century, Dutch astronomer Christiaan Huygens (1629–1695), in *The Celestial Worlds Discover'd* (1698), Book I, would comment:

> A Man that is of Copernicus's Opinion, that this Earth of ours is a Planet, carry'd round and enlighten'd by the Sun, like the rest of them, cannot but sometimes have a fancy, that it's not improbable that the rest of the Planet have their Dress and Furniture, nay and their Inhabitants too as well as this Earth of ours. (Huygens, 1698, pp. 1–2)

Italian philosopher Giordano Bruno (1548–1600) formulated a congenial metaphysics for a plurality of worlds, for what happened on Earth could also be assumed to happen elsewhere. Kepler, too, devoted his posthumous *Somnium* (1634) to the question of Lunar astronomy and the possibility that the moon was actually inhabited (Kepler, 1967). In England, the already mentioned John Wilkins drew on Kepler's work and wrote on the plurality of worlds: *The Discovery of a New World* (1638) and *A Discourse that the Earth may be a Planet* (1640) were models for Fontenelle's *opus*. According to Janowitz (2010), the Newtonian era exploited the idea of the plurality of worlds to give further evidence and explanation of the universal force of gravitation. The fascination with the idea of the plurality of worlds also reached poetry. For instance, a few years after the publication of *Creation*, Alexander Pope composed the seminal *Essay on Man* (1733-4), considered by many the most accomplished scientific poem of the early eighteenth century (Jones, 1966). Pope celebrated the sublimity of the "worlds unnumber'd" (Pope, 2017, I, l.22), and his lines show that he accepted—or at least was open to embrace—the thesis of the plurality of worlds:

> He, who through vast immensity can pierce,
> See worlds on worlds compose one universe,
> Observe how system into system runs,
> What other planets circle other suns,
> What varied being peoples ev'ry star,
> May tell why Heav'n has made us as we are.
> (Pope, 2017, I, ll.24-9)

Many physico-theologians, too, explored this possibility. Nehemiah Grew was convinced that:

> another Terraqueous Orb, having its Atmosphere, Winds, Seas, and Tides; and wherewithal a suitable, tho' perhaps a different Furniture of Animals, Plants and Mines. And we have as good reason to believe the same of all the other Planets; their greater and lesser Distance from the Sun being matched with suitable Atmospheres. (Grew, 1701, p. 10)

Schmidgen (2021, p. 5) argues that in the seventeenth century, the variety of the universe appeared infinite only to the limited human mind. In contrast, God's infinite comprehension goes beyond and perceives the true underlying order of the universe. By the early eighteenth century, due to recent astronomical advances, nearly everyone believed in a plurality of worlds (Meadows, 1969, p. 126). According to Lovejoy (2001, pp. 135–4), Blackmore has no doubts about this:

> Yet is this mighty System, which contains
> So many Worlds, such vast Etherial Plains,
> But one of Thousands, which compose the Whole,
> Perhaps as Glorious, and of Worlds as full.
> [...]
> All these Illustrious Worlds, and many more,
> Which by the Tube Astronomers explore;
> And Millions which the Glass can ne'er descry,
> Lost in the Wilds of vast Immensity,
> Are Suns, are Centers, whose Superior Sway
> Planets of various Magnitude obey.
> (Blackmore, 1712, II, ll. 526-9; ll.536-41)

Assuming God's omnipotence and generosity in creating the universe, it was impossible to dismiss the possibility that other heavenly bodies were inhabited. Blackmore started embracing this view at least as early as 1695 when, in Book II of *Prince Arthur*, he remarked:

> Th' Etherial Plain now cultivated bears,
>
> A shining Harvest of Illustrious Stars.
>
> That at a distance seem small Lights, but near
>
> Capacious Realms, and glorious Worlds appear.
>
> (Blackmore, 1695, p. 38)

He would then confirm it in the fifth essay of his *Lay Monastery* a few months after the publication of *Creation*. In the same paper in which he wrote on the great chain of being, he also claimed that

> every Drop of Water and Piece of Earth is a Nest of minute living Creatures, and a little Pepper-Corn is crouded like a populous City, with Inhabitants, we cannot but conclude that the Regions above are equally peopled; unless we can conceive that the bright and spacious Globes of Heaven were only made for the Service of this little obscure Spot, or that the Author was not able, or was unwilling to exert more Power and Goodness in creating proper Animals, to fill the noblest, as well as the meanest Parts of the Creation. (Blackmore & Hughes, 1714, p. 28)

In *Creation*, Book II, lines 535-41 condense the belief that stars are suns with their own systems of plants depending on them. It is easy to assume that Blackmore owed much of his ideas to Fontenelle's *A Plurality of Worlds*. Nevertheless, many of Blackmore's contemporary physico-theologians also weighed this possibility in their works. Richard Bentley (1693, pp. 241–2) posits that there are countless luminous stars beyond the reach of the best telescopes, suggesting that each visible star may have opaque planets revolving around it, unseen by us. He argues that if these stars and their potential planets were not created for our sake, they certainly were not made for their own sake either: matter, devoid of life and perception, cannot appreciate its own existence or worship its Creator. Thus, all physical bodies must have been formed for the sake of intelligent minds. Given his stand as "God's Philologist" (Calloway, 2016), Bentley assures that such speculations do not conflict with revealed religion, which does not preclude the existence of multiple systems inhabited by intelligent beings. William Derham aligns with these tenets, too, in *Astro-Theology* (1715):

> whereas the Copernican Hypothesis supposeth the Firmament of the Fixt Starts to be the Bounds of the Universe, and to be placed at equal distance from its Center the Sun; the New Systeme supposeth there are many other

> Systems of Suns and Planets, besides that in which we have our residence: namely, that every Fixt Star is a Sun, and encompassed with a Systeme of Planets, both Primary and Secondary, as well as ours. (Derham, 1715, p. xli)

According to McColley's article "The seventeenth-century doctrine of a plurality of worlds" (1936) the connection between the concept of multiple worlds—as endorsed by Blackmore in *Creation* on the principle of plenitude—and the idea of the universe's infinity is crucial. This association gained prominence following the publication of Copernicus's *De Revolutionibus* (1543), which introduced the notion of an infinite universe, and the advent of the telescope further substantiated this by revealing the universe's far greater vastness than men had previously imagined. In England, discourse on the infinity of the cosmos dated as back as 1567, when English astronomer Thomas Digges (1546–1595) wrote on Copernican theories and was the first to propose that the universe is infinite, containing infinitely many stars in his *A Perfit Description of the Caelestiall Orbes according to the most aunciente doctrine of the Pythagoreans, latelye revived by Copernicus and by Geometricall Demonstrations approved* Meadows (1969, p. 78). Connell (2016, p. 181) believes that Newton's physics provided the critical shift, as "[t]he synthesis of natural theology and popular Newtonianism thus played a crucial role in the emergence of a new 'aesthetics of the infinite', which would go on to exert a transformative influence on the English imagination."

Having provided a general introduction to Blackmore's fundamental appreciation of the heavens, let us move to the core ideas versified in Book II of *Creation*.

2.4.1 The Sun: Position and Motion

Harmony is the key to synthesising *Creation*: the universe operates through balance and coordination, making it hard to believe that such an arrangement results from mere chance or an inevitable chain of events. This section adds nuance to Blackmore's cosmological position by analysing his representation of the alternation of day and night and seasons caused by the Sun's motion. In *Creation,* Blackmore shows an ambiguous stance on the geocentric and heliocentric models of the solar system. He seems to accept the Copernican theory, and yet Lovejoy (2001, p. 135) argues that the physician is slightly hesitant. Such a wavering makes sense when we remember that Blackmore's primary physico-theological sources were not aligned in this. For instance, Richard Bentley and William Derham embraced the truth of the heliocentric system theorised by Copernicus and mathematically corroborated by Newton. In his Boyle Lectures, Derham affirmed that

> [w]ith the Copernicans, I take it here for granted, that the Diurnal and Annual Revolutions, are the Motions of the Terraqueous Globe, not of the Sun. (Derham, 1713, p. 43)

On the other hand, John Edwards was a staunch defender of geocentrism and extensively wrote against Copernicanism. In the introduction to his *Brief Remarks Upon Mr. Whiston's New Theory of the Earth*, which came out only a year after the *Demonstration*, Edwards compared the Copernican system to Descartes's doctrines as mere fads:

> I have lived to see Monsieur Des Cartes's Philosophy introduced into the Publick Schools with great applause, and at last exploded: and this may be the fate of the Copernican Hypothesis, though it hath been embraced some considerable time by the Greatest Philosophick Wits, who have now rendred it a Modish Opinion. (Edwards, 1697)

Similar positions were also expressed in the *Demonstration*, where Edwards based his descriptions of the solar system on the firm disbelief in "the Circular Motion of the Earth after the rate that the Copernicans assert it" (Edwards, 1696, p. 28). On the whole, Edwards leaned towards the Tychonic system (Edwards, 1697, p. 46), believing "that the doctrine of the Earths Rest is more probable and accountable then that of its Moving" (1697, p. 47).

These preliminary remarks are instrumental in contextualising Blackmore's astronomical ambiguities. References to geocentrism were frequent in his earlier works. For instance, in his first two epics, *Prince Arthur* (1695) and *King Arthur* (1697), he wrote:

> The Earth with its own Burden tir'd, and prest
>
> Down with its weight, lies in the midst at rest.
>
> (Blackmore, 1695, p. 38)
>
> The rising Sun the Throne of Night invades,
>
> Fenc'd with thick Darkness, and entrench'd in Shades;
>
> His radiant Troops break thro' th' Horizon's Line,
>
> And on the Heav'nly Plains triumphant shine.
>
> (Blackmore, 1697, pp. 238–9)

Though these excerpts have two different perspectives, this of the Earth and that of the Sun, they both substantiate the geocentric stance that Blackmore evaluates. They also foreground the centrality of the Sun in his cosmological view: in *Creation*, Blackmore devotes roughly 300 lines (ll.107-413) of Book II to the Sun. The first aspect Blackmore brings to the fore is the position of the star in the cosmos:

> See, how th' Indulgent Father of the Day
>
> At such due Distance does his Beams display,
>
> That he his Heat may give to Sea and Land,
>
> In just degrees, as all their Wants demand.
>
> (Blackmore, 1712, II, ll.107-10)

The alliteratively emphasised "due Distance" of the Sun from the Earth has a number of benefits, including its ability to provide light and heat to our planet. This concept was commonly expressed in physico-theological literature. For instance, Edwards underscored the Sun's role as the source of vital warmth, describing it as "the grand Cherisher of all Things, the Common Parent of Life, the Foster-Father of the World" (Edwards, 1696, p. 23). Bentley (1693, pp. 245–6) also echoed this sentiment, highlighting the necessity of the solar beams in fostering life and making the globe habitable: without the Sun, the Earth would be barren and desolate.

In the following lines, Blackmore compares hypothetical scenarios regarding the Sun's position in "th' unmeasurable Space" (l.111) of the universe and their potentially catastrophic consequences. These alternatives demonstrate the balance and providence that is visible in the universe. The first scenario (ll.111-38) imagines the Sun in "a remoter Place" (l.112), further from the Earth than its current position. With such an arrangement, life would not be possible as our planet would not receive enough light and heat, thus resulting in an ice desert. The consequences of the Sun being closer to the Earth (ll.139-52) are then appraised. With this increased proximity excessive heat would make the planet uninhabitable. The environment would deteriorate into a wasteland plagued by drought, unable to support life and natural beauty. This method of evaluating extreme hypothetical alternatives is recurring and characteristic of Blackmore's argumentative style. It was also frequently employed by physico-theologians to give moment to their assertions. In Sermon VIII of Bentley's *Folly of Atheism* (1693, pp. 250–1), the philologist explores the consequences of extremes in the Earth's proximity to the Sun in a manner similar to Blackmore's. If the Earth was closer to the Sun, like Mercury, the oceans would boil, and all life would be destroyed. Conversely, if the Earth was positioned as far as Saturn, the fifth primary planet of the solar system, it would become a frozen wasteland. Derham also contemplates the repercussions of varying this distance and comments on the providential care in positioning the Earth and the Sun in his *Astro-Theology* (1715, pp. 156–8). Thanks to this arrangement, not only do all regions of the planet receive adequate light and heat, but the distance of the Earth from the Sun also prevents any interference with other celestial bodies.

Blackmore already discussed the effects of the Sun on the Earth's inhabitants in the three-book poem *The Nature of Man* (1711), where he explored the relationship between environmental conditions and human existence (see Appendix A). The centrality of the Sun in Blackmore's universe appears, for example, in Essay XIX of the *Lay Monastery*. Here, the Sun is described as having "a power to illuminate and warm to a prodigious Distance," though its propitious size guarantees no excesses (Blackmore & Hughes, 1714, p. 113).

In sum, the Sun holds a prominent position in *Creation*, which justifies the author's ambiguity about the geocentric and heliocentric model of the solar system. As the source of life, its pervading light is a metaphor for the ubiquitous benevolence of

the Creator in nature. A close idea was expressed by John Ray's *Wisdom of God*, in which the natural historian accents the Sun's immense size and life-generating power, without which all motion and vitality would cease, leading to darkness and death in the universe (1691, p. 47).

Blackmore then contemplates the Sun's double motion:

> Next see, *Lucretian* Sages, see the Sun
> His Course Diurnal and his Annual run.
> How in his Glorious Race he moves along,
> Gay as a Bridegroom, as a Gyant strong.
> How his unvary'd Labour he repeats,
> Returns at Morning, and at Eve retreats;
> And by the Distribution of his Light,
> Now gives to Man the Day, and now the Night
> (Blackmore, 1712, II, ll.155-62)

The use of the verb "see" (l.155), enhanced by the alliterative structure of the line, introduces a syntactically regular overview: similes compare the Sun to a bridegroom and a giant; the anaphora of the word "how" at the beginning of lines 157 and 159 creates a rhythmic flow, further enhanced by the specular structure of lines 156 and 162 and the chiasmus of lines 158 and 160. These lines accentuate the cyclical nature of the Sun's journey and initiate an extended reflection on its motion and significance for human and natural life. During the day, our star travels from east to west in a consistent motion and at a "marvellous Speed and Career" (Edwards, 1696, p. 25). According to Howard (1975), Galileo was the first to discover that the Sun rotates about itself thanks to his observation of the movement of sunspots[54] around the Sun's equatorial line. This movement defines the passage of time, marking the transition between day and night and beating the rhythm of human life between labour and rest.

[54] In *Creation*, Blackmore never mentions the question of sunspots, which was instead of fundamental importance in seventeenth-century astronomy. Sunspots, known since ancient times, were initially thought to be caused by planets passing before the Sun and casting their shadow on the star. With the advent of the telescope, the observation of sunspots became easier, as demonstrated by Galileo's *Sidereus Nuncius* (1610). In England, astronomer Thomas Harriot (1560–1621) also observed sunspots in 1610, but they gained significant attention when German Jesuit and astronomer Christoph Schneier (1573–1650) studied them in 1611, collecting his result in *Three Letters on Solar Spots*. If Schneier rejected the notion of blemishes and imperfection of the Sun's surface, Galileo had no doubt that they were celestial phenomena, resembling clouds. His observations revealed that while sunspots moved regularly, their shapes changed irregularly and his drawings showed that they could not be satellites of the Sun, as argued by Schneier. Galileo's observations of celestial bodies, including sunspots, supported the Copernican system, marking a significant step in the acceptance of heliocentrism.

For more context about the relevance of sunspots for seventeenth-century astronomy, see Helden, 1996; Howard, 1975; Smith, 1985; Helden, 1974.

The Sun also moves along "Tracks Oblique" (l.170) in "the whole Circle of the fixed Stars, which Circle is called the Zodiack" (Fontenelle, 1702, p. 24). Such a disposition could not but point to the Creator's plan:

> The Oblique Course of the Sun, being the cause of the Vicissitudes of Day and Night, of Winter and Summer, which are so beneficial to Mankind is an Argument of the Divine Care and Providence (Edwards, 1696, p. 51)

In Blackmore's description, the Sun's constant motion between the northern and southern poles of the Earth (l.171) occasions the changing of the seasons. Edwards explains this phenomenon similarly in the *Demonstration*:

> He travels just so many Degrees toward the North, and as many toward the South every Year, and is bounded on both sides by the Tropicks, beyond which he never stirs. [...] Who is there that doth not find himself as 'twere forced to believe a God when he considers these things, which cannot possibly be without an Intellectual Guide, without a Principle that acts from Wisdom and Counsel? (Edwards, 1696, pp. 56–7)

Both the daily and annual motions of the Sun are established by God's will and contribute to the cyclical patterns that regulate life on Earth. Nonetheless, this explanation was scientifically unsound, not only because of the erroneous geocentric premise but also because it disposed with the latest astronomical discoveries, as Derham points out in *Astro-Theology* (1715). The clergyman's astronomical deliberations were state-of-the-art, and they were based on the work of astronomers like Huygens and Newton, whose *Principia* Derham contributed to popularise (Dahm, 1970). In Book IV, Chapter IV of his treatise, he explains the importance of considering the different paths of planetary motion, particularly the tilt of the Earth's axis in relation to its orbit. He suggests that if the Earth's periodic motion was aligned with its diurnal motion, there would be no seasonal change. Instead, the dip allows for variations in day length and sunlight angles, which are the actual reasons for the variations between summer, winter, spring, and autumn.

Lines 155-62 epitomise the anthropocentric stance of *Creation*. Blackmore focuses strictly on man and how celestial motion affects human life. Similar perspectives were frequently used in physico-theological literature (Blair & Greyerz, 2020, p. 7), though with different ends. For example, Edwards's *Demonstration* (1696) wields it as an argument in defence of the geocentrism, for

> God hath signally honoured and dignified the Earth with making it the Receptacle and Dwelling Place of this his most Beloved Favourite. I say most Beloved, for the Singularity of Divine Love was shew'd in restoring Mankind.[55] (Edwards, 1696, p. 37)

[55] Edwards does not believe in a plurality of inhabited worlds: mankind is unique and what happens on Earth is extraordinary and specially designed by God for human beings.

In his geocentric perspective, the clergyman underlines how the regular succession of day and night reveals divine wisdom, in that "[t]here is not certainly a more convincing Argument of the wise Direction of an Almighty Being than this Daily Progress of the Sun" (Edwards, 1696, p. 56). Despite his strenuous defence of a geocentric system, when discussing the annual motion of the Sun, Edwards admits that

> after all, if the Copernican Hypothesis should be true, i. e. if the Earth rolls about on its Center, and so turns it self to the Sun in its various Positions, yet still there are the same Effects of this that there were of the other Revolution; the Good and Benefit of Mankind are promoted, and the Power and Goodness of the Great Benefactor are declared. (Edwards, 1696, p. 57)

In poetry, Reynolds drew analogous conclusions in *Death's Vision* (1709):

> Now, now, to sight, the Controversy's Done,
> Whether our Little Globe maintain
> The Centre of this Whirling Main,
> Or Whisks its Yearly Journey round the Sun;
> The Little Globe, how wisely Plac'd
> In Day and Night alternate there,
> In Changing Seasons of the Year,
> For Cherishing the Lives with which 'tis proudly Grac'd!
> (Reynolds, 1709, p. 24)

Reynolds's understanding anticipates Blackmore's ambiguous synthesis in *Creation*: the motion and position of the Sun are always described in relative rather than absolute terms. The relative perspective implies that the same kind of motion may apply to the Earth as well as to the Sun.

The following segment of the poem elaborates on the passing of the seasons (ll.174-294), whose divine origin is sung in the famous *Psalms* 74.17: "Thou hast made Summer and Winter." Like Edwards (1696, p. 52), Blackmore attributes the beneficial effects of the changing seasons to "the Oblique Posture of the Sun to the Earth." In Part I of the *Demonstration* (1696), Edwards often dwells on the importance of seasonal natural changes. In Chapter III, he highlights that these make "the Earth pregnant and fruitful" and give "Life and Increase to all Vegetables and Animals" (pp. 52-3). Chapter V, instead, stresses that the Sun's motion creates differences in heat and cold, guaranteeing the Earth's fertility and the well-being of all creatures (pp. 102, 104-5).

Around the time when Blackmore worked on *Creation*, John Philips published his *Cyder. A Poem. In Two Books* (1708) with Jacob Tonson. The composition, "received with loud praises, and continued long to be read" (Johnson, *Poets*, 1905, 1.313

as quoted by Griffin, 2004), dealt with analogous topics.[56] Blackmore likely knew the georgic, and expressed his judgement on Philips in the *Advice to the Poets. A Poem* (1706), where he was mocked as one of Milton's imitators. In Book II of *Cyder*, however, the celebration of the different advantages of different seasons and the patriotic undertone extolling English natural beauty are remindful of Blackmore's own composition.

In expanding on his discourse on seasons, Blackmore wields the same kind of the arguments of ll.111-52 to consider hypothetical extreme scenarios. He illustrates the potentially dire outcomes of both a perpetual winter and perpetual summer, especially in agricultural practices. Lines 188-97 explore the scenario of a permanent winter, with all the chemical processes characteristic of this season and the problematic implications of eternal frost for nature. According to Solomon (1980, p. 131), in *The Seasons*, Thomson also dwells on the description of the chemical processes of winter, making the most of the science behind natural beauty. The following few lines (ll.198-212) show that a perpetual summer would have equally disastrous consequences, with drought painting a picture of environmental desertification. Transitioning from these hypothetical scenarios to the actual reality, the poet comments on the providence that "[i]n such proportion Heat and Lustre give, / As do not ruin Nature, but revive" (ll.215-6). Thanks to nature's innate balance, the Sun's uninterrupted journey through the heavens sustains the necessary equilibrium for the prosperity of the natural world.

Hypothetical arguments of the kind Blackmore chooses were popular in physico-theological writing *tout-court*. Regarding the usefulness of the seasons, several physico-theologians structured their claims in like manner. In the *Folly of Atheism* (1692), Clement Ellis uses similar observations, concluding that without the alternation of day and night and of the seasons "[m]uch of the World would be useless through too much cold and darkness, or excess of heat" (Ellis, 1692, pp. 92–3). Bentley, too, in his *Folly of Atheism* (1693), surmised that at a different distance from the Sun or in different timeframes, "no living thing could have endured such unspeakable excesses of Heat and Cold: all the Animals of our Earth must inevitably have perished, or rather never have been" (Bentley, 1693, p. 248). More likely, Blackmore took inspiration from Edwards's physico-theological work, on which he repeatedly draws throughout the first two books of *Creation*. In this particular case, the clergyman wrote:

> Whereas a continual Winter or Summer would be destructive to them. If the Motion of the Sun were streight and direct through the Equator, Heat and Cold would be disproportion'd, they would be either too much or too little, and consequently the generation and growth of all Fruits and of

[56] *Cyder* was Philips's greatest poem, a two-book georgic which celebrates the author's native land (Herefordshire) and boasts a detailed knowledge of apples and cider making. According to Griffin (2004), Philips taught Pope, who was indebted to *Cyder* in composing *Windsor Forest* for the use of *Paradise Lost*. It played a crucial role in enabling James Thomson, John Dyer, and William Cowper to use Miltonic blank verse in the middle style.

> all living Creatures would be hindred, and infinite Inconveniencies would follow. (Edwards, 1696, p. 53)

Each season boasts unique aspects that make it an invaluable phase of the cyclical process of regeneration undergone by nature. This seasonal journey begins with images of rebirth and light proper of spring and, through the bloom and ripeness of summer and autumn, ends in coldest winter.

First, the Sun "from the North retreats" and alliteratively moves "to solace Southern Seats" (ll.217-8):

> As he advances, his indulgent Beam
> Makes the glad Earth with fresh Conceptions team:
> Restores their leafy Honours to the Woods,
> Flowr's to the Banks, and Freedom to the Floods;
> Unbinds the Turf, exhilarates the Plain,
> Brings back his Labour, and recruits the Swain;
> Thro' all the Soil a genial Ferment spreads,
> Regenerates the Plants, and new adorns the Meads.
> The Birds on Branches perch'd, or on the Wing,
> At Nature's verdant Restauration sing,
> And with melodious Lays salute the Spring.
> (Blackmore, 1712, II, ll.219-29)

The depiction of spring is especially marked by the isotopy of regeneration and new life: "fresh Conceptions" (l.220), "restores" (l.221), "genial Ferment" (l.225), "regenerates" (l.226), "new" (l.226), and "Restoration" (l.228). This renewal, both visible and audible (ll.228-9), impacts all of nature, encompassing plants, animals, and humans. The picture that emerges is an animated world that receives life from light. The same importance was attributed to the Sun in previous works of physico-theology. For instance, as already seen, Richard Bentley expounds on the necessity of a star like the Sun to nurture and sustain life, stating,

> It is good therefore, that there should be a Sun, to warm and cherish the Seeds of Plants, and excite them to Vegetation; to impart an uninterrupted Light to all parts of his System for the Subsistence of Animals. (Bentley, 1693, p. 245)

A more scientific work like Nehemiah Grew's *Anatomy of Plants* (1682, p. 81) explores the relationship between soil and vegetation. It illustrates how the sap in the soil facilitates the extraction and communication of vital principles to the roots of plants. This rejuvenates the vegetable world, as Blackmore writes in ll.225-6, but also in these lines from *Prince Arthur*, Book II:

God spake, and straight a lovely Spring appears,
And every Field fresh, verdant Cloathing wears.
Green Herbs adorn the Hills aspiring Heads,
And smiling Flowers paint the Enamell'd Meads.
(Blackmore, 1695, p. 39)

Summer follows spring in all its ripening beauty. Lines 230-54 present a lush portrait of the season, where heat and radiancy are the keywords. Blackmore emphasises the role of summer in ripening what spring only suggested. Lines 233-5 refer to the sap that gives new life to the vegetable world in spring, moving from the roots in the soil to the leaves. These juices[57] may be the "salt-peter or nitre" contained in the ether, which was believed to sustain vegetable life (Thomson, 1981, p. 217). Through its images and vivid soundscape, the poem captures the abundance of nature during the summer season, with its flowers, fruits, and flourishing trees. The beauty of the Sun's transformative power is accentuated by sensory experience:

And the sweet Liquor on the Cane bestow,
From which prepar'd the luscious Sugars flow;
With generous Juice enrich the spreading Vine,
And in the Grape digest the sprightly Wine.
The fragrant Trees, which grow by Indian Floods,
And in Arabia's Aromatic Woods,
Owe all their Spices to the Summer's Heat,
Their gummy Tears, and odoriferous Sweat.
Now the bright Sun compacts the precious Stone
Imparting radiant Lustre, like his own:
He tinctures Rubies with their Rosie Hue,
And on the Saphire spreads a heav'nly Blue;
For the proud Monarch's dazling Crown prepares
Rich orient Pearl, and Adamantine Stars.
(Blackmore, 1712, II, ll.241-54)

Nature and its elements are personified to emphasise their passive but willing responsiveness to the Sun's action, and the sensory references to India and Arabia evoke

[57] In the entry SOIL of Chambers's *Cyclopaedia* (1741) we read that: "it is found to be the salts or juices of the soil, not the earth itself, that plants are fed and subsisted by."
Last accessed on June 27, 2024, from <https://artflsrv04.uchicago.edu/philologic4.7/chambers_new/navigate/2/7803>.

exotic scents and nourish Blackmore's patriotism. Another feature of this lively depiction is the imagery he employs to illustrate how the intense sunlight enhances the brilliance and colour of precious stones like rubies (l.251) and sapphires (l.252). As Powell (2021, p. 17) maintains, "the enumeration and naming of colours, and explanatory descriptions of their occurrence and perception ion the natural environment, become for scientific poets a way to stimulate individual perception and knowledge in the reader." Overall, the passage portrays summer as a period of natural and aesthetic plenty, when the creation is imbued with vitality and beauty conveyed through all senses. These images must have been dear to Blackmore, as he already expressed almost identically in *Prince Arthur*:

> Some where the Sun gives more indulgent Heat,
>
> Transparent Gums, and Od'rous Juices Sweat.
>
> The fragrant Balsom-Tree distills around,
>
> Her healing Riches on the neighbouring Ground.
>
> The humble Jess' mine breaths Perfumes abroad,
>
> And wanton Zephyrs bear the balmy Load.
>
> (Blackmore, 1695, p. 39)

Lines 249 to 254 of *Creation*, Book II suggest that the Sun contributes to forming minerals and stones through its light and influence. This idea was quite popular then and is also found in *Sacred Theory of the Earth*, where Burnet states that "[m]inerals [...] are made in process of time, after long preparations and concoctions, by the actions of the Sun within the bowels of the earth." Blackmore appears to endorse this view and further elaborates on it in several essays in the *Lay Monastery* (1714). For instance, Essay XIX illustrates God's perfection by the economy of nature:

> The Sun, as I observ'd before, by spreading his Treasures of Light, illuminates and warms the Air, and communicates his prolifick Influences to the Bowels of the Earth, and the Depth of the Sea, to which so many Creatures owe their Birth. (Blackmore & Hughes, 1714, p. 115)

The reference to the Sun's influence on "the Bowels of the Earth" may be relevant to the very same theory Burnet mentions in his works. In his celebration of the mountains in Book I, Blackmore highlighted their role in the production of minerals and gems (see Section 2.2.1); this, in Nicolson's view, demonstrates the physician's consciousness of geological debates, especially concerning the Burnet controversy (Nicolson, 1963a, pp. 345–6).

The utility of autumn, condensed in only seven lines, completes the natural processes initiated in spring and fully realised during summer. The Sun begins withdrawing, giving way to longer nights and shorter days. The anthropocentric stance

of Blackmore's poem is patent, as the whole description of autumn takes the shape of a celebration of the harvest and its usefulness for man:

> To crown his Labour to the Farmer yields
> The yellow Treasures of his fruitful Fields;
> Ripens the Harvest for the crooked Steel,
> (While bending Stalks the Rural Weapon feel.)
> The fragrant Fruit for the nice Palate fits,
> And to the Press the swelling Grape submits.
> (Blackmore, 1712, II, ll.257-62)

Through the metaphor of richness, nature's lushness becomes the reward of human labour, seemingly fulfilling its duty to provide nourishment and pleasure. The alliteration of fricative sounds like "f" and "s" reinforces sensory experience and stresses the natural rhythms of harvesting.

Metaphorical language related to death and the isotopy of cold and decay open the passage devoted to winter:

> At length forsaken by the solar Rays,
> See, drooping Nature sickens and decays,
> While Winter all his Snowy Stores displays:
> In hoary Triumph unmolested Reigns
> O'er barren Hills, and bleak untrodden Plains;
> Hardens the Glebe, the shady Grove deforms,
> Fetters the Floods, and shakes the Air with Storms.
> (Blackmore, 1712, II, ll.263-69)

In addition to the alliterative cadence typical of *Creation*, the visual element and the parallel chiastic structures of lines 268-9 powerfully present the onset and impact of winter. Despite the desolation and barrenness of this picture, Blackmore's physico-theological attitude reasserts the usefulness of each season, including winter. Frost is the reason for the starkness and fruitlessness of nature, but it is also providential:

> Now active Spirits are restrain'd with Cold,
> And Prisons crampt with Ice the Genial Captives hold.
> [...]
> The Spirits now, as said, imprison'd stay,
> Which else by warmer Sun-beams drawn away,
> Would roam in Air, and dissipated stray.

> Thus are the Winter Frosts to Nature kind,
>
> Frosts, which reduce excessive Heats, and bind
>
> Prolific Ferments in resistless Chains,
>
> Whence Parent Earth her Fruitfulness maintains.
>
> (Blackmore, 1712, II, ll.270-71; ll.286-92)

The sap and nutrients which allow nature to bloom in spring freeze like prisoners in the ground. This prevents them from flowing through plants as Grew explains in *The Anatomy of Plant*s (1682):

> And Autumn having laid up the Store, Winter following thereupon, doth, as it were, lock the doors upon it. In which time, some warmer Intervals, serve further and gradually to mature the stored Principles, without hazard of their being Exhaled. And the Spring returning, sets the doors open again, with warmer and more constant Sun, with gentle and frequent Rain, fully resolves the said Principles; and so furnisheth a plentiful Diet, for all kinds of Vegetables: being a Composition of Water chiefly, wherein are resolved, some portions of Earth, Salt, Acid, Oyl, Spirit, and Aer; or other Bodies of Affinity herewith. (Grew, 1682, p. 81)

In *The Seasons,* James Thomson paid particular attention to the chemical processes involved in nature's seasonal transformations. A case in point is a note where Sambrook clarifies that "the ether [...] was thought to contain substances, the most important of which was an acid which formed salt-peter or nitre [...], which supported vegetable life" (Thomson, 1981, p. 217). This must have been a matter of common knowledge, as Phillips versified a similar concept in *Cyder* (1708):

> But nothing profits more
>
> Than frequent Snows: O, may'st Thou often see
>
> Thy Furrows whiten'd by the woolly Rain,
>
> Nutricious! Secret Nitre lurks within
>
> The porous Wet, quick'ning the languid Glebe.
>
> (Philips, 1708, II, ll.184-8)

James Sambrook's critical edition of Thomson's *Seasons* also helps to clarify another seemingly obscure passage from *Creation* concerning chemical processes occurring in winter:

> Th'intemperate Heats of Summer are controul'd
>
> By Winter's Rigour, and inclement Cold,
>
> Which checks contagious Spawn, and noxious Steams,

> The fatal Offspring of immod'rate Beams:
> Th'exhausted Air with vital Nitre fills,
> Infection stops, and Deaths in Embryo kills
> (Blackmore, 1712, II, ll.278-83)

By means of antithetical images and medical metaphors, these lines celebrate winter's role in regulating temperature extremes, protecting against disease, and rejuvenating the environment. As already seen in Section 2.2.3, in a note to a similar passage in Thomson's poem, Sambrook quotes from a 1743 handbook of agriculture, *The Rational Farmer*, to explain what kind of chemical reaction is involved in the purification of potentially dangerous air: it was believed that wind and clear skies promoted the formation of nitre, as east and north winds carried an acid that combined with the earth's alkaline parts. Likewise, hot summers followed by frost and snow enriched the soil, making it fertile by supplying acids that converted it into nitrous earth (Thomson, 1981, p. 238). While heat was celebrated as a critical factor in the blooming and ripening of nature during summer, an excess of it would be noxious and spread diseases. These lines highlight the cyclical nature of seasons and the necessary balance they provide for sustaining life on Earth.

At the end of his survey, Blackmore reiterates his belief that seasonal changes are due to the Sun's motion "thro' the Zodiack" (Blackmore, 1712, II, l.294). In the Copernican system, though, it is actually the tilt of Earth's axis relative to its orbit around the Sun that causes the seasons. Bentley illustrates this in Sermon VIII of the *Folly of Atheism*:

> We all know from the very Elements of Astronomy, that this inclined Position of the Axis, which keeps always the same Direction and a constant Parallelism to it self, is the sole cause of these gratefull and needfull Vicissitudes of the four Seasons of the Year, and the Variation in length of Days. (Bentley, 1693, p. 256)

If, on the one hand, Blackmore's ambiguity regarding this matter might be explained in light of the different positions of his physico-theological sources, another possible explanation would take into account the poet's literary predecessors and, in particular, Milton, whom Blackmore particularly admired (Solomon, 1980, pp. 56–7). According to Gilbert (1923, p. 306), in *Paradise Lost* Milton suggests that one consequence of the Fall is a change in the Earth's climate, attributed to either a variation in the inclination of its axis, according to the Copernican model, or a modification in the Sun's trajectory, as per the Ptolemaic model (Milton, 2020, Book X, ll.668-87).

After devoting a significant portion of Book II to the effects of the annual motion of the Sun, the potential causes of such motion are briefly considered. The Sun never goes beyond the tropics of the polar circles but "backward roll" (l.304) in interplanetary space filled with "liquid Ether" (l.310), which does not present any resistance

(Bentley, 1693, pp. 248–9). Blackmore presumably borrowed this explanation from Edwards's *Demonstration* (1696), Part I, Chapter II, where this idea is repeated multiple times:

> There is not certainly a more convincing Argument of the wise Direction of an Almighty Being than this Daily Progress of the Sun, in so much that he is said *to know his going down*, Psal. 104.19. *i. e.* by the guidance of an All-knowing Actor he sets and rises in that place and at that time, where and when we see he doth. By the same Superintendency its *Monthly* and *Annual Motion* is performed: By this it takes up its several Mansions and Lodgings as it were in the *Signs* through which it passes: By this it compleats its Course through its several Stages in its Circuit about the World. Which is thus expressed by the Psalmist, *His going forth is from the end of the Heaven, and his circuit to the ends of it*, Psal. 19.6. (Edwards, 1696, p. 56)

This and other passages (Edwards, 1696, pp. 33, 52) underline the importance of the Sun's relative position to the Earth, ensuring suitable conditions for life, in turn, evidence of divine design.

By examining the Sun's vital role in nature's cyclical rhythms, this section paved the way for the discussion of light and its symbolic value.

2.4.2 The Nature of Light

Blackmore's representation of the Sun reveals the physical centrality of the star in the natural world and sunlight even assumes a metaphorical meaning. In analysing Blackmore's use and understanding of light in *Creation*, the starting point must be the seminal work of American scholar Marjorie Hope Nicolson (1894–1981), particularly her *Newton Demands the Muse*, originally published in 1946. This pioneering volume of Newtonian influences in British eighteenth-century poetry remains a reference point for scholars, both for its content and its methodological approach to studying the intersection of literature and science. In physico-theological literature, light is invariably a central concept. As Nicolson (2015, p. 37) notices, God's first miracle was the creation of light in *Genesis*, 1.1-5:

> In the beginning when God created the heavens and the earth, the earth was a formless void and darkness covered the face of the deep, while a wind from God swept over the face of the waters. Then God said, "Let there be light"; and there was light. And God saw that the light was good; and God separated the light from the darkness. God called the light Day, and the darkness he called Night. And there was evening and there was morning, the first day. (*The Bible*, 2015, p. 1)

The creation of light was life-changing, for "now by the help of this admirable, this first-made, because most necessary, Creature of God, by this, I say, all the Animal

World is enabled to go here and there" (Derham, 1713, p. 27). The nature of this phenomenon—"What more familiar, and what more unknown"? (Blackmore, 1712, II, l.387)—had puzzled inquirers since the dawn of time. In a brief review of the several theories advanced throughout history, Derham mentions "Aristotle making it a Quality" and "Cartes a Pulsion, or Motion of the Globules of the second Element" (1713, p. 26). The physico-theologian, however, sided with the modern natural philosophers, and in particular with Robert Boyle, concluding that light "consist[s] of material Particles, propagated from the Sun, and other luminous Bodies, not instantaneously but in time" (p. 26).

According to Nicolson (2015, p. 21), poets have long recognised that while God may be the ultimate source of light, its immediate physical representation is the Sun, which operates under natural laws. Nicolson's analysis also investigates Blackmore's exploration of light in *Creation*, where he addresses contemporary theories. Despite Blackmore's evident grasp of Newtonian principles throughout the poem, his incorporation of the *Opticks* was careful, possibly due to reservations about the similarities between Newton's corpuscular theory of light and the atomism he so staunchly condemned (Nicolson, 2015, p. 66). We do not possess a record of Blackmore's readings or the books he encountered in his life, though there is no doubt about his familiarity with Newtonian physics.[58]

The nature of light was a very debated question in the second half of the seventeenth century, with the most prominent natural philosophers working on unravelling its essential attributes. In a 1989 paper, Shapiro presents the contrasting theories of light and optical phenomena advanced around the same time by Christiaan Huygens and Isaac Newton, highlighting their different approaches and methodologies. Huygens adhered to Descartes's material principle that all physical explanations should involve contact action between particles, and so promoted a wave theory of light. By employing a hypothetico-deductive method, he posited that light consisted of elastic particles of ether. On the other hand, Newton moved beyond mechanical philosophy and introduced the concepts of attractive and repulsive forces that do not require contact. In a series of queries at the end of the *Opticks*, the natural philosopher developed his corpuscular theory: light is composed of particles emitted by light sources, such as the Sun. Newton embraced empiricism and insisted that the principles of science should be derived directly from observation. In England, another crucial figure in determining a theory of light and Newton's bitter enemy was Robert Hooke, the curator of experiments of the Royal Society in London from 1662 (Pugliese, 2006). In his seminal work on microscopy, *Micrographia* (1665), Hooke reflected on diffraction and concluded that light consists of rapid vibrations within any medium through which it travels. This hypothesis was close to the wave theory of

[58] For instance, Blackmore's engagement with the light is evident in Essays XXXI and XL of *The Lay Monastery* (1714). In these issues, Blackmore reflects on Newton's work on the nature of light, recognising the philosopher's ability to discern the distinct colours that make up sunlight (Blackmore & Hughes, 1714, pp. 181–5, 234–9).

light Huygens would present to the Royal Academy of Science in 1678 and would later publish in the form of his *Treatise on Light*. Blackmore's ambiguity regarding the nature of light arguably confirms his awareness of the contemporary debates about its physical nature.

In Book II, he remarks on the astounding speed of light, compared to which the capacity of the human mind is indeed very limited. This antithesis heightens the exceptionality of nature as God's creation and stresses the value of light:

> See how each Morn it do's its Beams display,
> And on its Golden Wings bring back the Day!
> How soon th' Effulgent Emanations fly
> Thro' the blue Gulph of interposing Sky!
> How soon their Lustre all the Region fills,
> Smiles on the Vallies, and adorns the Hills!
> Millions of Miles, so rapid is their Race,
> To cheer the Earth, they in few Moments pass.
> Amazing Progress! At its utmost stretch,
> What Human Mind can this swift Motion reach?
> (Blackmore, 1712, II, ll.390-9)

A sense of wonder and awe for the Sun is embodied in its personification, while rhetorical expedients such as alliteration, enjambement, and anaphora, stylistically convey its speed. The arguments Blackmore employs are the same Derham used in his *Physico-Theology* (1713), Book I, Chapter IV. The rector of Upminster discusses how God has ingeniously designed various mechanisms to provide light to all celestial bodies, not just the Earth. Light is essential for the life and enjoyment of the animal world, which is also why God gave living beings eyes (see also III, ll.464-6). At the opening of this passage on light, Blackmore celebrates the power of sight and its being instrumental in appreciating the works of creation. As Derham remarked, "what Benefit would Life be, what Pleasure, what Comfort would it be for us to live in perpetual Darkness?" (1713, p. 27). He then notices that human ingenuity has enhanced this divine gift through lenses, employing refraction and reflection to improve our vision.

Blackmore follows Derham's reasoning concerning the speed and vastness of light, too. As far as the speed of light is concerned, Derham's comments that

> [light] passing with such prodigious Velocity, with nearly the instantaneous Swiftness of almost two Hundred Thousand English Miles in one Second of Time, or (which is the same thing) being but about seven or Eight Minutes of an Hour in coming from the Sun to us, therefore with

> all security and speed, we receive the kindly Effects and Influences of that noble and useful Creature of God. (Derham, 1713, pp. 28–30)

A convenient feature of Derham's texts is their apparatus of notes. When he discusses the speed of light, Derham mentions "Mr. Romer's hypothesis" and Newton's *Opticks*. According to Newton, light takes about seven or eight minutes to travel from the Sun to the Earth; he refers to the experiments Danish astronomer Ole Romer (1644–1710) performed in Paris with the aid of the Italian Giovanni Cassini (1625–1712). The original record of the French Academy of Sciences meeting where they presented their results went lost, but Romer's presentation was documented anonymously in the *Journal des sçavans*. It was later translated into English and published in the *Philosophical Transactions of the Royal Society* in London on July 25, 1677:

> M. Romer of the R. Academy of the Sciences has devised a way, taken from the Observations of the first Satellit of Jupiter, by which he demonstrates, that for the distance of about 3000 leagues, such as is very near the bigness of the Diameter of the Earth, Light needs not one second of time. (Anonymous, 1677, p. 893)

The paper was complete with all the calculations and data collected from the observations they performed in the Royal Academy of Paris. Blackmore was fascinated by this topic, too. In the fortieth essay of the *Lay Monastery* (1714), he commented on the nature of the "Particles of Fire" composing light and on the admirable "Velocity of this active Being," which "in a Moment it darts its Beams thro' many thousand Leagues of intervening Space" (Blackmore & Hughes, 1714, p. 235). Although the data are not precise, Blackmore still expresses his marvel at the extraordinary velocity of light. In the same essay, he would add that

> [w]hen we consider Light as collected and embody'd in the Sun, as its Brightness dazzles the Eye, so its Swiftness and unlimited Diffusion confounds the Understanding; and as the glorious Appearance of the radiant Orb is a lively Representation of the Author's Power, at whose Call it started up out of Darkness into Being, so the constant Emanations from it that illuminate and enliven the World, express a Resemblance of his unlimited Goodness. (Blackmore & Hughes, 1714, p. 237)

Blackmore employs similar images in *Creation*, Book II, and Derham (1713, p. 30), too, reviews the immense and almost unfathomable expansion of light, as boundless as the universe itself, which surpasses the limits of human understanding.

In *Newton Demands the Muse*, Nicolson keenly observed that while in *Creation* Blackmore demonstrated familiarity with the *Opticks*, he was more intrigued by theories on the transmission of light rather than the study of the prism, which is the most famous feature of Newton's work:

> But if, to save so quick a Flight, you say
> The ever-rolling Orb's impulsive Ray
> On the next Threads and Filaments does bear
> Which form the springy Texture of the Air,
> That those still strike the next, till to the Sight
> The quick Vibration propagates the Light:
> 'Tis still as hard, if we this Scheme believe,
> The Cause of Light's swift Progress to conceive.
> (Blackmore, 1712, II, ll.400-7)

This passage describes light propagation in mechanical terms, specifically through the transmission of vibrations (l.405) or waves between the tiny particles that constitute the air (l.403). According to Nicolson (2015), when composing these lines, Blackmore must have had in mind Newton's *Opticks*, following Queries 17 to 22 and addressing most of the issues raised by the natural philosopher. However, the poet identifies a flaw in Newton's theory of light transmission right after discussing the speed of light. In his seemingly materialistic account of the composition of light, Blackmore was surely also indebted to *The Plurality of Worlds*, where we read that

> Light is made up of certain little Balls, which rebound from what is solid, but pass through what admits of an entrance in a right Line, as Air or Glass: So that, that which makes the Moon enlighten us, is that she is a Firm and Solid Body, from which the little Balls rebound. (Fontenelle, 1702, p. 38)

In a footnote, Nicolson states that "Blackmore was sound here in his belief that Newton's corpuscular theory of the transmission of light by impact—as happens in the propagation of sound in air—would slow up the velocity of light, and would not agree with the velocity through the ethereally filled spaces between the heavenly bodies, such as the sun and the earth" (2015, p. 67). Blackmore probably appears tentative about Newton's corpuscular theory, as this was too closely comparable to Epicurean atomism. The poet's position regarding this philosophy and its materialistic tenets was so strong that "he devoted all the books of the *Creation* to disproving them" (Nicolson, 2015, p. 100). Blackmore's treatment of the physical phenomenon of light influenced the generation of scientific poets that came after him.[59]

Light also provides the backdrop to the empirical method Blackmore adopts in *Creation*:

[59]For instance, Nicolson (2015, pp. 67–9) remarks that Henry Brooke's poem *Universal Beauty* (1635), which owes much to Blackmore (see Section 1.3.8), is the most comprehensive account of theories of light in verse of the period.

> With Thought from Prepossession free, reflect
> On solar Rays, as they the Sight respect.
> The Beams of Light had been in vain display'd,
> Had not the Eye been fit for Vision made:
> In vain the Author had the Eye prepar'd
> With so much Skill, had not the Light appear'd.
> (Blackmore, 1712, II, ll.408-13)

The repetition of the phrase "in vain" underscores the futility of either the eye or light—intertwined in a chiastic structure—without the other. These lines draw attention to the necessity of gathering data through direct observation and sensory experience rather than via theoretical speculation. Quoting this passage in her *Perception and Analogy* (2021), Rosalind Powell declares that "[w]ithout light there is no vision. Without light, there is no reason for the rest of creation. Without light there is no world to be known" (pp. 108-9). Light is thus essential for empirical inquiry, and the eye was created by God specifically for this purpose. Blackmore stated this in the preface to *Creation* as well:

> For how a Man can be said to have Knowledge before he Knows, how Ideas can exist in the Mind without and before Perception, I must own is too difficult for me to comprehend. That a Man is born with a Faculty or Capacity to know, tho' as yet without any actual Knowledge; and that, as the Eye has a Native Disposition and Aptitude to perceive the Light, when fitly offer'd, though as yet it never exercis'd any act of Vision, and had no innate Images in the womb; so the Mind is endu'd with a Power and Faculty to know and perceive the Truth of this Proposition, There is a God, as soon as it shall be represented to it; All this is clear and intelligible; but any thing more is, as I have said, above my reach. In this opinion, which I had many Years ago entertain'd, I was afterwards confirm'd by the famous Author of the Essay on human Understanding. (Blackmore, 1712, pp. ii–iii)

Following Locke, Blackmore opposes innate knowledge and suggests that observing the world through an empirical approach aligns with the function of our senses, which the Creator devised. The absolute centrality of sight in *Creation* was not only the result of Blackmore's idea but was characteristic of much physico-theological literature. In the *Folly of Atheism* (1693), Bentley posits that the universe was created to be contemplated by intelligent beings, as matter itself lacks consciousness and the ability to appreciate its own existence. Therefore, as "all Bodies were formed for the sake of Intelligent Minds: and as the Earth was principally designed for the Being and Service

and Contemplation of Men" (Bentley, 1693, pp. 241–2), sight was the most advantageous of the senses. Nicolson (2015, p. 4) observes that, consequently, the scientific poets of the era were keen on studying the physics of light and sight, which prompted their exploration of the human eye's structure and function. This interest was supported by the prevailing philosophical theories of perception and understanding that influenced the intellectual landscape of the time. Locke and Descartes considered sight the most comprehensive sense, conveying complex ideas like space, figure, and motion through light and colours. Addison, too, praised sight in *The Spectator*, No.411, accentuating its role in imagination and its superiority over other senses since "[w]e cannot indeed have a single Image in the Fancy that did not make its first Entrance through the Sight" (Steele, 1961a, p. 277). The reflections on light and sight are deeply interwoven not only in Blackmore's poem but more generally in the cultural environment he inhabited, which contributed to shaping his worldview.

Having examined the depiction of light as a physical phenomenon, let us now briefly explore its symbolic relevance. Blackmore devotes to light a significant place in Book II: the discussion occupies lines 386 to 413, the exact centre of the Book. This centrality is due to its physical properties, for light is essential in several natural processes, but also to its metaphorical value. In the physico-theological tradition of late seventeenth-century Britain, light often symbolised God and reason, and served as a metaphor to contradict the darkness of atheistic views, which lacked clarity in explaining natural phenomena. According to Powell (2021, p. 77), in the Old Testament, light is a sign of divine presence, while in the New Testament the trope of light as knowledge is widespread and was adopted by eighteenth-century theologians. The metaphor of God as light had ancient origins, and for a seventeenth-century reader familiar with the Bible, it readily brought to mind the verses from John 1.1-5:

> In the beginning was the Word, and the Word was with God, and the Word was God. The same was in the beginning with God. All things were made by him; and without him was not any thing made that was made. In him was life; and the life was the light of men. And the light shineth in darkness; and the darkness comprehended it not. (*The Bible, The New Testament*, 2015, p. 114)

This metaphor was particularly dear to Blackmore, who extensively resorted to it in his works. In the opening of Book II, he antithetically opposes the light of the God of the Christian religion and the darkness of infidelity:

> Thy Lustre, blest Effulgence, can dispell
>
> The Clouds of Error, and the Gloom of Hell:
>
> Can to the Soul impart Etherial Light,
>
> Give Life Divine and Intellectual Sight:
>
> Before our ravish'd Eyes thy Beams display,

> The opening Scenes of Bliss, and endless Day;
>
> By which incited we with Ardour rise,
>
> Scorn this inferior Ball, and claim the Skies.
>
> (Blackmore, 1712, II, ll.27-34)

Light is a multifaceted symbol indicating God's presence and influence in the world, which brings enlightenment, salvation, and spiritual awareness. In a series of poems he composed throughout his life and later assembled in *A Collection of Poems on Various Subjects* (1718), the physician made ample use of the divine symbol of light. Take for instance the ode "A Hymn to the Light of the World" (Blackmore, 1718, pp. 385–409), modelled after John Milton's "On the Morning of Christ's Nativity" (see Appendix A). Blackmore borrows Milton's imagery, notably the depiction of Christ as "Light unsufferable," and echoes his diction. According to Rosenberg (1953, p. 81), the physician wanted to emulate the author of *Paradise Lost*, "whom he idolized as the greatest English poet." Compared to other religious odes of the period, Blackmore's work stands out for its originality—consider, for instance, the passage where blood circulation is described as essential to life.

In the already-mentioned fortieth essay of the *Lay Monastery*, the poet further touches on the symbolic value of light as a way "to express all Kinds of Excellence of which we have no sensible Perception" (Blackmore & Hughes, 1714, p. 237) and because

> [w]hen we consider Light as collected and embody'd in the Sun, as its Brightness dazzles the Eye, so its Swiftness and unlimited Diffusion confounds the Understanding; and as the glorious Appearance of the radiant Orb is a lively Representation of the Author's Power, at whose Call it started up out of Darkness into Being, so the constant Emanations from it that illuminate and enliven the World, express a Resemblance of his unlimited Goodness (Blackmore & Hughes, 1714, p. 237).

Blackmore's exploration of light reflects this phenomenon's physical and metaphorical significance in *Creation*. Through a synthesis of contemporary philosophical theories, particularly Newtonian physics, with his theological perspective, Blackmore's view celebrates light as a divine creation and a symbol of God himself; a view that was already put forward in the Epigraph to the poem (see Section 1.3.3). His cautious engagement with Newton's corpuscular theory of light reveals his critical engagement with the scientific debates of the period when the nature of life was by no means settled (Paley, 2006, p. 327). Placing light at the core of Book II, Blackmore not only acknowledges its essential role in sustaining life but also underlines its importance for sight, the primary sense through which God can be perceived in nature.

2.4.3 Celestial Dynamics

The motion of heavenly bodies and celestial dynamics were the most urgent scientific questions of the seventeenth century. The best natural philosophers of the time dedicated their efforts to finding a physical and mathematical solution to this problem. Blackmore's *Creation* offers an interesting perspective on this issue, for it synthesises various contemporary theories and mediates between the traditional geocentric and the emerging heliocentric models. While Blackmore ultimately aligns with heliocentrism, his work reflects an ambivalence that mirrors the period's intellectual complexity. Central to the poet's arguments is the emphasis on the harmony of the Solar System. This, he interprets as an indubitable manifestation of God's providence. This section explores Blackmore's portrayal of the cosmos and highlights his contributions to popularising astronomical discourse.

The question of celestial dynamics occupies significant portions of Book I and Book II. First, let us examine Blackmore's observations regarding the motion of the Earth. In the opening of Book I, the universe is presented as providentially crafted in an orderly manner by a "Pow'r Divine" (l.47). The creator orchestrates the coordinated arrangement of various elements within the cosmos: the stars (l.41), the planets (l.42), the sea (l.43), and meteorological occurrences (l.45), influencing the planet (l.46). The Earth holds a central place in Blackmore's cosmos, and this might explain the poet's ambiguous stance on geocentrism.

The first topic of scientific interest explored in Book I is the position of the Earth in the universe with respect to the Sun as an example of God's providential creation. The Earth occupies the most convenient place in the universe for "Nature's Use" (l.71). Blackmore addresses mechanical atomism, focusing on the atomists's opinion on the formation of the Earth through the random collision of atoms through the *clinamen*, the unpredictable swerve in the trajectory of atoms that allows them to come together in the void (Konstan, 2022). Blackmore rejects this theory and in line 116, he uses an adversary clause to argue that the Earth's daily rotation on its axis disproves the atomists's view of the globe as a mere conglomeration of atoms. If it were just a collection of randomly colliding particles, it would not maintain its stability, and objects on its surface would be shaken off due to the rotation. Blackmore also uses hypothetical clauses and reasoning to strengthen his argument, effectively demonstrating the weaknesses in the atomists's theory through logical deduction. He affirms that the Earth rotates around its own axis daily. Johnson judged his description apt enough to illustrate the astronomical meaning of the term "axis" in the *Dictionary*:

> **A'XIS**. *n.s.* [*axis*, Lat.] The line real or imaginary that passes through any thing, on which it may revolve.
>
> But since they say our earth, from morn to morn,
>
> On its own *axis* is oblig'd to turn;

> That swift rotation must disperse in air
>
> All things which on the rapid orb appear.
>
> *Blackmore*.[60]

According to McColley (1937), the concept of the Earth's diurnal rotation sparked both fascination and controversy. Originally advanced by the ancient Greeks, this theory played a prominent part in early astronomical discourse and Aristotle notably challenged its validity as a fundamental hypothesis. Following the twelfth century, references to this emerged, albeit they were largely met with rejection, and it was only in the sixteenth century that mathematicians engaged in discussions about the concept, often attributing it to Copernicus. By the seventeenth century, opinions varied. Francis Bacon dismissed it as "an extravagant idea" (McColley, 1937, p. 399), while proponents like Gilbert supported the Earth's daily rotation, drawing inspiration from Galileo's observations with the telescope. These observations, particularly regarding the rotation of the Sun and Jupiter, revealed that heavenly bodies do not remain stationary but revolve around themselves, too.

Literary responses to this view differed in the seventeenth century, and yet physico-theologians and science popularisers adopted and circulated it. A case in point is Fontenelle's *Plurality of Worlds*, which vividly describes the Earth's composite motion:

> the Earth, at the same time that she advances on the Circle which in a year's space she makes round the Sun, in twenty-four hours she turns round herself; so that in twenty-four hours every part of the Earth loses the Sun, and recovers him again, and as it turns towards the Sun, it seems to rise, and as it turns from him, it seems to fall. (Fontenelle, 1702, p. 25)

As far as physico-theological works were concerned, the notion of the daily motion of the Earth was quite established among authors like Richard Bentley and William Derham, who embraced the Copernican revolution. In the *Folly of Atheism* (1693), Bentley elaborates on this dual annual and daily motion, attributing it to "the Wisdom of some voluntary Agent; and not by the blind motions of Fortune or Fate" (Bentley, 1693, p. 251). Twenty years later, Derham's *Astro-Theology* (1715) explored the implications of this rotation, suggesting that gravitational force in the Newtonian sense is essential to maintaining the integrity of rotating planets. Without gravity, "the whirling about of those Globes would shatter them into pieces, and dissipate them abroad into the circumambient space. Thus must it needs befall our own Globe" (Derham, 1715, pp. 139–40). These texts testify to the importance philosophers placed on the rotation of the Earth and its impact on natural phenomena such as the alteration of day and night, the seasons, and the preservation of the planet's integrity.

[60] Lines 116 to 119 of *Creation*, Book I were included in both the 1755 and 1773 editions of the *Dictionary*. Retrieved on May 16, 2024, from <https://johnsonsdictionaryonline.com/views/search.php?term=axis>

The reflection on the Earth's motion comes again to the fore as Blackmore dwells on the illustration of its structure and position in the universe. In his depiction of our globe, the Earth's position, suspended in "Ambient Air" (I, l.355), is praised in relation to the Sun. The poet also comments on the Earth's movement in lines 358-60, arguing that life there would be impossible if the Earth was immobile. This idea is reinforced by the word "reap" (I, l.359), suggesting that the Earth's motion is essential for sustaining life and enabling the natural cycles that make agriculture possible.

Blackmore then introduces a fundamental reflection on the workings of his cosmos:

> You either must the Earth from Rest disturb,
>
> Or roll around the Heav'ns the Solar Orb.
>
> Else what a dreadful Face will Nature wear?
>
> How horrid will these lonesome Seats appear?
>
> This ne'er would see one kind refreshing Ray;
>
> That would be ruin'd, but a different way,
>
> Condemn'd to Light, and curs'd with endless Day.
>
> (Blackmore, 1712, I, ll.360-6)

The chiastic structure of lines 360-1 stresses that it is not important whether it is the Sun or the Earth that moves: reciprocal motion between the two bodies is required to grant the most optimal conditions to all sides of our planet. This is the first instance of ambiguity on geocentrism and heliocentrism Blackmore thematises in *Creation*. His wavering is succinctly captured in the line, "[m]ove which will please you best, the Earth or the sun" (II, l.370), which reflects the flexible approach he adopts in the following Book.

Lines 371-84 condense the major points on planetary motion that are discussed in more detail in Book II:

> Move, which will please you best, the Earth or Sun.
>
> But, say, from what great Builder's Magazines
>
> You'll Engines fetch, what strong, what vast Machines
>
> Will you employ to give this Motion Birth,
>
> And whirle so swiftly round the Sun or Earth?
>
> Ye learned Heads, by what Mechanic Laws
>
> Will you of either Orb this Motion cause?
>
> Why do they move? why in a Circle? why
>
> With such a Measure of Velocity?

Say, why the Earth, if not the Earth, the Sun
Does thro' his winding Road the Zodiack run?
Why do revolving Orbs their Tracks sublime
So constant keep, that since the Birth of Time
They never vary'd their accustom'd Place,
Nor lost a Minute in so long a Race?
(Blackmore, 1712, I, ll.370-84)

These challenging why-questions are intended to provoke the reader into reflecting on the nature of the cosmos, and in particular, the circular nature of planetary orbits (l.376), the velocity of the planet's motion (l.377), the reason why the Earth (or the Sun) moves (l.378), and why they do so along regular orbits (ll.381-2). Line 373 subtly introduces the matter of the origin of planetary motion, one of, if not the single most relevant scientific question of the late seventeenth century. Blackmore recognises the orderly and harmonious workings of the universe as following mechanical laws, but he insists on determining the true transcendental reason behind planetary motion.

The question is raised again in lines 393-419. While contemplating the motion of the planets in the solar system, Blackmore acknowledges that mechanical laws apply to their observed movements. However, he emphasises that these laws require an initial force from a "first Mover" (l.400) to operate. The poet appears to criticise the "mere" (l.401) mechanical explanation, which, though valid on a physical level, cannot fully account for the origin of planetary motion. The persistent questioning in his argument leads to the physico-theological conclusion that:

These Orbs th' eternal Mind's Command obey,
Who bad them move, did all their Motions guide,
To each its destin'd Province did divide;
Which to compleat he gave them Motive Pow'r,
That shall, as long as he does Will, endure?
(Blackmore, 1712, I, ll.415-9)

God imparted the initial motion to planets, directed their movement, and endowed them with motive power. This motion, far from being eternal, depends on the finite nature of time, which is subject to the will of God, who is eternal.

The discussion on the motion of heavenly bodies is more fully explored in Book II of *Creation*, where "[t]he existence of a God [is] demonstrated from the wisdom and design which appear in the motion of the heavenly orbs; but more particularly in the system" (Blackmore, 1712). The first few lines of the Book introduce the subject:

While these so numerous, and so vast of size,
In various ways roll thro' the trackless Skies;
Thro' crossing Roads perplext and intricate,
Perform their Stages, and their Rounds repeat;
None by Collision from their Course are driv'n,
No Shocks, no Conflicts break the Peace of Heav'n.
No shatter'd Globes, no glowing Fragments fall,
No Worlds o'erturn'd, crush this terrestrial Ball.
In beauteous Order all the Orbs advance,
And in their mazy complicated Dance,
Not in one part of all the Pathless Sky
Did any ever halt, or step awry.
(Blackmore, 1712, II, ll.83-94)

This excerpt reflects a fascination with order, reason, and the cosmos, and aptly illustrates the kind of "mazy complicated Dance" (l.92) the planets perform in the solar system. The repetition of phrases such as "so numerous, and so vast of size" and "[n]o shocks, no conflicts" emphasises the vastness and harmony of the celestial bodies. Their motion is constant and well regulated, each planet following its trajectory in the "trackless" (l.84) and "Pathless Sky" (l.93). This is a system that does not present the characteristics proper of the outdated Ptolemaic system. While in the Aristotelian-Ptolemaic tradition planets were believed to be moved around the Earth by the concentric solid spheres to which each was attached, the Danish astronomer Tycho Brahe (1546–1601) was the first to disprove the theory of solid spheres. In 1577, he observed a comet passing through the region that was supposedly occupied by the sphere of Venus. From this observation, Tycho concluded that the planets were free to follow their godly appointed immaterial paths in unobstructed space. In *Creation*, too, Blackmore disposes of the notion of the fixed spheres and highlights the planets's motion along immaterial orbits following a complex yet flawless scheme that prevents collisions and potentially catastrophic occurrences. The notion of planets's orbits had become common knowledge by then, to the extent that it was included in general dictionaries; in Kersey's *Dictionarium Anglo-Britannicum* (1708) we read that "[i]n Astronomy [an orbit is] the course in which any planet moves."

Akin to a well-oiled machine, the heavens are ruled by peace and harmony: the movement of the countless planets that populate the cosmos is metaphorically likened to a perfectly coordinated dance performed by a host of blind men, each executing their motion with precision:

When twice ten thousand Men depriv'd of Sight,
To some wide Vale direct their Footsteps right;
Shall there a various figur'd Dance essay,
Move by just Steps, and measur'd Time obey;
Shall cross each other with unerring Feet,
Never mistake their Place, and never meet:
Nor shall in many Years the least decline
From the same Ground, and the same winding Line:
Then may in various Roads the Orbs above,
Without a Guide, in perfect Concord move;
Then Beauty, Order, and Harmonious Laws
May not require a Wise Directing Cause.
(Blackmore, 1712, II, ll. 95-106)

The passage draws an analogy between the movements of blindfolded dancers and the orbits of celestial bodies. This beautiful picture of interconnectedness suggests that if blind dancers could perform such a meticulously choreographed dance, planetary motion could occur without needing a "Wise Directing Cause" (l.106). Since this is not feasible, these lines underscore the need to infer the existence of a divine mind that created and maintains such order. This imagery likening dance to planetary motion is also found in Edwards's *Demonstration*, Part I, Chapter II: the Sun, stars, and planets revolve around the Earth "as it were dance round the Lord and Owner of it, who is the Glory of this Visible World, and the Image of the Supream Deity" (1696, p. 47). That heavenly motion ultimately owed to God was evident in Blackmore's works as early as 1697. In Book IX of his *King Arthur* he wrote:

The Constellations shine at his Command,
He form'd their radiant Orbs, and with his Hand
He weigh'd, and put them off with such a Force
As might preserve an Everlasting Course.
This mighty King, whose Universal Sway
This, and the spacious Worlds above, obey;
Encompass'd with a vast Abys of Light,
And mounds of Glory of excessive height,
Do's still unseen, and unmolested dwell,
Conceal'd in Splendour Inaccessible.

> With perfect Wisdom he all Nature guides,
>
> And Empires to precarious Kings divides.
>
> (Blackmore, 1697, pp. 243–4)

In a letter addressed to John Locke and dated July 20, 1697, the Irish natural philosopher William Molyneux commented on these lines and praised the poet's use of Newton's physics, for "in these lines [he] had a regard to the proportionment of the Projective Motion to the Vis Centripeta that keeps the Planets in their Continued Courses" (Molyneux, 1708, pp. 229–30).

In the portion of *Creation* under examination, Blackmore's indebtedness to the late seventeenth-century physico-theological tradition is traceable not so much in the choice of the argumentative strategies but rather in the vocabulary he employs, for the isotopy of order is highly predominant. In the early modern era, as astronomy evolved into a mathematical science (Donahue, 2006), Johannes Kepler was the first to articulate the arrangement and lawful symmetry of planetary motion in modern terms. In his *Astronomia Nova* (1609) and *Harmonice Mundi* (1619), the German astronomer described this harmony geometrically, primarily through his three laws of planetary motion. Such an understanding of the regularity of the universe reached its peak later in the century with Isaac Newton's *Philosophiae Naturalis Principia Mathematica* (1687), a work that revolutionised natural philosophy by establishing mathematics as the essential framework for scientific inquiry (Buchwald, 2013, pp. 109–10). By the time Blackmore composed his poem, the implications of Newton's physics had been absorbed into general knowledge because of the imaginative chord they stroke in popularisers. The uniformity of planetary motion became a *topos* of physico-theological literature. There are numerous examples, beginning just a few years after Newton's *Principia* was published. Clement Ellis's *The Folly of Atheism* (1692, pp. 92–3) marvels at the perfect positioning of celestial bodies to provide light, warmth, and nourishment. While noticing their regular and constant motions, which ensure the orderly progression of seasons on Earth, Ellis points out that any deviation in their movement would result in catastrophic consequences. Between 1692 and 1693, Richard Bentley's series of Boyle Lectures popularised Newton in an unprecedented way. In Sermon VIII, the philologist attributes the harmonious arrangement and beauty of the universe to a divine hand, calling attention to the strategic placement of planets, with the smallest ones closest to the Sun and each other. In contrast, the larger planets, like Jupiter and Saturn, are situated in the outer regions of the solar system so as not to create any disturbance (1693, p. 249). Nehemiah Grew employs similar arguments in *Cosmologia Sacra* (1701, p. 6), where he notes that planets move along certain regular lines, with specific velocities and providential distances from one another. In William Derham's *Astro-Theology*, the systematic placement and movement of celestial bodies are underscored: the distance between the Earth and other heavenly bodies is so precisely arranged that they do not interfere or clash with

one another, maintaining an orderly system (1715, p. 17). The idea of harmony was crucial to late seventeenth-century physico-theologies and is reflected in Blackmore's *Creation*, where regularity is synonymous with the design of the wise creator.

In this portrayal of the solar system, Blackmore seems to refer to a geocentric arrangement of the planets, but he does more than simply present this view. He actively engages in what could be termed a "debate"—although Copernican theories were nearly universally accepted by the late seventeenth century—between the traditional cosmological system and the emerging new one. Edwards, for instance, discusses the Copernican Hypothesis, suggesting that even if it were true, the effects on humanity would remain the same. Whether the Earth revolves around its centre or the Sun, the outcome still guarantees humanity's well-being and showcases God's goodness. Similar reasoning appears in a work closer to *Creation* in time and stemming from its author's Boyle Lectures of 1706—John Hancock's *Arguments to Prove the Being of a God* (1707):

> '[t]is much the same thing in this Case, whether with the Old Philosophy we suppose the Earth to be the Center; or with the New Philosophy, we make the Sun to be the Center of this Orb in which we live; and all the Planets, and our Earth among the rest, to move round about it. I say, this is all one; their Motions are so wonderful, as may convince us there is a God. (Hancock, 1707, p. 36)

Blackmore continues this line of argument when he dubs Copernican cosmology a "supposition" (l.315) that sees the Sun as still and the Earth as moving. The reason why this new hypothesis should be regarded as superior to the old one lies in its ability to explain the cause of the motion of celestial bodies. Yet, the Copernican theory is held deficient because:

> With a new Veil your Ignorance you hide,
>
> Still is the Knot as hard to be unty'd.
>
> You change your Scheme, but the old Doubts remain,
>
> And still you leave th'enquiring Mind in Pain.
>
> (Blackmore, 1712, II, ll.317-20)

Even the Copernican system does not solve the problem of the cause of the motion of heavenly bodies. Possible explanations involve some "Native Pow'r" (l.327) of celestial bodies, "Magnetic Pow'r" (l.334), the theories of "Philosophers of spreading Fame" (l.351), like Newton (l.352) or Descartes (l.355). The only possible conclusion the true inquirer is bound to find is that God is responsible for the natural order of the heavens.

In *Creation*, the attempt to explain the origin of celestial motion epitomises the physico-theological mission to comprehend the universe through scientific explanation and divine interpretation. Blackmore's objective is clear: he aims to uncover

"[m]otion's Cause and hidden Springs" (II, l.362), weighing contemporary theories but always underlying God's design behind the harmony of the cosmos. His lines thematise the challenge human mind faces when trying to grasp the workings of the heavens solely through physical terms. While mechanical laws describe planetary motion, they ultimately prove inadequate without assuming a godly "first Mover." As Blackmore would assert later in the poem,

> view the Revolutions, as they are,
> Does there no Wisdom, no Design appear?
> Cou'd any but a Knowing, Prudent Cause,
> Begin such Motions, and assign such Laws?
> (Blackmore, 1712, III, ll.463-6)

The ensuing section continues the exploration of celestial motion by providing a historical overview of the most significant theories attempting to explain the movement of celestial bodies.

2.4.4 A Historical Survey of Theories on Heavenly Motion

In Book II of *Creation* Blackmore examines various historical explanations for "Heav'nly Motions" (l.415). The poet does not concentrate on individual discoveries or theories, yet his review of each astronomer's contributions demonstrates a definite awareness of their historical importance. By tracing the development of astronomical ideas, Blackmore thematises the transition from ancient to modern understandings of the universe.

Lines 414-573 are devoted to the diachronic examination of hypotheses which, as Fontenelle (1702, p. 14) wrote, involved "disposing the parts of the Universe, which the Learned call, making a Systeme." Blackmore follows a chronological progression and focuses on the achievements of five astronomers, namely, Ptolemy, Copernicus, Kepler, Tycho, and Newton, who "in vain / Attempt[ed] the Heav'nly Motions to explain" (II, ll.414-5).[61]

The overview begins with Alexandrian astronomer Ptolemy (second century AD), who expanded on the Aristotelian conception of the universe and formulated the tenets of the Aristotelian-Ptolemaic geocentric system in his *Almagest*:

[61] Johnson borrowed these very lines to illustrate the meaning of the noun "astronomer" in the *Dictionary* (1773):

> **Astro'nomer.** *n.s.* [from ἄστρον, a star, and νόμος, a rule or law.] One that studies the celestial motions, and the rules by which they are governed.
> [...]
> And new *astronomers* in vain
> Attempt the heav'nly motions to explain.
> –*Blackmore*.

Last accessed July 7, 2024, from <https://johnsonsdictionaryonline.com/views/search.php?term=astronomer>.

> First Ptolomy his Scheme Celestial wrought,
> And of Machines a wild Provision brought.
> Orbs Centric and Eccentric he prepares,
> Cycles and Epicycles, solid Spheres
> In order plac'd, and with bright Globes inlaid,
> To solve the Tours by Heav'nly Bodies made.
> (Blackmore, 1712, II, ll.416-21)

The Ptolemaic geocentric system places the Earth at the centre of the universe, surrounded by the terrestrial elements of air and fire. Beyond these are the orbits of the planets, in order, Mercury, Venus, the Sun, Jupiter, Saturn, and the Firmament or the sphere of fixed stars. Further out are the Crystalline Orbs, followed by the Empyrean Heaven (Rabin, 2023). In this model, all the orbs revolve around the Earth every twenty-four hours, moving with their ethereal spheres. This system, though, posed several problems: it theoretically explained all celestial motions, but the observed movements of the planets did not match the predicted paths. To address these inconsistencies, Ptolemy and his followers developed geometrical strategies, like eccentrics and epicycles. These were geometrical designs which intersected and overlapped, resulting in highly complex trajectories. Derham opens his *Astro-Theology* with a survey of astronomical hypotheses concerning the motion of heavenly bodies and, regarding the Aristotelian-Ptolemaic system, he clarifies what these stratagems were:

> All these massy Orbs, and vast Bodies born by them, are, in this Systeme, supposed to move round the terraqueous Globe once in 24 hours: and besides that, in some other certain periodical times. For the effecting of which Motions, they were forced to contrive such Circles as they called Eccentricks and Epicycles, crossing and interfering with one another. (Derham, 1715, pp. x–xi)

Blackmore shows that scientific inquiry served to "subvert" the "ancient Structure of the Heav'ns" (II, l.428), demonstrating the untenability of Ptolemy's ingenious but ultimately inadequate system. He offers two pieces of evidence:

> The Comets, which at Seasons downward tend,
> Then with their flaming Equipage ascend;
> *Venus*, which in the Purlieus of the Sun
> Does now above him, now beneath him run;
> The ancient Structure of the Heav'ns subvert,
> Reer'd with vast Labour, but with little Art.
> (Blackmore, 1712, II, ll.424-9)

First, the poet mentions the observation of comets and, particularly the 1577 comet. Tycho Brahe's observations of the comet challenged the Aristotelian view of the crystal spheres. Fontenelle reflects on the relevance of this revelation, explaining that "it seems there were Comets much higher than the Philosophers expected, which as they pas'd along brake the Crystal Heavens, and confounded the Universe" (1702, p. 17). This observation indicated that comets travelled through regions previously thought to be solid and thus it undermined the long-held Aristotelian model of the universe (Donahue, 2006, p. 576). As Heidarzadeh (2008, p. 42) avers, Tycho's calculations of the distance and motion of the 1577 comet provided significant evidence against Aristotelian cosmology. Firstly, he determined that the comet was far beyond the terrestrial region, disproving the idea that comets were made of sub-lunar exhalations and hence remained in sublunar space. Secondly, he observed that the comet moved through the spheres of Mercury and Venus. While the former finding merely suggested that comets originated in the heavens, the latter was particularly damaging to Aristotle's model, directly challenging the concept of nested, onion-like solid celestial spheres.

Derham's *Astro-Theology* also comments on the complexities of cometary motion. In Book VI, Chapter III, where he reflects on gravity as confirmed by the "Newtonian Philosophy," the physico-theologian marvels at the precise balance between centrifugal force and gravity, a centripetal force, noting that "among so many immense moving Masses, there is not one without this exquisite Æquilibration [between centrifugal force and gravity] I have been speaking of ; which is a thing wonderful in all, but especially in the motion of Comets, considering how prodigiously elliptical the Orbits of most of them are" (1715, p. 149). Indeed, the motion of comets was reserved special attention in Book III of Newton's *Principia Mathematica* (1687) as an example of the action of universal gravitation in a heliocentric system. Take, for instance, these excerpts:

> **Lemma 4**
>
> *The comets are higher than the moon and move in the planetary regions.*
>
> Just as the lack of diurnal parallax requires that comets be located beyond the sublunar regions, so the fact that comets have an annual parallax is convincing evidence that they descend into the regions of the planets.
>
> (Newton, 2016, p. 888)
>
> [...]
>
> **Proposition 40, Theorem 20**
>
> *Comets move in conics having their foci in the center of the sun, and by radii drawn to the sun, they describe areas proportional to the times.*
>
> (Newton, 2016, p. 895)

In this portion of Book III, "The System of the World," Newton further discusses the matter of comets, reflecting on their motion and source of illumination. According to Hughes (1988, p. 63), Proposition 41 was groundbreaking in cometary studies, for Newton provided detailed instructions on how to calculate the periodical orbit of comets, assuming it to be parabolic. As such, a geocentric model could not adequately explain it. This insight not only demonstrated the untenability of the Ptolemaic system but also reinforced the idea that heavenly motions occur in a highly ordered and predictable manner. Blackmore attributed this to the divine hand, in the same way Newton would do in the *General Scholium* to the Second Edition of the *Principia* in 1713:

> This most elegant system of the sun, planets, and comets could not have arisen without the design and dominion of an intelligent and powerful being. (Newton, 2016, p. 940)

Blackmore would return to the phenomenon of comets later in Book II along with the description of the solar system and the plurality of worlds:

> If we with one clear, comprehensive Sight
> Saw all these Systems, all these Orbs of Light;
> If we their Order and Dependence knew,
> Had all their Motions and their Ends in view,
> With all the Comets, which in Ether stray,
> Yet constant to their Time, and to their Way;
> Which Planets seem, tho' rarely they appear,
> Rarely approach the radiant Sun so near,
> That his fair Beams their Atmosphere pervade,
> Whence their bright Hair and flaming Trains are made,
> Would not this View convincing Marks impart
> Of perfect Prudence, and stupendous Art?
> (Blackmore, 1712, II, ll.542-53)

The anaphora of the conjunction "if" at the beginning of the first three lines and their parallel structures emphasise the described hypothetical scenario. Recurring alliteration, vivid images, and rhetorical questions are also distinctive features of Blackmore's style. He reflects on the potential reverence men would feel if they could perceive the magnitude of the cosmos and he stresses how even occurrences like comets communicate a sense of wise design and intelligence. Comets follow precise orbits that can be studied and predicted, thanks to Newtonian physics. In his 2008 *A History of Physical Theories of Comets, from Aristotle to Whipple*, Heidarzadeh traces the

historical development of cometary theories and identifies the most complete work on comets of the early eighteenth century in Edmund Halley's *A Synopsis of the Astronomy of Comets*[62] (1705). The treatise presents an initial overview of comet observations, beginning with the ancient Egyptians. The astronomer maintained that the Greeks laid the foundations of astronomy as a science, with Aristotle influencing the prevailing view that comets were merely sublunary vapours or airy meteors. Until Tycho Brahe, most astronomers believed comets travelled below the Moon and thus paid little attention to them. When a remarkable comet appeared in 1577, the Dutch astronomer's observations with the aid of instruments to perform precise celestial measurements revealed that they had no perceptible diurnal parallax:[63] comets were not aerial vapour but bodies moving higher than the Moon, possibly among the planets. The appearance of a comet in 1680, observed by Cassini in Paris and Flamsteed in Greenwich, further advanced the understanding of cometary motion, which peaked with the work of Newton. In his *Principia Mathematica*, he demonstrated that the phenomena of comets could be explained by the same principles governing planetary motions and in order to illustrate this, he gave the example of the comet of 1680, showing that it moved in a parabolic orbit around the Sun and described areas proportional to the times. In lines 546-7, Blackmore seems to refer to this very attribute of cometary motion. In particular, Halley wrote that the

> Great Geometrician, the Illustrious Newton, writing his Mathematical Principles of Natural Philosophy, demonstrated [...] that all the Phaenomena of Comets wo'd naturally follow from the same Principles; which he abundantly illustrated by the Example of the aforesaid Comet of the Year 1680. Shewing, at the same time, a Method of Delineating the Orbits of Comets Geometrically; wherein he (not without the highest Admiration of all Men) solv'd a Problem, whose Intricacy render'd it worthy of himself. This Comet he prov'd to move round the Sun in a Parabolical Orb, and to describe Area's (taken at the Center of the Sun) proportional to the Times. (Halley, 1705, p. 5)

Hence, Newton revolutionised the study of cometary motion. He characterised comets as solid and resilient entities traversing inclined orbits, with their tails composed of slender streams of vapour emanating from their cores, ignited or heated by the Sun. He even noted their frequent proximity to the Sun, suggesting a high likelihood of them orbiting it, as Blackmore, too, seems to hint (II, ll.548-1).

[62] The Latin original was published earlier the same year as *Astronomiae cometicae synopsis* (1705).

[63] In the *Cyclopaedia* (1741), Chambers defines "parallax" as follows:

> PARALLAX
> , ΠΑΡΑλΛΑΕΙΣ, in astronomy, an arch of the heavens intercepted between the true place of a star, and its apparent place.

Last accessed July 7, 2024, from <https://artflsrv04.uchicago.edu/philologic4.7/chambers_new/navigate/2/3002>.

Using Newton's work, Halley compiled observations of comets into a comprehensive table of all known cometary motions, which was published in the *Synopsis*. This included a general table for calculating the motion of comet in parabolic orbits and an explanation of its use. The astronomer noted that, like planets in elliptical orbits, comets move in parabolic paths with the Sun at their focus. Halley's lasting fame was secured by predicting that the comets seen in 1531, 1607, and 1682 were periodic reappearances of the same body and would return, confirming Newton's law of universal gravitation and its precision in calculating celestial motions.

Vivid images of comets frequently appeared in the poetry of the time and scientific poets incorporated the latest theories into their works. These lines from Reynold's *Death's Vision* (1709) are a good example:

> Ah me! what Diff'rent Balls take yonder Flight,
>
> Vast Firy Balls, Clad o're with Thickned Night?
>
> How regular, how Swift, how far they Run,
>
> From us, thro' all the Orbs, Around the Scorching Sun!
>
> [...]
>
> Ah! now the Laws, by which they cut the Air,
>
> Their Threatening Tails, and long Inflamed Hair,
>
> How they are Chain'd in their Elliptic Race,
>
> Nor Gallop out into the Fields of Neighb'ring Space.
>
> (Reynolds, 1709, pp. 32–3)

The second crucial piece of evidence Blackmore uses to refute the geocentric Ptolemaic system is the observation of the phases of Venus (ll.426-9). According to the Ptolemaic theory, Venus should always appear as a crescent or a new phase because it orbits between the Earth and the Sun. However, modern telescopic observations, which started in 1610 with Galileo (Galilei, 1953, p. 332), reveal that Venus exhibits a complete set of phases similar to the Moon's. The a phenomenon can only be accurately explained in a heliocentric model, where Venus orbits the Sun, not the Earth. Again, it was Fontenelle who probably inspired Blackmore in writing these lines. In his *Plurality of Worlds*, he maintained that

> Venus turns upon her self, and round the Sun, as well as the Moon; they likewise discover by their Tellescopes, that Venus like the Moon, if I may speak after the same manner) is sometimes new, sometimes full, and sometimes in the Vayn, according to the divers situations she is in, in respect of the Earth. (Fontenelle, 1702, p. 87)

These observations collectively subverted the ancient structure of the heavens as proposed by Ptolemy in the late sixteenth and seventeenth centuries, paving the way for

the acceptance of the heliocentric model towards the modern understanding of our solar system. Blackmore, though concisely, succeeded in synthesising these groundbreaking discoveries in his poem.

The next astronomer Blackmore considers in his survey is:

> *Copernicus*, who rightly did condemn
> This eldest System, form'd a wiser Scheme;
> In which he leaves the Sun at Rest, and rolls
> The Orb Terrestrial on its proper Poles;
> Which makes the Night and Day by this Career,
> And by its slow and crooked Course the Year.
> (Blackmore, 1712, II, ll.430-5)

Polish astronomer Nicolaus Copernicus (1473–1543) was pivotal in the history of astronomy and in transforming our idea of the universe by dismantling Ptolemaic geocentrism. According to Copernicus, the Sun is placed at the centre of the solar system, and the Earth rotates daily on its axis, creating the cycle of day and night. On top of that, the Earth orbits the Sun annually, resulting in the changing seasons. The extraordinary innovation of *De revolutionibus orbium coelestium* (1543) was not placing the Sun at the centre of the universe but demoting the Earth to just another planet within the solar system. In *Creation*, Blackmore hails Copernicus for his contributions to astronomy, particularly recognising him as the one who managed to debunk the "eldest system" (l.431). In popular and physico-theological literature, the impact of Copernicus's work had been recurrently celebrated. In the *Plurality of Worlds*, for instance, Fontenelle describes Copernicus as one who, driven by a fervent passion for astronomy, boldly overturned the long-held geocentric model:

> Imagine then a German call'd Copernicus confounding every thing tearing in pieces the beloved Circles of Antiquity, and shattering their Crystal Heavens like so many glass windows, seiz'd with the noble Rage of Astronomy he snatcheth up the Earth from the Centre of the Universe, sends her packing, and placeth the Sun in the Centre to which it did more justly belong, the Planets no longer turn round the Earth, and do not inlcose it in the Circles they describe [...]. All now turns round the Sun, the Earth herself goes round the Sun, and Copernicus to punish the Earth for her former Lazyness, makes her contribute all he can to the motion of the Planets and Heavens, and now stripp'd of all the heavenly Equipage with which she was so gloriously attended, she hath nothing left her but the Moon which still turns round about her. (Fontenelle, 1702, p. 19)

In this new model, the Earth moves like the other planets, rotating on its axis and orbiting the Sun. Fontenelle also notes that, once stripped of its "heavenly Equipage,"

our globe was left with only the Moon to accompany it in its revolutions around the Sun.

Derham's Boyle Lectures trace the origin of the heliocentric hypotheses back to Pythagoras. According to the clergyman, this theory was later revived by Copernicus and gained support from notable figures such as Kepler, Gassendi, and Galileo. Derham himself advocates for the Copernican system for several reasons. Firstly, it is more coherent with nature, which operates in the simplest manner possible, unlike Ptolemy's system, which relies on complex constructs like eccentrics and epicycles to explain observed celestial motions. Secondly, the Copernican model provides a more comprehensive explanation for the various celestial phenomena. Thirdly, Ptolemy's system assigns an unnatural speed to the heavens. Fourthly, placing the Sun at the centre allows for a proportional motion of the planets relative to it rather than to the Earth. Therefore, the Copernican system is more consistent with the actual observations of the universe. Derham also addresses scriptural objections to the Copernican system: until the fifteenth century, the Church had championed the Ptolemaic system as the only one conforming to the Scriptures; Derham, however, quotes from Scripture to argue that the perceived stability of the Earth does not necessarily contradict its motion.

Even though Edwards's *Demonstration* was one of Blackmore's key sources, the poet did not fully embrace his anti-Copernican perspective, instead opting for Derham's line of argument. Edwards leans towards the geocentric system and finds little reason to accept Copernicanism, believing the motion of the Earth to be mere conjecture, a philosophical mode that will be forgotten once it becomes too common. He presents several arguments against the Earth's circular motion, as asserted by Copernicans. For instance, he mentions "Mr. Hook's Attempt to prove the Motion of the Earth" through the parallax of the Earth's orbit among fixed stars but dismisses it, noting that even Hooke was not satisfied with his own observations (Edwards, 1696, p. 48). Edwards refers to *An attempt to prove the motion of the earth from observations made by Robert Hooke*, a paper published in the *Philosophical Transactions* and based on one of Hooke's Cutlerian Lectures of 1670. In this work, Hooke wanted "to furnish the Learned with a rigorous and detailedly related *experimentum crucis* to determine between the Tychonick and Copernican Hypotheses" (1674, p. 2). As per Ait-Touati (2012, p. 76), by 1650, Copernicanism was widely accepted among British astronomers, though not due to any demonstrable evidence. Despite extensive discussions, the controversy over whether the Earth or the Sun was the centre of the universe remained unsolved. Hooke argued that all arguments on either side were merely probable and lacked conclusive proof. The only means left to determine the truth was through the precise observations he had attempted, highlighting the limitations of naked-eye observations and the necessity of telescopic evidence to advance astronomical knowledge.

Hooke expressed approval for the Tychonic system, towards which Edwards also leant. Tycho's hypothesis blends elements of the Ptolemaic and Copernican systems

and keeps the Earth as the stationary centre of the universe. Similarly, Blackmore appraises the mixed system:

> The famous *Dane*, who oft the Modern guides,
> To Earth and Sun their Provinces divides:
> The Earth's Rotation makes the Night and Day,
> The Sun revolving thro' th' Ecclyptic Way
> Effects the various Seasons of the Year,
> Which in their Turn for happy Ends appear.
> (Blackmore, 1712, II, ll.436-41)

Tycho, dubbed by Halley the "great Restorer of Astronomy" in his *A Synopsis of the Astronomy of Comets*, provided a compromise between the geocentric and heliocentric theories, positioning the immobile Earth at the centre of the system, while allowing the other planets to orbit the Sun. The truth of the Copernican hypothesis was established beyond doubt by the work of Newton, nevertheless Tycho's system still had his followers at the end of the seventeenth century, including John Edwards. He Astronomy Tycho Brahe," who made the Earth the centre of the universe and "[a]bout this move[d] the vast Machin of the Heavens, being set into Motion by the Almighty Architect and Framer of them" (Edwards, 1696, p. 50). He expressed these views in the *Demonstration* (1696), and in *Brief Remarks Upon Mr. Whiston's New Theory of the Earth* (1697) he claimed that since he "was not well satisfied with the Account which the Moderns give of it, [he] chose rather to retain the Tychonick System, as being least incumber'd with Objections and Difficulties" (Edwards, 1697, p. 46). Although Blackmore undoubtedly owed much to Edwards, when it came to his views on astronomy, the poet seemed not to align with him entirely. His main concern lay in identifying the source of celestial motion, for "[t]his scheme or that, which pleases best, embrace, / Still we the fountain of their motion trace" (ll.442-3).

Not satisfied with any of the explanations hitherto surveyed, Blackmore proceeds with his historical overview considering the innovative work of Kepler:

> *Kepler* asserts these Wonders may be done
> By the Magnetic Virtue of the Sun,
> Which he, to gain his End, thinks fit to place
> Full in the Center of that mighty Space,
> Which does the Spheres, where Planets roll, include,
> And leaves him with Attractive Force endu'd.
> The Sun, thus seated, by Mechanic Laws,
> The Earth, and every distant Planet draws;

By which Attraction all the Planets found

Within his reach, are turn'd in *Ether* round.

(Blackmore, 1712, II, ll.444-53)

Blackmore devotes a substantial portion of this historical compendium to Kepler, a sign of his role in advancing modern astronomy. Kepler insists on the central position of the Sun in the universe. He also attributes it a unidirectional magnetic virtue that governs the celestial bodies, drawing each planet into orbit. According to the astronomer, this magnetic force ensures that all planets within the Sun's reach orbit around it. Following mechanical laws, the force emanating from the Sun influences the planets's orbits depending on their distance. The Moon, which orbits the Earth, still experiences this universal force. The Earth also possesses a force that affects the Moon's orbit, derived from the Sun's force and continuing through the Earth (Kepler, 1967, pp. 219–20). *Creation* highlights what may appear as a physical inconsistency: despite being attracted by the same magnetic force, planets exhibit vastly different orbital periods (ll.457-66). For example, Saturn completes its orbit in thirty years, Jupiter in twelve, Mars in twenty-three months, the Earth in twelve months, Venus in eight months, Mercury in three months, and the Moon in just one month. Though Blackmore might have acquired this astronomical knowledge elsewhere, he likely gathered it from William Derham's Boyle Lecture. In *Astro-Theology* he wrote that

> According to this Systeme [Copernican], the Sun is supposed to be in the Center, and the Heavens and Earth to revolve round about him according to their several periods: first Mercury in near 88 days; then Venus in somewhat above 224 days; then the Earth, with its Satellite the Moon, in 365 1/2 days; the Mars in about 687 days; then Jupiter with his four Moons in about 4333 days and lastly, Saturn in some what above 10759 days, with his 5 or more Moons revolving about him. (1715, pp. xiii–iv)

The difference in orbital periods suggests that additional factors influence the length and speed of each planet's trajectory, despite the expectation of uniform motion from a consistent force. An explanation proposed in lines 467-70 assumes that this variation may be linked to the planet's mass, so that planets of greater mass move more slowly due to their greater resistance against the Sun's gravitational pull. Yet, Blackmore argues, until the concepts of "Weight and Gravity" (l.471) are thoroughly clarified, they remain vague and unconvincing. The poet also insists that Kepler's theory of the Sun's magnetic attraction is disproved by the Moon's orbit around the Earth:

If Planetary Orbs the Sun obey,

Why should the Moon disown his Sov'raign Sway?

Why in a whirling Eddy of her own

Around the Globe Terrestrial should she run?

> This Disobedience of the Moon will prove
>
> The Sun's bright Orb does not the Planets move.
>
> (Blackmore, 1712, II, ll.473-8)

The anaphoric questions imply that if every celestial body is affected and guided by the Sun's magnetic force, the Moon's orbit around the Earth contradicts this scheme. Hence, this disobedience casts doubt on a heliocentric model uniquely dependent on solar magnetism. Neither in this passage nor elsewhere does Blackmore refer to Kepler's most consequential astronomical achievement, that is, his three laws of motion and the matter of distance between the Sun and the planets. A few years prior to the publication of *Creation*, Halley praised Kepler in *A Synopsis of the Astronomy of Comets* because of the geometric theorisation of the three laws of motion, following in Tycho's footsteps. He

> found out the true Physical System of the World, and vastly improv'd the Astronomical Science. For he demonstrated that all the Planets perform their Revolutions in Elliptick Orbits, whose Plains pass thro' the Center of the Sun, observing this Law, That the Area's (of the Elliptick Sectors, taken at the Center of the Sun, which he proved to be in the common Focus of these Ellipses) are always proportional to the Times, in which the correspondent Elliptical Arches are describ'd. He discover'd also, That the Distances of the Planets from the Sun are in the Sequialtera Ration of the Periodical Times, or (which is all one) That the Cubes of the Distances are as the Squares of Times. (Halley, 1705, p. 4)

Curiously, Blackmore chose not to include these notions in his poem, focusing instead on the magnetic aspect. As Section 2.1.3 pointed out, he probably did it to follow Milton's model in composing this section of *Creation*.

Before closing the survey, Blackmore interrupts his argument with one of his recurring observations on scientific inquiry, acknowledging its value only when it is sustained by a creator who established the ordered organisation of the universe. Lines 479-505 open with a critique of those philosophers who futilely attempt to comprehend and explain celestial dynamics only through theories and intellectual efforts. They invariably fail to uncover the actual cause behind heavenly motions, and Blackmore upholds that the real explanation lies in the power exerted by the eternal mind. This supreme mind governs the paths of the celestial orbs, allocating specific motions to each so that they do not stray. As Edwards claims, "the vast Machine of the Heavens [is] set into Motion by the Almighty Architect and Framer of them" (1696, p. 50). Blackmore's reasoning extends to the structure of the whole universe, suggesting that if the Earth and the other planets revolve around the Sun as part of a single, "[t]his wide Machine" (l.506), this complexly harmonious system must necessarily point to a divine design.

These reflections lead Blackmore to depict the arrangement of the solar system, detailing each planet's position and key characteristics, beginning in the middle and moving outwards. In *Principia Mathematica*, Book II, Phenomenon III, Newton stated that the solar system was believed to be composed of five primary planets that revolve around the Sun: Mercury, Venus, Mars, Jupiter, and Saturn. In this representation, Blackmore maintains a heliocentric perspective, for in the centre of this system is "a Globe of Fire, a glowing Mass, / Hotter than melting Flint, or fluid Glass" (II, ll.508-9). The Sun was indeed conceived as

> a Liquid Matter, some think of melted Gold, which boils over (as it were) continually, and by the Force of its Motion calls the Scum or Dross on its surface, where its is consumed, and others arise. Imagine then what strange Bodies these are, when some of them are as big as the Earth; What a vast quantity must there be of this melted Gold, and what must be the extent of this great Sea of Light and Fire which they call the Sun? (Fontenelle, 1702, pp. 103–4)

The closest planet to the Sun is Mercury, which moves along an elliptical ("oval," l.512) orbit. As the planet closest to the Sun, Mercury is rarely seen because it is usually covered by sunlight. Venus is described through the isotopy of beauty, conveyed by the use of terms such as "lovely" (l.515), "adorn" (l.515), "fair" (l.517), and "beauteous" (l.517). This isotopy concerning the planet Venus and its personification as a charming woman was a recurring *topos* of scientific poetry of the early eighteenth century. John Reynolds's *Death's Vision*, Stanza VIII, reads:

> But Lo! with what Majestic Grace
> Sweet Venus Follows, and maintains
> Thro all her Changes and her Wanes
> A still Unclouded, Lovely Face!
> Such Constant Beauty, tho it Lye
> (As Mortal beauties us'd to Be)
> Intangles with Unconstancie,
> Can't chuse but Charm each Astronomic Eye!
> Her Nimble footed Harbinger,
> Thro plac'd Amidst the Streams
> Of Beautifying Beams,
> Is more Illustrious made by Her.
> (Reynolds, 1709, p. 28)

Next, the "Globe Terrestrial" "with slanting Poles" (l.518) and with "all its pond'rous Load, unwearied rowls" (l.519) is briefly mentioned in a couple of lines. The inclination of the Earth's axis and its mass are identified as its distinctive features, gaining particular relevance with the advent of Newtonian astronomy. This field relied on the concept of mass to theorise gravity and emphasised the Earth's axial tilt. For instance, Bentley describes the ecliptic plane—an imaginary plane that passes through the centres of the Sun and Earth, along which the Earth moves without deviation. Even so, the Earth's rotational axis is not perpendicular to this plane but is tilted at an angle of 23.5 degrees (Bentley, 1693, p. 256).

Of Jupiter and Saturn, Blackmore writes:

> Then we behold bright Planetary *Jove*
>
> Sublime in Air thro' his wide Province move;
>
> Four Second Planets his Dominion own,
>
> And round him turn, as round the Earth the Moon.
>
> *Saturn* revolving in the highest Sphere,
>
> With lingring Labour finishes his Year.
>
> (Blackmore, 1712, II, ll.520-5)

The main attribute of Jove that stands out in this concise picture is the fact that it possesses four "Moons, or Yeomen of the Guard; they are four little Planets that turn round him, as our Moon turns round us" (Fontenelle, 1702, p. 106). Jupiter, which, according to Derham, has "superficies 100 time, yea (according to Mr. Huygen's computations) 400 times bigger than that of the Earth" (1715, p. 179), had been observed to possess ancillary planets. The first observations were made by Galileo in the sixteenth century, when he discovered that not only the Earth served as a centre of motion but that Jupiter and Saturn also had moons—though what he observed around Saturn was actually its ring, not moons. In a footnote to Book VII, Chapter V of *Astro-Theology*, Derham quoted a passage from Huygens regarding the observation of Jupiter's and Saturn's satellites:

> Mr. Huygens in his *Cosmotheoros* p.99. gives this account of the discovery of the Satellites of Jupiter and Saturn, That it is well known the discovery of the Cirumjovials is owing to Galilæo; that the brightest, and outermost Circumsaturnial he happened to see with a 12 foot Glass in the year 1655; that the rest are owing to Cassini, who first saw them with a Glass of Campani's grinding of 36 feet, and afterwards with one of as many feet above 100. That the 3rd and 5th Cassini shewed him in 1672, and afterwards oftener. That Cassini acquainted him by Letter afterwards with his discovery of the First and Second in 1684. That these two last are not easily discerned, and he cannot say he ever saw them. That beside these 5, he suspects there may be one or more lye concealed. (Derham, 1715, p. 176)

In Book II of *The Celestial Worlds Discover'd*[64] (1698), Huygens describes the moons of Jupiter and Saturn and focuses on the significant discoveries made by the astronomers of his time. He credits Galileo with the discovery of Jupiter's four moons, known as the Galilean moons or *Stelle Medicee*, and Huygens notes his own achievement of 1655 when he discovered Saturn's brightest moon with a relatively short telescope of twelve feet. He also acknowledges Cassini's contributions, who discovered additional moons of Saturn using increasingly powerful telescopes (Huygens, 1698, p. 113).

In the *Plurality of Worlds*, Fontenelle highlights Saturn's unique features, noting that it has five moons and is surrounded by a magnificent ring that reflects sunlight to areas otherwise in shadow. When introducing Saturn, the last planet he names, Blackmore does not mention its rings or moons. Instead, he follows Fontenelle (1702, p. 120) in remarking the alliterative "lingring Labour" (l.525), which describes the planet's slow movement due to its distance from the Sun and the larger orbit it must traverse.

In this survey of the Solar System, Blackmore notably avoids mentioning the planet Mars, which would precede Jupiter in order of distance from the Sun. In *Creation*, Mars was mentioned in Book II when discussing the revolution times of each planet ("*Mars* three and twenty Months revolving spends," l.460). Physico-theologians like Bentley, Ellis, Edwards, and Derham, all number Mars among the planets of the solar system. Hence, the choice to avoid mentioning it in this list appears quite arbitrary. The only analogous dismissiveness of the planet Mars in the literature close to Blackmore is found in Fontenelle's treatise. After briefly considering Mars in a review of the planets, the French author comments: "Mars hath nothing curious that I know of. [...] let us leave Mars, he is not worthy of our stay" (1702, p. 106).

As a culmination of his historical survey, Blackmore appraises Newton and his legacy:

> The Masters form'd in *Newton*'s famous School,
> Who do's the Chief in modern Science rule,
> Erect their Schemes by Mathematick Laws,
> And solve Appearances with just Applause
> (Blackmore, 1712, II, ll.554-7)

Newton and his followers hold a position of absolute pre-eminence in contemporary science, primarily due to Newton's mathematical approach, which describes natural phenomena through mathematical laws. The law of universal gravitation, in particular, was groundbreaking because it succeeded in explaining everything in the universe, both of terrestrial and celestial origin. Newton formalised this theory, as he

[64]The full title was *The Celestial Worlds Discover'd: or Conjectures Concerning the Inhabitants, Plants and Productions of the Worlds in the Planets.*

"Nature's steps with Care pursu'd" (l.558), understanding gravity in an innovative way. He and his followers

> That Matter is with active Force endu'd,
>
> That all its Parts Magnetic Pow'r exert,
>
> And to each other gravitate, assert.
>
> While by this Pow'r they on each other act,
>
> They are at once attracted, and attract.
>
> Less bulky Matter therefore must obey
>
> More bulky Matter's more engaging Sway;
>
> By this the Fabrick they together hold,
>
> By this the Course of Heav'nly Orbs unfold.
>
> (Blackmore, 1712, II, ll.559-67)

This passage, framed by anaphoric lines, condenses some of the most original tenets of the *Principia*. First, it explains the nature of the force of gravity and how it operates between bodies. This force, which holds the universe together and keeps the planets in their respective orbits, is likened to a magnetic force that causes bodies simultaneously to attract and be attracted to each other in proportion to their mass. However, Newton did not equate gravity with magnetic power. Unlike gravity, magnetic force is not proportional to mass, as Blackmore himself clarifies. Gravity affects all objects with mass, whereas magnetic force does not. This distinction is highlighted in the *Principia*, Book III, Propositions 6 and 7:

> COROLLARY 5. The force of gravity is of a different kind from the magnetic force. For magnetic attraction is not proportional to the [quantity of] matter attracted. Some bodies are attracted [by a magnet] more [than in proportion to their quantity of matter], and others less, while most bodies are not attracted [by a magnet at all]. And the magnetic force in one and the same body can be intended and remitted [i.e., increased and decreased] and is sometimes far greater in proportion to the quantity of matter than the force of gravity; and this force, in receding from the magnet, decreases not as the square but almost as the cube of the distance, as far as I have been able to tell from certain rough observations.
>
> **Proposition 7, Theorem 7**
>
> Gravity exists in all bodies universally and is proportional to the quantity of matter in each.
>
> (Newton, 2016, p. 810)

Given his admiration for Newton, it is reasonable to assume that Blackmore compares gravity to a mutually attractive magnetic power to make the concept more understandable for his less-educated readers. This simplified definition appeared to be appreciated in the eighteenth century, for Dr Johnson used these very lines to illustrate the meaning of the verb "to gravitate" in his *Dictionary* (1773).[65] The term "gravity" itself was not Newton's invention and it had been used before. Similarly, the concept of an attractive force between celestial bodies was not new. Speculations about magnetic interactions circulated since the early seventeenth century, and "magnetic power" was even used as a synonym for gravitation in the early eighteenth century, according to Meadows (1969, p. 128).

In the quoted lines, Blackmore illustrates another key feature of gravitation force as theorised by Newton: its dependence on mass. Bodies with a greater mass exert a stronger attractive force on less massive bodies, which they, in turn, attract. This force holds the universe together and ensures harmony in the solar system. Physico-theologians of the Newtonian era were keenly aware of this principle and its implications. *Cosmologia Sacra,* Grew holds that the admirable regularity of the cosmos

> is supposed to depend in a great measure upon a sort of Gravitating Power in the Nature and Motion of the Sun, somewhat like unto that in the Earth, by which all Bodies are made to descend. And that the Sun is the better fitted to command them at so great a distance, by its Bulk. [...] And therefore also that this Power of the Sun is greater or less, according to the Bulk and Distance of the several Planets. As all Bodies gravitate more or less, according to their Distance from the Centre of the Earth. (Grew, 1701, p. 8)

Blackmore extols the extraordinary achievements of Newtonian science and at the same time maintains a dubitative stance regarding what science alone can achieve:

> Yet these Sagacious Sons of Science own
>
> Attractive Vertue is a Thing unknown.
>
> This wondrous Pow'r they piously assert,
>
> Th' Almighty Author did at first Impart
>
> To Matter in Degrees, that might produce
>
> The Motions he design'd for Nature's Use.
>
> (Blackmore, 1712, II, ll.568-73)

[65] **To GRA'VITATE**. *v.n.* [from *gravis*, Latin.] To tend to the center of attraction.

Those who have nature's steps with care pursu'd,
That matter is with active force endu'd,
That all its parts magnetick pow'r exert,
And to each other *gravitate*, assert.
–*Blackmore*.

Last accessed on April 3, 2024, from <https://johnsonsdictionaryonline.com/views/search.php?term=gravitate>.

Newton and his followers, alliteratively called the "Sagacious Sons of Science," acknowledged the limitations of a scientific approach that excluded a theological foundation. The poet underlines an issue that divided the scientific community when the *Principia* was published: the nature of gravity. Blackmore's description of Newton's gravity as a "quality occult" should not be seen as dismissive of Newton's revolutionary work. Newton proposed gravity as the force that maintains the universe's harmony through his law of universal gravitation, but he did not fully explain its cause. Questions about why matter has gravity, how it functions, and what is its origin, remained unanswered. According to Blackmore, this lack of explanation left Newton's hypothesis liable to criticism. After the *Principia*'s first edition was published in 1687, many, including the German philosopher and mathematician Gottfried Wilhelm Leibniz (1646–1716), questioned the true nature of gravity. Leibniz accused Newton of inventing an occult force, calling it "a fiction invented to support an ill-grounded opinion" (as quoted in Porter, 2003, p. 273). Newton responded to these critiques in the *Scholium Generale*, the closing section of the second edition of the *Principia* (1713). There, he revisited the concept of universal gravitation, summarised how gravity works as observed in natural phenomena, and admitted that

> I have not as yet been able to deduce from phenomena the reason for these properties of gravity and I do not feign hypotheses. For whatever is not deduced from the phenomena must be called a hypothesis; and hypotheses, whether metaphysical or physical, or based on occult qualities, or mechanical, have no place in experimental philosophy. (Newton, 2016, p. 943)

A similar defence of the physical legitimacy of gravity was found in Roger Cotes's (1682–1716) Preface to the same edition of Newton's work, set to demonstrate the absurdity of believing gravity an occult quality. Cotes argues that true occult causes are imagined and unproven and, as such, they "are to be banished completely from philosophy" (Newton, 2016, p. 392). Gravity is not occult because its existence is demonstrated through observations. Instead, he claims that those attributing celestial motions to imaginary and imperceptible vortices—the Cartesians—rely on genuine occult causes.

Despite the initial emphasis on the mathematical value of the discovery, devout Blackmore deems Newton's piety his greatest asset: he maintained that matter was first endowed with gravity according to God's design (ll.570-3). While *Creation* offers plenty of reasons to believe that Blackmore knew Newton's work, in 1712, the second edition of the *Principia* had yet to be published. The poet likely appreciated the depth of Newton's physics and its theological implications thanks to popularisations and, particularly Richard Bentley's Boyle Lectures. These were the first extensive popularisation of Newton's work, published in 1693 as *The Folly and Unreasonableness of Atheism* (Dahm, 1970). During the composition of his eight sermons, Bentley engaged

in a correspondence with the author of the *Principia*[66] to appraise Newton's opinion on the cause of gravity. In a letter dated January 17, 1693, Newton commented:

> You sometimes speak of gravity as essential & inherent to matter: pray do not ascribe that notion to me, for the cause of gravity is what I do not pretend to know, & therefore would take more time to consider of it.[67]

In a subsequent letter dated February 18, 1693, Newton adds:

> tis unconceivable, that inanimate brute matter should (without a divine impression) operate upon & affect other matter without mutual contact: as it must, if gravitation be essential and inherent in it.

In the letter from February 25, 1693, Newton expresses disbelief that inanimate matter can influence other matter without direct contact or mediation. It rejects the notion of gravity being inherent in matter as absurd, suggesting instead that it must be caused by some "agent {acting} consta{ntl}y according to certain laws, but whether this agent be material or immaterial is a question [he] left to the consideration of [his] readers."

According to the natural philosopher, the formation of a world system requires divine intervention. This suggests that the phrase "the mediation of something else which is not material" refers to a superior power, but it does not mean that God is the direct cause of gravity (Newton, 2018). Newton's statement implies that gravity needs an agent or a secondary cause, as he would never describe God as "material." Thus, Newton likely admitted an indirect cause for gravity: God could use a material cause, but it would be God who established it (Bentley, 1693, pp. 224–5). In Newton's view, shared by Blackmore, everything in nature is the result of God's deliberate choices, and scientists can investigate the causes that God has put in place for various phenomena. God is the ultimate cause, though Newton's words in the correspondence with Bentley suggest that he had not yet ruled out a mechanical or material cause for gravity. This is why, in his letter of January 17, 1693, Newton asked Bentley not to attribute the doctrine of gravity as "essential and inherent to matter" to him.

Bentley capitalised on this correspondence in the final part of his Boyle Lectures on the "Origin and Frame of the World." Newton's idea of mutual gravitation involves distant bodies influencing each other across empty space without any physical medium like effluvia or exhalations. Bentley argues that this power cannot be inherent and essential to matter, as it does not depend on motion, rest, shape, or position of parts—the only ways matter can vary. Therefore, such a power could only exist in matter if an immaterial and divine force instilled it. In particular, in the seventh sermon, he wrote:

[66] This correspondence was carried on between December 1692 and March 1693 before Bentley's inauguraed the Boyle Lectures on March 7, 1692. Bentley resorted to Newton's help only in drafting the last three sermons, which employ the structure of the universe to justify God's existence. Of the correspondence, only one of Bentley's letters and all of Newton's answers have been preserved.

[67] All quotations from the Newton-Bentley correspondence were taken from The Newton Project <https://www.newtonproject.ox.ac.uk/texts/correspondence/all>.

> Universal Gravitation, a thing certainly existent in Nature, is above all Mechanism and material Causes, and proceeds from a higher principle, a Divine energy and impression. [...] Nothing surely but a Deity, could have so arbitrarily indued our Sun and Planets with a Power of Gravity not essential to Matter. (Bentley, 1693, pp. 229, 234)

Blackmore likely adopted Newtonian physics thanks to and via Bentley. The poet finds the true strength of Newton's system lies in its solid mathematical foundation and, even more importantly, its acknowledgement of God as the ultimate cause of the orderly structure of the universe. Blackmore might have also been indebted to Derham, who, in *Physico-Theology* (1713), accepted Newton's physics as the key to discovering the principles governing the universe:

> That there is such a thing as Gravity, is manifest from its Effects here upon Earth; and that the Heavenly Bodies attract, or gravitate, to one another, when placed at due distances, is made highly probable by Sir Isaac Newton. This Attractive or Gravitating Power, I take to be congenial to matter, and imprinted on all the Matter of the Universe by the Creator's Fiat at the Creation. [...]
>
> What the Cause of it [Gravity] is, the Newtonian Philosophy doth not pretend to determine for want of Phaenomena, upon which Foundation it is that that Philosophy is grounded, and not upon chimerical and uncertain Hypotheses: But whatever the Cause is, that Cause penetrates even to the Centres of the Sun and Planets, without any diminution of its Virtue; and it acteth not according to the Superficies of Bodies (as Mechanical Causes do) but in proportion to the Quantity of their Solid Matter; and lastly, it acteth all round it at immense distances, decreasing in duplicate proportion to those distances, as Sir Isaac Newton saith. (Derham, 1713, pp. 31–2)

These views clearly align with Blackmore's beliefs, and this combination of science and faith resonates with the physico-theological programme of *Creation*.

Blackmore's review of the evolution of astronomical theories in Book II of *Creation* traces the historical advancements in comprehending the cosmos. It also brings to the fore the importance of integrating these developments with a religious perspective. By assessing the contributions of Ptolemy, Copernicus, Kepler, Tycho, and Newton, Blackmore shows his familiarity with the milestones that marked the evolution from ancient to modern astronomy. He also reveals an appreciation for the incremental nature of scientific inquiry, which reflects the collaborative approach encouraged by the new philosophy (Park & Daston, 2006, pp. 399–400). The diachronic narrative adds to the otherwise strictly synchronic poem, illustrating how the efforts of astronomers paved the way for Newton's revolutionary physics, the most convincing explanation of celestial mechanics. This section of *Creation* serves both as a historical

survey and a celebration of contemporary achievements in natural philosophy, which physico-theologians saw as perfectly consistent with their conception of a cosmos devised by God to be orderly and harmonious.

2.5 Conclusion

This chapter explored the natural philosophical and physico-theological background of Books I and II of *Creation*. The analysis revealed that the poem not only aligns with but also significantly contributed to the English physico-theological tradition of the late seventeenth and early eighteenth century.

The opening section was devoted to the treatment of the Earth's position in the universe, together with reflections on atomism and magnetism. This study demonstrated Blackmore's engagement with contemporary scientific debates, like the Earth's proximity to the Sun and the various Theories of the Earth.

Section 3.2 researched Blackmore's depiction of the beauty of the natural world. His survey of mountains, rivers, and the water cycle mirrors seventeenth-century ideas on the utility and origin of these natural features. His sentiments on the sea's salinity and tidal movements further underscored the combination of scientific inquiry and theological reflection. In this light, even a feature like the sea's salinity owes its origin to God's intelligent design. The incorporation of the vegetable kingdom symbolises the interconnectedness and hierarchical structure of the natural world, reinforcing the concept of the "great chain of being" that Blackmore weaves into his composition (Lovejoy, 2001).

The overview of the following section on air and meteors revealed Blackmore's understanding of the atmosphere as a crucial link between the Earth and the heavens. This, too, serves as an instance of God's plan. References to the elastic nature of air and its role in transmitting light and heat confirmed the author's awareness of contemporary meteorological theories regarding the nature of light.

Finally, the analysis of the solar system displayed Blackmore's fascination with the cosmos and celestial mechanics. His narrative encompasses the Sun's centrality in the conception of the plurality of worlds and of an infinite universe, alongside a historical survey of astronomical milestones. By juxtaposing the heliocentric Copernican and Newtonian systems with residual geocentric notions, Blackmore highlights the transitional scientific landscape of his time and reveals his complex dialogue with contemporary physico-theological sources.

The poet's style also conform to the physico-theological tradition illustrated in Section 1.1. The recurrent use of the structure "see, how..." is not just a stylistic choice but a critical rhetorical device that introduces the factual description of observable phenomena, to which he frequently resorts. According to Powell (2021, p. 7), the use of "imperatives and deictic indicators" in poems such as Blackmore's "invite active participation from the reader." This structure often transitions to rhetorical question-

ing through repetitive and anaphoric "why" questions, effectively demonstrating the untenability of opposed ideas. The conclusion invariably drawn from such arguments is the existence of a wise and providential divine author behind all works of creation.

Personification and metaphors are favourite tools in Blackmore's repertoire and the emphasis on imagery and sight is a characteristic feature of physico-theological literature *tout court*. On the one hand, the stress on sight stems from the physico-theological reliance on the contemplation of nature to infer God's design. On the other hand, leaning on observation was a necessary feature of the empirical tradition inaugurated by Francis Bacon in England. Blackmore's inclusion of John Locke's philosophy, especially his theory of knowledge from sensory experience, gives additional prominence to sight and direct experience in the poem. This epistemological background also paves the way for the physico-theological celebration of nature's beauty, richness, and variety, essential to worshipping God. In the modern early period, thinkers were profoundly fascinated by the concept of "natural order" (Paley, 2006, p. 294). As (Fairchild, 1939, pp. 199–200) observes, however, while Blackmore extensively resorted to the lawfulness of nature, he was also "particularly anxious that God should not be thought of as controlled by the laws which He has imposed upon nature." This was well expressed in a passage from Book VII of *Eliza*:

> Things chiefly here in the same Order go,
> As Rivers in their known frequented Channels flow.
> Common Effects from common Causes spring,
> And Nature runs her customary Ring.
> The Strong subdue the Weak by usual Fate,
> The Wise and Subtile Triumph in Debate.
> [...]
> But least Mankind to wrong Conceptions prone,
> Should Heav'n's superior Will and Pow'r disown;
> Should impious Thoughts unworthy God imbibe,
> Should Providence dishonour, and ascribe
> Private Events, and publick Turns of State
> To a fixt Chain of Things, and necessary Fate;
> He sometimes bids his Servant Nature take
> A Path unknown, and her old Course forsake:
> Bring forth Events by unexpected Ways,
> Awe to produce, Astonishment to raise,
> That God's controlling Will Mankind may fear,

> Adore his Wisdom, and his Pow'r revere.
>
> (Blackmore, 1705, p. 189)

As a physico-theologian, the poet does not fully trust the science he wields.

In conclusion, Blackmore's poetic encyclopaedia synthesises the richness of the early eighteenth-century scientific and physico-theological thought and their inevitable interplay. For him, the "Diversity of Things" is infinite and it originates "immediately from the act of creation itself, which is marked by the occasional deployment of different levels of skill and a free mode of production" (Schmidgen, 2021, p. 88). The physician's reliance on the prose work of physico-theologians like William Derham, Richard Bentley, and John Edwards, and his attempt to emulate Fontanelle's didactic work frame *Creation* as a vehicle for disseminating natural knowledge to a broader audience. By combining science with popular poetry and the argument from design, Blackmore enriched contemporary understanding of the world as a manifestation of divine providence. This substantiates the importance of *Creation* in the English physico-theological tradition at the crossroads between literature, natural philosophy, and religion.

Chapter 3

Creation and the Human Being

> *The living Fabrick now in pieces take,*
> *Of ev'ry Part due Observation make;*
> *All which such Art discover, so conduce*
> *To Beauty, Vigour, and each destin'd Use;*
> *The Atheist, if to search for Truth inclin'd,*
> *May in himself his full Conviction find,*
> *And from his Body teach his erring Mind.*
> (Blackmore, 1712, VI, ll.273-9)

Chapter 3 analyses the scientific background of the last two books of *Creation* and is intended to complete the assessment of Blackmore's relevance in the English physico-theological tradition outlined in Chapter 1. The chapter concentrates on Blackmore's portrayal of the human body and mind as primary examples of God's "marks and impressions of prudence and design" (Blackmore, 1712). As Greyerz (2022, p. 1) explains, "[t]he major concern of physico-theologians was the demonstration of the compatibility of religious tradition and the new science (including medicine)." The scholar also observes that an innovative aspect of physico-theology was its fusion of the design argument with mechanistic interpretations of the human body (Greyerz, 2022, p. 112). Hence, Books VI and VII share a common focus on the human being, which makes the poem different from the more widespread scientific poetry and physico-theological literature of the day, which rarely included state-of-the-art physiological or anatomical knowledge. Notable exceptions were Richard Bentley's *Folly of Atheism* and John Hancock's *Arguments to Prove the Being of a God* (1707), both based on the Boyle Lectures the authors delivered respectively in 1691 and 1706. As Rosalind Powell (2021, p. 163) maintains,

> the sixth and seventh books of [...] *Creation* move from external landscapes to explore 'the living Fabrick' of the body from the heart and the digestive

> system to the nerves and the brain. This gives rise to a didactic exploration – framed as an attack on Epicureanism – of the relationship between the physical body, images perceived in the mind, and the external world.

Hence, Blackmore's professional expertise is the key feature of this portion of the text and what sets it apart from the rest of the composition. This was not a common choice at the time. However, he ventured into anatomy, physiology, and psychology, using the latest scientific discoveries as tools to "demonstrate the existence of a Divine Eternal Mind" and refute the arguments of atheists, fatalists, and deists (Jones, 1959, p. 47).

The present chapter will be devoted to exploring Books VI and VII. Book VI focuses on the human body, which Blackmore describes as a meticulous celebration of God's most intricate creation. When he describes the circulatory, digestive, and nervous systems, the poet's professional expertise as a physician is patent. Though occasionally veering into the technical, such descriptions were attempted to blend scientific observation and accessible poetry. In Blackmore's view, all these point to a wise and intelligent creator and, as per Solomon (1980, p. 134), "Book VI provides an especially vivid insight into early-eighteenth-century scientific enthusiasm." In Book VII, Blackmore concentrates on the mind as a more abstract entity and human understanding, drawing heavily on John Locke's *Essay Concerning Human Understanding* (1689). The poet's discussion of the mind's faculties is further evidence of the divine wisdom he celebrates in the poem. First, this chapter will dwell on Blackmore's portrayal of sensory abilities, then this argument will be extended to human understanding, with particular attention paid to the remarkable faculties of the human mind, such as thinking, perception, and complex reasoning.

The long eighteenth century witnessed significant transformations in scientific and medical practice. Lawlor and Suzuki (2003, p. xiii) comment that "[t]he long eighteenth century began with the transition, albeit uneven, from one major medical paradigm to another: from the humours of the Ancients to the mechanical philosophy of the New Science." In the late seventeenth century, mechanical theories of medicine had become exceptionally popular. Natural philosophers like Newton influenced medical thought and inspired attempts to study the human body with mathematical and mechanical frameworks Rogers (2022, p. 166). At this time, iatromechanism[1] (also known as "iatrophysics" or "iatromathematics") reflected an effort to apply the same mechanical principles that had transformed the investigation of the physical world to the field of medicine, trying to quantify the sciences of the body (Brown, 1970, p. 12). As a matter of fact, Danet (1700) underline that mechanistic models ap-

[1] Lawlor and Suzuki (2003, p. xv) explain the adoption of the term "iatromechanism." "The mechanical philosophy was inspired by the discoveries of Newton, Harvey and Descartes' idea of the body as a machine. The Greeks called doctors *iatroi*: hence when what we would now call 'scientific' disciplines were applied to medicine, they became the iatrochemistry of Paracelsus, the iatro-mechanics of Boerhaave, the iatromathematics of Baglivi. These were not discrete categories, nor did they necessarily blend well together."

plied in medicine usually originated in natural philosophy and not medicine itself. This, in turn, reflected the necessity that medical men felt to integrate the findings of other sciences into their works.[2]

Empiricism and experimentalism were also key features of this period. A case in point was the approach adopted by the already mentioned Thomas Sydenham, a physician who famously based his medical practice on experiential methods (see Section 1.2.3). Known as the "English Hippocrates" (Cook, 2011), Sydenham sought to reform medicine by implementing empirical methods, and because of this, he is considered the inventor—or reviver—of clinical medicine (French & Wear, 1989, p. 165). Influenced by the scientific revolution of the seventeenth century, Sydenham prioritised observation and experimentation, challenging the prevailing "Galenic theory while embracing anew the Hippocratic approach" (French & Wear, 1989, p. 188). However, the rise of experimental methods was not passively accepted by physicians, who debated the role of the new philosophy in medicine at length.[3] Within the Royal College of Physicians, some, like physician and natural philosopher Christopher Merrett (1614–1695), argued that the detailed empirical study of nature, informed by natural philosophy, could improve medical practice as well and establish the superiority of learned physicians over empirics and apothecaries. Others, on the other hand, feared that incorporating these new ideas would compromise the intellectual foundations of academic medicine and blur the distinction between learned and unlearned medical practitioners, a staple of early modern medical hierarchy.[4]

The Royal Society of London, founded in the mid-seventeenth century, was instrumental in promoting scientific inquiry in England and even on the continent. Many early members were physicians and, according to Friday (2016, pp. 34–5), though there was a perceived rivalry between the Royal College of Physicians and the Royal

[2]Such changes in medical theory were also reflected in practice in the actual understanding of the human body. Lawlor and Suzuki (2003, p. xv) report that "[i]n the seventeenth century the New Science overturned Humouralism's long domination of medical theory and replaced it with mechanical and chemical concepts of the body; man's physical being had now become a combination of different types of particles rather than humoural flows. Although the many systems that arose at this time did not necessarily change time-honoured treatments such as blood-letting, the body became less the object of abstract speculation and more one of scientific experiment and investigation. Of course, until certain facts emerged, rationalism and speculation would always supply the place of empirical knowledge, but — without overstating its ease — a crucial break into modernity had been made."

[3]In the seventeenth century, university medical education in England entailed a theoretical part (knowledge of the naturals, knowledge of the non-naturals, knowledge of the contra-naturals) and a practical part (physiology, pathology, semiotics, hygiene, therapeutics). On the topic of medical education in seventeenth-century England, see Allen (1946, 1949), Axtell (1970), Barry (2019), King (1972).

[4]In the seventeenth and eighteenth centuries, there was a clear hierarchy among medical practitioners, where physicians occupied the higher level of the ladder, followed by surgeons and apothecaries. Axtell (1970) remarks on the genteel status of the university-educated physician, while surgeons and apothecaries received a more practical formation. Clark (1964, p. 364) clarifies that the foundation of the Royal College of Physicians and the charters it received were a means to strengthen the position of physicians against surgeons and apothecaries. Moreover, Barry (2019) explains that six main groups of medical practitioners competed in seventeenth century England: the members of the Royal College of Physicians, chemical physicians, physicians who were not part of the Royal College of Physicians, the members of the Society of Apothecaries, the members of the Company of Barber-Surgeons, the empirics that offered their medicines and skills to the public.

Society, the latter never intended to compete in medical matters. On the contrary, it facilitated the exchange and dissemination of medical knowledge through publications like the *Philosophical Transactions*. The extent to which the Royal Society directly impacted medical practice is unclear, as practical medicine remained conservative and resistant to the transformative potential of experimental science. Despite the intellectual developments in medical science in the seventeenth century, actual practice saw little change (French & Wear, 1989, pp. 294–7). While the new philosophy gained popularity, mechanical and experimental advances did not have an immediate impact on medicine. Physicians usually preferred to rely on speculative approaches based on the rationalistic and observational methods that had characterised their professional and academic training. In their analysis of medical practice in late seventeenth- and early eighteenth-century England, French and Wear (1989, pp. 310–3) argue that physicians maintained a speculative, rationalist approach that distanced them from empirics. Since patient expectations also did not undergo a notable transformation, medical theory remained largely focused on individualised case analysis.[5] Thus, the so-called "medical revolution" of the period was more theoretical than practical.

Lawlor and Suzuki (2003, p. xi) observe that the concomitant growth of print culture, increasing literacy of the middle class, and interest in medical matters even among the lay resulted in writing doctors having a wider audience. Thus, the long eighteenth century witnessed a prolific collaboration between literature and medicine. According to Rolleston (1926, p. 2), England "has the finest legacy of poetical literature in the world," and the medical profession offers a privileged viewpoint from which to observe human nature in all its facets. In his essay "'Mere Flesh and Blood': Poetry, Genre, and Medicine" (Lawlor & Mangham, 2021, pp. 23–50), Professor Clark Lawlor examines how medical concepts permeated major poetry of the period. During the early eighteenth century, the body was conceived as a machine, though this view coexisted with the vestiges of older models, including long-standing folkloric and classical concepts, like the outdated theory of humours. On top of this, the changing views in medicine also influenced the relationship between religion and science. Eighteenth-century physicians and poets were often physico-theologians and strove to reconcile their Christian beliefs with the new philosophy by portraying God as a clockmaker who creates the mechanism of human beings.

This very intellectual climate shaped Blackmore's engagement with medical theories in *Creation*, where the mechanical organisation and workings of the body are understood as signs of God's divine design. As Gerrard (2006, p. 47) notes, "Blackmore [...] used the subtle mechanism of the human body as well as the Newtonian

[5]Pomata (2010) explains that in the Early Modern period the genre of the so-called *observationes* gained particular traction. These were collections of cases drawn from professional practice and the knowledge therein contained was based on practice and on the application of doctrine to the resolution of specific cases. These "serial description of particulars" led "not so much to general rules as to the competent handling of specific cases" (p. 204). By the second half of the seventeenth century, *observationes* became the primary medium for the circulation of information in the medical community.

universe to illustrate God's power as artificer in his epic poem *The Creation* (1712)." The whole of the universe, then, from its minutest parts to the vast expanse of the heavens, serves the same scope: demonstrating the existence of the creator. The encyclopaedic scope of *Creation* is to be read in this light, and the fundamental interdependence between the study of nature and the human body was well known at the time. A case in point of this widespread understanding was the preface of a fundamental text, often quoted in the following pages, *Lexicon Physico-Medicum* (1736). There, lexicographer John Quincy (1683?-1723) clarified that:

> The Study of Medicine has in all Ages been influenced by the Philosophy in vogue, because the Theory thereof is inseparable from a good Competency of Knowledge in natural Causes; insomuch that the Terms of Philosophical writers have been transplanted into the Discourses of Physicians, and render'd it frequently necessary to explain such new Terms for the Use of those who have not Leisure or Opportunity to go the same Compass, and meet with such Praecognita as lie in the Course of more remote Studies. [...] Thus since the Introduction of Mathematical Reasoning and the Application of Mechanical Laws to a Study, indeed no otherwise knowable, the Books of Physicians abound with Terms very unmanageable, and which are not explained in any one Work extant. (Quincy, 1736, pp. ix–x)

Let us now examine Blackmore's presentation of human nature, beginning with the human body. Each section of this chapter will inquire into a different facet of the poet's professional expertise in support of his physico-theological conception of *Creation*.

3.1 The Human Body

In Book VI of *Creation*, Blackmore investigates the human body and puts his medical knowledge to the service of his physico-theological programme. This portion of the poem seeks to demonstrate the presence of an intelligent design behind the creation of human beings by addressing the complexity of human anatomy and physiology. Blackmore's depiction is no mere catalogue of physical components; it celebrates the complexity and divine wisdom that appears in its contrivance. The examination of the circulatory, digestive, and nervous systems is grounded in the anatomical and physiological knowledge of his day. Yet, it is also imbued with a sense of wonder and reverence for the natural world inherited from the English physico-theological tradition (see Section 1.1).

In describing the nature of man, Blackmore strongly argues against the notion of a random, accidental creation typical of the Epicurean conception of the universe, "for no Man that acknowledges the Perfections of the Divine Author, of Nature, can

imagine that an intelligent Agent would act without an End" in the human body as well (Blackmore, 1725c, pp. xxi–xxii). The ordered structure of the human body and the language of "contrivance, art, and wisdom" convey the idea that this is a product of careful design rather than chance. This manifests in the detailed accounts of the body's internal systems. As Nicolson (1935a, pp. 32–5) recognises,

> [t]he reader who wishes to see an extreme example in serious poetry of the interest aroused in the popular mind by technical anatomical matters cannot do better than to turn to Blackmore's *Creation* in which nearly an entire book is devoted to a description of the parts of the human body, to the process of the circulation of the blood, and to a versification of the main facts of anatomy, particularly those which had been proved or discovered by the microscope.

The following section will be divided into four main subsections, based on the thematic organisation of Book VI: generation and embryology, the circulatory system, the digestive system, and the nervous system. Each of these topics provides as a piece of evidence of the design and purposeful contrivance of the human body. In his discussion of generation, Blackmore marvels at the process by which life is created and develops within the womb, reading its miraculous nature as proof of divine intervention. The circulatory system allows for the continuous flow of blood through veins and arteries, which sustains human life. He then turns to the digestive system, which processes food and ensures that the proper nourishment is spread throughout the body. At last, Blackmore considers the nervous system and focuses on the role of "animal spirits" in transmitting sensation and generating movement.

In Book VI the poet carefully surveys human anatomy and urges his readers to contemplate its physico-theological implications. His depiction of the human body shows that its complexity and balance are the unmistakable marks of the intelligent Creator he celebrates. A key feature of Books I and II, the idea of the harmony of the whole creation figures prominently also in Book VI and is one of the main isotopies of the entire composition. The poet's belief in this harmonious arrangement was to be reiterated in his medical treatises as well. For instance, in the preface to his *A Treatise of the Spleen and Vapours* (1725), he described diseases as pernicious deviations from the perfect equilibrium of the body:

> Since all Diseases are Deviations from the natural Rectitude of the Constitution; and therefore break the Symmetry, and subvert the regular Coherence and Subordination of the various Parts, they cannot but introduce intestine Discord and Commotions, that tend to the Dissolution of the whole Structure: It is therefore reasonable to examine what Principles the human Body is compounded of, what Order, Connexion and Dependence is observed in a perfect Composition; that so Diseases that are the Errors or Defects of those Principles, and in some degree subvert their Harmony,

> due Mixture and Combination, may be discovered. (Blackmore, 1725c, pp. vii–viii)

This understanding of human nature is the basis of the first topic Blackmore analyses: the generation of human beings.

3.1.1 Generation

"The Origine and Source of human Race" (l.196) is one of the central arguments for the intelligent design of the human body in Book VI. The book opens by drawing a contrast between the Christian worldview and the pagan accounts of the origins of humankind, exploiting both literary expedients and contemporary medical ideas to discredit the latter. First, an exploration of various classical myths on the creation of humans is provided. The perceived inadequacies of pagan hypotheses for generation allow Blackmore to reinforce the view that life originates from divine intervention. Classical authors are recognised the willingness to find explanations for the "Source of human Kind" (l.6), but their endeavours are deemed inadequate by the Christian poet:

> Unguided in the Dark they strove to find,
> With fruitless Toil, the Source of human Kind.
> The Heathen Bards, who idle Fables drest,
> Illusive Dreams in Mystic Verse express'd;
> And Foes to Natural Science and Divine,
> In beauteous Phrase made impious Notions shine:
> In Strains sublime their diff'rent Fictions sung,
> Whence the first Parents of our Species sprung.
> (Blackmore, 1712, VI, ll.5-12)

He resorts to an insistent isotopy of negation to emphasise the futility of these myths. This linguistic choice and epithets like "idle Fables" and "Illusive Dreams" (ll.7-8) strengthen the sense of the unreliability of pagan accounts for both scientific and religious purposes (l.9). The opposition between the pagan and Christian worlds is also conveyed through the antithesis between light and dark, where pagan myths dwell "in the dark," and, true understanding emerges in the light of Christian revelation (l.2).

The examples from classical mythology with which Blackmore interacts include the well-known legend of Prometheus, the myth of humankind born from wood told by Virgil, the tale of Jupiter creating humans from ants, and the story of Deucalion and Pyrrha. Each portrays a different, albeit flawed, version of the origin of humanity. First, Prometheus, the "bold Projector" (l.18), is said to have moulded human beings

from clay and water, before giving them life through the famous theft of celestial fire (ll.13-8). Classical accounts of Prometheus's myth are numerous, but Blackmore's retelling seems to align with Hesiod's *Theogony* (eighth–seventh century BC) (ll.507–616) (Woodard, 2007, pp. 88–9).

Similarly, in lines 19 to 26, the poet briefly touches on the myth according to which humankind is born from wood and is told by Virgil in *Aeneid*, Book VIII:

> 'These woods belonged to indigenous Fauns and to Nymphs in the olden
> Days, and to people birthed from the trunks of the trees and from oaken
> Hardwood, devoid of all manners or culture, who hadn't a notion
> How to yoke oxen, store grain, or to manage the produce they'd garnered.
> Branches and primitive hunting supplied them with food for survival.
> (Virgil, 2007, Book VIII, ll.214-8)

This account is quickly dismissed, and the same treatment is reserved for the next myth, the tale of Jupiter creating humankind from ants. According to *The Oxford Classical Dictionary*, this myth is connected to the figure of Aeacus, the ancestral hero of Aegina, and the birth of the race of Myrmidons (Hornblower, 2012, p. 15). In *A Complete Dictionary of the Greek and Roman Antiquities*, published in London in 1700, the author Pierre Danet (1650–1709) writes that:

> Aeacus seeing himself depriv'd of Inhabitants, pray'd to *Jupiter*, that he would turn an heap of Ants into so many Men; which *Jupiter* granted him, and these Men were called *Myrmidons*, because μύρμηξ signifies an *Ant*.

Blackmore was likely familiar with these accounts thanks to his classical studies;[6] the same applies to the mythical story of Deucalion and Pyrrha (ll.31-6). The couple was said to have repopulated the earth after a great flood by casting stones over their shoulders (Hornblower, 2012, p. 442). Danet (1700) traces the origin of this myth to different classical sources, including Ovid's *Metamorphoses* (I, ll.347-415) and Pindar's *Olympian Odes* (IX 43). In all these examples, Blackmore acknowledges the creative power myths ascribe to their protagonists or their "fable Gods" (l.28). However, he dismisses their explanations as ultimately insufficient, referring to them as beautiful yet "impious Notions" (l.10).

Finally, Blackmore delves into an extended critique of Epicurean theories of spontaneous generation. As the previous chapters have amply discussed, the most direct attack on atheism in *Creation* is against the Epicurean philosophy and worldview. Here, the poet-physician mainly targets the notion of spontaneous generation, which Lucretius versified in the first century BC. In lines 37 to 68, he addresses the "*Lucretian*

[6] In the latter part of the seventeenth century, university education at Oxford was based on the Laudian Code of 1636 and included classical studies (Allen, 1949; Griffiths, 1888).

Sages" (l.67), the followers of the Epicurean philosophy, who believed that human beings sprang forth from the earth itself, metaphorically equated to a nurturing mother with all her womanly features. According to this theory, the early earth was rich in heat and moisture, which created natural wombs in the soil from which humanity emerged, thanks to the sun's heating power. In the following passage from Creech's translation of *De Rerum Natura* (V, ll.772-1104), Lucretius argues that these conditions allowed for the spontaneous birth of animals and humans alike:

> Next Beasts, and thoughtful Man receiv'd their birth,
> For then much vital heat in Mother Earth,
> Much moisture lay; and where fit place was found,
> There Wombs were form'd and fastened to the ground:
> In these the yet imperfect Embryo's lay,
> Thro these, when grown mature, they form'd their way,
> Broke forth from Night, and saw the cheerful Day:
> Then Nature fashion'd for the Infant's use
> Small Breasts in Earth, and fill'd with milky juice,
> Such as in womens breasts she now provides
> For future Infants; thither Nature guides
> The chiefest parts of food, and there they meet
> Fit Ferment, there they grow both white, and sweet.
> Earth gave the Infants food, thin Mists were spread
> For Cloaths, the grassy Meadows gave a Bed.
> (Lucretius Carus, 1682, pp. 164–5)

Demarest (2020) comments that for Lucretius all living beings, including those capable of sensation, are made up of elements that lack life or sensation—that is, "stupid Atomes" (I, l.83). He even claims that while nature can now only spontaneously generate lower forms of life, it produced all species in this way in the past, with the less fit ones eventually becoming extinct.

In rejecting this theory, Blackmore scorns the absurdity of attributing the origins of human life to chance, an idea "so wild, so senseless" (l.70). The poet encourages his readers to use reason and recognise what is but a "dream" by "vain Philosophers" (l.76). He employs rhetorical questions to challenge Epicureanism, wondering how a complex and perfectly organised system such as the human body could have resulted from no better than chance. Attributing any natural occurrence to chance is merely an excuse to avoid finding the actual causes of these phenomena. Blackmore's rhetorical choices mirror his philosophical intent in these first few lines of Book VI.

He frequently uses alliteration and chiasmus to corroborate his point of view. For example, in lines 51-2, the alliteration of "cr" and "gr" reinforces his harsh opinion of the Epicurean belief in fortuitous generation. Similarly, the parallelism and climactic structure of lines 60-1 enhance the force of his rhetorical questions. The semantic field of "reason" and "sight," a characteristic feature of the poem, dominates this passage: it is through rational observation of the world—not mere adherence to a beautifully-put myth or the convenient expedience of chance—that the divine order becomes clear.

Given his professional expertise, Blackmore's medical understanding of generation plays a role in rejecting these theories, especially the Epicurean. By the early eighteenth century, embryology had advanced as a field of inquiry, with figures such as William Harvey contributing to a new understanding of conception and foetal development. The next portion of Book VI reinforces the notion that the human body, from its very inception, is marked by intelligent design.

Blackmore first engages with Descartes's famous dictum *cogito, ergo sum*, which he renders as "I think, I move, I therefore know I am" (l.197). The anaphora of "I" at the start of each clause mirrors the formal clarity of Cartesian logic that moves from a simple physical observation to a metaphysical statement. However, the poet immediately expresses scepticism about this view:

> I think, I move, I therefore know I am;
>
> While I have been, I still have been the same,
>
> Since from an Infant, I a Man became.
>
> But tho' I am, few circling Years are gone,
>
> Since I in Nature's Roll was quite unknown.
>
> (Blackmore, 1712, VI, ll.197-201)

Already in the *Discourse on Method* (1637), but especially in the *Principles of Philosophy* (1644), Descartes explains that even when we doubt everything, we cannot doubt the fact that we are thinking; hence, the knowledge that "I think, hence I am" is the first and most certain truth one encounters when engaging in philosophical reflection (Descartes, 1994, p. 25). According to Blackmore, though, the French philosopher is unable to offer a satisfactory explanation for the origin of existence: how can one know oneself to exist without first being brought into existence (ll.200-3)? His use of antithesis in this passage contrasts the state change inherent in the passage from infancy to adulthood and underscores the absurdity of self-creation. This rejection extends to an attack on Epicureanism (ll.204-24), particularly Lucretius's atomistic views of spontaneous generation, for "[d]uring the seventeenth century, many still believed that living organisms, including animals, could arise from spontaneous generation" (Longo & Reynolds, 2016, p. 282). This line of reasoning is reinforced by highlighting the complex frame of the human body, whose structure neither the individuals

themselves nor their parents can fully explain or even understand. In these lines, the language is precise and instrumental in delineating a clear and logical line of thought. So Blackmore firmly establishes his refusal of the theory of spontaneous generation, which, according to Demarest (2020), started being dismissed from the mid-1660s thanks to the growth of microscopy and mechanistic thinking. As Scottish physician James Keill (1673–1719) puts it in his widely read *The Anatomy of the Humane Body Abridg'd*[7] (1703, p. 93), "the nice and curious Observations of Redi, Leeuwenhoek and Others have been sufficient motives to most of the Moderns to throw Off the Notion of Equivocal Generation." The roots of this theory lie in Aristotle's *Historia Animalium* and *De Generatione Animalium*, and for centuries, it was accepted as scientific fact. In the seventeenth century, physician William Harvey (1578–1657) conducted some experiments and dissections, and in his *Exercitationes de Generatione Animalium* (1651) he rejected the idea of spontaneous generation. He came to the conclusion that *omnia ex ovo*, that is, everything comes from eggs, which are too small to be seen with the naked eye. Bergman (1993, p. 75) argues that Harvey's achievements were fundamental for the work of the Italian physician and naturalist Francesco Redi (1626–1697), the first scientist to seriously and systematically question the spontaneous origin of living beings.[8]

Blackmore's rejection of the notion that life could emerge from non-living matter likely benefitted from this background but was certainly also sustained by the English physico-theological tradition. For instance, John Ray, in the section "Of Bodies endued with a Sensitive Soul, or Animals" of his *The Wisdom of God* (1691), denied spontaneous generation in animals, quoting the work of Redi:

> Another Observation I shall add concerning Generation, which is of some moment, because it takes away some concessions of Naturalists, that give countenance to the Atheists fictitious and ridiculous Account of the first production of Mankind and other Animals; *viz*. that all sorts of Insects, yea and some Quadrupeds too, as Frogs and Mice, are produced Spontaneously. My Observation and Affirmation is, that there is no such thing in Nature, as Aequivocal or Spontaneous Generation, but that all Animals, as well small as great, not excluding the vilest and most contemptible Insect, are generated by Animal Parents of the same *Species* with themselves; that noble *Italian* Vertuoso, *Francesco Redi* having experimented that no putri-

[7] According to Guerrini (2008b), "in 1698 [Keill] published his *Anatomy of the Humane Body Abridg'd*, an anatomy textbook, largely translated from the *French Nouvelle description anatomique* (1679) of Amé Bourdon. Keill dedicated it to Edward Tyson." Tyson was the physician and anatomist who outlined the relationship between the orangutang and man in *Orang-Outang, sive Homo Sylvestris: Or the Anatomy of A Pigmei Compared with that of a Monkey, and Ape and a Man* (1699). Blackmore mentioned him in essay No.5 of the *Lay-Monastery* (1714).

[8] Keezer (1965, p. 26) writes that Redi, the court physician of Florence, was one of the first to question spontaneous generation and to prove his beliefs by experiment. He denied that grubs and maggots developed spontaneously in decaying meat. The role of Redi in the history of generation theories can be expanded reading also Bergman (1993), Demarest (2020), Goodrum (2002).

> fied Flesh (which one would think were the most likely of any thing) will of itself, if all Insects be carefully kept from it, produce any: The same Experiment I remember Doctor *Wilkins* late Bishop of Chester told me had been made by some of the Royal Society. (Ray, 1691, p. 221)

Ray was not the only physico-theologian who argued against this theory. In the *Folly of Atheism* (1693), Bentley devoted Sermons III–V to "A Confutation of Atheism from the Structure and Origin of Humane Bodies" and wrote extensively against the theory of spontaneous generation:

> the Bodies of Men and other Animals are excellently well fitted for Life, and Motion, and Sensation; and the several parts of them well adapted and accommodated to their particular Functions. The Eye is very proper and meet for seeing, the Tongue for tasting and speaking, the Hand for holding and lifting, and ten thousand Operations beside: and so for the inward Parts; the Lungs are suitable for Respiration, the Stomach for Concoction, the Lacteous Vessels for the Reception of the Chyle, the Heart for the Distribution of the Blood to all the parts of the Body. This is matter of Fact, and beyond all dispute. (Bentley, 1693, pp. 73–4)

Bentley underlines the extraordinary usefulness and fitness of every part of the human being, which demonstrates the design behind it beyond any reasonable doubt.

In his rejection of spontaneous generation and unguided parental creation, Blackmore also explores the concept of infinite regress (ll.227-44). What if we trace back through the generations, where did the first human come from? The rhetorical questions in these lines lead to the poet's dismissal of such a theory:

> To seek my Maker, thus in vain I trace
>
> The whole successive Chain of human Race.
>
> Bewilder'd I my Author cannot find,
>
> 'Till some first Cause, some Self-existent Mind,
>
> Who form'd, and rules all Nature, is assign'd.
>
> (Blackmore, 1712, VI, ll.245-9)

The ultimate "Author" (l.247), the "first Cause" (l.248) of all life, must be an intelligent, self-existent entity, rather than an unconscious process of natural evolution or material generation.

Despite the theological conclusion, this discussion prompts medical observation of reproduction and the body's design. Blackmore resorts to a combination of medical knowledge and metaphoric imagery to illustrate human development so as to draft not only a physiological account but also a proof of God's handiwork.

The following section advances an account of embryonic development, addressing the formation of limbs, heart, bones, and muscles. First, the description of blood

("red'ning Stream," l.255) forming before "th' impulsive Engine" (l.257) of the heart is completed, suggests a medical knowledge of embryogenesis and the importance of circulation in the development of the foetus.[9] Blackmore differentiates between "purple" "Veins" (l.269) and the "Arterial Pipes" (l.270), and the movement of blood through them is described as following a seemingly tidal pattern (ll.271-2). Indeed, the images used in the brief description of the "restless Flood" of the blood are highly remindful of the portrayal of the ebb and flow of the sea in Book I (see Section 2.2.2), and the technical language that likens the heart to a machine that pushes the blood through system reflects the mechanistic backdrop of late seventeenth-century medicine.

After a fleeting mention of the "Nerves" (l.267), the poet alludes to the formation of the skeletal system with "the various Bones so wisely wrought" (l.258) and the "Joints adapted knit" (l.261) to create the perfect structure of the human body—alliteration and metaphor emphasise the artistry behind this. Muscles are compared to a "Loom" and the isotopy of weaving (l.265) reinforces the physico-theological idea of a master craftsman carefully assembling the body. The poet urges the reader to look more closely at each part of the body, as its "Art" reveals their "Beauty," "Vigour," and perfect contrivance (ll.275-6). In particular, Blackmore extends his exhortation to "Observation" (l.274) to his primary opponents:

> The Atheist, if to search for Truth inclin'd,
>
> May in himself his full Conviction find,
>
> And from his Body teach his erring Mind.
>
> (Blackmore, 1712, VI, ll.277-9)

The human body is one of the chief instances through which God's existence is revealed. This investigation does not require specific knowledge, it is within anyone's grasp. As the poem delves deeper into the embryological development inside the womb, though, Blackmore becomes more specific and engages with the then-prevalent theory of preformation:

> When the crude Embryo careful Nature breeds,
>
> See how she Works, and how her Work proceeds;
>
> While thro' the Mass her Energy she darts
>
> To free and swell the complicated Parts;
>
> Which only does unravel and untwist
>
> Th' invelop'd Limbs, that previous there exist.
>
> And as each vital Speck, in which remains

[9] In the Aristotelian tradition, the first sign of life in the developing chick embryo was the motion of the primitive heart (Bynum, 2008, p. 9).

> Th' entire, but rumpled Animal, contains
> Organs perplext, and Clues of twining Veins;
> So ev'ry Foetus bears a secret Hoard,
> With sleeping, unexpanded Issue stor'd;
> Which num'rous, but unquicken'd Progeny,
> Clasp'd and inwrap'd within each other lye:
> Engendring Heats these one by one unbind,
> Stretch their small Tubes, and hamper'd Nerves unwind;
> (Blackmore, 1712, VI, ll.280-94)

Preformation postulated that all organs and body parts existed in miniature form within the embryo, only needing to expand as the body grew in the womb. The semantic field of unravelling is extensively expressed throughout this passage: "free" (l.283), "unravel" (l.284), "untwist" (l.284), "invelop'd Limbs" (l.285), "rumpled Animal" (l.287), "Organs perplex'd" (l.288), "Clues" (l.288), "sleeping, unexpanded Issue" (l.290), "Clasp'd and inwrap'd" (l.292), "unbind" (l.293), "Stretch" (l.294), "unwind" (l.294). Blackmore's use of expressions like these insists on this process and suggests that all body parts pre-exist but remain a "secret Hoard" (l.289) within the embryo.[10]

This was only one of the leading theories that circulated then. In her analysis of seventeenth-century theories of embryology, Keller (2000) identifies four dominant theories of generation. The theory of epigenesis was advanced by thinkers such as William Harvey, who saw the embryo as developing sequentially from an originally undifferentiated s substance. Each part of the organism emerges in turn and gradually forms a complex whole. Harvey also proposed that a "vital spirit" inherent in the embryo guided its development, thus granting the developing organism a degree of internal agency and self-direction. The second model, that of metamorphosis, was endorsed by figures such as Nathaniel Highmore (1613–1685), the author of the famous *The History of Generation* (1651), and Marcello Malpighi (1628–1694), the Italian anatomist who discovered the capillaries (see Section 3.1.2). This theory posited that the embryo crystallises all at once into a recognisable form at some point after conception. Preformation, the third theory, was arguably the most influential by the end of the seventeenth century. This offered a more radically deterministic model: the organism already exists in miniature form—either in the egg (ovism) or the sperm (animalculism)—prior to conception. Thus, the embryo merely unfolds or enlarges, framing reproduction as a mechanical process. Finally, the theory of pre-existence

[10] According to Landa (1980, p. 147), the idea that human beings existed in a small form in Adam's loins was already pretty popular among scientists and laymen, poets and theologians. He adds that "Sterne could have found it in many places, for instance (with ovist coloration) in his copy of Sir Richard Blackmore's *Creation* (1712)."

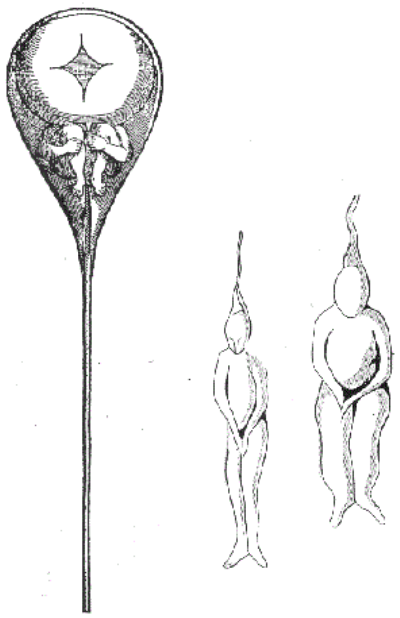


Figure 3.1: In his *Essai de Dioptrique* (1694), Nicolas Hartsoeker created an illustration of a tiny human figure curled up inside a sperm cell. He called this figure "petit l'infant" and "le petit animal," recognised by historians as the depiction of a "homunculus."

took preformation to its extreme, as all living beings were seen as created at the beginning of time and simply unfold throughout history. Although it was not widely developed until the eighteenth century, it did have some adherents in the seventeenth century. According to Longo and Reynolds (2016, p. 266), since in the seventeenth century natural philosophers were unable to explain how complex organs like the brain, heart, and uterus developed from a single cell, it was the idea of "preformation" that gained popularity (see Figure 3.1).

In his 1805 edition of Lucretius's *The Nature of Things: A Didactic Poem*, physician and writer John Mason Good (1764–1827) added an informative footnote in which he commented on the generation theories of the previous century:

> A few years ago, the female ovarium was supposed to be filled with cysts, and every cyst was conceived to be a perfect egg, with a complete human embryon in its interior; such was the doctrine of Harvey, Haller, and Bonnet. It was afterwards contended, that every animalcule in the male semen was a rudimentum homunculi; and that thousands of them existed in every drop. Such was the opinion of Ruysch, De Graaf, and Leuwenhocck; who, moreover, asserted that the human, or any other animal fetus was produced by a deposit of some one of these animalcules of the male in the ovarium or uterus of the female; which was a mere nidus for its evolution and perfect growth. In either case, however, the rudimentum homunculi, or the minute embryon, was supposed to be possessed of every limb

> and feature, or the rudiments of every limb and feature, that the human frame exhibits when in a state of perfection.
>
> (Lucretius Carus, 1805, pp. 138–9)

Blackmore must have written the above-quoted lines in *Creation* with this latter doctrine in mind. As embryology advanced, however, the idea of epigenesis initially proposed by Aristotle replaced preformation. Maienschein (2008) maintains that by the end of the seventeenth century this debate became between materialistic mechanists, who favoured preformation, and empiricists, who supported epigenesis. In light of the previous considerations, Blackmore's position in Book VI leans more towards preformationism. Still, the poet stresses that even in this preformation, a divine hand guides the development of the human being.

The section culminates with a subtle hint at the already mentioned theory of *emboitement*, a sort of eighteenth-century addition to the theory of preformation:

> And thus when Time shall drain each Magazine
>
> Crowded with Men unborn, unripe, unseen,
>
> Nor yet of Parts unfolded, no Increase
>
> Can follow, all prolific Power must cease.
>
> (Blackmore, 1712, VI, ll.294-8)

Bowler (1971, p. 221) explains that this belief implied that the generation of new organisms was nothing more than the expansion of miniatures, which had existed since the first creation of the universe and were stored one generation within another. French philosopher Nicolas Malebranche (1638–1715) was the first to advance the hypothesis that each embryo could contain even smaller embryos ad infinitum. This concept is evoked through the metaphor of "magazines" (l.295), seemingly referring to stores of life in sperm. Blackmore, however, was aligned with Richard Bentley, who maintained that

> the Opinion of those Atheists that will have Mankind and other Animals to have subsisted eternally in infinite Generations already past, will be found to be flat Non-sence and Contradiction to it self, and repugnant also to matter of Fact. (Bentley, 1693, pp. 83–4)

In the next few lines, the poet briefly hints at another component of the embryological development, that is, the role of "Elastic Spirits" in the formation of the human being:

> Th' Elastic Spirits which remain at rest
>
> In the strait Lodgings of the Brain comprest,
>
> While by the ambient Womb's enliv'ning Heat
>
> Cheer'd and awaken'd, first themselves dilate;

Then quicken'd and expanded ev'ry way
The Genial Lab'rers all their Force display.
They now begin to work the wondrous Frame,
To shape the Parts, and raise the vital Flame.
(Blackmore, 1712, VI, ll.299-306)

In her *Perception and Analogy* (2021, p. 182), Rosalind Powell clarifies that sensation was attributed to the movement of these "animal spirits," which travel through the nerves toward the brain. Blackmore, she maintains, explains nervous activity in a similar way in *Creation*, offering a summary of contemporary theories that link the senses to the *sensorium*, that is, the brain or "seat of the reasonable soul" (Chambers, 1741).[11] The poet describes the nerves's initial compression in the embryo's brain before their expansion and the activation of the "Elastic Spirits" thanks to the warmth of the womb. As the following Section 3.1.4 will show more detailedly, in his *Cerebri Anatome* (1659), anatomist Thomas Willis (1621–1675) argued that the finest species of these spirits, a sort of volatile fluid, constantly move through the nervous system in a tonic motion (Eadie, 2003; Caron, 2022). Powell goes on to notice that in Blackmore's description, "th' extended Fibres of the Brain" (l.307) are filled with specific animal spirits that are taken to all the parts of the body and the sensory organs, thus allowing for movement and sensation:

Thus with a steady and alternate Toil
They issue from, and to the Head recoil:
By which their plastic Function they discharge,
Extend their Channels, and their Tracks enlarge.
For by the swift Excursions which they make,
Still sallying from the Brain, and leaping back,
They pierce the Nervous Fibre, bore the Vein,
And stretch th' Arterial Channels, which contain
The various Streams of Life, that to and fro
Thro' dark Meanders undirected flow
(Blackmore, 1712, VI, ll.318-27)

The idea of animal spirits working within a network of hollow nerves to connect the sensorium with the rest of the body, forming a web of communication, is a recurrent theme in seventeenth and eighteenth-century physiology. The origin of this understanding was in Galenic physics. The Roman physician Galen of Pergamon (second

[11] Retrieved on October 14, 2024, from <https://artflsrv04.uchicago.edu/philologic4.7/chambers_new/>.

century AD) "believed in natural spirits, in vital spirits, and in animal spirits: the first 'begotten in the liver,' the second 'in the heart,' and the third 'in the nerves'"[12] (Brazier, 1984, p. 15). Chambers's *Cyclopedia* (1728) describes "Animal Spirits" as "a fine subtile juice, or humour in animal bodies," moving through nerves to enable motion and sensation.[13] In *Cerebri Anatome*, Willis also wrote on "the births of kinds of Fibres:"

> they are first either Spermatick and first begotten, the rudiments or first beginnings of which being of the like antiquity as the Heart and Brain, placed in the Conception, afterwards leisurely increase; to wit, such are, as hath been said, those in the Heart it self in its depending Vessels, the Membranes and some other parts, which form the first stuff or threads of the Embryo: or secondly, other Fibres are produced secondarily, and by a second birth; of which fort chiefly are such which are interwoven into the parts taken for the compleating of the animal Fabrick, and especially those termed Sanguineous, which we think to be begotten after this manner. (Willis, 1681b, p. 128)

These passages may be further contextualised by referring to Hunter's 1950 paper "The Seventeenth Century Doctrine of Plastic Nature." The doctrine of plastic nature was developed in the seventeenth century as a way to reconcile emerging scientific discoveries with Christian beliefs. Several physico-theologians embraced it. The theory postulated that God gave matter a sort of spiritual force—that is, "plastic nature"—which shaped and organised living organisms. In this way, natural phenomena could be explained without resorting only to materialism or constant divine intervention. This view was gradually abandoned as empirical science and mechanical explanations gained traction at the end of the century. Hunter remarks on the superficiality of Blackmore's account of this theory in *Creation* and believes that he "shows knowledge of the term but does not make it an integral feature of the formation of the world; he certainly does not know the refinements nor significance of its details" (1950, p. 212). However, in these lines the poet still attempted to condense the "plastic Function" (l.320) of the nerves, which starts in the very embryonic stage (l.328). Nerves are almost personified in their plastic function, as if they possessed agency in natural processes. The generous use of enjambment, with lines frequently running into each other, heightens the image of the ongoing flow of animal spirits through nerves, which will be studied in Section 3.1.4. Before that, though, the analysis will cover the circulatory and digestive systems.

[12] Ochs (2004, p. 25) illustrates this distinction in more detail. He writes that "[w]ith Plato, Galen recognized a tripartite division of the spirit (soul) in man: the *Spiritus naturalis* (*pneuma naturalis*) residing in the liver that is responsible for blood formation and general metabolism; the *Spiritus vitalis* (*pneuma zooticon*) residing in the heart that is responsible for emotions, the pulse, and the movement of blood distributing heat and giving life to the body; and the *Spiritus animalis* (*pneuma psychicon*) that is responsible for sensory appreciation and animation, its highest part that of reason located in the brain."

[13] Retrieved on October 14, 2024, from: <https://artflsrv04.uchicago.edu/philologic4.7/chambers_new/navigate/1/1179?byt

3.1.2 The Circulatory System

"[T]he Circulation it self of the Blood through the Body, is the greatest Wonder of all" wrote Hancock (1707, p. 39) in his physico-theological treatise, *Arguments to prove the Being of a God,* and to this very wonder Blackmore turns after completing the overview of embryonic development in the womb.

In the overview of late-seventeenth-century medical education, scholars[14] underline that at this time the dominant view in medicine followed the traditional teachings of Galen (Tubbs, 2009, p. 1097), though Porter (2001) claims that Hippocratic and Galenic medicine were anatomically limited, as they were not based on the dissection of bodies. Park and Riva (2022, p. 2327) remark that physiological knowledge underwent significant developments in the first half of the century, when new discoveries allowed physicians to move from the dogmatic hepatocentrism of Galen towards an era of empirical cardiocentrism, mainly promoted by William Harvey. In the second half of the century, physicians started to look more to the new philosophy, and in particular, mechanical philosophy progressively led them to imagine the human body as a machine made of different mechanical parts. At the same time, a recognition of the vascular nature of the human body and of the movement of fluids therein increasingly spread (Orland, 2012). The portion of *Creation* under examination is heavily indebted to this cultural environment. When it comes to the circulatory system, Blackmore extols the heart as the "impulsive Engine" (VI, l.257, l.332) that impels blood throughout the body, in a divinely designed mechanism. His understanding of cardio-vascular dynamics is primarily influenced by the works of William Harvey, the English physician who studied at Cambridge and Padua and was the champion of seventeenth-century medicine. His discovery of blood circulation "is widely recognized as the foundation for modern medicine" (Aird, 2011, p. 128). While he acknowledges the greatness of his contemporary, Blackmore still shows deference to the medical authorities of the past, like Galen and Aristotle, whose ideas continued to affect medical thought during the seventeenth century, especially within university syllabi.

As the previous Section 3.1.1 illustrated, during the embryogenetic process the heart is "the first Muscle Nature does produce" (ll.331) because of its essential role for life, and this immediately draws a parallel with the work of Harvey. In the seminal *De Motu Cordis et Sanguinis in Animalibus* (1628), Harvey described the heart as a pump that drives blood through a closed circuit of arteries and veins. In this mechanistic description, blood circulates continuously around the body,[15] where it represents "the sun of the microcosm [...], the foundation of life, the source of all action" (Harvey, 1928, p. 59):

> I will say and propound it without demonstration (with the leave of most

[14] See Allen (1946, 1949), Axtell (1970), Barry (2019), Favaretti Camposampiero (2022).

[15] Harvey, however, rejected merely materialistic explanations for life and instead leaned towards vitalism: blood is imbued with vital spirit and a such, it was not merely a physical substance but carried life itself (Pagel, 1951).

> learned men, and reverence to antiquity) that the heart, as it is the beginning of all things in the body, the spring, fountain, and first causer of life, is so to be taken, as being joyn'd, together with the veins, and all arteries, and the blood which is contained in them. (Harvey, 1928, p. 186)

The centrality of the heart in the body was a product of the Aristotelian physiology, which both Blackmore and Harvey had been taught at university. At the same time, however, Blackmore seems to have exalted the importance of blood as the source of life. This was an inheritance of the Harveian school, propounded especially in the *Exercitationes de generatione animalium* (1651). In the treatise, Harvey underlines that the heart works as the mechanical centre of the circulatory system, which propels blood through arteries and veins (Aird, 2011, p. 118). This image was adopted by Blackmore as well:

> By this impulsive Engine's constant Aid
> The tepid Floods are ev'ry way convey'd:
> And did not Nature's Care at first provide
> The active Heart to push the circling Tide,
> All progress to her Work would be deny'd.
> The Salient Point, so first is call'd the Heart,
> Shap'd and suspended with amazing Art,
> By Turns dilated, and by Turns comprest,
> Expels, and entertains the purple Guest.
> (Blackmore, 1712, VI, ll.332-40)

In a circling structure that mirrors the very blood circulation here portrayed, the poet illustrates the workings of this system. The heart is depicted as an "impulsive Engine" (l.332), "beating" (l.330), and "active" (l.335). These lexical choices build a mechanistic isotopy that likens the heart to a machine. The mechanical efficiency of circulation is stressed, though the chosen language is not devoid of spiritual undertones. The description of the heart as "the first Muscle Nature does produce" (l.331), crafted "with amazing Art" (l.338), conveys the author's belief that life is owed to divine intervention. It is interesting to note that Blackmore assumes the heart to be a muscle, which was a rather innovative idea for the time. Indeed, Brazier (1984, p. 46) explains that it was the Danish Niels Stensen (Nicolaus Steno) who first "in contradiction to earlier opinions, [...] showed [the heart] to be purely muscular in construction. This finding caused dismay to those who still accepted the ancient dictum that the heart was the site of innate heat. But Steno's finding was soon established beyond doubt by Richard Lower in his *Tractatus de corde*." Orland (2012, p. 364) adds that "Antoni

van Leeuwenhoek (1632–1723) had given a detailed description of the muscular fibres and the network structure of the cardiac muscles," as well.[16]

In the above-quoted excerpt, the metaphor of the tide and flood (ll.333-5) connects the circulation of the warm blood within the body to broader natural processes reviewed in Books I and II of the poem (see Chapter 2). This analogy frames the heart not only as the engine of individual life but as a microcosmic representation of the world's interconnected systems. This interconnectedness is expressed stylistically by the alliterations in lines 337-8 and 340, as well as the chiasmus in lines 339-40; they lend the passage a rhythmic, almost pulse-like quality. A similar attitude was expressed by the Cambridge Platonist Henry More in an early recognition of Harvey's work, the Latin poem *Circulatio Sanguinis* (Shugg, 1972, pp. 186–7). He made use of universal microcosm-macrocosm analogies, especially when he drew parallels between the circulation of blood in the human body (the microcosm) and the circulation of water on Earth (the geocosm or macrocosm):

> To be sure, just as a subterranean course cleaves the innermost the dark earth and is traversed by the ocean's waters, while bursting forth strongly from the great hollow, drawn through through channels by its sinuous course, proceeds within the earth and cold Niphates, to the Alps and to Rhodope, and to Haemus snowy whiteness; and just as from the caverns damp with icy waters, the soon bear their wetness through the mountain heights and are received the Indus and the Tigris and the Rhone and the Hebrus swelled with and Axius and the Erigon, all of which carry the multitude of drops their banks back again to the ocean; and just as through the farthest of the earth the returning water seeks the sea again by its numberless - just so the blood, which is driven forth and flows from the heart inwardly wherever the artery leads its hidden its course through the conspicuous veins traces of its constant course by means of the whole surface of the skin is marked.[17]

[16] Proof of this is to be found in the *Philosophical Transactions of the Royal Society* in the form of "Mr. Leewenhoecks letter written to the publisher from Delft the 14th of May 1677, concerning the observations by him made of the carneous fibres of a muscle, and the cortical and medullar part of the brain; as also of moxa and cotton"(Leeuwenhoek, 1677).

[17] Translation by Shugg (1972, pp. 183–4) from the original:

> Scilicet Oceanis ut subterraneus undis
> Fit cursus, caecae resecans penetralia Terrae,
> Dum liquor è magno prorumpens fortiter alveo
> Per cava pérque poros sinuoso tramite ductus
> Intùs ad Imaum pergit gelidúmque Niphatem,
> Alpes ac Rhodopen, niveum & candoribus AEmum:
> Mox tarnen è madidis algenti rore Cavernis
> Per juga transudant latices, quos excipit Indus
> Et Tigris Rhodanúsque atque auro turbidus Hebrus,
> Axius atque Erigon, guttarum qui agmina ripis
> Rursus ad Oceanum referunt; pérque extima Terrae

(More, 1679, p. 751, ll.16-32)

The scientific grounding of this depiction is highly reminiscent of Harvey's *Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus* (1628), commonly known as *De Motu Cordis* (1628). To all intents and purposes the treatise was a watershed in the history of medicine. Harvey introduced the concept of blood circulation, revolutionising the prevailing Galenic model. According to the Roman, blood was consumed as it moved through the body, requiring continuous replenishment in the liver (Porter, 2001). Harvey conducted extensive dissections and vivisections to study the motion of the heart.[18] First, his observations demonstrated that the heart contracts actively when it is emptied so that blood is pushed forward along the veins. This discovery was monumental: it disproved the previous belief that the heart passively expands (Mulvey Roberts & Porter, 1993). Harvey's remarks on the active systolic motion of the heart as the source of blood circulation (French, 2004) support the mechanistic description of the heart in the above-quoted passage from *Creation* (VI, ll.332-40), where the contraction of the muscle is described as an energetic, driving force. The influence of Harvey also emerges from the emphasis on the heart's pulsating origin in embryonic development, a notion that the physician linked to the idea of life residing in the blood (Eriksen, 2021, p. 539). The primary role of the heart in the vital economy is the distribution of blood throughout the body, a vital function performed starting in the left ventricle:

It [the Heart] sends from out its Left contracted Side
Into th' Arterial Tube its vital Pride:
Which Tube, prolong'd but little from its Source,
Parts its wide Trunk, and takes a double Course;
One Channel to the Head its way directs,
One to th'inferior Limbs its Path inflects.
Both smaller by degrees, and smaller grow,
And on the Parts, thro' which they branching go,
A thousand secret, subtle Pipes bestow.
(Blackmore, 1712, VI, ll.341-9)

Innumero repetit humor Mare refluus Amni :
Sic sanguis qui à corde fluit propulsus & intrò
Labitur occultos quócunque Arteria rivos
Ducit, conspicuis mox ad cor tendere venis
Cernitur, assidui signans vestigia cursûs
Caeruleis, queis tota nitet cutis extima, ramis.

[18]Harvey's approach to anatomical research was empirical and aligned with the emerging scientific epistemology of the seventeenth century. However, Cunningham (2022) also demonstrates his intellectual indebtedness to the Aristotelian tradition.

The description of the arteries taking blood from the heart to the body's extremities conveys another noteworthy aspect of seventeenth-century anatomical knowledge: arteries are divided into progressively smaller vessels, culminating in very tiny capillaries (ll.347–53). While Harvey's work was pioneering in cardio-vascular studies, he was known to be wary of microscopic investigation (Eriksen, 2021, p. 528), which Nicolson (1935a) recognises instead as a crucial aid to anatomical studies at the time. The microscope, introduced around 1610 (Verwaal, 2020), was instead massively employed by the Italian physician Marcello Malpighi in his anatomical investigations. Malpighi was an Italian professor of anatomy in Bologna, Pisa, and Messina, and physician to Pope Innocent XII (Pearce, 2007, p. 253). In 1661, he was one of the first to use a compound microscope to identify pulmonary capillaries in frogs. This finding was published in his *De Pulmonibus*[19] (1661). According to West (2013, p. 384), the discovery was momentous and provided the first visualisation of the connection between the arterial and venous systems (West, 2011, p. 1511), supplying experimental proof to complete the circulation system hypothesised by Harvey:

> although in the lungs of perfect animals the vessels seem sometimes to gape and end in the midst of the network of rings, nevertheless, it is likely that, as in the cells of frogs and tortoises, that vessel is prolonged further into very small vessels in the form of a network, and these escape the senses on account of their exquisite smallness. (Young, 1929, p. 9)

From what we read in Book VI, Blackmore was likely aware of Malpighi's work; this supposition is legitimated by reading *A Treatise of the Spleen and Vapours*, where he commended the "[t]estimonies of the most eminent modern Anatomists, particularly the celebrated Malpighius" (Blackmore, 1725c, p. xix). In *Creation*, he refers to the Italian's groundbreaking observations, which confirmed that the extremely minute capillaries were the missing link between arteries and veins.[20] This connection occurs after the progressive narrowing of the arterial ducts:

> From which by num'rous Convolutions wound,
>
> Wrapt with th' attending Nerve, and twisted round,
>
> The complicated Knots and Kernels rise,
>
> Of various Figures, and of various Size.
>
> Th' Arterial Ducts, when thus involv'd, produce

[19] According to Young (1929), Malpighi communicated the discovery of capillaries in a letter addressed to Giovanni Borelli (1608–1679), a fellow Italian physiologist. He actually sent Borelli two letters in 1661 and while the second gave an account of the discovery, in the first Malpighi displayed the prevailing state of knowledge about the lungs.

[20] Blackmore might have known about capillaries also thanks to the work of Antoni van Leeuwenhoek, who described his observation of capillaries in a letter to the Royal Society from September 7, 1688. Retrieved on April 16, 2025, from <https://lensonleeuwenhoek.net/content/wrote-letter-200-of-1688-09-07-members-royal-society>.

Unnumber'd Glands, and of important Use.

(Blackmore, 1712, VI, ll.350-5)

Besides explaining the nature of the capillaries, the poet also mentions glands. In particular, he refers to the common idea that glands result from a certain entanglement of vessels. This concept was presented similarly in a contemporary popular book of anatomy, William Cheselden's (1688–1752) *The Anatomy of the Humane Body* (1713). In the introduction, the surgeon wrote that glands are "compos'd of an Artery, Vein, Lymphatic, Excretory-duct, and Nerve" and their "Use" "is to secrete Fluids from the Blood for divers Uses" (Cheselden, 1713, pp. xxi–xxii). Some years later, Blackmore would comment on the function and distribution of glands in the human body in one of his medical treatises:

> THE Mass of Blood is a Composition of various and repugnant Ingredients, in which a Balance and Temperament, held by a due Symmetry of the Parts, and a regular Subordination of the passive, or less active, to the more active Principles, is preserved in its due Integrity, and a healthful Constitution, and this is effected by a constant Separation, and Exclusion of hurtful or superfluous Humours, that otherwise might annoy its peaceful Disposition, and interrupt its regular Circulation. And for this important Office, in maintaining the just Oeconomy of Nature, an infinite Number of Strainers called Glands, are dispersed through the whole Frame of the Body, through which the Blood is obliged to pass in its return to the Heart. These retard the Current in its direst and rapid Motion, and by their peculiar Pores and Meshes, let through and divide from the wholesome Streams, the inordinate Juices in Quantity or Quality. (Blackmore, 1725b, p. 12)

In lines 350 to 361 of Book VI, however, he does not dwell on this "important Use" (l.355) but instead describes the progress of blood. Once arrived in the capillaries, it proceeds through arteries which turn into veins by the capillaries:

[...] after, as they farther Progress make,

The Appellation of a Vein they take.

For tho' th' Arterial Pipes themselves extend

In smallest Branches, yet they never end:

The same continu'd circling Channels run

Back to the Heart, where first their Course begun.

(Blackmore, 1712, VI, ll.356-61)

The arteries take the blood from the heart to the body's extremities, from which it continues to flow through the same channels that, after reaching this point, take the name

of veins. Arteries were conceived as "conical Canal[s] conveying the Blood from the Heart to all Parts of the Body" (Quincy, 1736, p. 33) and, as Scottish physician James Keill wrote in Chapter VII, Section VII of *The Anatomy of the Humane Body Abridg'd* (1703), "[t]he Veins are only a Continuation of the extreme Capillary Arteries, reflected back again towards the Heart" (p. 322). Establishing beyond doubt the circularity of the cardiovascular system was Harvey's most remarkable discovery, and Blackmore pays homage to his illustrious predecessor. The idea of circularity is rendered formally by the use of alliteration and the strategic position of the words "back" and "begun" at the extremities of line 361. As Ochs (2004, pp. 58–60) puts it, Harvey overcame Galenic tenets by convincingly demonstrating that the same blood circulates in both the arteries and veins. Harvey proved that blood circulates in a closed system, moving continuously through arteries and veins, powered by the mechanical action of the heart (Aird, 2011, pp. 118, 126). The movement of blood from the peripheral arteries to the peripheral veins, however, remained a mystery until Malpighi discovered pulmonary capillaries decades later (West, 2011, p. 1511).

After clarifying the fundamental components of the circulatory system, the focus shifts to examining the workings of the system:

> The Heart, as said, from its contracted Cave
>
> On the Left Side, Ejects the bounding Wave.
>
> Exploded thus, as splitting Channels lead,
>
> Upward it springs, or downward is convey'd.
>
> (Blackmore, 1712, VI, ll.362-5)

It all begins with the contraction of the heart, which gives blood the impetus to reach different parts of the body. First, the upward flow of blood arrives in the brain, the "Seats of Sense" (l.367), where it "water[s] all its Fields with vital Dews" (l.369). Blackmore focuses on the movement of arterial blood through the body and its role in nourishing the brain and nerves. To do so, he drew heavily on another of the key texts of the medical revolution of the late seventeenth century, Thomas Willis's *Cerebri Anatome* (1664). Section 3.1.4 will delve into this work in more detail, but here it will be sufficient to recall a significant notion from Chapter VI, "Of the Offices of the Brain and its Parts." Willis (1681b, pp. 88–9) explained the nourishing function that blood was believed to perform in the brain: blood, filled with volatile matter and salt, is subjected to a chemical refinement in the brain so that its most concentrated parts become sifted out to produce animal spirits, which then pass through the nervous system and are responsible for motion and sensation. In the preface to his *Discourse on the Plague* (1721), Blackmore too described animal spirits as "the Instruments of Sense and Motion."[21] This was condensed in Quincy's *Lexicon Physico-medicum* (1736):

[21] On the topic of the generation of animal spirits Blackmore would later return also in the preface to *A Treatise of the Spleen and Vapours* (1725), when he wrote that

> The Blood which is brought into the Brain by the carotidal and vertebral Arteries, is separated by the Glands which make the cineritious and cortical Substance of the Brain, from its finest and most subtile Parts, called animal Spirits, which are received from the Glands by the Fibres of the medullary substance, which is the beginning of the Nerves. Each Nerve, therefore, is a Bundle of very fine and small Tubes of which some are no bigger than the hundredth Part of an Hair; and these Tubes are the excretory Ducts of the cineritious Substance. This does not only appear from the Structure of the Brain; but by reason likewise we are assured, that there is such a Fluid as we call animal Spirits running in the Nerves: For seeing all Sensation is performed by the Nerves, it must be cone either by the Substance of the Nerve, or the Fluid which is contained in the Nerve: If by the Substance of the Nerve, it must be by a Vibration from the Part upon which the Impression is made to the Brain. Now that there can be no Vibration from the Impression of external Objects upon animal Nerves, which are slack, and surrounded all along by other Bodies, is evident; and therefore Sensation must be made by the Fluid in the Nerves. (Quincy, 1736, p. 59)

The downward motion of blood to the lower parts of the body is next described in lines 384-7. This part of the flow completes the circulatory cycle, as the "beating Engine" (l.385) forcefully propels the blood and ensures circulation towards the lower limbs and organs. During this process, the arteries narrow to slow the blood's flow, allowing circulation at a compatible pace with physiological processes. Glands and complex networks of nerves intertwined with arteries also serve a critical function in regulating such flow through by imposing some resistance. Blackmore himself would comment on this essential role in *A Treatise of Consumptions and other Distempers belonging to the Breast and Lungs* (1725):

> And for this important Office, in maintaining the just Oeconomy of Nature, an infinite Number of Strainers called Glands, are dispersed through the whole Frame of the Body, through which the Blood is obliged to pas in its return to the Heart. These retard the Current in its direst and rapid Motion, and by their peculiar Pores and Meshes, let through and divide

> While I agree with Piso, that the Diseases which affect human Bodies generally proceed from the Depravity and ill Disposition of the Serum, or Fluids, distinguished from the Blood, I must explain my Meaning, which I suppose was the Sense like-wise of the Author I have named; that is, that the Serum, which waters the Traces of the Brain, and passes through the Medulla Spinalis, and the minute Tracts of the Nerves, is not simple and unmixed elemental Water, but such as contains the generous and active Principles of refined Sulphur, Spirit, and volatile Salt, separated from the Blood by the Ministry of the Glands, or the fine Pores of the Brain; and then I conceive that the degenerate and vitiated State of such Serum is, according to the Opinion of our Author, the true Cause of most Diseases. (Blackmore, 1725c, pp. xv–xvi)

> from the wholesome Streams, the inordinate Juices in Quantity or Quality. (Blackmore, 1725b, p. 12)

After overcoming these vital obstacles, however, blood regains its velocity:

> And from the Parts and Members most remote
> By these Canals the Streams are backward brought,
> Which are of thinner Coats and fewer Fibres wrought;
> Till all the confluent Rills their Current join,
> And in the ample *Porta* Vein combine.
> This larger Channel by a thousand Roads
> Enters the Liver, and its Store unloads.
> Which from that Store by proper Inlets strains
> The yellow Dregs, and sends them by the Veins
> To the large Cistern, which the Gall contains.
> Then to the Vein, we *Cava* name, the Blood
> Calls in the scatter'd Streams, and recollects the Flood.
> (Blackmore, 1712, VI, ll.401-12)

Back from the extremities, blood from various veins converges in the portal vein, which then leads to the liver. The liver performs a key role as a strainer, filtering the waste in blood. It discharges bile, "yellow Dregs" (l.409), into the gallbladder and returns clean blood to circulation through the vena cava towards the heart. These lines are interesting on a number of levels. First, expressions such as "the entangled Knot of Vessels" (l.399) show that Blackmore was conversant with the recently discovered structures in the body. Ishizuka (2012, p. 565) writes that in the seventeenth century, "[t]he 'vessels' refer to the veins, arteries, nerves and lymph ducts, which, according to most medical writers of that time, compose the entire body." The use of the term "fibres" (l.403) in the poem is also in agreement with contemporary scientific theories. In *Lexicon Physico-medicum*, for instance, Quincy (1736, pp. 162–3) describes fibres as "animal Threads" that constitute parts of the body, such as muscles and bones. Likewise, Chambers's *Cyclopaedia* (1741) surveys different types of fibres, stating that they can be "soft, flexible, and a little elastic," or "hard and inflexible," according to the function they need to perform in the body. The way in which these fibres are portrayed in the poem corresponds with the broader "fibre theory," emerging in the late seventeenth century, that proposes that fibres constitute basic structures in the body (Ishizuka, 2012, p. 564).

As blood decelerates, it returns to the heart via the veins, liver, and the portal vein (ll.401-5). That concords with what Keill reports in *The Anatomy of the Humane Body*

Abridg'd (1703): blood from the bowels, spleen, pancreas, and stomach runs through branches of the portal vein into the liver and then out to the heart via the vena cava (p. 333). The liver is a "Strainer" (l.408) and after the blood is cleaned in the liver, the porta vein "shoots itself from a trunk into branches; and being at last lost in capillaries, delivers the blood into the cava, by which it is immediately reconveyed to the heart" (Chambers, 1741). As a result of this purification process, the bile is transported to the gallbladder (l.410). Blackmore's *Treatise of the Spleen and Vapours* (1725) specifies how straining organs such as the liver cleanse blood and prevent ailments that could make one ill. Machline (2013) remarks that for the poet, the spleen also had the task of slowing blood flow to refine it before reentering it in the circulatory system. This proposed that a slower circulation rate in the spleen contributed to mental clarity and energy, fostering cheerfulness and dispelling melancholy. Indeed, he comments that

> 'IT is allowed, that the whole glandulous Kind, great and small, are formed by Nature to purify the Blood, by separating from and conveying away the redundant Juices of different sorts, which otherwise would oppress it, and break the regular Subordination of its passive and less active to the superior and commanding Principles; and by so doing, disturb the animal economy, and occasion many great and fatal Diseases. (Blackmore, 1725c, p. 37)

Lastly, Blackmore introduces the vena cava—that is, the vein that takes the blood from other areas of the body back to the heart. Chambers's *Cyclopaedia* (1741) describes the vena cava as the body's largest vein, responsible for transporting blood from all extremities to the right ventricle of the heart. It is divided into two sections: the ascending cava, which carries blood upwards from the lower body, and the descending cava, which transports blood downwards from the head and upper body. Here, the poet is mainly concerned with the ascending cava, which he compares to the river Thames in an original manner:

> As when the *Thames* advances thro' the Plain,
> With his fresh Waters to dilute the Main;
> He turns and winds amidst the flowry Meads,
> And now contracts, and now his Water spreads.
> Here in a Course direct he forward tends,
> There to his Head his Waves retorted bends.
> See, now the sportive Flood in two divides
> His Silver Train, now with uniting Tides
> He wanton clasps the intercepted Soil,

And forms with erring Streams the Reedy Isle;
At length collecting all his Watry Band,
The Ocean to augment he leaves the Land.
So the red Currents in their secret Maze
In various Rounds thro' dark Meanders pass,
Till all assembled in the *Cava* Vein
Bring to the Heart's right Side their Crimson Train;
Which now comprest with Force Elastic drives
The Flood, that thro' the secret Passes strives.
(Blackmore, 1712, VI, 413-30)

In this long extended simile, the flowing of the Thames[22] and its affluents is equated to the bloodstream in the veins of the human body. These lines abound with structural parallelisms: lines often mirror one another, as the movement of the river compares to the circulation of blood. This parallel structure emphasises the relationship between the two systems and links them in a microcosm-macrocosm relation. Like in several other passages of Book VI, blood is metaphorically likened to tide (l.425, l.430). Besides giving the poem a more cohesive structure, acting as a symbolic *fil rouge* between the first and last part of the composition, this metaphor enhances the continuity between the human and natural worlds. In the poet's view, the whole of creation is a profoundly interconnected system, announced from the very epigraph to the poem (see Section 1.3.4). He begins by depicting how the river Thames meanders through the landscape, alternately narrowing and widening (ll.416-7), in the same way blood travels through vessels of different sizes throughout the human body. The river's splitting into separate streams and later coming back together (ll.419-22) evokes the complex network of veins and capillaries that branch out before merging again. In the final portion of the simile, the focus shifts from the Thames to the venous system, explicitly stating that the "red Currents" (l.425) navigate through "dark Meanders" (l.426) before converging in the "Cava Vein" (l.427) and returning to the heart's right ventricle. The concluding couplet (ll.429-30) remarks on the "Force Elastic" of the heart, which contracts and expands to push blood through the circulatory system. These lines are also rich in the symbolism of life and the isotopy of

[22]The use of the river Thames as the means of comparison here is significative in the perspective of the Whig patriotic programme. As Professor Womersley (2000, p. 49) maintains, "there is a fundamental difference in aesthetic values, literary genres, themes and writing procedures between Whig and Tory writers by the first decade of the eighteenth century, because they are speaking for distinctly different sections of the social elite, who ground their authority with respect to different events – Tories to King Charles's Restoration in 1660 and Whigs to the Glorious Revolution of 1688– and who require their cultural products to do distinct kinds of ideological work. Whig writing as practised by such as Sir Richard Blackmore, John Dennis, Joseph Addison and others celebrates native and domestic, rather than classical models; identifies with the exploits of William III's reign; and in its admiration for the trading, commercial and financial sectors is likely to applaud military success." See Section 1.3.7.

nourishment, which further connects the Thames and blood: as the river carries water and vitality to the English land (see Section 2.2.2), so the blood is responsible for bringing sustenance to the whole body.

Finally, the role of the lungs in the cardiovascular system is taken into account. A long passage comprising lines 431 to 462 describes how the blood, once it reaches the heart, is further propelled towards the lungs through the pulmonary arteries (l.431), which then divide into many smaller capillaries (l.432). "Venal Blood" (l.433)—different from arterial blood, though the two are linked as they circulate in "winding Ways"—has become weak and depleted during its journey through the body. In the lungs, it regains strength:

> Those num'rous Streams, their Rosy Beauty gone,
> Poor by Expence, and faint with Labour grown,
> Are in the Lungs enrich'd, which reinspire
> The languid Liquors, and restore their Fire.
> (Blackmore, 1712, VI, ll.435-8)

Blood is "enrich'd" (l.437) and "restore[d]" (l.438) in its bright vital colour before returning to circulation. When Blackmore wrote *Creation*, no knowledge of oxygen existed, though in *De Motu Cordis*, Harvey had written on pulmonary circulation.

In the lungs, blood receives "sprightly Liquors" and "purple Rills" (l.445) thanks to the action of "Aerial Pasture." The air moves through the "spungy Parts" and "bladder'd Cells" (l.451) of the lungs, where "th' admitted Nitre" "agitates the Flood," "[r]evives its Fire," and "referments the Blood" (ll.453-4). The once "languid Blue" (l.455) blood regains its "Scarlet Honours" (ll.456-7), and continues its journey back to the heart. The renewed blood, now "bright with more than Tyrian Pride" (l.458), moves to the left side of the heart to be pumped through the body into circulation again (ll.461-2). Without the lungs the blood would not possess the nourishment necessary to fulfil its vital function in the body—the metaphorical depiction of blood as a "Store" (l.431) is particularly apt to describe its role.

The chemical process at play in the lungs is recounted with special attention to the physical transformation of blood and, in particular, its change of hue. The passage suggests that air conveys nutrition, as "[t]o cherish Life Aerial Pasture brings" (l.447). In his most celebrated publication, the *Tractatus de Corde* (1669), doctor Richard Lower (1631–1691) proposed that the red colour of blood results from its interaction with air, thus supporting the thesis that respiration is a critical phase of circulation (Donovan, 2004, pp. 941–2). The work was the result of Lower's extensive research in cardiopulmonary physiology and his pioneering work in blood transfusion (Simpson, 2004). At Oxford, interest in these matters was not limited to Lower's research. Spurred by the work on air by Robert Boyle,[23] several natural philosophers devoted their time to in-

[23] Boyle devoted most of his life as a natural philosopher to the study of air. West (2005) maintains that

vestigating the physiology of respiration. One of these was physician–physiologist Ralph Bathurst (1620–1704), who held lectures on respiration and described how air "mixes its own life-giving spirit with the blood" (Guy, 2006, pp. 19–20). Despite seventeenth-century advancements in physiology, this idea was fundamentally rooted in Galenic medicine. According to West (2014), Galen suggested that blood carried "natural spirit" from the liver to the heart, where it combined with "pneuma" from the lungs to become "vital spirit." While today we know that what happens in the lungs is the chemical reaction of oxygenation, in the seventeenth century the reinvigoration of blood was believed to be performed by nitre. John Keill's *The Anatomy of the Humane Body* proposed that nitrous particles from the air mix with blood to sustain vital functions (1703, pp. 124–5). A prominent figure in this tradition was the already mentioned physician John Mayow. In the account of his *Tractatus Duo, prior de Respiratione alter de Rachitide* (1663) in the *Philosophical Transactions* (1668), the role of "nitro-aerial particles" in respiration[24] is described as follows:

> inquiring, what that may be in the Air, so necessary to life, [Mayow] conjectures, that 'tis the more *subtile* and *nitrous* particles, the Air bounds with, that are through the Lungs communicated to the Bloud: And this *Aeral Niter* he makes so necessary to *all* life, that even the Plants themselves do not grow in that Earth, that is deprived thereof, which yet, being exposed to the Air, and afresh impregnated by that fertilizing salt, becomes fit again to nourish those Plants.
>
> And considering further, what part this *Nitrous Air* acts, and what operation it performs in the *Animal* Life, he is of opinion, that this *Niter*, mixt with the *sulphureous* parts of the Bloud, causeth a due fermentation, which he will have raised, not only in the Heart alone, but immediately in the Pulmunary vessels, and afterwards in the Arteries no less than in the heart. [...] he inquires yet after another Use of Respiration, which maketh it so very necessary to Life. And considering with himself, that the Life of Animals consists un the *Distribution of the Animal Spirits*, for the supply of which is required the Pulsation of the heart, and the Afflux of the Bloud to the Brain, it seems to him, that Respiration is highly necessary to the motion of the heart, forasmuch as the heart is one of the Muscles,

in in 1660, he published his landmark book, *New Experiments Physico-Mechanicall, Touching the Spring of the Air, and its Effects*, in which he described the first controlled experiments of the effects of reducing the pressure of the air. Several of his other works touched upon similar topics.

[24] "Central to the *Tractatus* was the chemistry of the air and its effect upon all manner of things, for many 17th-century scientists (and especially the Oxford group around Dr Wilkins at Wadham College) had come to abandon the classical Greek view that Air was an unchanging fundamental element (along with Earth, Water and Fire). Instead, they were coming to see it as a mechanically 'elastic' medium which, in varying states of attenuation or compression, exhibited different chemical and physiological properties - a view developed in the wake of Robert Boyle's and Robert Hooke's ground-breaking experiments with a new air pump after 1658."
Retrieved on November 25, 2024, from <https://library.wadham.ox.ac.uk/exhibition/mayow1.html>.

> the motion of every one of which absolutely requires this *Aeral Niter*, so that without the same, even the beating of the Heart cannot be performed. (1668, p. 833)

Brazier (1984, p. 71) remarks that Mayow opened his discussion of muscular motion in the fourth section, "De Motu Muscular et Spiritibus Animalibus," of his *Tractatus Quinque Medico-physicae* (1674) by declaring his stand on the importance of the "nitro-aérial spirit" for the "aération" of the blood. He insisted on its part in muscular contraction:

> That Nitro-aerial Spirit is, by means of respiration, transmitted into the mass of the blood, and that the fermentation and heating of the blood are produced by it, has been elsewhere shown by us. But I shall now further add concerning the use of that inspired spirit, that it takes the chief part in the origination of animal motions, an opinion which I published now a good while ago, and still firmly hold; not that I have set myself to stick to it, as fixed to a pre-conceived hypothesis, but because I consider it most agreeable to reason. (as quoted in Brazier, 1984, p. 71)

In the already cited passage from Blackmore's *A Treatise of Consumption and other Distempers belonging to the Breast and Lungs*, the physician reiterated the significance of the abundant "nitrous Particles" in the air, which are

> drawn into the Lungs by Inspiration, are carried by innumerable small gristly Conveyances, and communicated to the Blood, and by mingling with it renews its florid Colour, and frightly Activity, that were much diminished by its long Course round the Body, and sends it back to the Heart with as much Life and Spirit, as when it was exploded thence. (Blackmore, 1725b, p. 116)

While its specific function was not completely clear at the time, "it is certain, that an Aerial refined Nitre is absolutely necessary to the animal Life, by continually restoring and enlivening the Tide of the Blood, when it returns to the Lungs dull and languid after its Task of Circulation" (Blackmore, 1725b, pp. 116–7). In Blackmore's view, "the Nitre of the Air [...] is the Alimony and Maintenance of the active Principles of the Blood" (Blackmore, 1725b, p. 118).

Chambers's *Cyclopaedia* (1741) also shared the notion that respiration facilitates the transfer of nitrous elements to blood, supporting bodily vitality and bestowing "the florid colour [to] the blood." The extraordinary function of this operation is further underlined by the words that Blackmore employs in these lines: blood is described to assume "Tyrian Pride"[25] (l.458), that is a purple colour which, according to the

[25] Blackmore had already employed the same phrase at the opening of Book IV, where he reflected on the fate of kings and their wealth:

encyclopaedist, "was much esteemed among the ancients [...] and which was almost peculiar to emperors and kings:"

> Behold, the Streams now change their languid Blue,
>
> Regain their Glory, and their Flame renew.
>
> With Scarlet Honours re-adorn'd the Tide
>
> Leaps on, and bright with more than *Tyrian* Pride,
>
> Advances to the Heart, and fills the Cave
>
> On the Left Side, which the first Motion gave.
>
> (Blackmore, 1712, VI, ll.455-60)

In *Tractatus de corde*, Richard Lower observed the blood's colour change due to its passage through the lungs. According to Wilson (1960, pp. 167–8), Lower was inspired by Hooke in his experiments to determine the origin of the change in the colour of blood. Thanks to this work,[26] he demonstrated that the bright red colour of arterial blood derives from its interaction with the air in the lungs and not from its being heated in the left ventricle of the heart, as it was previously believed:

> When venous blood is received into a vessel, the surface and uppermost part of it takes on this scarlet colour through exposture to the air.
>
> (Lower, 1669, pp.164-9, as quoted in Wilson, 1960, p. 168)

Hence, the purpose of the passage of the blood through the lungs was to receive something from the inspired air. Lower believed it was a "nitrous spirit," and Mayow provided the first experimental evidence that a specific part of air, which he called the "nitro-aerial spirit," was consumed during respiration (Wilson, 1960, p. 168). Patterson (1931b, pp. 524–6) explains that Mayow understood respiration as operating

> What the high Palace reer'd with vast Expence,
> Unrivall'd Art, and Luxury immense,
> With Statues grac'd by Ancient *Greece* supply'd,
> With more than *Persian* Wealth, and *Tyrian* Pride?
> (Blackmore, 1712, IV, ll.30-3)

[26] "First, he showed that if the lungs be deprived of air by plugging the trachea the blood soon flows from the cervical artery as dark in colour as venous blood. Next, Lower shows that if the blood be forced through lungs ventilated with fresh air the bright red colour will be produced even if the animal is already dead and there is no movement of the heart. Then, having shown that the colour change does not depend on any activity of the heart, but does require a supply of fresh air to the lungs, he goes to his final and most conclusive experiment. For this he uses the technique of blowing air through perforated lungs, a method which he acknowledges he owes to Robert Hooke. If, with fresh air blowing through the lungs, the pulmonary vein be cut near the left auricle, the blood will flow out bright red in colour. The colour change therefore takes place in the lungs when they are ventilated with air and is not due to the mixing, stirring or fragmentation of the blood in the capillary network.

Finally Lower confirms his thesis that the change in colour of the blood results from contact with the air by his observations on blood in an open dish." (Wilson, 1960, pp. 167–8)

by extracting nitro-aerial particles from the air, in the same manner that fire is nourished by air in combustion. He held that such particles were required to sustain life, in light of their reaction with blood in the lungs. Mayow took this speculation further and hypothesised that nitro-aerial particles combine with blood to generate vital energy, hence conjecturing that respiration's fundamental function was to introduce nitro-aerial particles into the blood.

Once it has regained its vitality, blood can move on. Sight and the visual component are central in Blackmore's description of the change from veins to arteries: from venous blue, blood becomes scarlet and purple in the arteries. The extended metaphor of blood as a bright fire (l.438, l.454, l.456) enhances the visual element of this passage. From a scientific point of view, the poet describes the seamless transition from veins to arteries resorting to the already-mentioned microscopic discoveries by Malpighi.[27] While examining a frog's lung in 1661, he observed that blood did not flow into open areas of the body as previously thought. Rather, it moved in small vessels with a convoluted and tortuous course, thereby establishing that blood never left those tiny channels. He also witnessed the formation of a network of capillaries (named from the Latin "capilla," or "little hair"), in which arteries and veins were connected in such a way that there was a continuous flow of blood without spilling into tissue spaces surrounding them (Karamanou & Androutsos, 2010).

The structure of this portion of the poem stresses the significance of circulation and mirrors its circularity. The stylistic elements employed here—such as parallelism (ll.437-8, ll.444-5), chiasmus (l.436, l.447, l.456), alliteration (ll.456-7)—reinforce the dynamic and cyclical nature of blood flow. The mechanical and chemical depiction of respiration, whereby the flowing of blood and its reinvigoration are made possible by the necessary contraction and expansion of the lungs (ll.448-9, l.452),[28] as well as the mechanistic view of the circulatory system, align with the iatromechanical tendencies of the time. As Clericuzio and Conforti (2022) aver, in the eighteenth century,

> [w]hereas the mechanical philosophy as the foundation of medicine lost support, a number of physicians relied on the notion of local mechanisms to account for specific processes, which they described in terms of pumps, valves, pipes, sieves, levers. Ongoing research in mechanics, hydraulics, pneumatics, anatomy, and microscope observations directed the invest-

[27] According to Wilson (1960, pp. 164–6), Galen, and even early Renaissance anatomists like Vesalius, believed the lung's structure resembled a spongy or foam-like tissue. Marcello Malpighi revolutionised this view in 1661 by identifying the lungs as membranous structures housing air sacs connected to the trachea. He further showed how air circulates within these sacs without directly mixing with blood, providing foundational evidence for modern pulmonary physiology.

[28] In the *Cyclopaedia* (1741), Chambers commented on the pulmonary structures's ability to expand and contract to facilitate air exchange: "For the manner wherein Respiration is performed—It is to be observed, that the lungs, when suspended in the open air, by the contractive power of the muscular fibres which tie together the squamous parts of the bronchia, are reduced to less space than they possessed while in the cavity of the thorax : and when thus contracted, if a quantity of new air be injected through the glottis ; they again become distended, so as to possess an equal, nay a greater space than that assigned them in the thorax."

> igators' attention to the structures of organs and to the motion of fluids and saw health and sickness as function of forces, weight and hydrostatic pressure, as well as of the chemical composition of body fluids.

The evolving understanding of respiration and circulation in the late seventeenth and early eighteenth centuries reflects a broader shift in scientific thought. Boyle and Hooke recognised the necessity of air as a "life-giving substance," while Mayow supposed it to be a "nitro-aerial spirit" necessary for respiration and combustion (West, 2011, pp. 1512–3). The transition from metaphysical explanations to empirical, chemical and mechanical models of blood transformation marked a significant development in early modern physiology (Banchetti-Robino, 2011), and Blackmore reflected it in his composition. However, he recognised the indebtedness to the ancient predecessors who paved the way for modern discoveries. In lines 463 to 476, the poet pays homage to those ancient "Sons of Wisdom [...] of th' *Ionic*, or Italic *Race*" (ll.463-4) who made major contributions to understanding of the human body.[29] Yet, they promoted numerous concepts regarding the function of blood that proved to be ill-founded, as the negation at the opening of this section foretells (l.463). First, Democritus (ll.465-70), the originator of atomic theory, promoted a highly materialistic attitude towards nature. Through his dissections, he managed to display "[t]he Crimson Mazes, and the hollow Road" (l.469) formed by blood, without truly understanding their significance. This was also unknown to Aristotle, the "great *Stagyrite*" (l.471), and Plato, his "Preceptor of Divine Renown" (l.472). They were the most important figures in ancient philosophy, but the fact that they were unaware of blood circulation underlines the poet's belief in the superiority of modern scientific knowledge (see Section 1.2.3). In the same way, "the *Coan*" (l.475) Hippocrates, the father of medicine, laid down the principles of the practice of medicine but was "not acquainted with the Circulation of the Blood, nor the Use of the Pulse" (Blackmore, 1726, p. xlvii). His humoural theory, the pillar of medical certainty for so many centuries, was later supplanted by the more accurate understanding provided by modern physiology. The same was true for Galen (l.476), the prominent Roman physician, who possessed a flawed view of the circulatory system and believed that organs consumed blood produced by the

[29] In the preface to *Discourses on the Gout, Rheumatism, and the King's Evil* (1726), Blackmore would discuss the question of the ancients and the moderns in matter medical with an attack on the ancients, which merely repeats the sentiments he expressed in many other works. Blackmore celebrates modern medicine and stresses that studying only the ancient sources grants "no Improvement of their Understandings in the Art of healing Distempers" (p. iv). He adds:

> [b]ut as many Gentlemen idolize the eldest Writers, while they undervalue and despise those of later Ages, so on the other Hand, great Numbers are so enamour'd and transported with the Works of the Moderns, that they give few of the Ancients a good Word, and tell us, that in their Judgment, if the Merit of the old Authors were Set up in Competition against those of the two last Centuries, it would be much eclipsed, and greatly suffer by the Comparison. (Blackmore, 1726, p. xiv)

Blackmore goes on discussing the ongoing debate over whether the Ancients or the Moderns should be regarded as superior in learning. He notes that this controversy has persisted for a long time and "still continues undecided" (p. xv).

liver, which had the duty to replenish it constantly.[30] Although recognised as eminent personalities who made revolutionary contributions in their respective times, these figures were unable to uncover the true nature of the circulatory system. Their views on blood were to be disproven by William Harvey's innovative work:

> Thou, wondrous *Harvey*, whose Immortal Fame,
> By thee instructed, grateful Schools proclaim,
> Thou, *Albion's* Pride, didst first the winding Way,
> And circling Life's dark Labyrinth display.
> Attentive from the Heart thou didst pursue
> The starting Flood, and keep it still in view,
> Till thou with Rapture saw'st the Channels bring
> The Purple Currents back, and form the Vital Ring.
> (Blackmore, 1712, VI, ll.477-84)

Harvey is presented as the crown jewel of this line of physicians, "[f]or the Circulation of the Blood does not destroy the antient Physick, but furthers it" (Harvey, 1653, p. 6). Blackmore celebrates him as the English physician who discovered the circulation of blood, the pinnacle of human physiological studies at the time. The stress on Harvey's English origin (l.479) aligns with Blackmore's patriotic intent in the poem: it was a reason for pride that "[t]he Circulation of the blood, has been generally allowed to have been first discovered in England, in the year 1628, by Harvey, a physician of our own country" (Chambers, 1741). Harvey's discovery represented a watershed in the history of medicine, which also influenced the education of physicians (ll.477-8), dominated by ancient teachings until then. Harvey's discovery of blood circulation is praised as a remarkable breakthrough, revealing the mysterious "dark Labyrinth" (l.480) of life's processes. His method was based on observation (l.481), which, starting from the heart, allowed him to discover "the Vital Ring" (l.484) of blood circulation. In these lines, the poet stresses the element of sight—"attentive" (l.481), "in view" (l.482), "saw'st" (l.483)—involved in Harvey's empirical study. According to Longo and Reynolds (2016, p. 272), Harvey was "the first to adopt the scientific method for the solution of a biological problem."[31] The final couplet, joint

[30] Aird (2011, pp. 118–21) explains that for Galen, the liver is the source of all blood, which is generated from ingested food and distributed to all body parts through veins. Blood is then consumed by tissues and replenished by the liver. In his understanding, this was an open-ended system.

[31] "Harvey, celebrated for his discovery of the circulation oft he blood (1628), was the first to adopt the scientific method for the solution of a biological problem. In fact, it was Harvey's work on the function of the heart and the circulation in general that led him to consider the circulation of the fetus and its relation to that of the mother. To help grasp the significance of Harvey's monumental achievement, one must consider the traditional Galenic concept of the heart, blood vessels, and their contents at this time. Briefly, this view held that blood originated in the liver, which was the dynamic organ that provided vascular pulsations. The heart, in contrast, was believed to be a fibrous sac that dilated or collapsed

in enjambement, closes this section on blood circulation, stylistically mirroring its cyclical structure.

The key theme of this final passage is the eulogy of scientific progress. While Blackmore applauds the valuable, if incomplete, attempts of the ancient thinkers, William Harvey is championed as the modern discoverer of the secrets of the human body and even as a national hero. As Lawlor and Suzuki (2003, p. 2) comment, however, "[i]ronically, Harvey's own attitude to the New Science was at least ambivalent and, at worst, contemptuous, his own inspiration coming from Aristotle rather than mechanical philosophy." Harvey is thus the heir and acme of a long lineage of philosophers and, to use Abraham Cowley's words in *Ode upon Dr. Harvey* (1663, p. 18), "our Apollo" for the future developments of enlightened medicine.

In conclusion, Blackmore's description of blood circulation shows a profound understanding of the subject, unparalleled in the poetry of the time. As a physician by trade, Blackmore knew and appreciated the latest innovations in medical research: his detailed depiction of the heart pumping blood in a continuous circuit through arteries and veins, the role of the lungs in revitalising blood, and the inclusion of capillaries in this picture, all testify to Blackmore's familiarity with the latest discoveries on blood circulation. Nevertheless, this segment from *Creation* still presents traces of ancient ideas the author probably internalised during his years at Oxford and Padua. Galenic notions such as the centrality of the liver to blood refining, and Aristotle's teleological and vitalistic views, seem to inform certain portions of the text subtly. Within Blackmore's Christian physico-theological framework, though, the many references to nature's wonderful design underscore the belief that the circulatory system is not merely a mechanical phenomenon but a testament to the Creator's wisdom.

3.1.3 The Digestive System

"As a physician, Blackmore revels in the providential arrangements of the digestive system," Fairchild (1939, p. 199) observes in *Religious Trends in English Poetry*. Indeed, this portion of Book VI is one of the most fascinating of the whole poem, as digestion holds a central place in the poet's understanding of human physiology.

Gouseti (2019, p. 6) remarks that in the eighteenth century digestion remained largely a mystery. He quotes William Hunter (1718–1783), an anatomist and physician, who would wittingly reflect: "[s]ome physiologists will have it that the stomach is a mill, others that it is a fermenting vat, others again that it is a stew pan, but in

passively as a consequence of the motion of the blood. In the liver, venous blood was mixed with an imaginary essence, the "natural spirits", and distributed to the several body organs.Venous blood within the right side of the heart was believed to seep through "pores" in the septum dividing the two sides of the heart, to mix on the left side with air to produce arterial blood. Also at this time, most workers believed that the heart consisted of only two chambers, the ventricles, and that the atria were but extensions of the veins joining the heart. In left ventricle, blood was charged with a second essence, "vital spirits", before being distributed to various organs. In the brain, "animal spirits" were added to pass through the nerves. Interaction of the "vital" and "animal" spirits was believed to provide movement, such as muscular activity." (Longo & Reynolds, 2016, p. 272)

my view of the matter, it is neither a mill, a fermenting vat, nor a stew pan, but a stomach, gentlemen, a stomach." Theories on digestion and disparate interpretations of the term proliferated, though by "digestion," it was usually meant the

> Dissolution or Separation of the Aliments into such minute Parts as are fit to enter the lacteal vessels, and circulate with the Mass of Blood; or it is the simple breaking of the Cohesion of all the little Molecula which compose the Substances we feed upon. Now the principal Agents employ'd in this Action, are, first, the Saliva, the Juice of the Glands in the Stomach, and the Liquors we drink, whose chief Property is to soften the Aliments, as they are Fluids which easily enter the Pores of most Bodies, and swelling them break their most intimate Cohesions. (Quincy, 1736, p. 125)

Interest in digestive processes dates back approximately 3000 years (Gouseti, 2019, p. 4). While the pre-Socratics (sixth century BC) viewed it as a combination of the effect of heat and/or trituration (a mechanical feature), Hippocrates (fifth/fourth century BC) described the process as an internal cooking of food, which produces body heat. Aristotle (fourth century BC) also reflected on digestion and expanded on the Hippocratic theory, describing digestion as dependent on heat and transforming food into blood in four stages. Fundamental was again the work of Galen, who combined existing theories and described it as the process of mincing in the stomach, decomposition in the bowel, and conversion into blood in the liver. Aristotle and Galen's theories prevailed throughout the Middle Ages, with Galenic medicine advanced and established as the standard in medical education. More specifically, Galen's theory, derived from his two treatises, *On the Natural Faculties* and *On the Usefulness of the Parts of the Body*, integrated teleology with mechanism (Lewis, 2023, pp. 271–3). Balalykin (2019) explains that Galen played a central role in the emergence of medicine as a proto-scientific discipline. He systematised Hippocrates's work and paired it with an empirical attitude towards anatomy and physiology rather than a simple accumulation of observations. Galen believed that the stomach was the primary organ responsible for digestion, a process of "concoction" through which food undergoes mechanical and chemical alteration. The process occurred in two main stages: the first in the stomach and the second in the liver, where the nutriment was refined into blood.

In the Renaissance, interest in digestive processes persisted. Several thinkers, including the paracelsian Jan Baptiste van Helmont (1580–1644), performed experiments on digestion and in light of the momentousness of chemistry at this time, "[p]hysiology [was] now linked to chemistry, and digestion [was] viewed from a chemical/biochemical perspective" (Gouseti, 2019, p. 5). Boantza (2020) remarks that by the late seventeenth and early eighteenth centuries, fermentation had become a dominant framework for explaining several physiological processes, including digestion. For instance, Thomas Willis wrote *A Medical-Philosophical Discourse of Fermenta-*

tion[32] in 1681. He observed that fermentation governs transformations in the natural world and represented it as a universal process underlying all biological functions. He believed that the principles of fermentation—that is, spirit, salt, and sulphur—are to be found in both chemical reactions and the dynamic interaction of bodily fluids (Caron, 2022).[33] In the treatise, Willis presented gastric fermentation as an acidic process that breaks down food into chyle and transforms it into blood. The centrality of digestion in the body's economy is demonstrated by the fact that Willis identifies imbalances in fermentation as the cause of many diseases (Willis, 1681a). Willis's understanding of digestion was revolutionary at the time, as he framed it in chemical rather than mechanical terms as a sequence of chemical reactions, similar to brewing or distillation (Clericuzio, 2023, p. 725).

If iatrochemists considered digestion a chemical process involving acid fermentation, theories focusing on the mechanical aspects of digestion were also in vogue in the second half of the seventeenth century. Iatromechanics incorporated anatomical studies and principles of motion. A case in point is the idea of digestion as presented by Cartesian mechanism. Descartes rejected chemical explanations and favoured mechanical theories of digestion based on particle motion and heat. In his *Treatise of Man* (1664), he likened digestion to mechanical processes such as sifting and heating (Clericuzio, 2012, pp. 333–4). According to Clericuzio (2012), the work of the English physiologists who, like Willis, worked at Oxford, was fundamental in merging corpuscular theories with popular iatrochemical understanding. As a result, by the late seventeenth century, digestion was understood as both a mechanical and chemical process.[34] Both these traditions and the classical accounts of digestion are decisive in shaping Blackmore's own account of digestion in *Creation*.

Before delving into the central lines of Book VI, it would be helpful to situate the physician's take on digestion within his broader medical understanding. He opens the treatise *Discourses on the Gout, Rheumatism, and the King's Evil* with "An Introductory Discourse upon the several Digestions perform'd in the Body" (Blackmore, 1726, p. 1). Digestion is central in human physiology, as "all acquired Distempers to which Mankind are obnoxious, arise from the Errors and Defects of the digestive Powers of the Body" (Blackmore, 1726, p. 1). First, he defines the term:

> to *Digest*, signifies either to regulate, range or methodize; [...] Or else to dissolve, and separate; and in this Signification it is taken, when we speak of the digestive Powers or Faculties of Concoction, which are synonymous

[32] Full title: *A medical-philosophical discourse of fermentation, or, Of the intestine motion of particles in every body by Dr. Thomas Willis ... ; translated into English by S.P.*

[33] Caron (2022) also explains that "Willis's was a fundamentally chemical natural philosophy, in which the five principles of earth, water, salt, sulfur, and spirit were compounded to produce every material thing and interacted to produce every material change. He asserted that all physical change could be profitably understood as fermentation."

[34] Ideas on digestion kept shifting throughout the eighteenth century. According to Miller (2018), digestion became central to both medical practice and cultural anxieties. At the time, mechanical, chemical, and vitalist scientific models still coexisted.

> Words, and express the same Function in the Animal Œconomy. When this Term is applied to the Stomach, we are to understand the Virtue or Force lodged in that important Organ, to melt and minutely divide the various ingested Meats and Drinks of different and often opposite Qualities, and, by working them together, to reduce all into one smooth, soft and uniform Mass, which is called Chyle. (Blackmore, 1726, p. 2)

This process, the physician argues, is "designed for the Augmentation or Reparation of the Body" (p. 2). By which means this happens, however, remains elusive:

> This is evidently the Office it [the Stomach] performs; but whether it executes this Province by the Ministration of a peculiar Ferment residing in its Cavity, formed of the Residue or Leavings of the concocted Meats, or from the its own Glands, or from both united in one common muriatick Pickle or Brine; or whether this Dissolvent, employed by the Ventricle in Digestion, be the native Heat and Activity of the Spirits, which reside in abundance in that Bowel, it is not easy to determine. (Blackmore, 1726, p. 3)

In *Creation,* Blackmore adopts the same tentative attitude when it comes to explaining the actual material causes of digestion. In the *Discourse* he goes on to describe the various stages of this process: the food passes from the stomach to the gall-bladder, where it is accompanied by the bile and "the Juices excluded from the Pancreas and Glands of the Intestines" (p. 4) to reach the lacteal veins. From there, they reach the "common receptacles of the Aquæducts or Lymphatick Conveyances" (p. 4), where the product of digestion becomes "more tempered and attenuated" (p. 4). At this point, through a vein in the left arm, this "nutritious Juice" is transferred into blood circulation "for the Nourishment of the whole" (Blackmore, 1726, p. 4). To be able to perform this task, however, blood is required to go through "Sanguification," that is,

> the Conversion of the nutritive Liquor into Blood, [which] is accomplished in the circulating Vessels, the Veins and Arteries, as before describes, and not in the Liver, as Physicians and Anatomists, thro' all Ages till of late, vainly imagined. (Blackmore, 1726, p. 6)

Blood is now ready to convey the nutrients to the several parts of the body according to their necessities "for their constant Increase and Repair:"

> And thus the Muscles, Ligaments, Membranes and Tendons receive their different Supplies; and the fat Parts, the Cartilages and Bones, are recruited with distinct Materials, prepared and wrought to a just fitness for those Purposes. (Blackmore, 1726, p. 6)

After this operation, what Blackmore dubs as the "third" stage of digestion begins. The blood transports its "most subtile and active Parts" to the brain, that "admirable

Organ" (Blackmore, 1726, p. 6) that assumed unprecedented centrality in the post-Willis era. Digestion plays a crucial role not only in nourishment but also in supporting the circulatory and nervous systems. In *Creation*, Blackmore effectively transmits these particulars in poetic form, following the same progression he would later employ in the *Discourse*, where he explores digestive physiology in detail. In Book VI, the section on digestion opens with a description of nutrition:

> See, how the Human Animal is fed,
> How Nourishment is wrought, and how convey'd
> The Mouth with proper Faculties endu'd
> First entertains, and then divides the Food.
> Two adverse Rows of Teeth the Meat prepare
> On which the Glands fermenting Juice confer.
> Nature has various tender Muscles plac'd,
> By which the artful Gullet is embrac'd:
> Some the long Funnel's curious Mouth extend
> Thro' which ingested Meats with Ease descend
> Other confederate Pairs for Nature's Use
> Contract the Fibres, and the Twitch produce
> Which gently pushes on the grateful Food
> To the wide Stomach, by its hollow Road.
> That this long Road may unobstructed go,
> As it descends, it bores the Midriff thro'.
> (Blackmore, 1712, VI, ll.485-500)

The excerpt focuses on the transfer of food from the mouth to the stomach. Here, too, Blackmore stresses the importance of sight (l.485) in the investigation of natural phenomena. The passage first presents the function of the mouth, noting that it is equipped with the "proper Faculties" (l.487) for nutrition, particularly through the mincing of food with the teeth (l.489). In the mouth, "the Glands" add "fermenting Juice" (l.490) into the food to prepare it for further digestion. Lines 491 to 498 illustrate the oesophageal muscles as guiding the passage of food down the "meer Pipe" towards the stomach, "[t]he large Receiver for Concoction made" (l.501) to be found "amidst the warmest Bowels" (l.502). It crosses the midriff, which is "a Membrane, or Skin, which separates the Heart and Lungs from the lower Bowels" (Kersey, 1708). Each of these parts was made "for Nature's Use" (l.495), proof that every component of the human body was designed to serve particular ends and yet another testimony

to Blackmore's teleological views.[35] These lines well condense the first phase of the digestive process, for "[t]he operation of Digestion succeeds to mastication, and deglutition" (Chambers, 1741). It is interesting to notice that Blackmore employs the terms "fermenting" and "concoction"—which will be the object of further reflection in this section—almost as synonyms.

The stomach has a place of primary importance and, as Miller (2018, pp. 64–5) observes, it was customary for natural theologians like William Derham to use the complexities of this organ, even in animals, as evidence of divine wisdom:

> What Artist, what Being, but the infinite Conservator of the World, could so well adapt every Food to all the several Kinds of those grand Devourers of it ! Who could so well suit their Stomachs to the Reception and Digestion thereof ; one kind of Stomach to the Carnivorous, another to the Herbaceous Animals ; one fitted to digest by bare Mastication ; and a whole set of Stomachs in others to digest with the Help of *Rumination* ! (Derham, 1713, p. 363)

In Blackmore's account, the stomach is found in the warmth of the bowels among several other fundamental organs:

> The Spleen to this, and to the adverse Side
> The glowing Liver's Comfort is apply'd.
> Beneath, the *Pancreas* has its proper Seat,
> To cheer its Neighbour, and augment its Heat.
> More to assist it for its destin'd Use,
> This ample Bag is stor'd with active Juice,
> Which can with Ease subdue, with Ease unbind
> Admitted Meats of ev'ry diff'rent Kind.
> This pow'rful Ferment mingling with the Parts,
> The leven'd Mass to milky Chyle converts.
> (Blackmore, 1712, VI, ll.503-12)

In addition to the stomach, several other organs contribute to digestion, namely the spleen (l.503), the liver (l.504), and the pancreas (l.505). These are connected and placed in a warm environment to serve this process, their "destin'd Use" (l.507). These lines reinforce the teleological perspective already present in the poem: each organ is purposefully designed to serve a specific function. As Orland (2012, p. 359)

[35] In his *Discourses on the Gout, Rheumatism, and the King's Evil* (1726) Blackmore would write that the stomach functions "fit for Nature's Services" (p. 3).

observes, "[m]astication, deglutition, concoction, chylification, sanguification, nutrition, and, later, certain forms of secretion and excretion, were profoundly intertwined operations, taking place at different bodily locations and at different times."

In lines 508 to 512, the "active Juice" (l.508) is described as a "pow'rful Ferment" (l.511), which helps break down food. Its action serves to create a substance dubbed "milky Chyle" (l.512), "a whitish juice, into which the food is immediately converted by digestion, or more properly, by that first branch thereof called Chylification"[36] (Chambers, 1741). In these lines, Blackmore seems to make a direct reference to Chapter V of Willis's *A Medical-Philosophical Discourse of Fermentation* (1681), where the Oxford physician elucidated the role of the "acid ferment" in the stomach, which breaks down food into chyle.[37] Further proof of Blackmore's obligation to Willis is to be found in his *Discourses on the Gout, Rheumatism, and the King's Evil* (1726), where he describes the initial stage of digestion in the stomach:

> The Stomach then is qualified, by its concoctive Faculty, to loosen the Embraces and unity the Cohesion of fatty Foods admitted into the Stomach, to soften and unbind the harder and knotty Parts, to smooth and file off the Edges and pungent Points of the austere and acid Contents, and to labour and form all to a Mixture fit for Nature's Service. (Blackmore, 1726, pp. 2–3)

This process

> melt[s] and minutely divide[s] the various ingested Meats and Drinks of different and often opposite Qualities, and, by working them together, to reduce all into one smooth, soft and uniform Mass, which is called *Chyle*. This is the first State and Preparation of the nutritive Juices, designed for the Augmentation or Reparation of the Body. (Blackmore, 1726, p. 2)

Imbued with his classical education and aware of the latest trends, Blackmore stresses the value of heat in the digestive process. Although he recognises that the origins and workings of digestion are not easy to determine, "[i]t is certain however that Heat exceedingly contributes to all Digestion, as we see in the Elaboratory of the Chymist" (p. 3) . He is also convinced that "[i]t is likewise past doubt by Experience, that the Animal Spirits inhabiting the nervous Coats of the Stomach are greatly interested in this Affair" (p. 3). He concludes that

[36] Chyle historically represented an important fluid during digestive processes. Under the influence of Hippocrates, digestion was described as a resorption by the endings of veins of the finest fluid from the digested food, termed "chyle" (Suy, Thomis & Fourneau, 2016a, p. 262). By the turn of the eighteenth century, alongside blood, chyle, and lymph (or serum) were recognised for their roles in nourishing the body and absorbing corrupted matter (Orland, 2012, p. 359).

[37] Gouseti (2019, p. 5) notes that "Jan Baptiste van Helmont (1580–1644,) proved the acidity of gastric fluids, yet he realised that acid on its own is insufficient to digest food and he thus introduced the concept of 'ferments' that are responsible for specific digestive actions."

> [t]his is evidently the Office it [the stomach] performs; but whether it executes this Province by the Ministration of a peculiar Ferment residing in its Cavity, formed of the Residue or Leavings of the concocted Meats, or from the acid Juices excluded into the Stomach from its own Glands, or from both united in one common muriatick Pickle or Brine; or whether this Dissolvent, employed by the Ventricle in Digestion, be the native Heat and Activity of the Spirits, which reside in abundance in that Bowel, it is not easy to determine. (Blackmore, 1726, p. 3)

The centrality of chyle in the poet-physician's account of digestion is not to be underestimated. In ancient times, under the influence of Hippocratic precepts, digestion was described as the resorption of the finest fluid from the digested food—i.e., chyle—by the veins's endings (Suy, Thomis & Fourneau, 2016a, p. 262). Chyle, then, acquired an increasingly prominent role, particularly as empirical research veered to hydraulic processes following Harvey's discovery of blood circulation. By the late seventeenth and early eighteenth centuries, the scientific understanding of body fluids had expanded: blood was no longer the only interesting fluid, as chyle and lymph (or serum) became essential to the absorption and removal of corrupted matter (Orland, 2012, pp. 358–9).

"Chyle, is that Juice which the Food is immediately converted into by digestion" (Quincy, 1736, p. 79), that is, the product of the concoction taking place in the stomach (l.513). The chyle that is thus produced is the substance that nourishes the body's activities, a compound of everything that the stomach has dissolved and altered. Lines 513 to 532 follow the movement of chyle through the body:

> The Stomach's Fibres this concocted Food
> By their Contraction's gentle Force exclude;
> Which by the Mouth on the right Side descends
> Thro' the wide Pass, which from that Mouth depends.
> In its Progression soon the labour'd Chyle
> Receives the confluent Rills of bitter Bile,
> Which by the Liver sever'd from the Blood,
> And striving thro' the Gall-pipe, here unload
> Their yellow Streams, more to refine the Flood.
> (Blackmore, 1712, VI, ll.513-21)

Initially, muscle contractions (l.514), made possible by their fibrous structures (l.513), help transform food into chyle. Chyle, then, undergoes progressive refinement (l.517). These lines also highlight the role of the "Liver" (ll.519-21), which sieves the blood

and produces "yellow Streams" (l.521). In his *Treatise of Consumption and Other Distempers belonging to the Breast and Lungs*, the poet would explain that "[t]he Liver is framed and defined for fining and depurating the Blood, by filtring from it the excessive Bile or Choler, and carrying it off by proper Conveyances" (Blackmore, 1725b, pp. 12–3).

In this portion of the poem, Blackmore describes how chyle moves from the stomach. Years later, Chambers would explain the process in similar terms:

> Thus is the Chyle begun to be formed in the stomach: It is perfected in the intestines by the mixture of the bile and the pancreatic juice; and is thence received into the lacteal veins, which carry it to the receptaculum chyli, or Pecquet's reservatory: thence it passes into the thoracic duct, which terminates in the left subclavian vein: in this vein, the Chyle first begins to mix with the blood; into which it is afterwards converted by the action called sanguification. (Chambers, 1741)

Although both authors seem to produce similar accounts of this physiological process, the issue was far from straightforward. In the second half of the seventeenth century, multiple competing theories about the movement of chyle were in circulation (Orland, 2012). Whereas Blackmore presented digestion as a concoction process, Chambers described concoction, "in medicine, [as] the change which the food undergoes in the stomach, &c. to become chyle" (Chambers, 1741). He also added that "[t]he antients gave the term coction, or concoction, to what we now ordinarily call digestion; from a notion of the food's being, as it were, boiled in the stomach; and its nutritious juice expressed by the heat of the adjacent parts." The use of the term "concoction" was bound to remind eighteenth-century readers of Galenic physiology and terminology. As a matter of fact, in Galen's view, food in the stomach undergoes "coction" that produces chyle, which is sent to the liver, where venous blood containing natural spirit is generated and nourishes the body (Ochs, 2004, p. 26).

Once the chyle has passed through the liver, it reaches the gallbladder, one of the excretory vessels of the liver. In the *The Anatomy of the Humane Body Abridg'd* (1703), Keill defined it as follows:

> The Vescicula Fellis or Gall-Bladder, is fixed to the Concave side of the Liver. [...] The Bile is brought into the Gall-Bladder by some small Vessels which arise from neighbouring Glands, and uniting, form one or two Pipes which open at the Neck of the Bladder. These Ducts I could never discover in any Liver but an Oxe's, through I have reason to think that they are likewise in a Humane. [...] The Use of the Bile is to sheath or blunt the Acids of the Chyle; because they being entangles with its Sulphurs thicken it so as that it cannot be sufficiently diluted by the Succus Pancreaticus to enter the Lacteal Vessels. (Keill, 1703, pp. 61–4)

Hence, the bile, "a thick, yellow, bitter Liquor separated in the Liver" (Quincy, 1736, p. 51), serves to "blunt the Acids of the Chyle"[38] so that it can "enter the lacteal Vessels." After the chyle becomes diluted by the action of the "complicated Glands" (l.522), it moves through the intestines, where their "Convolutions" slow its progress (ll.526-8) to allow it access into the "milky Vessels" (l.530),

> Whose little Mouths in the large Channel's Side
>
> Suck in the Flood, and drink the cheering Tide.
>
> These num'rous Veins, such is the curious Frame,
>
> Receive the pure insinuating Stream;
>
> But no corrupt or dreggy Parts admit
>
> To form the Blood, or feed the Limbs unfit.
>
> Th' Intestine spiral Fibres these protrude,
>
> And from the winding Tubes at length exclude.
>
> (Blackmore, 1712, VI, ll.531-38)

As the chyle is refined (ll.534-5), it becomes "pure," free from any "corrupt or dreggy Parts," ready for the next stage of digestion. The purified chyle undergoes "sanguification" (l.536), which is the process of "making Blood:" "[f]or as the Chyle is made out of our Aliments by the Contractions and Attritions of the Stomach, so the Chyle is made into Blood by the Attrition of the Arteries thereupon" (Quincy, 1736, p. 409). Indeed, Blackmore himself would describe the "Lacteal Glands" as the "Strainers to let thro' the nutritive Juice, called the Chyle, into the Blood" (Blackmore, 1725b, pp. 2–3).

The muscular contraction of the "Intestine spiral Fibres" (l.537), which pushes the refined chyle into the lymphatic system, "a network of connected glands (nodes) and vessels (capillaries) that stretch throughout the human body and contain lymph" (Paley, 2006, pp. 298–9). Keill explains it in these terms:

> the finer Parts [of Aliments], or Chyle, are by the same powers [the Peristaltick Motion of the Guts] squeez'd into the narrow Orifices of the Lacteal Veins. These are long and slender Pipes, whose Coats are so thin as to become invisible when they are not distended with Chyle or Lympha. They arise from all the Parts of the Small Guts by fine Capillary Tubes, which as they run from the sides of the Guts to the Glands in the Mesentery, unite and form larger Branches; these are called Venae Lactae Primi Generis. (Keill, 1703, p. 46)

[38] According to Lawlor and Mangham (2021, p. 117), "Richard Blackmore, an early eighteenth-century hypo doctor, recognised yellow bile's corrosive effects on crudities in the stomach, but his overall concern was with the nerves and spirits."

Their openings, Keill adds, are so small that they cannot be seen even by "the best Microscope" (p. 47).

At last, lines 539 to 613 dwell on the final stage of the digestive process, which serves to regenerate the body and restart the circulatory journey. First,

> Observe, these small Canals conspire to make
> With all their Treasure one capacious Lake,
> Whose common Receptacle entertains
> Th' united Streams of all the Lacteal Veins.
> Hither the Rills of Water are convey'd
> In curious Aquæducts by Nature laid
> To carry all the limpid Humour strain'd
> And from the Blood divided by the Gland;
> Which mingling Currents with the milky Juice
> Makes it more apt to flow, more fit for Use.
> These Liquors, which the wide Receiver fill,
> Prepar'd with Labour, and refin'd with Skill,
> Another Course to distant Parts begin,
> Thro' Roads that stretch along the Back within.
> (Blackmore, 1712, VI, ll.539-52)

This excerpt introduces the role of the "Lacteal Veins" (l.542) in the transportation of chyle, now a refined "limpid Humour"[39] (l.545). Keill (1703, p. 47) explains that the lymphatic system "dilutes and propels the Chyle forwards, and washes the Lacteals and Glands, that they may not furr, and be obstructed by the Chyle's staying in them." The lacteal veins also "have Valves at several distances," preventing "the Chyle from returning back into the Intestines." In this way, refined chyle can collect in what Blackmore dubs a "capacious Lake" (l.540), i.e., the *cisterna chyli*. As noted in Chambers's *Cyclopaedia*, this "Receptacle" (l.541) was discovered by the French physician Jean Pecquet (1622–1674). In his *Experimenta nova anatomica* (1651), he accurately described the *cisterna chyli* and the thoracic duct along with its valves, where the lymphatic system terminates into the left subclavian vein (Park & Riva, 2022, p. 2327). By the eighteenth century, the function of this structure was well understood. John Quincy described it as a small reservoir formed by the convergence of lacteals and lymphatic veins from the legs and abdomen:

[39] The term "lymph" derives from Greek and Roman roots associated with clear water (Natale, Bocci & Ribatti, 2017, p. 418).

> It seems to be indeed only a Bag [...] formed by the Union of these Vessels [...] [It] marches to the left Subclavian Vein [...] and the Chyle run[s] from underneath [a semilunar Valve], and mix[es] with the Blood in the Veins. (Quincy, 1736, pp. 236–7)

This anatomical understanding helped clarify how chyle entered the bloodstream and reinforced the growing knowledge of fluid circulation in the body. In *Creation*, the lymphatic vessels are referred to as the "useful Channel[s], lately known" (l.553), which "Assellius [...] first discover'd [...] in the Year 1622" (Keill, 1703, p. 47). Following Suy, Thomis and Fourneau (2016b), the discovery of the lymphatic system happened by chance thanks to the increasingly more widespread practice of vivisection or "fresh experiments,"[40] which led the Italian physician Gaspare Aselli (1581–1625) to propose that chyle (the milky substance) was absorbed from the intestines, then transported through lacteals to the liver for further processing. Indeed, Aselli saw the final action of lacteals as "the distribution of the chyle to the liver" (Park & Riva, 2022, p. 2326). This discovery fits into the broader theme of circularity which characterises the whole poem and the physiological processes illustrated in Book VI.

In these passages, key themes include the importance of heat and the continual regeneration of the body—particularly muscles and bones (ll.567-8)—as part of the body's ongoing organic processes. This idea is reinforced by earlier metaphors, such as the one in line 555, which accents the constant cycle of renewal. A case in point is the mention of "purple Pride" (l.570) and the metaphor of regality that echoes the treatment of blood regeneration (l.458) in the previous section of Book VI. All these choices convey an isotopy of health, vitality, and richness of life that is nurtured by ongoing physiological processes.

Lines 571 to 581 exemplify Blackmore's physico-theological perspective in the poem: he admires the intricate design of the human body, particularly those processes that enable it to absorb and distribute nutrients. The use of the adjective

[40] Park and Riva (2022) present Aselli's discoveries, which were published posthumously, and stress their importance. His work, along with later findings on the lymphatic system, would challenge and ultimately revolutionised the anatomical understanding of the circulatory and digestive systems. For centuries, the prevailing belief had been based on Galen's incorrect "hepatocentristic" theory, whereby food is absorbed by the intestines and passed directly into the liver via the portal vein, where it was transformed into blood. Through a key experiment, Aselli dissected a dog that had recently eaten and been killed. While examining the abdomen, he found several white vessels covering the mesentery and intestines. When he tried to puncture one, he observed the milky substance inside and realised that, contrary to what he believed, these vessels were not nerves. Aselli concluded they were lacteals, vessels responsible for carrying digested food (chyle) from the intestines and dubbed them "venae albae et lactae" in his *De lactibus, sive lacteis venis* (1627). While his findings were groundbreaking, they were not without misiterpretations. For instance, Aselli traced the lacteals to a group of mesenteric glands he called the "pancreas," now known as the "pancreas of Aselli," which still exists in some mammals. He mistakenly believed that the material collected in these glands flowed directly to the liver, the source of blood formation, overlooking the thoracic duct and claiming that the lacteals's final role was to distribute chyle to the liver. In 1652, William Harvey rejected Aselli's idea that lacteals transport chyle from the gut to the bloodstream. However, later observations, particularly in the latter half of the seventeenth century, validated Aselli's discovery. For instance, French physician Jean Pecquet accurately described the *cisterna chyli* and the thoracic duct in 1651, where the lymphatic system terminates in the left subclavian vein.

"proper" (l.572) regarding the type of nutrients ("Food," l.572) received by each body part emphasises the fitness and harmony of creation, whereby every component has a specific function and moves towards a precise end. For instance, in lines 573-4, the lyrical I mentions muscles and their fibrous composition. The explanation of muscular structure can be corroborated with John Quincy's *Lexicon Physico-Medicum* (1736), where muscles are described as "Bundles of thin and parallel Plates of fleshy Threads or Fibres" (p. 297). This order and aptness to complete its functions within the composition of the human body intensify Blackmore's wonder at the intricacy of nature. The anaphoric repetition of the word "how" (ll.571-8) increases the wonder at nature's complex design that the poet endeavours to communicate to his reader. This, and other rhetorical choices like chiasmi (l.575), alliterations (l.579), and antitheses (l.578), all enhance the climactic underlying tone of admiration before the delicate balance that constitutes the foundation of life. This passage culminates in a physico-theological conclusion:

> Here lost in Wonder we adoring stand,
>
> With Rapture own the wise Director's Hand,
>
> Who Nature made, and does her Works command.
>
> (Blackmore, 1712, VI, ll.579-81)

The structure of the human body is both beautiful and intrinsically functional. The final point to highlight is the role of "us," the beholders, in wondering at the divine intelligence responsible for nature's design. As Section 1.1 outlined, the idea of beauty and usefulness in nature is a typical feature of physico-theological texts, which argue that the efficiency and inherent order of nature indicate divine craftsmanship. Such considerations, however, were also typical of the natural philosophical texts of the age, which sought to conjugate scientific discoveries with Christian beliefs. For instance, in *A Medical-Philosophical Discourse of Fermentation* (1681), Willis frequently admires the "artfulness" of nature, and especially the body's part in promoting fermentation and digestion. To Willis, these mechanisms are classic examples of God's ingenuity and reveal the underlying purpose and order that directs physiological processes. Human knowledge, though celebrated, is also recognised as limited: Blackmore continues dealing with his "Theme as far [...] As learn'd Observers know, or think they do" (ll.582-3). These lines transmit a sense of scepticism towards all those scientific pursuits that ignore an overarching theological perspective. Despite advances in several branches of natural philosophy and physiology, a complete understanding of bodily processes remained elusive at the time. This reflects a broader theme found elsewhere in the poem (see Books I and II): the limitations of human understanding when faced with God's mastery in the creation of nature. Still, knowing how nature works inspires wonder and awe in the observer, which in turn is instrumental in nourishing one's faith. Therefore, natural knowledge should be promoted, and the overview of the human body resumes:

Mixt with the Blood in the same circling Tide
The Rills nutritious thro' the Vessels glide:
Those Pipes still less'ning as they further pass,
Retard the Progress of the flowing Mass.
The Glands, that Nature o'er the Body spreads
All artful Knots of various hollow Threads,
Which Lymphæducts, an Art'ry, Nerve and Vein
Involv'd and close together wound contain,
Make yet the Motion of the Streams more slow,
Which thro' those Mazes intricate must flow.
(Blackmore, 1712, VI, ll.584-93)

Arteries and veins are here described as "Vessels" (l.585), "Pipes" (l.586), and "hollow Threads" (l.589), whose progressively smaller diameter slows blood in its course. As previously mentioned, the metaphor of the tide concerning blood circulation also recurs in Book VI and it bridges the circularity of the human microcosm with that of the natural macrocosm of creation. The organicity of Book VI is guaranteed by the numerous internal cross-references such as this, which mimic on a formal level the circularity of the illustrated physiological processes, thereby forming a perfectly tuned natural system.

The slowing of the blood due to the contraction and expansion of blood vessels is consistent with the vascular physiology introduced by Harvey. Its nutrients are thus spread across the whole body according to the necessity of each part:

And hence it comes the interrupted Blood
Distends its Channels with its swelling Flood.
Those Channels turgid with th' obstructed Tide
Stretch their small Holes, and make their Meshes wide,
By skilful Nature pierc'd on ev'ry Side.
Mean time the labour'd Chyle pervades the Pores
In all th' arterial perforated Shores.
The liquid Food, which thro' those Passes strives,
To ev'ry Part just Reparation gives:
Thro' Holes of various Figures various Juice
Insinuates, to serve for Nature's Use.
(Blackmore, 1712, VI, ll.594-604)

This excerpt follows the progression of refined digestive matter through the body's channels to nourish and restore different body parts. The expression "labour'd Chyle" (l.599) hints at the continuous process of digestion and circulation while also suggesting the transformative role of chyle in sustaining life. The "liquid Food" (l.601) is personified as "striving" to reach different parts of the body. The fitness (ll.603-4) of each part of the body for its specific function suggests a teleological view of nature: the body's various components are uniquely adapted for their roles. Lines 605-8 provide concrete examples of how this nourishment is distributed, drawing from observations of bodily functions: the "softer Fibres" (l.605) are sent to the flesh, while "tough and strong" fibres (l.607) are directed to the sinews,[41] and the "harder" (l.608) portions are conveyed to the bones.

Peh (2022) remarks that in analysing the human body in *Creation*, Blackmore pays particular attention to the underlying regularity of the digestive system. He describes the human body in all its details and awe-inspiring views in an aesthetic manner, as if it were a landscape. The literary techniques applied throughout this section—metaphors, alliterations, anaphoras, and parallelisms—underscore the dynamic yet regular workings of the human body. For instance, the repeated use of alliteration accentuates the rhythmic and orderly quality of physiological processes. Every element serves a purpose, and Peh (2022, p. 43) asserts that "Blackmore takes care to underline [...] that the human body inspires wonder [...] because of how perfectly its disorderliness is subsumed under a system of order." As a case in point, the scholar quotes some lines describing digestion and praising

> With vital Cement how th' Extreams are fix'd;
>
> How they agree in various Ways to join,
>
> In a transverse, a straight, and crooked Line
>
> (Blackmore, 1712, VI, ll.576-8)

According to Peh (2022), this passage is emblematic of Blackmore's overarching attitude in the poem. While he acknowledges the presence of irregularities in nature, such as the "crooked Line" quoted above, he is still able to identify the general order of natural phenomena. The scholar claims that "[t]he identification of orderliness [...] depends upon an observer interpreting disorder appropriately" (Peh, 2022, p. 43). The same observation is also true of the poet's general attitude towards the whole of creation, as expressed in previous books. Book I is emblematic of this (see Sections 2.2.1 and 2.2.2). He celebrated the beauty and usefulness of the mountains, despite their perceived imperfections, and of the crooked course of rivers:

[41] Chambers' *Cyclopaedia* (1741) defines the term "sinew" as "what we call a *nerve*; though in common speech it is rather used for a *tendon*." That is, to use Quincy's definition:

> Tendon, from tendo, to stretch, is the Extremity of a Muscle, where its Fibres run into a strong springy Chord; and this is called the Head or Tail, as it happens to be at the Origin or Insertion of the Muscle. (Quincy, 1736, p. 441)

> See how the Mountains in the midst divide
> The noblest Regions, that from either side
> The Streams, which to the Hills their Currents owe,
> May ev'ry way along the Vally flow,
> And verdant Wealth on all the Soil bestow.
> (Blackmore, 1712, I, ll.488-92)

Water is the vital element that providentially allows for life on Earth, and the crooked course of streams enables them to reach wider surfaces, distributing water everywhere. Similarly, the section devoted to digestion encourages a reflection on the body's remarkable capacity for self-regulation, repair, and nourishment, as all these processes are presented as finely orchestrated and purposeful.

At last, the passage on digestion concludes with a reflection on the limits of human understanding:

> But what the Mass nutritious does divide,
> To diff'rent Parts the diff'rent Portions guide;
> What makes them aptly to the Limbs adhere,
> In Youth augment them, and in Age repair,
> The deepest Search could never yet declare.
> (Blackmore, 1712, VI, ll.609-13)

Blackmore reminds his readers of the finite outreaches of human inquiry: the mysterious, complex workings of the body continue to elude complete explanation. While science can observe and describe processes, the full understanding of the body's processes remains beyond our full grasp and we can only admire them and their Creator.

In sum, in Book VI digestive processes are described resorting to both mechanistic and chemical explanations. Blackmore dwells on the chemical changes at play in digestion, highlighting the importance of heat and various fluids, while also referring to the mechanical action of muscles and fibres, which enable food to move through the stomach and intestines. Hence, he maintains an ambiguous stance regarding digestion, for he combines mechanical with chemical explanations. In this way, he mirrors the state of knowledge on the topic of this day. Digestive processes remained to a great degree a "mystery" in the eighteenth century (Gouseti, 2019, p. 6). In his *Cyclopaedia*, Chambers (1741) commented that "the cause, manner, and means of Digestion, have been infinitely controverted" and a lot of different "systems" have been proposed. These "are now reduced to three principal ones; which we still find explained, and defended in the several writings on that subject: the first holding Digestion to be performed by fermentation; the second by trituration; and the third by fermentation and trituration together." Reflecting on the perception of digestion in

early modern science and medicine, Williams (2022) recognises a shift in the evolution of the iatromechanical understanding of digestion. While in the late seventeenth and early eighteenth centuries, mechanistic theories compared digestion to mechanical processes driven by matter in motion, during the eighteenth century, vitalist theories started to prevail. These viewed digestion as driven by a "vital principle" that guided nutrient absorption and altered the way in which physiological processes were understood. In conclusion, while Blackmore's *Creation* still shows vestiges of Galenic learning on digestion, nutrition, and bodily physiology, it also incorporates more modern advancements.

3.1.4 The Nervous System

Studies in neurology and neuroanatomy existed since classical antiquity and persisted through the Late Renaissance. In their illustration of this journey, Ghosh and Narayan (2020, pp. 268–71) show that the history of neurological research traces back to the Golden Age of Greek civilisation, with Hippocrates and Herophilos (fourth-third century BC) as key contributors. Hippocrates was the first to understand the role of the brain in regulating emotions and body functions. This notion was later challenged by Aristotle, who believed that the heart was the actual seat of these activities. According to Aristotle's *De Anima*, which was employed in the teaching of psychology until the rise of modern science, the highest faculty of reason was located in the heart, not in the brain (Ochs, 2004, pp. 18–20). The soul is the prime agent for motion, and what the Greek philosopher called pneuma was its instrument. For centuries, the study of the nervous system was dominated primarily by Galen's theories, based on rudimental animal dissections. Although they were widely employed even in university syllabi, they were not always correct. Indeed, as Guy (2006, p. 18) states, "Galen's work, often from poor and derivative translations, had become crystallized into systems and condensed into handbooks during the Middle Ages. He, Hippocrates and Aristotle were the medical authorities in an authoritarian society." After the time of Galen, little progress was made and it was only during the European Renaissance that the interest in the study of the brain began to regain momentum. In the fifteenth century, Leonardo da Vinci (1452–1519) advanced the understanding of brain anatomy by making accurate diagrams of the brain, spinal cord, cranial nerves, and ventricular system. Then, in the sixteenth century, Andreas Vesalius's dissections, published in the book *De humani corporis fabrica* (1543), provided a more accurate description of the brain's structure and challenged some of Galen's anatomic teachings (Grand, 1999). Vesalius demonstrated that nerves originate in the brain, much like the aorta in the heart and the vena cava in the liver (Ochs, 2004, p. 57). The function of nerves was to deliver the animal spirits prepared in the brain to the muscles.

According to Smith (2009, p. 107), however, although interest in the brain and the mind existed even before then, "it was not until the 18th century that the first

glimmerings of a true understanding of the underlying neuroanatomy and neurophysiology became available." Isler (2009) situates the birth of neurology within the intellectual, political, and religious upheavals of the late seventeenth century, mainly thanks to Thomas Willis's seminal research. His *Cerebri Anatome*[42] (1664) was the first systematic study of the brain, and it introduced "neurology" as a term in medical studies.[43] His main bequest lay in the classification of cranial nerves[44] and the attempt to assign functions to various anatomic components and structures[45] (Grand, 1999; Eadie, 2003). The intellectual and medical *milieu* of the time created fertile ground for advancements in brain science: Willis and his contemporaries were influenced by the dialectics between the prevailing Aristotelian and Galenic traditions and the new experimental philosophy. Indeed, Willis's "main contribution was in bringing the experimental approach to the analysis of the nervous system, as Harvey just before him had done for the circulatory system" (Rose, 1999, p. 1). As Brazier (1984, p. 53) maintained,

> [w]ith the movement away from explanation derived from argument and logic that came with recognition of experimental testing of hypotheses, atomism appealed to 17th century explorers now seeking a mechanistic explanation of the nervous system. For those studying the human brain,

[42]The treatise and its medical theories were supported by two additional works by Willis, namely *Pathologiae Cerebri et Nervosi Generis Specimen* (1667) and *De Anima Brutorum* (1672). It is interesting to notice with Caron (2015, p. 531) that all of Willis's neurological works were dedicated to Archbishop Sheldon, which would support the theory whereby Willis's intention was to align his scientific discoveries with the ideological and political goals of the Restoration Church.

[43]In Chapter XVIII of *Cerebri Anatome*, Willis employed the Greek term νευρολογία (Willis, 1664, p. 229)—that is, neurology—and defined it as "the Doctrine of the Nerves" (Willis, 1681b, p. 123). According to Molnar (2004), it was Willis's integration of clinical observation, dissection, and rigorous documentation that succeeded in establishing neurology as a scientific discipline.

The OED mentions 1670 as the first registered use of the term:

1670 The accurateness of his [*sc*. Dr. Willis'] *Neurology* equals to the best Inventors.
H. Stubbe, *Legends No History* 95

See "Neurology, N., Sense 1.a." Oxford English Dictionary, Oxford UP, July 2023, https://doi.org/10.1093/OED/1043031848.

[44]To this, Willis devoted the entire second half of *Cerebri Anatome*. In "The Description and Use of the Nerves," each chapter describes one of more of the nine pairs of nerves: chapter XXI focuses on the first pair, chapter XXII on the fifth, sixth and seventh, chapters XXIII and XXIV on the eighth, chapter XXV, XXVI, and XXVII on the intercostal nerve, chapter XXVIII on the spinal nerve and the nerve of the diaphragm, chapter XXIX on difference between the nerves of the wandering and intercostal pair in man and beasts. Six of the nerves classified by Willis are still classified in the same way today (Wilson, 2012, p. 129). For a more detailed description of Willis's classification, see Storey (2022, pp. 269–70) and Tubbs (2009).

Storey (2022) explains that starting from the second century AC, cranial nerve classification evolved. First, Galen described seven pairs of "cerebral nerves" based on animal dissections and this categorisation was kept by Vesalius. Then, Willis defined nine cranial nerves in his *Cerebri Anatome*. Finally, in 1778, German physician Samuel Thomas Soemmerring (1755–1830) classified twelve cranial nerves and his doctoral thesis, *De basi encephali et originibus nervorum cranio egredientium*, provided the foundation for the modern nomenclature.

[45]Ochs (2004, p. 76) explains that "Willis reassigned the functions that had classically been associated with the ventricles in the old cell theory to certain brain regions: perception to the *corpora striatum*, imagination the *corpus callosum*, memory the *gyri* of the cerebral hemispheres, and instinct the midbrain."

For a more detailed survey of the evolution of this concept, see Sutherland-Foggio (2017).

> this was part of the move away from Aristotelian teachings and the belief that the brain played only a secondary role, functioning merely to condense the hot vapors coming from the heart.

The portion of *Creation* devoted to the nervous system is probably one of the most interesting and state-of-the-art. The poem was written during what was dubbed an "age of transition" in neurophysiology (Smith, 2009, p. 112), when new microscopic observations and empirical experimentation opened up new routes for investigating human physiology.

As the previous Sections 3.1.2. and 3.1.3. elucidated, in Blackmore's physiological understanding of the human body, circulatory, digestive, and neurological faculties were deeply interconnected. The poet marvels at the intricate design and mechanism of the nervous system:

> Nor less Contrivance, nor less curious Art
> Surprize, and please in ev'ry other Part.
> See, how the Nerves with equal Wisdom made,
> Arising from the tender Brain, pervade
> And secret pass in Pairs the channell'd Bone,
> And thence advance thro' Paths and Roads unknown.
> Form'd of the finest complicated Thread,
> These num'rous Cords are thro' the Body spread.
> A thousand Branches from each Trunk they send,
> Some to the Limbs, some to the Bowels tend.
> Some in strait Lines, some in Transverse are found,
> One forms a Crooked Figure, one a Round.
> The Entrails these embrace in spiral Strings,
> Those clasp th' arterial Tubes in tender Rings:
> The Tendons some compacted close produce,
> And some thin Fibres for the Skin diffuse.
> (Blackmore, 1712, VI, ll.614-29)

This physico-theological opening already condenses much of what Blackmore would discuss in the following lines. First of all, parallelism and alliteration (l.614) communicate a strong admiration for the complexity of the human body (ll.614-5), and the symmetry and balance of the described system. The choice of words suggests that this balance is not just mechanical: the body's structure and functions are the result of deliberate and purposeful creation. The nerves are "with equal Wisdom made." In John Quincy's *Lexicon Physico-Medicum* (1736), a nerve is defined as

> a long and small Bundle of very fine Pipes or hollow Fibres, wrapp'd up in the Dura and Pia Mater; which last not only covers them all in common, but it also incloses every fibre in particular.
>
> The Medullary Substance of the Brain is the beginning of all the Nerves; and 'tis probable, that each Fibre of the Nerves answers to a particular Part of the Brain at one End, and to a particular part of the Body at its other End, that, whenever an Impression is made upon such a Part of the Brain, the Soul may know that such a Part of the Body is affected. (Quincy, 1736, p. 328)

Quincy's *Lexicon* was an encyclopaedic work aimed at a large but moderately learned audience. It would be interesting to compare his definition to the one offered by Irish botanist and physician Henry Nicholson (c. 1681–1715/1721) in his much more popular *A Brief Treatise of the Anatomy of Human Bodies,* published only a few years before *Creation* saw the press:

> the Nerves [...] are a complication of the finest and most subtile Fibers, fill'd with the most volatile Spirit to receive Matter which the Arteries have strain'd by the Brain [...] and fitted for the nourishment and increase of Spirit. (Nicholson, 1709, p. 5)

Blackmore describes the nerves in a similar manner: they arise "from the tender Brain" (l.617), travel in pairs, "passing through the channell'd Bone" (l.618)—likely the spine. At that time, nerves were believed to emerge symmetrically from the vertebrae. Hence, this notion reflects the anatomical discoveries published in recent studies. A case in point is the work of Thomas Willis, who investigated cranial and spinal nerves and described their function in the second half of his *Cerebri Anatome*. He assumed that the nervous system was a continuous set of hollow tubes, filled with spirits. The most refined type of spirits moved continuously through the nervous system in a tonic motion. He believed they were distilled from the blood in the brain during its constant circulation throughout the body (Caron, 2022). The use of the term "fibre" in the passage above is also revealing. Ishizuka (2012, pp. 563–5) explains that in the early eighteenth century, medical discourse was dominated by fibre-related vocabulary, which included words such as "membranes," "web," "weaving," "vibrating," "folding," and "tone." All these terms, he claimed, were central to the medical understanding of the body as a "Fibre Body." This view was first articulated by Nehemiah Grew. In his *Anatomy of Plants* (1682), he maintained that the body of plants was composed of fibres, a theory that was extended to human anatomy by the end of the seventeenth century when fibres became the body's basic units (Ishizuka, 2022). During the so-called "age of iatromechanism," which saw the emergence of the body as a hydraulic machine composed of pipes through which fluids circulated, the fibre-based understanding of the body had a certain traction (Ishizuka, 2012, p. 570).

Blackmore continues by saying that "the finest complicated Thread[s]" (l.630) of the nerves spread throughout the body in a vast network, reaching every limb and organ. In doing so, nerves stretch in "a thousand Branches" (l.622), an image that evokes the research of early anatomists such as Vesalius and Malpighi, and Thomas Willis (see Figure 3.2 and Figure 3.3).



Figure 3.2: Figures I and II from *Cerebri Anatome*, illustrating respectively the "Branchings of the fifth and sixth pair of Nerves" and "all the Nerves, which being carried from the Nerves of the third, fourth, fifth, and sixth Pair, are bestowed upon the Muscles and other parts of the Eye" (Willis, 1681b, pp. 144–5). The illustrations of the brain and nerves in *Cerebri Anatome*, which many attributed to Christopher Wren, were unprecedented in their detail and accuracy (Arraez Aybar, Navia Alvarez, Fuentes Redondo & Bueno Lopez, 2015, p. 296).

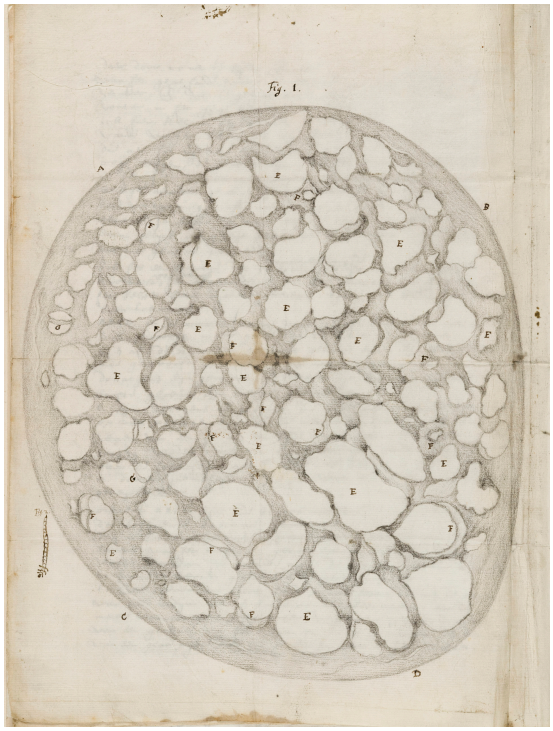


Figure 3.3: This image shows a section of a cow's optical nerve and the structure of the channel, with larger and smaller openings, drawn by an anonymous artist in Delft under Antoni van Leeuwenhoek's direction. The illustration was based on one of Leeuwenhoek specimens, collected by drying and slicing the nerve. The drawing was sent to Henry Oldenburg at the Royal Society with a letter dated December 4, 1674 (Leeuwenhoek, 1674).

To reach every part of the body, nerves take various paths, forming straight lines, transverse configurations, and circular patterns. In their allocated site they perform a handful of functions:

> These subtle Channels, such is ev'ry Nerve,
>
> For vital Functions, Sense, and Motion serve.
>
> Included Spirits thro' their secret Road
>
> Pass to and fro, and thro' the Veins the Blood.
>
> (Blackmore, 1712, VI, ll.630-3)

The nerves are at the helm of sensation and motion, but they are also responsible for several bodily functions, such as "mak[ing] the beating Muscle play" (l.635). According to the Italian anatomist Andrea Vesalius, nerves originate in the brain and serve as its "diligent servants and messengers" delivering animal spirits to muscles (Ochs, 2004, p. 57). Besides the heart, they also reach the spleen, the liver, the lungs, and the stomach, where

> They help to labour and concoct the Food,

> Refine the Chyle, and animate the Blood:
> Exalt the Ferments, and the Strainers aid,
> That by a constant Separation made,
> They may a due Oeconomy maintain,
> Exclude the noxious Parts, the good retain.
> (Blackmore, 1712, VI, ll.638-43)

The nerves ensure the correct workings of bodily functions and the preservation of the physiological economy. As elsewhere in Blackmore's medical writings, these lines combine ancient notions of Galenic origin[46] with more recent scientific discoveries. The description of nerves as "subtle Channels" (l.630) responsible for perception and sensation aligns with prevailing physiological theories of the time. For instance, John Quincy's *Lexicon Physico-Medicum* (1736) describes sensation as resulting from "the immediate Action of the finer and more fluid Parts of the Bodies upon the Organs of Sense" (p. 414).

Animal spirits are central in the present discussion. Their notion originated in Galenic physics and was modified in the late seventeenth century by figures such as Descartes and Willis. This period witnessed a transition from the belief in spirits as a quasi-mystical force travelling through the body to a more mechanistic understanding of nervous fluid as an essential physiological component. Willis's *Cerebri Anatome* (1664) was pivotal in this transition and served to clarify the action of nerves in controlling motion and sensation. He describes how "animal Spirits, flowing into the nervous stock from the Brain and Cerebel, pass through this passage [the oblong marrow], as it were the high road" (Willis, 1681b, p. 89). Moreover, his belief that "the blood is itself the matter out of which the animal Spirits are drawn" (p. 87) supports Blackmore's intertwined view of the circulatory and nervous systems. According to one of the physician's later works, the "Animal Spirits" are the "Inmates," the "volatile Guests" of the "Nervous System" (Blackmore, 1725c, p. 30) and they are created from blood. Once distilled,

> they are conveyed and pushed into the Mouths of the Neves that have their rise there; whence, with a swift Descent, they shoot thro' the strait Roads of the hollow Fibres, and while, with astonishing Celerity in their reciprocal Motions from and to the Head, they pervade the perplexed Ambages and numberless Windings in their way thro' the Glands, Membranes and nervous Clues in the various organs of the Body, they are yet

[46] A case in point is a passage from his *Treatise of Consumptions and other Distempers belonging to the Breast and Lung*s (1725), where he wrote about humours in relation to atrophy:

> Sometimes it proceeds from degenerate and vitiated Humours, especially an immoderate Quantity of bitter Bile or Choler, communicated to the Stomach from the Blood, or from Crudities, the undigested Leavings of Meats and Liquors, which the depraved Ferments were unable to convert into Chyle. (Blackmore, 1725b, p. 39)

> more refined and expanded till they attain the highest Degree of Animal Perfection. [...] This fiery Matter subtiliz'd and highly rectified and incorporated with the Streams that flow thro' the Mazes of the nervous Branches dispersed over the Body, and often repeating the Stages of their circling Course with astonishing Celerity, become fit to constitute in part the fine Matter we call Animal Spirits.[47] (Blackmore, 1726, pp. 7–8)

By that time these views were quite widespread and generally accepted. Unlike earlier theories that attributed the production of neuro-active fluids to the digestive and circulatory systems, Willis proposed that it was the cerebral cortex that transformed blood into nervous juice (Rose, 1999, p. 24). A significant passage from Chapter VI of *Cerebri Anatome*, "Of the Offices of the Brain and its Parts," explains this:

> For indeed the blood being carried towards the Head, as it abounds very much in Spirit, so in Salt; its Particles highly volatile, being joyned to the Spirits, are bestowed on the brain, in the mean time, the saline little bodies, which are of a more fixed nature, being thrust out into the circumference, from the Spirit implanted in the Brain, constitute the stony Skull, as were a bubble covering inclosed wind. (Willis, 1681b, p. 78)

In the poem, Blackmore never comments on the creation of the skull; nevertheless, he is interested in the formation of animal spirits. These are perhaps the most important bodily elements introduced in Book VI:

> From this o'erflowing Tyde the curious Brain
>
> Does thro' its Pores the purer Spirits strain;
>
> Which to its inmost Seats their Passage make,
>
> Whence their dark Rise th' extended Sinews take.
>
> With all their Mouths the Nerves these Spirits drink,
>
> Which thro' the Cells of the fine Strainer sink.
>
> These all the channel'd Fibres ev'ry way
>
> For Motion and Sensation still convey.
>
> (Blackmore, 1712, VI, ll.370-7)

[47] In *A Treatise of the Spleen and Vapours: or, Hypocondriacal and Hysterical Affections* (1725, p. 39), Blackmore had also explained that:

> Nor is the Event otherwise in the Brain, when the strait and narrow Meshes of that wonderful Structure become too lax and wide; for then, besides the purer, more subtile, and volatile Parts of the Blood, which are separated by that exquisite Strainer, to be exalted, sublimed, and converted into animal Spirits, the active Ministers of the Fancy and Imagination, as well as of the inferior and sensitive Government, an inordinate Measure of serous Parts are admitted.

These lines condense a popular late seventeenth-century belief in the formation of animal spirits. According to this theory, a filtration in the brain, a process similar to those performed by the glands of the digestive system (see Section 3.1.3), would be responsible for this. The above-quoted excerpt should be read as a condensed versification of Chapter IX of *Cerebri Anatome*, which "[s]hews by what provision, and in what places of the Head the Animal Spirits are begotten." Willis (1681b, pp. 88–9) posits that blood, "as it were a Chymical work prepared," is transported to the head via the arteries, where it "cover[s] all the heights of its compassings about or gyrations, and also all its crevices and their gapings and recesses." This widespread distribution ensures that the "matter to be distilled into the Head" is brought "every where through the whole circumference of the Brain and Cerebel nigh the Cortical substance." Within the narrow confines of the vessels, blood is refined, becoming "extremely subtle, as much as may be, in its liquor." The purified and spirituous part of the blood is then "infilled more deeply into the very Pores and passages of the Brain and Cerebel; which presently flowing from the Cortical substance into the medullary, there exercise the gifts of the animal Function." Willis stresses that animal spirits are "only procreated in the Brain and Cerebel," from whence they "flow out into all the rest of the parts, and irradiate, by a constant influence, the whole nervous stock." Animal spirits were thus a vital player of human economy and their further importance will emerge later in the poem.

Blackmore's depiction of nerves that "move and make the beating Muscle play" (l.635) also resonates with William Harvey's discoveries on blood circulation in *De Motu Cordis* (1628), which demonstrated that nerves stimulate heart contractions. Yet, the poet also engages with Descartes's mechanistic model, in which the body functions like a machine controlled by the soul through the pineal gland (Ochs, 2004, p. 64). In his treatise on the physiology of man, the French philosopher compared nerves to mechanical ropes that control brain valves and regulate the flow of spirits that influence the pineal gland and the immaterial mind—the *res cogitans* (Bigotti, 2020). He proposed that "animal spirits" were the most refined blood particles, which transmitted sensory inputs and directed movements when reaching the pineal gland.[48] His description of "les plus vives, les plus fortes, et les plus subtiles parties

[48] Brazier (1984, p. 21) explains Descartes's theories of perception in more detail: "Extracting from the treatise on the physiology of man, Descartes' model of the nervous system incorporates some traces of the ancients, though these were overshadowed by novel proposals. Discarding Galen's doctrine of humors (but accepting the concept of hollow canal-like nerves), he believed in the ultimate fractionation of body fluids into minute particles ("petites parties") always in motion, a variant of the Epicurean theory of the atomists as embraced by Gassendi and Charleton. He held that some of these particles (the motion of which is "God-given") are filtered out of the blood as it passes through the various organs, only the finest, the most rarified distillate, remaining to reach the pineal. It is these, "les plus vives, les plus fortes, et les plus subtiles parties de ce sang," that bring sensation to the cavities of the brain where they produce "un vent trés subtil, ou plutot une flamme trés vive et trés pure, qu'on nomme les Esprits Animaux." These subtle spirits, to which he gives only an efferent role, are the masters of the nervous system (their name being derived from the Latin for a current of air, and in no way denoting feral). The spirits gather in the pineal body, the tiny organ that later in the development of Descartes' treatise is found to be (only in man) the seat of the soul. Pictured many times by the illustrators of

de ce sang" (Rose, 1999, p. 21) mirrors Blackmore's references to refined chyle and vital spirits that "[e]xalt the Ferments" (l.641) and "animate the Blood" (l.640). This imagery of spirits circulating through veins and arteries (ll.633-4) implicitly challenges Galenic models of muscular contraction. In the seventeenth century, Nicolaus Steno had questioned Galen's long-standing view that muscle movement resulted from the flow of animal spirits inflating muscles (Brazier, 1984, p. 47). While Blackmore's poem retains elements of traditional spirit-based physiology, it also engages with new anatomical knowledge, reflecting a period of transition.

At the turn of the century, physicians believed in an integrated physiological system in which nerves and blood vessels worked in concert to enable vital functions. These vital functions were performed thanks to the animal spirits strained in the brain,[49] filtering blood to extract "the finest and most subtile Parts, called animal Spirits" (Quincy, 1736, p. 59). Unlike previous theories that attributed the formation of neuro-active juices to digestion and circulation, Willis argued that the cerebral cortex was responsible for their production, regulating their sequential transmission through nerves (Rose, 1999, p. 24). The resulting picture is congruent with the poem's broader physico-theological vision of "a due Oeconomy" (l.643) in nature: the proper circulation and refinement of vital fluids regulate bodily functions.

Hence, animal spirits are the central force in the picture of the human body that Blackmore paints here. According to Isler's account, up to the mid-eighteenth century everyone believed that Galen's animal spirits carried out the functions of nerves (2009, p. 93). Then, in the late seventeenth century, Willis offered groundbreaking new descriptions of the brain and nervous system; Descartes also adopted this view in his *Traité de l'Homme*, and one of Willis's pupils, John Locke, took notes during his lectures.[50] These documents are a precious source of information, as they helped clarify Willis's views on fibres in connection to nerves. Willis described fibres as distinct from nerves, arguing that while animal spirits flowed continuously through the nerve

the various editions of Descartes' treatise, this gland is represented incorrectly as standing on the floor of the ventricle. As almost none of the plentiful illustrations were drawn (or even seen) by Descartes, being pictorial renderings of the illustrators' interpretations, he should not be held responsible for this anatomical error, and, in fact, he himself describes the pineal as suspended between the ventricles that contain the animal spirits.' The pineal arises in the midline as a neuroectodermal process from the roof of the diencephalon."

According to Caron (2022), instead of trying to explain living systems through the concept of a soul, Descartes preferred to apply a consistent set of physical laws to both animal and celestial movements. In his mechanistic view of the world, he saw them as reducible to the shape and motion of mere matter.

[49]This description is remindful of Willis's comparison of the distillation of animal spirits from blood to the "extraction of a chemical elixir" (Willis, 1681b, p. 110).

[50]It is interesting to note that Locke is today remembered as a philosopher. Regarding the use of this word, Rogers (2016, p. 320) explains that "the term science acquired its modern specialized sense (limiting the concept to a particular area of knowledge) in a very gradual process—the earliest instance cited by OED comes from Isaac Watts's *Logic* in 1725. We should remember, too, that the word philosopher entered the language via Anglo-French in the fourteenth century, while scientist had to wait until 1840 to make its appearance. John Locke, the greatest thinker of his age, was sometimes called a philosopher in his own day, but that expression did not instantly filter out his work as physician, psychologist, economist, educationalist, theologian, or sociologist (to employ modern terms). The word did not in itself point to the branch of learning that modern philosophers study."

tubules, they did not inflate the fibres, which, instead, acted as reservoirs where spirits were stored until activated by signals from the brain (Brazier, 1984, p. 64). This dualistic model might explain Blackmore's description of the spirits' journey in *Discourses on the Gout, Rheumatism, and the King's Evil*:

> they [the animal spirits] are conveyed and pushed into the Mouths of the Nerves that have their rise there; whence, with a swift Descent, they shoot thro' the strait Roads of the hollow Fibres. (Blackmore, 1726, p. 7)

Here, the physician captured the rapid movement of spirits through nerves, membranes, and glands, where they underwent further refinement until they reached "the highest Degree of Animal Perfection." Blackmore also insists on the fiery and volatile nature of animal spirits when he describes them as "subtiliz'd and highly rectified and incorporated with the Streams that flow thro' the Mazes of the nervous Branches dispersed over the Body" (Blackmore, 1726, p. 8). This is consistent with seventeenth-century physiological theories that compared the refinement of spirits to a distillation process. Willis himself drew an analogy between the production of animal spirits and the workings of an alembic, wherein the heat of circulating blood facilitated their separation and purification (Willis, 1681b, pp. 88–9).

After introducing the centrality of animal spirits, Blackmore reflects on the nervous system, identifying two different kinds: an unconscious nervous system (ll.644-6) and a conscious nervous system (ll.647-51):

> Yet we these wondrous Functions ne'er perceive,
>
> Functions, by which we move, by which we live:
>
> Unconscious we these Motions never heed,
>
> Whether they err, or by just Laws proceed.
>
> But other Spirits govern'd by the Will
>
> Shoot thro' their Tracks, and distant Muscles fill.
>
> This Sov'raign by his arbitrary Nod
>
> Restrains, or sends his Ministers abroad.
>
> (Blackmore, 1712, VI, ll.644-51)

In *Cerebri Anatome*, Willis established this distinction from a physiological point of view, identifying the cerebellum as the seat of involuntary movement and the cerebrum as the centre of voluntary control (Oakes et al., 2016, p. 2305). Meier (1982, p. 104) remarks that Willis distinguished between two kinds of animal spirits, namely the cerebral spirits, controlling voluntary movements, and the cerebellar spirits, governing involuntary functions.[51] This distinction was crucial for understanding sympathetic interactions between conscious and unconscious processes. The *corpora quadrig-*

[51] Sheehan (1936) explains that Willis was actually one of the first to propose a distinction between

emina in the brainstem functioned as a site of communication between voluntary and involuntary nerves (Meier, 1982, p. 105).

This understanding appears consistent with the growing early eighteenth-century recognition of an involuntary nervous system governing essential bodily functions, much like the autonomic system later described by French anatomist Marie François Xavier Bichat (1771–1802) (Oakes et al., 2016; Isler, 2009). Although Galen already reflected on the autonomic nervous system, significant advancements occurred with the work of Willis. The above-quoted excerpt from *Creation* thematises another of Willis's revolutionary notions: nerves could actually function without direct cerebral input, for the physician described the sympathetic nervous system as a separate but interconnected system capable of autonomic control. In Chapter XV of *Cerebri Anatome*, Willis proposed that the cerebellum (or "Cerebel") functions as a separate source of animal spirits distinct from those of the brain. While the brain governs higher functions like imagination, memory, and voluntary motion, the cerebellum is responsible for involuntary actions such as heartbeat, respiration, and digestion—activities "performed without our knowledge or care." He argues that it is more fitting for these automatic functions to be governed by the cerebellum rather than the brain, which is often disturbed by "Passions and Cogitations" (Willis, 1681b, p. 111). In the following chapter, he clarifies that the cerebellum's role is "to procreate animal Spirits apart from the Spirits begotten in the Brain, and to dispense them into the Nerves, the Executors of the involuntary Actions and Passion" (p. 114).

While not equally precise, Blackmore demonstrates an awareness of these distinctions. To make them even clearer, he also provides examples of voluntary and involuntary motion in lines 652 to 663. First, he mentions those motion involving "Spirits" obeying the mind. These views were common at the turn of the eighteenth century, when mechanical natural philosophers viewed the body as a machine, with the nervous system as a system of pulleys and levers controlled by the brain:

> Swift and obedient to his high Command,
>
> They stir a Finger, or they lift a Hand;
>
> They tune our Voices, or they move our Eyes;
>
> By these we walk, or from the Ground arise:
>
> By these we turn, by these the Body bend;
>
> Contract a Limb at Pleasure, or extend.

"involuntary" and "voluntary" actions. Involuntary actions were attributed to the cerebellum, which generated "animal spirits" responsible for these involuntary actions. On the other hand, the cerebrum was associated with voluntary actions. This notion rested on four key observations: nerves arising from the cerebellum were distributed to organs involved in involuntary actions; the size and development of the cerebellum in animals correlated with their involuntary functions rather than their voluntary behaviours; experimental injury to the cerebellum in animals often resulted in the cessation of involuntary actions such as heartbeat and respiration;Clinical observations of cerebellar damage indicated disruptions in unconscious bodily functions, such as irregular heartbeat and respiration.

> And tho' these Spirits, which obsequious go,
> Know not the Paths, thro' which they ready flow,
> Nor can our Mind instruct them in their Way,
> Of all their Roads as ignorant, as they;
> Yet seldom erring they attain their End,
> And reach that single Part, which we intend.
> (Blackmore, 1712, VI, ll.652-63)

The parallelism in these lines enhance the role that nerves play in motion. They operate autonomously, "[u]nguided" (l.664) in their ability to distinguish which muscle to activate or relax, though directed by the "Spirits" (l.668) sent by "[o]ur Will" (l.667) to "exert their Pow'r" (l.669). The isotopy of command underlines the task of the mind in determining voluntary motion, also suggesting an early grasp of what we now understand as the somatic nervous system, responsible for controlling voluntary muscle movement. Willis argued that nerves from the cerebrum acted like messengers, transmitting commands to muscles, much like a sovereign dispatching orders. He believed that these impulses travelled through a series of nerve fibres and ganglia (Oakes et al., 2016, p. 2305):

> besides the Nerves themselves, Fibres also being dispersedly interwoven in the Membranes, the musculous Flesh, the Parenchyma, and other parts, and united in the Tendons, are the Organs of tense and motion. Yea, the acts of their faculties are principally and more immediately executed by the Fibres than the Nerves; for they, by drawing together the Muscle and other motive parts, cause the motion it self ; but the Nerves only carry from the Head the instinct for the performing of that motion. In like manner, in Sensation the Fibres receive first of all and immediately the impressions of sensible things, and express the same (as musical strings do the strikings of a quill or fingers) by an intrinsecal modification of the Particles, and represent the various approaches of the object by the like motion of the Fibrils, as by a moveable and fluid Character, whole Idea the Nerves transfer only to the Head. (Willis, 1681b, p. 128)

The reflection on the workings of muscle contraction had ancient roots. According to Ochs (2004, p. 31), "Galen, as did the Alexandrians, clearly distinguished nerves from tendons and ligaments, and knew that a muscle's action is dependent on its innervation." Galen was convinced that the flow of animal spirits caused muscular contraction: they moved down the nerve from the brain to inflate the muscle (Brazier, 1984, p. 47). Interest in this matter endured, with Galenic explanations prevailing for centuries. At the turn of the eighteenth century, several physiologists were

attempting to unravel the enigma of muscle contraction (Ochs, 2004, pp. 81–2). Brazier (1984, pp. 53–90) reviews several positions that natural philosophers and physicians assumed on this matter. For instance, Descartes believed that muscle contraction occurred through the inflation of muscles with "animal spirits," which caused their flexing. In England, physician and early Fellow of the Royal Society William Croone (1633–1684) rejected Descartes's view in his *De Ratione Motus Muscolorum* (1664). He described animal spirits as a "subtle, active, and highly volatile liquor" that flowed through the nerves into the muscles. This fluid interacted with the blood in the muscles, creating a kind of fermentation or effervescence. This chemical reaction caused the muscle to swell and contract. In the fourth section of his *Tractatus Quinque Medico-Physici* (1674), devoted to muscles, John Mayow also proposed a theory hinged on chemical processes: the air contained a nitro-aerial spirit, composed of fine particles, which was inhaled and carried via the bloodstream to the brain, from which it was separated and distributed to the spinal marrow and nerves. In the muscles, these nitro-aerial spirits combined with a sulphureous material, which acted as fuel for combustion, causing muscle contraction. Mayow offered an experimental demonstration of his theory, showing that when an animal was decapitated, the influx of these vital spirits was removed. Interestingly, his theory also distinguished between the "animal spirits" and the "sensitive soul." The animal spirits were not the essence of life or sensation itself, but rather the instruments of the sensitive soul, a divine and ethereal force that pervaded the world and sentient creatures.

Besides being responsible for muscle contraction, spirits are also responsible for perception:

> These Out-guards of the Mind are sent abroad,
> And still patrolling beat the neighb'ring Road:
> Or to the Parts remote obedient fly,
> Keep Posts advanc'd, and on the Frontier lye.
> The watchful Centinels at ev'ry Gate,
> At ev'ry Passage to the Senses wait.
> Still travel to and fro the Nervous way,
> And their Impressions to the Brain convey,
> Where their Report the Vital Envoys make,
> And with new Orders are remanded back.
> Quick, as a darted Beam of Light, they go,
> Thro' diff'rent Paths to diff'rent Organs flow,
> Whence they reflect as swiftly to the Brain,
> To give it Pleasure, or to give it Pain.

(Blackmore, 1712, VI, ll.670-83)

This excerpt is a revealing example of Blackmore's rhetorical approach in the poem. From a stylistic point of view, the author resorts to an extended metaphor of war, enriched by several parallelisms and similes (ll.673, 680, 681, 683). The "Spirits" in the nerves act like soldiers serving the brain, the headquarters. These "Spirits" are charged with the duty of guarding the borders of the body, constantly watching and maintaining vigilance at all outposts where external stimuli can enter through the senses. The nerves are sentinels stationed at every gate, ensuring that no external impression goes unreported. Hence, nerves act in a two-way communication process: through the "Nervous way" (l.676), sensory nerves transmit messages from the body to the brain, and motor nerves transmit messages from the brain to the muscles, providing a constant feedback mechanism. In the opening section of the *Discourses on the Gout, Rheumatism, and the King's Evil*, Blackmore would briefly harp on animal spirits and their functions. There, he observes that the "Tone[52] of the minute nervous Cords extended thro' all the Parts of the Body, that makes them receptive of Vibration"[53] (Blackmore, 1726, pp. 7–14). This enables constant communication in the nervous system.[54]

In the above quoted excerpt, the poet makes use of the term "Impressions," which denotes the marks left by external stimuli on the nervous system.[55] Impressions are then conveyed via the nerves to the brain, where they are processed to result in feel-

[52]According to Lawlor and Mangham (2021, p. 36), "[t]he metaphorics of hydraulics and (chemical) digestion were supplemented in this period by those of the nerves (soon to become much more important) and the fibres, those solid parts of the body that required due elasticity, but also tension, to maintain health. The fibres that made up the solid parts of the nerves were crucial."

[53]Bigotti (2020) observes that "[i]n his *Opticks* (Newton 1704), Isaac Newton introduced the idea that nerves convey external stimuli to the brain, behaving as vibrating chords, and applied this theory to the optical nerves; in this he was soon followed by a series of contemporary physicians, also known as 'Newtonian physicians'." Blackmore's use of such an expression might be read through the lenses of the Newtonian influence.

[54]Willis proposed a dual mechanism for how animal spirits move through nerve fibres to perform their functions in the body (Ochs, 2004, p. 79):

> We have already shewed that the animal spirits are procreated only in the brain and cerebral, from which they continually springing forth, inspire and fill full the medullary trunk: (like the chest of a musical organ, which receives the wind to be blown into all the pipes) but those spirits being carried from thence into the nerves, as many pipes hanging to the same, blow them up and actuate them with a full influence; then what flow over or abound from the nerves, enter the fibres dispersed every where in the membranes, muscles, and other parts, and so impart to those bodies, in which the nervous fibres are interwoven, a motive and sensitive or feeling force . . . Indeed the animal spirits flowing within the nerves with a living spring, like rivers from a perpetual fountain, do not stagnate or stand still: but sliding forth with a continual course, are ever supplied and kept full with a new influence from the fountain. In the meantime, the spirits in the rest of the nervous system, especially those abounding in the membranes and musculous stock, are like ponds and lakes of waters lately diffused from the chanels of rivers whose waters standing still are not much moved of their own accord; but being agitated by things cast into them, or by the blast of winds, conceive divers sorts of fluctuations.

[55]The next section will be devoted to the impact that this physiological understanding of perception had on the philosophy of John Locke . Locke, who was Willis's student, saw the mind as a *tabula rasa* where sensory inputs, that is, "Impressions," allow man to derive knowledge from experience.

ings such as pain or pleasure. This system works with immense rapidity, with the signals travelling at speeds comparable to "a darted Beam of Light" (l.680).

A few years earlier, Willis had also discussed the role of nerves in perception in *Cerebri Anatome*, Chapter XIX:

> The animal Spirits being disposed within the several Muscles, according to the series of Fibres, seem as it were so many distinct Troops or Companies of Souldiers ; all which being set as it were in a Watch-tower, are ordained, as a new impression is carried to them by the Nerves, either from the objects outwardly, or more inwardly from the Head, forthwith into various forms and peculiar orders for the performing of motion or sense of this or that kind. The carriage or behaviour of these is worth the feeing in an animal newly killed and its skin taken off. For when life perishes, and all the force of the Spirits flowing in through the Nerves hath quite ceased; yet the Spirits implanted into the whole Body breaking forth from the Muscles, still move and shake them, and force them into several Convulsions and trembling motions. (Willis, 1681b, p. 129)

Willis resorts to the same images found in Blackmore's *Creation*. The above-quoted lines 670-83 are thus to be read as a poetic translation of Willis's physiological work.

A few pages earlier, Willis explained how the "sensitive Soul" operates through the movement of animal spirits, which he saw as responsible for both sensation ("Passions") and motion ("Actions"). Sensation arises when the spirits are drawn back toward their source—"as it were to leap back and recede into it self"—while action occurs when the spirits expand or unfold outwards. These processes can be either transient, involving bodily movement, or internal and continuous, occurring within the brain itself. The latter give rise to "common Sense and Imagination" as internal passions, and to "Memory, Phantasie, and Appetite" as internal actions. He explains that sensory impressions travel inward, passing through the brain's structures: "[i]f that this impression, being carried farther, pales through the callous Body, Imagination follows the Sense," and further movement of the spirits to the brain's cortex produces memory (Willis, 1681b, pp. 95–6). The physician, then, described the process of perception and action as a result of the movement and interaction of the spirits in the brain and nerves: the soul (or mind) is affected by external stimuli, which cause the spirits of the nervous system to either contract or expand in response.[56]

Book VI closes with a typical physico-theological *topos*: human anatomy is celebrated as a creation in which the divine hand is recognisable. After an invocation to the Muse, in lines 688-697, Blackmore shifts to an apostrophe directed at his fel-

[56] In the notes to the modern edition of William Paley's *Natural Theology*, Eddy and Knight maintain that "since most gross anatomical features of the body had been catalogued by 1600, it was known that the nerves played a role in carrying sensation through the body. A widely held view (famously articulated by Locke) was that there was some sort of 'pulse' that carried the sensation to the brain" (Paley, 2006, p. 297).

low physicians, the "Masters of *Machaon*'s Race" (l.688), healers descended from the son of Asclepius, the Greek god of medicine (Danet, 1700). These are to be praised because they advanced medical knowledge and connected with ancient traditions, fostering continuity and development. In particular, in line 691, Blackmore alludes to technical innovations that enabled medicine to evolve with new advancements, including the microscope. In composing Book VI of *Creation*, he employs a rhetoric of dissection that allows him to celebrate the beauty of divine design revealed through the different parts of the physical body (Peh, 2022, pp. 28–9). At the time the poem was published, public dissections and vivisections were popular forms of entertainment. While Blackmore's first and foremost aim was to educate his readers, with *Creation* and the analytical eye surveying the human body through a seemingly poetic dissection, the poet also succeeded in proposing a kind of entertainment. According to Nicolson (1935a, pp. 32–5), while Blackmore's background as a physician helped him detail these concepts, the poem's readers also found such content engaging. She states that

> [u]nder the microscope Blackmore dissects the human body, showing "the various bones so wisely wrought," the "nice strings of tended membranes," the "arterial pipes in order laid," "Organs perplext, and clues of twining veins." We study with him the function of "th' elastic spirits," which "now begin to work the wondrous frame"; we examine "the beating heart . .. by turns dilated, and by turns comprest"; we follow the course of the arteries and veins, perceive "the crimson jets with force elastic thrown"; learn of "fine complicated clues of nervous thread." We turn to the problem of nourishment of this curious animal man, and beginning with the mouth, follow the course of digestion through stomach to intestines, watch the effect again upon the blood stream. By devious paths we trace other processes, follow other functions, until with Blackmore, having observed "Nature's many intricacies" we
>
> to sublimer spheres of knowledge rise
>
> By manag'd fire, and late-invented eyes.
>
> To a modern reader, the long account of Blackmore seems almost parody; but to its own generation it was both deeply serious and indicative of the wonder of man's body which never before had been so clearly known to him. (Nicolson, 1935a, pp. 32–5)

All these features more clearly stress divine intervention, as indicated by phrases such as "Conduct," "Prudence," "stupendous Art" (l.694), and "Master-strokes" (l.695). The human body is like a finely tuned machine, made of "Mechanic Part[s]" (l.695). Albeit it is investigated through science, it still retains an element of the miraculous and wonderful in light of its divine origin. The enjambment between lines

697-8 further strengthens the sense of mystery in human life and body, which persists even as human knowledge progresses. Lines 698-700 finally bring the Book to a physico-theological close: "this Field of Miracles"—that is, the entirety of creation—encompasses both nature and human beings. The human body is a microcosm of the divine order found in the natural world, echoing the Galenic teleological view of nature whereby everything in nature is the result of a divine creation.[57]

A call to worship the divine presence manifest in all aspects of creation concludes this section. Blackmore's Book VI closely aligns with the scopes of physico-theological literature discussed in Chapter I—a tradition well summarised by Robert Boyle:

> when, in a word, by the help of Anatomical Knives, and the light of Chymical Furnaces, I study the Book of Nature, and consult the Glosses of Aristotle, Paracelsus, Harvey, Helmont, and other learned Expositors of that instructive Volume, I find myself oftentimes reduc'd to exclaim with the Psalmists (Ps. 104.24) How Manifold are thy works, O Lord in Wisdom hast thou made them all! (Boyle, 1661: p. 56 as quoted in Rose, 1999, p. 31)

3.2 Human Understanding

After describing the human body from an anatomical and physiological perspective in Book VI, Blackmore proceeds to consider the human mind in Book VII. This completes the human portrait. As others before him tried to demonstrate "the existence of a God only from the Contemplation of Corporeal Nature" (Blackmore, 1712, p. xxxiv), Blackmore "carry'd the Argument on to the Actions of Living, Sensitive and Intelligent Beings, so far as we are acquainted with them; believing that brighter and more noble Strokes of Wisdom and Design appear in the Principles of Life, Sensation and Reason, than in all the Compass of the Material World" (Blackmore, 1806, pp. xxxiv–xxxv). The strength of the poem emerges precisely from this feature: Blackmore's expertise as a physician allowed him to treat the topic of human beings with extraordinary competence, not to be found in other physico-theological pieces of writing.

The development of natural philosophy in the seventeenth and eighteenth centuries significantly affected the philosophical study of the human mind and the same scientific methods employed in the physical sciences also became relevant to life processes (Wade, 2005, p. 73). According to Brazier (1984, p. 90), "[t]he growing recognition of the importance of the brain was beginning to challenge the concepts of free will and, for theologians, the supremacy of the soul. The 17th century was the first in which one meets this shared interest and actual interplay between the experimental

[57] In *Arguments to Prove the Being of a God*, Hancock commented that "[t]he whole Oeconomy of the Animal is so Wonderful, that Galen himself could not forbear, upon the Contemplation thereof, to break out into the Praises of God, the Creator of it" (Hancock, 1707, p. 40).

scientist and the concept-seeking philosopher." In Christine Gerrard's *Companion to Eighteenth-Century Poetry* (2006), Clark Lawlor points out that eighteenth-century science contributed to the development of the so-called "culture of sensibility."[58] This can be linked to the "nerve" medicine promoted by the new science, which held the nervous system as the conduit for sensations. Thomas Willis's work on neurophysiology was a crucial stepping stone in this development, as he first expressed the belief that the brain was the seat of the human soul. This shift was instrumental in changing the point of view on the human body, as well: in the first half of the century, it was primarily understood as a hydraulic machine, while in the second half, it was analysed in terms of the nervous system and linked to more vitalistic theories (Lawlor & Mangham, 2021, p. 23). To this contributed the new understanding of the nervous system inaugurated by Thomas Willis and the rise of psychology promoted by John Locke (Lawlor & Mangham, 2021, pp. 7–8). Lawlor and Suzuki (2003, p. ix) also explained that eighteenth-century physicians were polymaths—interested in all aspects of science, including the developing disciplines concerned with the mind. This interest was often shared with the general public, as physicians started to publish their works in vernacular more frequently. As a consequence, the literary and medical worlds were in constant dialogue (Lawlor and Suzuki, pp. xi–xiii).

Blackmore's poem embodied all these cultural exchanges. Powell (2021, pp. 163–4) observes that the physician described the brain as the "secret Throne" of experience. He believed that feelings were perceived in the brain rather than in an eye or a limb, where instead sensation occurs. He even wondered how these sensory impulses were transmitted to the brain from different parts of the body. Since Blackmore followed Thomas Sydenham's clinical method (see Section 1.2.3), which involved the physical observation of a patient's conditions, Powell (2021, p. 164) argues that

> it is understandable [...] that *Creation* represents a somatic approach to considering the relationship between sensation and perception. The poem promoted Locke's theory of empirical perception, but preceded the ophthalmic developments that were at the centre of a revaluation of the relationship between touch, sight, and knowledge later in the century. The senses became increasingly relevant and individualised in the course of the century with a movement away from a theorised account of the body and a geometrical understanding of vision towards a focus on flesh, nerves, and sensory subjectivity.

Book VII offers a comprehensive synthesis of the most widely held theories on human cognitive faculties at the turn of the century. This was the age of Newton but also that of John Locke, the philosopher and physician who, with Francis Bacon, shaped more than any other the culture of empiricism in Britain.

[58] The term was coined by G. J. Barker-Benfield in his *The Culture of Sensibility: Sex and Society in Eighteenth-Century Britain* (1992).

Book VII of *Creation* is the culmination of Blackmore's physico-theological exploration of the natural world and completes the upwards survey of the poem towards God. The human mind is the faculty by which man is able to perceive, reflect, and ultimately understand divine creation, the object of the whole poem. The structure of the book unfolds in a logical order to cover the workings of the human mind: from the first reception of external stimuli via the senses to the internal processes of reflection and reasoning, and on to the higher faculties of moral judgement, free will, and finally the assertion of the divine origin and immortality of the soul.

In the empirical tradition of Thomas Willis and John Locke, Blackmore places the ultimate origin of all human knowledge in the impressions on the senses. He extols the complex physiology of the brain and the nerves that transmit sensory information. Then, he considers the faculty of reflection, the mind's power to internalise and analyse the raw material coming from the senses. Here, Blackmore demonstrates his dependence on Lockean epistemology, which maintained that the mind operates upon received sensations to form more complex ideas. Reflection is thus the key mechanism for turning temporary sensory impressions into organised knowledge. Thanks to reflection, the mind moves from passive reception to active understanding.

After reflection comes reasoning. Blackmore hails the human potential for rational inquiry and celebrates reason as a God-given faculty that allows human beings to uncover the order and laws of creation and participate in God's rational organisation of the universe. This is also what gives rise to free will, a virtue closely connected with the broader question of moral responsibility. Blackmore reaffirms that man is not a mechanistic animal controlled solely by sensory appetites but is endowed with the faculty of choice. Free will is not a mere psychological condition but a theological necessity, required for moral order.

Finally, this logical progress culminates in the confirmation of the immortal soul. Despite the elaborate physiological structure that underlies human cognitive faculties outlined at the beginning of the book, Blackmore maintains that these transcend material mechanisms. They ultimately refer to an immaterial, immortal substance wrought by God. The soul's ability for reason, free will, and moral perception is a testimony of its divine origin. In Blackmore's physico-theological view, this provides a conclusive demonstration of the providential design sung in *Creation*.

The structure of Book VII mirrors the upward motion on which Blackmore has consistently built his poem: from the body to thought and rational deliberation in the mind and then to choice in the moral sphere and immortality in the spiritual. This progression also conforms to the physico-theological purpose of the poem: it reveals the hand of the Creator everywhere in the natural—and especially the human—world. The following sections will provide a close reading and analysis of the four major thematic clusters in Book VII, namely: the animal instincts, sense perception and the formation of ideas, reflection and the formation of ideas, free will and the human soul.

3.2.1 Perception and the Animal Instincts

Book VII opens with an exhortation to indulgence and its consequences (ll.1-83), which Blackmore drafts "in Imitation of King Solomon's Ironical Concessions to the Libertine" (Blackmore, 1712). This is a reference to Ecclesiastes 11.9, where Solomon first seems to grant the libertine permission to indulge in pleasure as he will but then reminds that "God will bring thee into judgment:"

> Rejoice, O young man, in thy youth; and let thy heart cheer thee in the days of thy youth, and walk in the ways of thine heart, and in the sight of thine eyes: but how though, that for all these *things* God will bring thee into judgement. (*The Bible*, 2015, p. 759)

Similarly, in a subtly mocking tone, Blackmore describes the vigour and vivacity of youth (ll.3-8), which naturally leads to an ironic encouragement to devote oneself wholly to pleasure-seeking (ll.9-10). Youth, metaphorically likened to a flourishing spring (ll.17-21), is the very "season of life" when vitality reaches its peak.[59] The poem then shifts to a description of a life entirely devoted to sensual pleasures, elaborated through the classical *topos* of the *locus amoenus*. An isotopy of luxury and richness informs the description of sensual details through sight (ll.25-32), smell (ll.33-44), taste (ll.45-50), and hearing (ll.51-6). Lines 25 to 32 abound in pastoral imagery reminiscent of classical and contemporary sources, such as Matthew Prior's *Alma: Or, The Progress of the Mind* (1715).[60] Metaphors, anaphoras, and chiasmus appear at key moments (e.g. l.32, l.40) to reinforce the sense of opulence. Ultimately, this sensual living culminates in the experience of love (ll.57-62). Like Solomon, however, Blackmore tempers this portrait of indulgence with a stark reminder of divine judgment; beginning at line 63, the text reminds the reader of the inevitable moral reckoning that follows such a life: God is the ultimate judge who will dispense justice basing on immutable principles (ll.67-70). Although on earth the immoral may seem to escape immediate punishment (ll.71-6), divine judgment will be delivered in the afterlife (ll.77-83).

This opening passage is consistent with Blackmore's broader moral purpose in his poetry and follows the programme outlined in the preface of *Creation* (see Section 1.3.3). The reason why he chose to write the poem was his appalled recognition of the growing profaneness in England. He saw it as a moral and almost patriotic mission to oppose this tendency:

> Immediately after the Restoration, the people, intoxicated with the Pleasures of Peace, and influenced by the Example of a loose Court, as well as

[59] These lines recall the description of spring Blackmore provided in lines 217-29 of Book II (see Section 2.2.3).

[60] *Alma* was written while Prior was in prison in 1715. It was later published in his *Poems on Several Occasions* (1718). In Canto I, Prior satirically mocks traditional philosophical speculations about the soul, the Alma of the title. He founds his arguments upon anatomical descriptions, scientific terminology, and technical discussions of the brain and nerves, particularly the optic nerves. The poem satirises Aristotelian and Lucretian theories in favour of a fanciful system whereby Alma enters at the toes and works her way progressively upwards to the head.

> from their great Aversion to the former Fanatical Strictness and Severity of Conversation, which they detested as Hypocrisie, indulge'd themselves in sensual Liberties, and by Degrees sunk deep into Luxury and Vice. Then it was that some irreligious Men taking advantage of this growing Dissolution of Manners, began to propagate their detestable Notions, and sow the Seeds of Prophaneness and Impiety, which sprung up apace, and flourish'd in proportion to the Growth of Immorality. (Blackmore, 1806, pp. xx–xxi)

The senses, rather than being used only for pleasure, should ideally be employed in the worship and acknowledgement of God.

To prove his point, Blackmore proceeds to consider "[t]he Creation asserted from the contemplation of animals." An antithetic opening ("yet," l.84) inaugurates the review of the animal kingdom and animal instincts to refute mechanistic and materialist explanations of perception. Specifically, he refers to Lucretian atomism and Epicureanism. The poet proposes that sensory organs, figuratively a "tun'd Organ" (l.93) receive external stimulation, which is deciphered by the brain, the "Superior Seat" (l.96) of sense. In his later *Discourses on the Gout,* he would write that the "Tone of the minute nervous Cords extended thro' all the Parts of the Body, that makes them receptive of Vibration" (Blackmore, 1726, p. 14). In *De Rerum Natura*, Book IV (lines 1-822), Lucretius outlined his theory of perception: he explained that all perception is caused by extremely thin "films" (*simulacra*) that detach from objects, flying through space at high speed and entering our sensory organs (Ochs, 2004, p. 16). According to Lucretius, the same mechanism applies to all other senses, and this process is purely physical.[61] In his famous translation, Creech rendered it in this way:

> Now (for tis fit) my *Muse* declares, and sings,
>
> What those are we call *Images* of Things,
>
> Which like *thin films* from bodies rise in streams,
>
> Play in the Air, and *dance* upon the beams.
>
> [...]
>
> A *stream* of Forms from every *surface* flows,
>
> Which may be call'd the *film* or *shell* of those;
>
> Because they bear the shape, they shew the frame,
>
> And figure of those bodies whence they came.
>
> (Lucretius Carus, 1682, p. 103)

Blackmore, instead, specifies the individual roles of the "Spirits" in facilitating sensory perception, outlining the processes of hearing (ll.100-1), tasting (ll.102-5), smelling

[61] To learn more about the Epicurean theory of perception and its possible implications, see Cisar (2001), Zucca (2020) and the notes to Lucretius Carus (1805).

(ll.106-9), and seeing (from l.112) in a way that overthrows Lucretian materialism. As Nicolson (2015, p. 103) maintains, "[i]n the section in which he bade the Lucretians 'regard the curious Eye,' [Blackmore] discussed one of the chief problems of vision: it was all very well to say that the experimental scientists had shown man how he 'sees;' but had they explained to man how he 'perceives'?" He would then attack the "vain" "Mechanic Principles" (l.114) of Epicurean materialism, challenging the possibility that human perception, and particularly sight,[62] may be accounted for with "[t]hin colour'd Shapes" flying through the air like ancient ghostly apparitions (ll.118-21). A few years later, Matthew Prior expressed the same perplexity regarding the Epicurean theory of perception in Canto I from *Alma*:

> Note here, Lucretius dares to teach
> (As all our Youth may learn from CREECH)
> That Eyes were made, but cou'd not view;
> Nor Hands embrace, nor Feet pursue:
> But heedless Nature did produce
> The Members first, and then the Use.
> What Each must act, was yet unknown,
> 'Till All is mov'd by Chance alone.
> (Prior, 1718, I, ll.135-42)

As per Olson (2020), "[e]arly modern European cultural life was rife with reflection on the senses," and from the sixteenth century onward, scholars shifted from theoretical debates about the number of inner senses to examining the physical structure and function of sensory organs (Rusu, 2020).

In the following lines, Blackmore inquires how the brain distinguishes between different objects and interprets sensory data. He considers the possibility of the transmission of visual stimuli by spirits through the optic nerve (ll.140-3) and questions the brain's ability to distinguish between objects like a whale and a marble rock, or between different kinds of trees (ll.144-6). All this demonstrates the insufficiency of purely materialistic explanations of advanced cognitive processes. The critique targets not only ancient Epicurean materialism but also more recent forms of this thought. For instance, the already attacked Thomas Hobbes presented a radically materialistic epistemology of cognition, reducing perception to mechanical motion

[62] The mechanism of the eye was often employed to illustrate divine design since the ancient Greeks (Paley, 2006, p. 297). Nicolson (2015, p. 100) adds that

> Trained as a physician, Blackmore knew much more than did intelligent laymen about the structure of the human body; some of his best reasoning in the *Creation* is found in those sections in which he seems to anatomize the body under a microscope, finding in its "design and plan" the final evidence of craftsmanship of the Great Anatomist who made it. He opposed to the Epicureans the miracle of the human eye.

(Yolton, 1955, p. 436): in *De Corpore* and *The Leviathan*, he identified sense perception as the motion of external particles continuing to the brain (Yolton, 1955, pp. 437–8).

From lines 151 to 197, Blackmore shifts his attention to animal instinct and natural order. In his view, they provide further evidence of divine providence. He directly addresses Lucretian thinkers and invites them to "contemplate [...] / The nobler Actions of the Animal" (ll.151-2), actions which he attributes not to random "Chance" (l.154) but to innate instinct, a product of divine order. The chiastic structure of line 153—"Which Instinct some, some lower Reason call"—encapsulates the early modern uncertainty around animal cognition, a question that was central to philosophical and scientific discourses of the period. This debate had profound ethical implications at the time. Philosophers such as Descartes denied animals the capacity for reason, while others like Gassendi, Locke, and, later, Hume proposed more nuanced views that sometimes implied moral obligations toward animals. Anatomical studies that revealed similarities between human and nonhuman animals further complicated these discussions (Begley, 2020). A case in point was to be found in Blackmore's *Lay Monastery*, Essay V, where the physician praised the work of his fellow physician and anatomist Edward Tyson (1651–1708):

> The most perfect of this Order of Beings, the *Orang Outang*, as he is call'd by the Natives of *Angola*, that is, the Wild Man, or Man of the Woods, has the Honour of bearing the nearest Resemblance to human Nature. Tho' all that Species have some Agreement with us in our Features, many Instances being found of Men of Monkey-Faces; yet this has the greatest Likeness, not only in his Countenance, but in the Structure of his Body, his Ability to walk upright, as well as on all four; his Organs of Speech, his ready Apprehension, and his gentle and tender Passions, which are not found in any of the Ape Kind, and in various other Respects. (Blackmore & Hughes, 1714, p. 30)

Schmidgen (2021, pp. 35–6) explains that Tyson focused particularly on intermediate forms of life, viewing them as evidence of nature's plenitude and as illustrative of the Great Chain of Being (see Section 2.2). In the dedicatory epistle to his *Orang-Outang, sive Homo Sylvestris* (1699), he elucidated the continuity among natural entities, noting the striking similarities, for instance, between the "lowest Rank of Men" and the "highest kind of Animals." Despite observing considerable anatomical similarities between humans and chimpanzees—particularly in the structure of the brain and vocal cords—Tyson ultimately regarded chimpanzees as brutes: they are distinct from humans because of the qualitative difference in their souls.

In this passage of *Creation*, the poet presents an exceptionally vivid case of instinct as divine design. Through frequent appeals to sight—"observers see" (l.166), "Mark" (l.168), "See" (l.172), "view, Spectator, with admiring Eyes" (l.180)—Blackmore invites his readers to look at the bees and admire their innate abilities. Employing an

architectural analogy, he describes the bees as "little untaught Builders" (l.168) and "Nature's Mechanics" (l.170), that contrive "[r]ooms" (l.168), "curious Labyrinths" (l.171), and "waxen Tow'r[s]" (l.174). The poet draws comparisons to the geometrical precision associated with classical authorities like Euclid and Palladio (l.187), as they are able to create "wondrous Structure[s]" (l.179) with extraordinary regularity ("just Order," l.181; "equal," l.182). Throughout the passage, chiasmus appears repeatedly (e.g., l.153, ll.168-9, l.187, l.195) and creates a formal symmetry that mirrors the order Blackmore observes in nature. Alliteration and parallelism further strengthen this. At the end of this passage, in lines 194 to 197, Blackmore aligns himself with the Virgilian tradition when he refers to "Maro" (l.194). Indeed, in Book IV of the *Georgics*, Virgil extensively writes about the behaviour, organisation, and reproduction of bees (Perkell, 1978).

In sum, Blackmore's representation of animal instinct serves both as a rebuttal of Epicurean chance and as an affirmation of divine wisdom and intelligence.

3.2.2 Sense Perception and the Formation of Ideas

From line 198, Blackmore dwells on the powers of human reason and the soul, starting from sense perception as the indispensable foundation of human understanding. As this section will demonstrate, Blackmore adhered to the empirical tradition whereby all knowledge originates from the external impressions made upon the senses.

The passage opens with a direct challenge to Epicurus, questioning whether the intricate and "artful Frame" of the universe could have possibly arisen without the guidance of "a wise Creator's Hand" (ll.198-9). From this point on, the focus shifts from the material to the immaterial—specifically, the "Intellectual World" (l.200). The human mind is addressed in personified, feminine terms when the poet urges Epicurus to turn inward and direct his "God-like Reason's Ray" upon the mind itself (l.202). Reason is more than earthly: it is almost a divine attribute, "in Flesh imprison'd, and to Earth confin'd" (l.205). Hence, reason cannot be reduced to mere matter. In lines 208-9, a chiasmus and simile compare the mind to fire—"She moves unweary'd, as the active Fire, / And, like the Flame, her Flights to Heav'n aspire." Fire is one of the key isotopies of the poem, where it symbolises vitality, motion, and transcendence, creating a comparison that opposes the Epicurean view that thought arises from inert atoms. The poet continues by elaborating on the mind's capacity for imagination and introspection:

> By Day her Thoughts in never-ceasing Streams
>
> Flow clear, by Night they strive in troubled Dreams.
>
> She draws ten thousand Landscapes in the Brain,
>
> Dresses of airy Forms an endless Train,

> Which all her Intellectual Scenes prepare,
> Enter by turns the Stage, and disappear.
> To the remoter Regions of the Sky
> Her swift-wing'd Thought can in a Moment fly;
> Climb to the Heights of Heav'n, to be employ'd
> In viewing thence th' Interminable Void.
> (Blackmore, 1712, VII, ll.210-9)

The stream metaphor suggests a continuous intellectual activity. This is followed by a theatre metaphor that sees the mind as staging a sequence of "Intellectual Scenes." The latter part of the excerpt and the subsequent lines (ll.216-27) expand on the boundless scope of the intellect: the mind's "swift-wing'd Thought" ascends to the heights of heaven to contemplate the "Interminable Void," echoing the opening of Book I and reinforcing the poem's cosmic outlook. Here, as frequently in the poem, Blackmore resorts to extremely vivid metaphors and imagery to deliver his argument.

Theories of sensation in the seventeenth century endeavoured to account for sense perception in various ways. One of these was to rely, as Blackmore did, on animal spirits. Powell (2021, p. 181) states that

> Chambers ascribes the processes of internal and external sensation to 'the Course of the Animal Spirits' (though he posits that there may be 'any other Cause) (IL, 54) as they travel along the nerves directed towards the brain, where the nerves terminate. Blackmore's account of nervous activity in *Creation* is similarly reliant upon the model of the animal spirits, and it provides a useful Summary of contemporaneous accounts that connect the senses with the sensorium. His description in Book VI of the developing nervous system of an embryo anticipates Chambers's model of the relationship between the senses and the mind.

Indeed, the poet explains how the mind learns and formulates ideas, grounding his understanding in Willis's neurophysiology and Lockean empiricism. In particular, Blackmore's indebtedness to Locke's *An Essay Concerning Human Understanding* (1690) is critical for his appreciation of idea formation, summarised in the following lines:

> When Man with Reason dignify'd is born,
> No Images his naked Mind adorn:
> No Sciences or Arts enrich his Brain,
> Nor Fancy yet displays her pictur'd Train.
> He no Innate Ideas can discern

Of Knowledge destitute, tho' apt to learn.

(Blackmore, 1712, VII, ll.228-33)

Locke studied medicine at Oxford and was a student of Thomas Willis, whom he recognised as the leading physiologist of his time. In his *Essay* (1690), Locke incorporated the new "nerve physiology" into his theory of perception, which became a major influence in the eighteenth century and helped establish the new "science of man." Locke's work was then fundamental to the development of psychology from physiology (Rogers, 2022, pp. 190–2). Yolton (1975b, p. 386) claims that Locke's contribution was to uncover several mental processes involved in the origin of ideas and to present a hypothesis of their emergence and acquisition. At the same time, though, he did not fully comprehend the relationship between the nervous system, physical activity, and the cognitive acquisition of idea-signs.

The above-quoted lines introduce a fundamental concept of Lockean philosophy in the poem: the mind as a *tabula rasa*, a blank sheet, at birth (Ochs, 2004, p. 64). Blackmore denies the existence of innate ideas, echoing Locke's famous concepts from the *Essay*, Book I, Chapters I ("Of Innate Notions") and II ("No Innate Principles in the Mind"). While there are "some men" who believe "that there are in the understanding certain innate principles; some primary notions, κοιναὶ ἔννοιαι, characters, as it were stamped upon the mind of man" (Locke, 2008, p. 59), Locke is convinced otherwise: there can be no innate idea in the mind of human beings, as the examination of children and idiots alike shows. The anaphora ("No... No... Nor... No...") reinforces the blankness of the newborn mind to show that nothing—not even imagination ("Fancy")—is present at birth. If ideas (and principles depending on them) cannot be innate (Locke, 2008, p. 91), where do they come from?

Our Intellectual, like the Body's Eye,

Whilst in the Womb, no Object can descry;

Yet is dispos'd to entertain the Light,

And judge of Things when offer'd to the Sight.

When Objects thro' the Senses Passage gain,

And fill with various Imag'ry the Brain,

Th' Ideas, which the Mind does thence perceive,

To Think and Know the first Occasion give.

Did she not use the Senses Ministry,

Nor ever Taste, or Smell, or Hear, or See,

Cou'd she possest of Pow'r perceptive be?

(Blackmore, 1712, VII, ll.236-44)

The mind is compared to the eye through a simile: in the womb, eyes do not see as it is too dark, yet they are prepared to receive light. The human intellect, though "destitute" at birth, is naturally disposed to receive sensory input. This directly echoes Locke's view that the mind is like an "empty cabinet," gradually filled with "ideas" through sensory experiences (Locke, 2008, p. 65). With the term "idea," Locke intended

> whatsoever is the object of the understanding, when a man thinks. I have used it to express whatever is meant by *phantasm, notion, species*, or whatever it is, which the mind can be employed about in thinking. (Locke, 2008, pp. 58–9)

The senses, then, are the primary source of knowledge and they enable the transition from passive perception to active thought. Without "the Senses Ministry," the mind would not possess any "Pow'r perceptive," and it could not "Taste, or Smell, or Hear, or See" (Blackmore, 1712, VII, ll.242-4). Without the mediation of sensory organs perception is impossible, as Locke explained:

> Let us then suppose the mind to be, as we say, white. All ideas come from paper, void of all characters, without any ideas; how comes sensation or reflection it to be furnished? Whence comes it by that vast store, which the busy and boundless fancy of man has painted on it, with an almost endless variety? Whence has it all the materials of reason and knowledge? To this I answer, in one word, from *experience*: in that, all our knowledge is founded; and from that it ultimately derives itself. Our observation employed either about *external sensible objects; or about the internal operations of our minds, perceived and reflected on by ourselves, is that, which supplies our understandings with all the materials of thinking*. These two are the fountains of knowledge, from whence all the ideas we have, or can naturally have, do spring. (Locke, 2008, p. 109)

In this passage, Locke clarified one of the core principles of his epistemology: as innate ideas do not exist, all knowledge must come from experience. This can happen either through sensation, an input from the outside world, or through reflection, a sort of internal processing of simple ideas. There are no innate sources of cognition independent of these processes. To corroborate this thesis in the poem, Blackmore offers an illustrative example:

> Wretches, who sightless into Being came,
>
> Of Light or Colour no Idea frame.
>
> Then grant a Man his Being did commence,
>
> Deny'd by Nature each external Sense,
>
> These Ports unopen'd, diffident we guess,

> Th' unconscious Soul no Image could possess.
>
> Tho' what in such a State the restless Train
>
> Of Spirits would produce, we ask in vain.
>
> (Blackmore, 1712, VII, ll.245-52)

These lines refer to a famous argument employed in the eighteenth century and introduced by Irish experimental philosopher William Molyneux.[63] It was known as the "Molyneux Problem." This question pertained to a man born blind who was made to see and was posed by the Irish philosopher to John Locke in their correspondence. According to Lievers (1992, p. 399), after Locke included this question in the *Essay*, it has been considered a question about the relationship between the ideas acquired by touch and those acquired by sight. Molyneux was interested in optics and vision and dwelt on these topics in his main work, the *Dioptrica Nova, A Treatise of Dioptricks in Two Parts* (1692), where he also made a few remarks on the psychological aspects of vision.[64] The Molyneux Problem was originally posed in a letter from Molyneux to Locke in 1688, in which the Irish philosopher asked whether a person born blind who has learned to distinguish objects like a cube and a sphere by touch would, upon regaining sight, be able to visually distinguish them without touching them. Locke presented the Molyneux problem in Book II, Chapter IX of the second edition of the *Essay*:

> I shall here insert a problem of that very ingenious and studious promoter of real knowledge, the learned and worthy Mr Molineux, which he was pleased to send me in a letter some months since; and it is this: 'Suppose a man born blind, and now adult, and taught by his touch to distinguish between a cube, and a sphere of the same metal, and nighly of the same bigness, so as to tell, when he felt one and t'other, which is the cube, which the sphere. Suppose then the cube and sphere placed on a table, and the blind man to be made to see: Quere, whether by his sight, before he touched them, he could now distinguish, and tell, which is the globe, which the cube.' To which the acute and judicious proposer answers: 'Not. For though he has obtained the experience of, how a globe, how a cube affects his touch; yet he has not yet attained the experience, that what affects his touch so or so, must affect his sight so or so: or that a protuberant angle in the cube, that pressed his hand unequally, shall appear to his eye, as it does in the cube.' I agree with this thinking gent. whom I am proud to call my friend, in his answer to this his problem; and am of opinion, that

[63] As Section 1.3 showed, Molyneux was believed to be the one who encouraged Blackmore to write a philosophical poem through the intercession of Locke (Molyneux, 1708, pp. 218–9).

[64] "In 1692, Locke received a copy of Molyneux's *Dioptrica Nova* from his bookseller. Locke initially assumed he had received the book by mistake, but after reading the flattering praise of his *Essay* in the Dedication of *Dioptrica Nova*, he correctly guessed that Molyneux had sent him the book (Correspondence, 1976–, IV: 1515)." (Boeker, 2021, p. 16)

> the blind man, at first sight, would not be able with certainty to say, which was the globe, which the cube, whilst he only saw them; though he could unerringly name them by his touch, and certainly distinguish them by the difference of their figures felt. This I have set down, and leave with my reader, as an occasion for him to consider, how much he may be beholding to experience, improve-ment, and acquired notions, where he thinks, he has not the least use of, or help from them: and the rather, because this observing gent. further adds, that 'having upon the occasion of my book, proposed this to divers very ingenious men, he hardly ever met with one, that at first gave the answer to it, which he thinks true, till by hearing his reasons they were convinced.' (Locke, 2008, p. 144)

Both Molyneux and Locke agreed that a previously blind person lacks experience in how certain tactile sensations affect sight (Boeker, 2021, p. 19). In *Creation*, Blackmore, too, claims that those born blind can form no "Idea" of light or colour, as without sight there could be no idea of these properties. This demonstrates the limitations of the mind, which can only know through sensory experience. The "Ports" of sensation remain "unopen'd," thus no "Image" can enter. Such an arrangement, according to Locke, is coherent with God's plan:

> For I imagine anyone will easily grant, that it would be impertinent to suppose, the ideas of colours innate in a creature, to whom God hath given sight, and a power to receive them by the eyes, from external objects. (Locke, 2008, p. 59)

Fairchild (1939, p. 197) comments that in Book VII, but also in the rest of the poem, "Blackmore follows Locke and he rejects all innate ideas." This, of course, applies to the idea of God, which, for both thinkers, is grounded upon the argument from design outlined in *Creation* and Locke's *Essay*. While apparently contradictory, Locke's "sensualism" actually descended from Epicurus. In particular, Isler (2009, p. 93) asserts that the philosopher employed Epicurean epistemology as a way to escape from the Scholastic Aristotelian system. He came to know this thanks to Gassendi's annotated bilingual edition of Diogenes Laertius and Willis's lectures at Oxford. In Book I, Chapter X of *De Anima Brutorum* (1672), Willis asserts that "all knowledge comes from sense" (*omnis scientia fit a sensu*) (Isler, 2009, p. 100). As a medical student, Locke followed Willis's classes, and one of his notebooks contains his written report of the physician's lectures (Rose, 1999, p. 11). The above-quoted lines 245-52 also introduce a significant nuance in Blackmore's understanding of sense perception: the role of the "Spirits" (l.252) is highly indebted to Willis's work. Indeed, before Willis, anatomists had avoided making detailed speculations about the workings of the mind based on brain anatomy (Caron, 2015), although early Greek physicians had understood the link between nerves and the brain, and sixteenth-century anatomical dissections had testified to it (Bigotti, 2020).

Caron (2022) explains that Willis portrayed a highly volatile physical material that could possibly interact not only with the body, but also with the immaterial soul. In *De Anima Brutorum* (1672), Willis made some adjustments to some of his earlier ideas on spirits and avowed that the bodily soul, which resides in the hollow nerves, was an extremely fine substance, similar to a flame, and able to alter and respond to external forces almost as soon as they touched it. He maintained that the immaterial, immortal soul resided in the brain, specifically in the *corpora striata* (Willis, 1672, pp. 106–7; Isler, 2009, pp. 99–100). This theory helped him to explain how the travel of spirits across the nervous system would result in bodily and sensory responses. Rose (1999, p. 25) also adds that "in the Willisian model the brain contained a series of pathways by which emotions always remained under the (potential) control of the cerebrum, and, hence, the Rational Soul or mind."

In the next few lines, Blackmore explores other faculties of the mind, such as reflection, abstraction, and judgement.

3.2.3 Reflection and the Formation of Ideas

The passage already quoted from Locke's *Essay*, Book II, Chapter I (Locke, 2008, p. 109), introduces the second way through which mind elaborates ideas, namely, reflection. Blackmore, too, recognises this possibility:

> The Mind proceeds, and to Reflection goes,
>
> Perceives she does Perceive, and knows she Knows.
>
> Reviews her Acts, and does from thence conclude
>
> She is with Reason and with Choice endu'd.
>
> (Blackmore, 1712, VII, 253-6)

The first couplet summarises a key tenet of Locke's philosophy: reflection is the second source of ideas. In the *Essay*, Book II, Chapter I, reflection is defined as follows:

> Secondly, the other fountain, from which experience furnisheth the understanding with ideas, is the *perception of the operations of our own minds* within us, as it is employed about the ideas it has got; which operations, when the soul comes to reflect on, and consider, do furnish the understanding with another set of ideas, which could not be had from things without; and such are, *perception, thinking, doubting, believing, reasoning, knowing, willing*, and all the different actings of our own minds; which we being conscious of, and observing in ourselves, do from these receive into our understandings, as distinct ideas, as we do from bodies affecting our senses. This source of ideas, every man has wholly in himself: and though it be not sense, as having nothing to do with external objects; yet it is very

> like it, and might properly enough be called internal sense. But as I call the other sensation, so I call this reflection, the ideas it affords being such only, as the mind gets by reflecting on its own operations within itself. By reflection then, in the following part of this discourse, I would be understood to mean, that notice which the mind takes of its own operations, and the manner of them, by reason whereof, there come to be ideas of these operations in the understanding. (Locke, 2008, p. 110)

For Locke, reflection coincides with internal observation. The self is a conscious thinking entity that remembers and reflects upon itself. Here lies Locke's link between consciousness and personal identity: in Book II, Chapter XXVII ("Of Identity and Diversity"), he argues that personal identity consists of the continuity of consciousness:

> This being premised to find wherein *personal identity* consists, we must consider what *person* stands for; which, I think, is a thinking intelligent being, that has reason and reflection, and can consider itself as itself, the same thinking thing in different times and places; which it does only by that consciousness, which is inseparable from thinking, and as it seems to me essential to it: it being impossible for anyone to perceive, without perceiving that he does perceive. When we see, hear, smell, taste, feel, meditate, or will anything, we know that we do so. Thus it is always as to our present sensations and perceptions: and by this everyone is to himself that which he calls *self*, it not being considered in this case, whether the same *self* be continued in the same, or divers substances. For since consciousness always accompanies thinking, and 'tis that that makes everyone to be what he calls *self*, and thereby distinguishes himself from all other thinking things; in this alone consists *personal identity, i.e.* the sameness of a rational being: and as far as this consciousness can be extended backwards to any past action or thought, so far reaches the identity of that *person*, it is the same *self* now it was then; and 'tis by the same *self* with this present one that now reflects on it, that that action was done. (Locke, 2008, p. 302)

The mind is also endowed with abstracting power rooted in inductive reasoning:

> From Individuals of distinguish'd Kind,
>
> By her abstracting Faculty, the Mind
>
> Precisely General Natures can conceive,
>
> And Birth to Notions Universal give.
>
> (Blackmore, 1712, VII, ll.257-60)

Milton (2011, pp. 320–8) clarifies that Francis Bacon reevaluated induction in science and advocated a cumulative form of induction based on the systematic collection of

empirical data. Bacon and his followers, however, did not see induction as automatically reliable. For instance, Descartes dismissed inductive inference for its inability to yield certainty and preferred deductive reasoning grounded in clear ideas. English natural philosophers in the seventeenth century accepted the empirical method but were aware of the epistemic limitations of induction. These thinkers saw induction as a practical rather than logical tool. Here, Blackmore recognises its validity in finding common features in things (ll.264-8) and in distinguishing between things (ll.269-72). Most importantly,

> She does Distinguish here, and there Unite,
>
> The Mark of Judgment That, and This of Wit.
>
> (Blackmore, 1712, VII, ll.273-4)

These chiastic lines condense another duality of Lockean epistemology: judgment and wit. We read that judgement is the ability to "distinguish," while wit is the ability to "unite." In Book II, Chapter XI, Section 2 of the *Essay*, the philosopher describes the ability to discriminate ideas as "one of the operations, that the mind may reflect on, and observe in itself" (Locke, 2008, p. 152) and explains that:

> For *wit* lying most in the assemblage of ideas, and putting those together with quickness and variety, wherein can be found any resemblance or congruity, thereby to make up pleasant pictures, and agreeable visions in the fancy: *judgement*, on the contrary, lies quite on the other side, in separating carefully, one from another, ideas, wherein can be found the least difference, thereby to avoid being misled by similitude, and by affinity to take one thing for another. (Locke, 2008, p. 153)

Hence, while wit refers to the ability to make connections and combine ideas creatively, judgment is the process of evaluating the truth or falsity of propositions by distinguishing and separating ideas. Later in the treatise, in Book IV, Chapter XIV "Of Judgement," Locke defines judgment as "[t]he faculty, which God has given man to supply the want of clear and certain knowledge, in cases where that cannot be had" (Locke, 2008, p. 576). Thanks to judgement, "the mind takes its ideas to agree, or disagree; or which is the same, any proposition to be true, or false, without perceiving a demonstrative evidence in the proofs" (Locke, 2008, p. 576). These abilities enable the mind to attain scientific knowledge:

> As she can reckon, sep'rate and compare,
>
> Conceive what Order, Rule, Proportion are,
>
> So from one Thought she still can more infer.
>
> Maxim from Maxim can by force express,
>
> And make discover'd Truths associate Truths confess:

On plain Foundations, which our Reason lays,
She can stupendous Frames of Science raise:
Notion on Notion built will tow'ring rise,
Till th' Intellectual Fabricks reach the Skies.
The Mathematic Axioms, which appear
By Scientific Demonstration clear,
The Master Builders on two Pillars reer.
From two plain Problems by laborious Thought
Is all the wondrous Superstructure wrought.
(Blackmore, 1712, VII, ll.275-88)

This excerpt is Blackmore's celebration of the science he has employed throughout *Creation*. First, he calls attention to the mental capacity for analysing and discriminating between ideas—a function that Blackmore, following Locke, refers to judgment. These intellectual faculties allow the mind to deduce new truths from others through a process of inference. In this way, reason possesses the ability to create knowledge. Blackmore elaborates on this concept in the following lines, underlining the deductive process. The mind derives implications from first principles, unveiling a logical framework in which truths are interconnected and mutually supportive. These claims are based "[o]n plain Foundations, which our Reason lays," an instance of Locke's claim that knowledge must derive from plain and simple ideas, upon which complex structures are built through reflection.

The ability to construct knowledge is illustrated through an architectural metaphor, an image Blackmore often employs in his works. Reason builds the "stupendous Frames of Science"[65] like a great architect, piling notions upon one another into towering structures that ultimately reach the divine. This passage not only legitimates Blackmore's argumentative strategy but even conveys the eighteenth-century faith in reason's ability to comprehend the universe through rational inquiry. This excerpt reaches its climax in a tribute to the axioms of mathematical thought. The final lines 284-88 probably allude to the Euclidean geometry Blackmore must have studied during his university years (Allen, 1949), where knowledge is constructed out of a few self-evident axioms. Locke, too, reflects on mathematical knowledge in the *Essay*. In particular, although he does not formulate a systematic theory of induction like Hume later does, in Book IV he explores how we form beliefs based on probability,

[65]In the early modern period, the word "science" did no not have the same definition that it assumed in the nineteenth century and later. In the Middle Ages, the Latin "scientium" described the "systematic ordering or acquisition of knowledge" (Paley, 2006, pp. 296–7). Rogers (2016, p. 320) further explains that "the term science acquired its modern specialized sense (limiting the concept to a particular area of knowledge) in a very gradual process—the earliest instance cited by OED comes from Isaac Watts's Logic in 1725."

experience, and empirical evidence. These, for him, are the philosophical foundations of inductive reasoning. In Chapter II ("Of the Degrees of our Knowledge"), the philosopher distinguishes between intuitive, demonstrative, and sensitive knowledge; mathematics is placed under demonstrative knowledge. In this section, he explains that mathematical reasoning involves clear, systematic demonstrations that lead to certain knowledge, as each step is built upon previously established intuitive or demonstrative truths. In Chapter VII ("Of Maxims"), then, Locke argues that mathematical axioms or "maxims" (like "the whole is greater than the part") are not the basis of reasoning in mathematics but rather tools that may be used along the way, challenging the idea that all reasoning depends on such maxims. The poem admires logical reasoning and the accumulation of knowledge, graphically rendered through the many repetitions, two strategies that he extensively employs to attain his physico-theological aims in *Creation*.

To sustain what previous lines already outlined, Blackmore adds a further clarification regarding the difference between the self-reflecting power of the mind and the perception of the senses:

> The Soul, as mention'd, can her self inspect,
>
> By Acts reflex can view her Acts direct;
>
> A Task too hard for Sense, for tho' the Eye
>
> Its own reflected Image can descry,
>
> Yet it ne'er saw the Sight, by which it sees,
>
> Vision can shew no colour'd Images.
>
> The Mind's Tribunal can Reports reject
>
> Made by the Senses, and their Faults correct.
>
> (Blackmore, 1712, VII, ll.289-96)

The mind has the faculty to correct the perception of the senses, which, at times, may be erroneous. On the one hand, this passage expresses the faculty of reflection that the mind performs; on the other, it may be read as having a Cartesian element. Perhaps influenced by Descartes's dualism, these lines may be interpreted as distrust of the senses. In the French philosopher's works, especially his *Meditations on First Philosophy* (1641) and *Discourse on the Method* (1637), a clear metaphysical hierarchy sees reason prevail over the senses. In the latter work, for instance, he critiqued the senses and praised mathematical reasoning:

> All that I have, up to this moment, accepted as possessed of the highest truth and certainty, I received either from or through the senses. I observed, however, that these sometimes misled us; and it is the part of prudence not to place absolute confidence in that by which we have even once been deceived. (Descartes, 1994, p. 74)

This idea of the full unreliability of the senses is also expressed in *An Essay Concerning Human Understanding*, particularly in Book II, Chapter IX ("Of Perception"). There, Locke discusses how the mind reflects on sensory experience and uses reason to evaluate and sometimes correct what is perceived:

> §1. *Perception*, as it is the first faculty of the mind, exercised about our ideas; so it is the first and simplest idea we have from reflection, and is by some called thinking in general.
>
> [...]
>
> §8. We are further to consider concerning perception, that the ideas we receive by sensation, are often in grown people altered by the judgement, without our taking notice of it. (Locke, 2008, pp. 142–3)

In order to corroborate his point, the philosopher offers examples that are quite similar to the ones provided by Blackmore in lines 297 to 302. He includes the question of the blind man, "a problem of that very ingenious and studious promoter of real knowledge, the learned and worthy Mr Molineux, which he was pleased to send me in a letter some months since" (Locke, 2008, p. 144). While Locke maintained that sensation is the first step in gaining knowledge, he also gave prominence to reflection in forming more accurate ideas. Hence, remembering Descartes's teachings, Locke praises sensory experience as the origin of knowledge, though he recognises that the mind has the faculty to assess and correct errors through judgment, reasoning, and reflection.

These faculties are made possible by the action of the mind's "Messengers the Spirits" (l.310). Lines 303 to 313, where the Human Soul is like a monarch controlling bodily functions via the "spirits," are particularly interesting as they remind the reader of Book VI, lines 670 to 683. There, Blackmore employed the metaphor of the animal spirits as messengers, sentinels, and soldiers of the mind, an image he took almost word by word from Thomas Willis's *Cerebri Anatome* (1681), Chapter XIX (Willis, 1681b, p. 129). His neurophysiology formed the foundation of Locke's understanding of the workings of the mind. According to Willis, whose lectures Locke attended at Oxford, anatomy "could unlock the secret places of Man's mind and look into the living and breathing Chapel of the Deity" (Wilson, 2012, p. 129). He believed that the rational soul was unique to humans and facilitated reason and morality, drawing humans closer to the divine (Wragge-Morley, 2018, p. 57). Blackmore, too, was indebted to this tradition when he wrote in *A Treatise of the Spleen and Vapours: or, Hypocondriacal and Hysterical Affections*:

> the purer, more subtile, and volatile Parts of the Blood, which are separated by that exquisite Strainer, to be exalted, sublimed, and converted into animal Spirits, the active Ministers of the Fancy and Imagination, as well as of the inferior and sensitive Government. (Blackmore, 1725c, p. 39)

Afterwards, the poet remarks on the seat and nature of human intelligence:

> Where sits this bright Intelligence enthron'd,
> With numberless Ideas pour'd around?
> Where Wisdom, Prudence, Contemplation stand,
> And busie Fantoms watch her high Command:
> Where Sciences and Arts in order wait,
> And Truths Divine compose her Godlike State.
> Can the dissecting Steel the Brain display,
> And the august Apartment open lay,
> Where this great Queen still chuses to reside
> In Intellectual Pomp, and bright Ideal Pride?
> Or can the Eye assisted by the Glass
> Discern the strait, but hospitable Place,
> In which ten thousand Images remain,
> Without Confusion, and their Rank maintain?
> (Blackmore, 1712, VII, ll.314-27)

The initial question posits the human mind as a powerful, elevated sovereign, which implies the prowess and gravity of human reason. The next lines (ll.316–9) provide a full account of the intellect's faculties: "Wisdom, Prudence, Contemplation," the elaboration of "Sciences and Arts," and the ability to reach "Truths Divine." The human mind has an almost "Godlike State" (l.319), since it goes beyond mere cognition. Reason is the foundation of all human accomplishments. Lines 320 to 327 consider the inadequacy of anatomy and microscopy for uncovering the mind's true nature, which transcends mere materiality. The poet asks if the "dissecting Steel" of the anatomist can reveal the secrets of "the august Apartment" where the "great Queen" of the mind stays (ll.320-2). The same may be affirmed of the microscope, "the Glass" that aids "the Eye" (l.324), which fails to uncover the source and location of mental images in the mind. These lines synthesise the ancient mind-body question: is it possible that the body, a material entity, can be responsible for consciousness?

Borcherding (2021) explains that in the seventeenth century, several thinkers were still indebted to the Aristotelian hylomorphic tradition, whereby the soul is seen as the inseparable form of the body. While Scholastic intellectuals like Thomas Aquinas (1224/25–1274) endeavoured to integrate this view with Christian doctrine, Descartes offered a radical alternative: an ontological distinction between the mind (*res cogitans*) and the body (*res extensa*) as an extended, non-thinking part, locating the pineal gland as the link between the two. This view provoked several contrasting responses. For

instance, monist and materialist approaches—championed by Spinoza and Hobbes, respectively—denied substance dualism and saw mind and body as either two aspects of one substance or entirely material phenomena. Others, like the Cambridge Platonists and John Locke, offered modified dualisms that more closely aligned with the Christian doctrine.

In this context, Blackmore's poem opposes materialist reductionism and advances a broader interpretation of human faculties. While anatomy offers invaluable help in comprehending the brain's physiological workings, the immaterial nature of the mind remains largely a mystery. The mind is an august "Queen" (l.322), inaccessible to dissection and microscopic investigation. Before the eighteenth century, the so-called mind-body problem was a central concern among philosophers, theologians, natural philosophers, and physics-theologians. Thinkers like Plato considered the soul's incorporeal and eternal nature as entirely distinct from the physical body and impossible to observe empirically. In his *Phaedo*, he portrayed the soul as akin to the eternal forms and thus intelligible only to reason. Aristotle also believed that intellect was detachable from the material body and implied that an immaterial component was essential to thought. Later, Galen and Avicenna attempted to understand the body-soul interaction in anatomical and medical terms, but their empirical endeavours still presupposed a non-bodily soul. In the seventeenth century, Descartes established the ontological dualism of the the mind and the body, two fundamentally different substances, mysteriously united through the pineal gland (Robinson, 2023). Thomas Willis, then, extended the argument by linking mental functions to brain anatomy and structure while remaining adherent to religious dualism. The dualists that preceded Blackmore were all convinced that material tools alone could not capture the essence of consciousness or the soul, and the poet condenses these views in the above-quoted lines.

The following section of the poem (lines 328 to 369) explores the philosophical implications of thought, perception, and consciousness. To be specific, the poet criticises mechanistic and materialist models of the mind, particularly those coming from the Epicurean and Cartesian traditions he addressed in the previous books:

> Perceive the Object by the Senses brought?
> What Philosophic Builder will essay
> By Rules Mechanic to unfold the way
> How a Machine must be dispos'd to think,
> Ideas how to frame, and how to link?
> Tell us, Lucretius, Epicurus, tell,
> And you in Wit unrival'd shall excel,
> How thro' the outward Sense the Object flies,

How in the Soul her Images arise.
What Thinking, what Perception is, explain;
What all the airy Creatures of the Brain;
How to the Mind a Thought reflected goes,
And how the conscious Engine knows it Knows.
(Blackmore, 1712, VII, ll.329-41)

First, he engages with Descartes's philosophy, addressing his world system based on "Rules Mechanic." His use of the phrase "conscious Engine" (l.341) seems to satirise Cartesian attempts to separate thought from mechanistic explanations while simultaneously assigning purely mechanical functioning to the body. How can any "Philosophic Builder" explain how a machine might "think" or "frame ideas"? With this question Blackmore expresses scepticism towards Cartesian mechanism and calls attention to the mystery of metacognition, which the physician believed cannot be resolved through materialism alone. Then, Blackmore appeals again to Epicurus and Lucretius's atomistic materialism (ll.334-7). According to Epicurus's *Letter to Herodotus* and Lucretius's *De Rerum Natura*, all mental activity arises from the motion and arrangement of fine, very fast-moving atoms that compose the soul. In particular, Lucretius elaborates this view in *De Rerum Natura* Book III and IV, where he explained that sensory perception is caused by atomic images (*eidola*) emitted by objects and striking the senses, and that thought is a material response to these impressions:

Now (for tis fit) my *Muse* declares, and sings,
What those are we *call* Images of Things,
Which like *thin films* from bodies rise in streams,
Play in the Air, and *dance* upon the beams.
[...]
A *stream* of Forms from every surface flows,
Which may be call'd the *film* or *shell* of those;
Because they bear the shape, they shew the frame,
And figure of those bodies whence they came.
(Lucretius Carus, 1682, p. 103)

Blackmore challenges this view and demands an explanation not only for sensory processing but also for the emergence of abstract thought and self-awareness (ll.336–40). His rhetorical questioning is set to show the untenability of the atomist explanation once again. The materialist interpretations of contemporary thinkers like Gassendi and Hobbes (see Section 1.3.5) are implicitly rejected as well. For Blackmore, consciousness and moral agency suggest an immaterial soul that cannot be

accounted for only by atomic motion. To a certain extent, the Lockean empiricism outlined by Blackmore in previous passages becomes another philosophical target. The poet expresses doubt that highly complex faculties of the mind—such as the planning of merchants (ll.344-6), the strategising of statesmen (ll.350-3), or the persuasive eloquence of orators (ll.354-69)—can be fully explained through empirical or mechanistic accounts. Underpinning Blackmore's critique is, of course, a physico-theological understanding of the human mind and soul: the soul—and, by extension, the human mind—must be of divine origin and must be immortal. The very failure of atomism and mechanism to account for higher mental faculties proves the necessity of a superior immaterial principle. The human soul, in its divine origin, is the image of God in humans. Thus, Blackmore's rejection of materialist reductionism serves another purpose: to defend the reality of free will, responsibility, and morality, as the next section demonstrates.

3.2.4 Free Will and Morality

After praising the mind's ability in the arts—music (ll.370-9), painting (ll.380-92), sculpture (ll.393-411), and carving (ll.412-20)—Blackmore completes the climax built in the course of the poem and elevates the topic to a discussion of the moral argument. Although this section does not strictly align with the aim of this thesis—that is, studying the scientific background of *Creation*— it serves to complete the picture of Blackmore's understanding of the human interior workings. We will briefly consider the poet's opinion that humans possess free will and the capacity for ethical reasoning, which is the object of lines 422 to 673. The relevance of this section in Blackmore's contemporary philosophical debate is particularly noteworthy. In the years of the scientific revolution and of empirical investigation, it became increasingly urgent to reflect on the nature of the human soul. This urgency was also the product of the transformation of the concept of the soul between the sixteenth and seventeenth centuries. Sixteenth-century thinkers used to draw on Aristotle's *De anima* and viewed the soul as the form responsible for all life functions. In the seventeenth century, on the other hand, the soul was redefined as exclusively human and became associated with cognition (Cellamare, 2020b). Blackmore's position aligns with a more traditional, Christian-Platonist understanding of the soul as the seat of moral agency and divine purpose. His reflection in Book VII resonates with the theologies of Cambridge Platonists Ralph Cudworth and Henry More, who opposed mechanistic materialism and Cartesian dualism. Cudworth argued for the soul's freedom and innate moral knowledge, whereas More believed that the soul could not be reduced to a mere mechanical explanation (Cellamare, 2020b). Blackmore was not a philosopher himself, but his *Creation* recorded the coeval debates and somewhat participated in them. Coherently with his physico-theological inspiration, the poet highlights the limits of natural philosophy, especially as proposed by materialists like Hobbes or Descartes.

In particular, Descartes's *De homine* claimed to have supplied a mechanistic explanation of nearly all life manifestations and redefined human thought as the function of an immaterial *res cogitans* (Cellamare, 2020b). This materialism was taken to the extreme by Hobbes, who believed there were no limits to mechanist explanations and denied immaterial substance altogether. More aligned with Blackmore was his fellow physician John Locke. As stated by the philosopher, God might endow matter with the power of thought:

> We have the ideas of *matter* and *thinking*, but possibly shall never be able to know, whether any mere material being thinks, or no; it being impossible for us, by the contemplation of our own ideas, without revelation, to discover, whether Omnipotency has not given to some systems of matter fitly disposed, a power to perceive and think, or else joined and fixed to matter so disposed, a thinking immaterial substance: it being, in respect of our notions, not much more remote from our comprehension to conceive, that GOD can, if he pleases, superadd to matter a faculty of thinking, than that he should superadd to it another substance, with a faculty of thinking; since we know not wherein thinking consists, nor to what sort of substances the Almighty has been pleased to give that power, which cannot be in any created being, but merely by the good pleasure and bounty of the Creator. For I see no contradiction in it, that the first eternal thinking being, should, if he pleased, give to certain systems of created senseless matter, put together as he thinks fit, some degrees of sense, perception, and thought. (Locke, 2008, p. 480)

Locke argues against the idea that we can be certain that thinking must belong only to immaterial substances, though it is within God's power to endow matter with the capacity to think.

In *Creation*, Blackmore insists that morality, reason, and self-awareness are not just properties of matter or products of sensory experience but rather gifts of a soul created in God's image. His moral argument is thus inseparable from his theological orientation. In this way, Blackmore resists the assimilation of soul and mind within mechanism, a process that Cellamare (2020b) identifies as central to the intellectual shifts of the early modern period. This section opens with an affirmation of the mind's self-governing capacity:

> As human Kind can by an Act direct
>
> Perceive and Know, then Reason and Reflect:
>
> So the Self-moving Spring has Power to Chuse,
>
> These Methods to reject, and Those to use.
>
> (Blackmore, 1712, VII, ll.422-5).

The "Self-moving Spring"—that is, the human soul conceived in a Christian sense—is presented as an agent of cognition and volition. The poet departs from deterministic materialism and defends internal liberty, as "[f]ree from the Insults of all foreign Power, / She does her Godlike Liberty secure" (ll.428-9). The soul, "impatient of the Yoke," becomes a "Sovereign" presiding over its own ideas (ll.434-5). Blackmore's description of the soul as a "self-moving spring," on the one hand reminds us of Aristotle's idea of a self-moving principle (οὐσία ἐνέργεια), but on the other, it also echoes the Cambridge Platonists (Hutton, 2024). In Ralph Cudworth's *The True Intellectual System of the Universe* (1678), we read:

> That there is a *Substance* Specifically distinct from *Body*; namely such, as Consisteth *Not of Parts Separable* from one another; and which can *Penetrate Body*; and Lastly, is *Self-Active*, and hath an *Internal Energy*, distinct from that of *Locall Motion.* (And thus much is undeniably Evinced, by the Arguments before proposed.) But whether this *Substance*, be altogether *Unextended*, or *Extended* otherwise then *Body*; we shall leave every man to make his own Judgment concerning it. (Cudworth, 1687)

Hampton and Kenney (2020) maintain that as human beings, we are ontologically rational, and our rationality enables not only thought but also action, which makes us morally responsible. Blackmore's soul can form, recall, manipulate, and direct ideas, and it has faculties which transcend this. For instance, a more complex faculty of the mind is memory, which even operates thanks to "Fancy" (l.444). The mind can "unite" and "divide" ideas—described as "Phantoms" of the mind, with a terminology remindful of Locke's *Essay* ("I have used [the term idea] to express whatever is meant by *phantasm, notion, species*...," Book I, Chapter I, p. 59)—but it can also recall previously stored ideas:

> While her fair Scenes to vary, or supply,
> She singles out fit Images, that lye
> In Memory's Records, which faithful hold
> Objects immense in secret Marks inroll'd,
> The sleeping Forms at her Command awake,
> And now return, and now their Cells forsake;
> On active Fancy's crowded Theater,
> As she directs, they rise or disappear.
> (Blackmore, 1712, VII, ll.438-45)

This passage remains coherent with Lockean empiricism: memory is treated not as a passive repository but as a responsive faculty. In the *Essay*, Book II, Chapter X ("Of Retention"), the philosopher explains memory as a faculty of the mind:

> §1. The next faculty of the mind, whereby it makes a further progress towards knowledge, is that which I call *retention*, or the keeping of those simple ideas, which from sensation or reflection it hath received. This is done two ways. First, by keeping the idea, which is brought into it, for some time actually in view, which is called *contemplation*.
>
> §2. The other way of retention is the power to revive again in our minds those ideas, which after imprinting have disappeared, or have been as it were laid aside out of sight: and thus we do, when we conceive heat or light, yellow or sweet, the object being removed. This is *memory*, which is as it were the storehouse of our ideas. For the narrow mind of man, not being capable of having many ideas under view and consideration at once, it was necessary to have a repository, to lay up those ideas, which at another time it might have use of. But our ideas being nothing, but actual perceptions in the mind, which cease to be anything, when there is no perception of them, this *laying up* of our ideas in the repository of the memory, signifies no more but this, that the mind has a power, in many cases, to revive perceptions, which it has once had, with this additional perception annexed to them, that it has had them before. (Locke, 2008, pp. 147–8)

In this process, the mind is "very often" quite active, as it "sets itself on work in search of some hidden idea, and turns, as it were, the eye of the soul upon it" (Locke, 2008, p. 150). The active role of the mind is well rendered by the metaphor of theatre in line 444. Blackmore criticises the materialist explanations of perception by questioning the efficacy of atomic transmission or mechanical causality in explaining intellectual operations. He declares that ideas are not imprinted by objects on a passive mind but result from the mind's action, as:

> Ideas, which to some impulsive seem,
>
> Act not upon the Mind, but That on them.
>
> When she to foreign Objects Audience gives,
>
> Their Strokes and Motions in the Brain perceives
>
> (Blackmore, 1712, VII, ll.450-3)

And we call "these Perceptions" "Ideas" (l.454). This point of view is fundamental to corroborate what follows, that is, Blackmore's treatment of free will and moral agency:

> So when discern'd by Intellectual Light,
>
> Her self her various Passions does excite,
>
> To Ill her Hate, to Good her Appetite:

To shun the first, the latter to procure,
She chuses Means by free Elective Pow'r.
[...]
From all Restraint, from all Compulsion free,
Unforc'd, and unnecessitated, we
Our selves determine, and our Freedom prove,
When This we fly, and to That Object move.
Had not the Mind a Pow'r to will and chuse,
One Object to embrace, and one refuse;
Could she not act, or not her Act suspend,
As it obstructed, or advanc'd her End;
Virtue and Vice were Names without a Cause,
This would not Hate deserve, nor That Applause.
(Blackmore, 1712, VII, ll.456-60 & ll.481-90)

This excerpt is yet another example of Blackmore's indebtedness to Locke's thought. The poet explains that the "Reas'ning Soul" of human being controls their appetites, which distinguishes them from animals, driven by instinct (ll.473-80). The idea of the mind controlling bodily impulses was not new to Blackmore: as a former Cartesian, he was aware that the French philosopher believed that the soul could guide the passions or appetites. According to O'Connor and Franklin (2022), Descartes identifies the faculty of will with freedom of choice, the ability to do or not do something (Descartes, 1994, p. 106), and believes that "the will is by its nature free in such a way that it can never be constrained" (Descartes, 1989, p. 41).

Blackmore portrayal of free will is closer to Locke's. In Book II, Chapter XXI ("Of Power") of the *Essay*, the philosopher provides an account of human freedom. He argues that freedom is a property of the agent, not of the will itself: "the idea of liberty is, the idea of a power in any agent to do or forbear any particular action according to the determination or thought of the mind" (Locke, 2008, p. 223). This means that freedom is not in the will's operations but in one's ability to act in alignment with those operations. He explains that the will is not properly the subject of liberty (p. 224), and even repeatedly describes the question as altogether improper. As Rickless (2020) clarifies, Locke sees this question as a mistake: powers themselves can not possess powers; only agents can possess powers like freedom. For him, the will is the power to initiate action or thought. In Book II, Chapter XXI, he explains that

> when everyone well considers it, I think he will as plainly perceive, that *liberty*, which is but a power, belongs only to agents, and cannot be an

> attribute or modification of the *will*, which is also but a power. [...] 'Tis plain then, that the *will* is nothing but one power or ability, and *freedom* another power or ability [...] *powers* belong only to *agents*, and *are attributes only of substances, and not of powers.* (Locke, 2008, pp. 225–6)

Without free will, actions cannot be attributed to the individual in terms of moral judgment because the individual would not be seen as fully responsible for those actions. Blackmore, too, conceives of moral accountability as dependent on the will. The lyrical I rejects deterministic atomistic models and to clarify his point, he employs the analogy with physical coercion:

> Should Trains of Atomes human Sense impel,
> Tho' not so fierce, so strong, so visible
> As Soldiers arm'd, and do not Men arrest
> With Clubs upheld and Daggers at their Breast,
> Yet Means Compulsive are not plainer shown,
> When Ruffians drive, or Conqu'rors drag us on:
> As much we're forc'd, when by an Atome's Sway
> Controul'd, as when a Tyrant we obey:
> And by whatever Cause constrain'd to act,
> We merit no Reward, no Guilt contract.
> (Blackmore, 1712, VII, ll.510-9)

Without free will, the concepts of virtue, vice, and justice are meaningless. An understanding of human nature like Lucretian materialism invalidates the possibility of human responsibility, as the hyperbaton in line 510 emphasises. The last couplet condenses and intensifies through parallelism the notion that if external forces compel us, we cannot be morally accountable. The simile equating atoms with a tyrant emphasises the argument through a sarcastic hyperbole.

This ironic invective against atomism—further strengthened through the martial imagery in lines 512-3—is also directed towards seventeenth-century atomists like Hobbes and Gassendi. For instance, in *Leviathan* (1651), Hobbes maintained that all thought is but the product of the motions of the organs of the body. This also includes moral action, which then makes ethics a system of cause and effect governed by the same laws as physics. Blackmore's target is the view that all human actions—including moral ones—are reducible to the mere motion of matter rather than the result of autonomous choice. This annuls the basis for ethical judgment, a staple of Christian thought and morality, and Blackmore defends the immaterial, rational soul:

> Our Mind of Rulers feels a conscious Awe,

Reveres their Justice, and regards their Law.
She Rectitude, and Deviation knows,
That Vice from one, from one that Virtue flows.
Of these she feels unlike Effects within,
From Virtue Pleasure, and Remorse from Sin.
Hopes of a just Reward by That are fed,
By This of Wrath Vindictive secret Dread.
The Mind, which thus can Rules of Duty learn,
Can Right from Wrong, and Good from Ill discern,
Which the sharp Stroke of Justice to prevent
Can Shame express, can grieve, reflect, repent;
From Fate or Chance her Rise can never draw,
Those Causes know not Virtue, Vice, or Law.
(Blackmore, 1712, VII, ll.520-33)

This passage marks a shift from empirical argumentation to a more introspective affirmation of human conscience as evidence of a higher faculty. Drawing on the tradition of the Cambridge Platonists, Blackmore challenges materialistic determinism and asserts a divine origin for moral consciousness. The passage begins with a tricolon that presents the mind as reverend towards morality, as the soul of man is innately oriented towards justice. This is a core attribute of the rational soul. Blackmore resorts to antitheses and chiasmi to exalt the soul's ability to discriminate between "Rectitude" and "Deviation," and to feel "Pleasure" in virtue and "Remorse" in sin. A climax and polysyndeton of emotional capacities—"Shame," "grieve," "reflect," "repent" (ll.530-1)—convey the complexity of conscience. This moral responsiveness cannot be the result of chance. The alliteration in "Virtue" and "Vice," and the final antithesis between determinism and morality reinforce the idea that moral awareness must transcend mere material forces.

These lines reflect the influence of several Christian thinkers in the latter part of the seventeenth century. Indeed, these reflections are highly remindful of Ralph Cudworth's *The True Intellectual System of the Universe* (1678), particularly the argument for an "immutable morality" grounded in the divine (Hutton, 2023). Blackmore, too, rejects the reduction of virtue to physical causes. To him, morality reflects divine order and in this, he aligned himself with contemporary natural and physico-theologians: the presence of conscience within the human mind is proof of a rational and moral sense that originates in God. Similar arguments were also found in the works of contemporary physico-theologians. For example, in *The Folly of Atheism* (1693) Richard Bentley intended to show

> [t]hat the very Life and Vital Motion and the Formal Essence and Nature of Man is wholly owing to the power of God: and that the consideration of our Selves, of our own Souls and Bodies, doth directly and nearly conduct us to the acknowledgment of his Existence. And, [...] I shall prove, That there is an immaterial Substance in us, which we call Soul and Spirit, essentially distinct from our Bodies: and that this Spirit doth necessarily evince the Existence of a Supreme and Spiritual Being. (Bentley, 1693, p. 45)

Like Blackmore, Bentley believed that "[t]here is something in our Composition, that thinks and apprehends, and reflects and deliberates" (Bentley, 1693, p. 46) and that

> these Faculties and Operations of Thinking, and Willing, and Perceiving, must proceed from something or other as their efficient Cause: meer Nothing being never able to produce any thing at all. So that if these powers of Cogitation, and Volition, and Sensation, are neither inherent in Matter as such, nor producible in Matter by any motion and modification of it; it necessarily follows, that they proceed from some cogitative Substance, some incorporeal Inhabitant within us, which we call Spirit and Soul. (Bentley, 1693, p. 46)

Hence, Blackmore perfectly fits in the physico-theological spirit of his day even under this respect.

In the next few lines, the poet provides further evidence against strict materialism. The soul can imagine an afterlife and contemplate divine justice (ll.534-9), while it can also resist bodily desires and even embrace suffering for the sake of virtue (ll.540-5). Here, Blackmore resorts to a mythological allusion to the Sirens (l.551), representing temptation. Despite their "charming Song," the soul remains "deaf to its Threats, and to its Favour cold" (l.553). The listing of the mind's capabilities creates a rhetorical crescendo, intensified by the use of asyndeton and antithesis. This new reflection culminates in a challenging question:

> Sages remark, we labour not to show
>
> The Will is free, but that the Man is so.
>
> For what inlighten'd Reas'ner can declare
>
> What Human Will and Understanding are?
>
> (Blackmore, 1712, VII, ll.554-7)

Does it even make sense to talk about the "will" and "understanding" in purely mechanical terms? Can the soul's moral actions be explained only by material causality? The following excerpt serves as an implicit response to these rhetorical questions. Blackmore turns to a cosmogonic vision and reflects on both the origins of the world

and the limits of human understanding employing a blend of Lockean scepticism and Newtonian order. In particular, he reflects on the successful "pursuit" of his poetic task and employs the rhetorical strategy of *chronographia*, i.e., a depiction of the primordial chaos prior to the creation. Cosmogonic imagery describes the earth before geological formations—"Subterranean Arch" (l.571), "Cavern vaulted" (l.572), "high Rocks" (l.573)—and astronomical order—"burnish'd Orbs in blue Expansion" (l.578). These lines draw heavily on the Bible and the geological and astronomical knowledge outlined in Chapter 2. Blackmore especially underlines the order in a cosmos governed by divine laws in a way that would remind the eighteenth-century reader of the General Scholium to the second edition of Newton's *Principia Mathematica* (1713): given its order and harmony, the universe could not but be the work of an intelligent and powerful being:

> This most elegant system of the sun, planets, and comets could not have arisen without the design and dominion of an intelligent and powerful being. And if the fixed stars are the centers of similar systems, they will all be constructed according to a similar design and subject to the dominion of One, especially since the light of the fixed stars is of the same nature as the light of the sun, and all the systems send light into all the others. And so that the systems of the fixed stars will not fall upon one another as a result of their gravity, he has placed them at immense distances from one another. He rules all things, not as the world soul but as the lord. (Cohen & Foote, 2021, p. 940)

With lines 585 to 634, the *fil rouge* that crosses the whole poem reaches a climax, as the reader witnesses the soul's ascent from terrestrial creation to the physiological complexity of living beings. Through a metaphorical ascent from natural observation to intellectual speculation, the soul surveys the natural world—earth, sea, and air (ll.587-94)—then soars through the celestial spheres (ll.595-610), which have been covered in Books I and II of *Creation*. In this way, the Muse (l.611) undertakes a sort of meta-poetic flight which sees the poet as an explorer of the universe.[66] This arc culminates with the celebration of the soul that animates the body according to divine intent. Blackmore posits that in all living beings an immaterial substance is active beyond mechanical causation. He refers to "spirits waken'd in the Brain" (l.624), a "vital Flame" (l.627), and "bounding Life" (l.629), which evoke the vocabulary of Thomas Willis's *Cerebri Anatome* (1664). As the previous Section 3.1.4 illustrated, the anatomist describes the generation of "animal spirits" as a product of cerebral distillation, thanks to which the brain, like an alembic, transforms blood into the subtle fluid responsible for sensation and movement in the nervous system:

[66] This feature recalls one of the *topoi* of eighteenth-century scientific poetry identified by Jones (1963, 1966): the cosmic voyage after the scientist's death. After death, the scientist embarks in a cosmic voyage in which he wanders among the stars and surveys the works of creation he studied in life. In this experience, he learn the secrets of the universe that he vainly sought in his life and that pertain to God.

How the small Pipes are in Meanders laid,

And bounding Life is to and fro convey'd.

How Spirits, which for Sense and Motion serve,

Unguided find the perforated Nerve.

Thro' ev'ry dark Recess pursue their Flight,

Unconscious of the Road and void of Sight,

Yet certain of the End still guide their Motions right.

(Blackmore, 1712, VII, ll.628-34)

Blackmore insists on the purposive motion of the animal spirits, which is traced back to their ultimate divine origin. This is also true of the embryological development of human beings outlined in lines 622 to 630.

The final portion of Book VII turns to the moral and intellectual capacities of the rational soul.

From thence a nobler Flight she did essay,

The Mind's extended Empire to survey.

She sung the Godlike Principle of Thought,

And how from Objects by the Senses brought,

The Intellectual Imag'ry is wrought.

(Blackmore, 1712, VII, ll.635-9)

Blackmore's muse soars from natural philosophy to a celebration of "the Godlike Principle of Thought" (l.637). The movement reflects a hierarchy of knowledge: sensory input is necessary, but true understanding transcends the body. These lines summarise the Lockean epistemology that has been the subject of Book VII: all ideas originate in experience—"from Objects by the Senses brought" (l.638)—but are then shaped by the mind into complex forms—"the Intellectual Imag'ry" (l.639). Blackmore's conception of reason is more than purely empirical: the mind can "discern" abstract relations (l.640) and master "all the thin abstracted Notions" (l.642) of "Grecian Wits" and modern British thinkers (l.643). While knowledge begins in sensation, the mind is active in interpreting it. This logically leads to the conclusion that God endowed humans with this faculty. Therefore,

Still, vanquish'd Atheists, will you keep the Field,

And hard in Error still refuse to yield?

(Blackmore, 1712, VII, ll.644-5)

Atheists are rebuked for their lack of clarity. In a martial and theatrical metaphor, atheists are defeated soldiers in retreat (l.646), bearing "Tinsel Armour" and "Bull-rush Spears" (ll.653-4). They are advised to retire to "the Scoffer's Chair" (l.655), the ridicule they employ in their arguments. Blackmore scorns atheists, who do not effectively refute religion but vanquish it "with decisive Jests" (l.659). The critique then turns to rationalists and Deists, who attempt to build philosophical systems without theological foundation:

> Good Heav'n! that Men, who vaunt discerning Sight,
> And arrogant from Wisdom's distant Height
> Look down on vulgar Mortals, who revere
> A Cause Supream, should their proud Building reer
> Without one Prop the pondrous Pile to bear.
> (Blackmore, 1712, VII, ll.662-6)

The architectural metaphor illustrates the unreasonableness of such thinking: without a solid foundation, any system reason is destined to collapse. Reason must rest upon certain principles, which, for Blackmore, are necessarily ascribable to God. The tone here is rhetorical and ironic: the so-called wise are exposed as building castles on sand, while "vulgar Mortals" (l.664) who revere a divine cause can rely on firmer foundations.

Finally, the closing lines of this passage (ll.667-73) turn to eschatological prophecy: God, "the Judge," will judge the "Scoffer:"

> How much the Judge, who does in Heav'n preside
> Remocks the Scoffer, and contemns his Pride!
> Behold, the sad Unsufferable Hour
> Advances near, which will his Error cure;
> When he compell'd shall drink the wrathful Bowl,
> And ruin'd feel Immortal Vengeance roll
> Thro' all his Veins, and drench his inmost Soul.
> (Blackmore, 1712, VII, ll.667-73)

This excerpt draws on the *Book of Revelation*, particularly chapter 16, where angels pour out bowls filled with God's wrath onto the earth as part of the final judgment (*The Bible, The New Testament*, 2015, p. 312). Each bowl intensifies the punishment and illustrates God's ultimate condemnation of evil and irreligion. Divine punishment is visceral, penetrating "Veins" and "Soul" (l.673), the objects of the analysis of the present chapter. According to Jones (1959), biblical paraphrases devoted to creation

and the Last Judgement were the most numerous among the scientific biblical paraphrases popular in the eighteenth century. Hence, Blackmore's poem is perfectly in line with coeval scientific poetry

3.3 Conclusion

Clymer (2005) comments that the poem has two conclusions: a short Last-Day scene and a hymn to the creator of the world.[67] In these final lines (ll.674-765), the epic-style narrator returns and praises "the Supreme King['s]" omnipotence, wisdom, and providence, who infused primordial chaos with creative force during the act of creation (ll.690-4). This gives the poet the opportunity to summarise the scientific content covered in the previous books: the universe and its celestial bodies, the Earth and everything on it, various weather phenomena, and ultimately, man, made in God's own image. In the end, Blackmore reasserts the fundamental purpose behind composing *Creation*:

> Degenerate Minds in mazy Error lost
>
> May combat Heav'n, and Impious Triumphs boast;
>
> But while my Veins feel animating Fires,
>
> And vital Air this breathing Breast inspires,
>
> Grateful to Heav'n I'll stretch a pious Wing,
>
> And sing his Praise, who gave me Pow'r to sing.
>
> (Blackmore, 1712, VII, ll.760-5)

This chapter has examined the medical and psychological background of Books VI and VII of Blackmore's *Creation*. Blackmore's unique medical expertise, as demonstrated in these books, allowed the poem to make a distinctive contribution to the English physico-theological tradition. The first section shed light on the anatomical organisation and physiological workings of the human body, including its processes of generation, and the functioning of the circulatory, digestive, and nervous systems. The second section of this chapter moved to human understanding to praise and investigate its most distinctive cognitive elements. This section included topics such as animal instincts, sense perception, reflection, and the formation of ideas. The chapter and Blackmore's poetic arc culminate in a discussion on free will and morality, which perfectly encapsulate his physico-theological aim in *Creation*.

Empiricism and observation are the distinguishing characteristics of Blackmore's stylistic and narrative choices. The poet engaged with mechanistic worldviews and

[67] Blackmore had also written on the subject in earlier poems, namely *A Hymn to the Light of the World* and *An Ode to Jehovah, Creator*, later collected in *A Collection of Poems on Various Subjects* (1718). See Appendix A.

theological apologetics to present the human body as an indubitable instance of divine creation. From Harvey's circulatory discoveries to the contentious debates over generation, from Willis's pioneering neuroanatomy to Locke's early psychology, Blackmore employed state-of-the-art medical knowledge to inform Books VI and VII. In comparison to the previous chapter, this analysis has demonstrated the author's direct indebtedness to scientific and medical sources that he must have known thanks to his profession. While the opening books of *Creation* borrowed extensively from previous physico-theological works in prose, Books VI and VII stand out in their originality: the depth of medical knowledge and the ability to present it in an engaging and accessible way make the poem a *unicum* in the physico-theological literary tradition, both in prose and verse.

The aim of these books, however, was the same as that of the first ones—the demonstration of the existence of God. The conclusion that each passage invariably reaches is the existence of a divine artificer whose wisdom is manifest in the design of the human body and mind. This originality in effectively using human physiology to the service of physiology was also recognised at the time of *Creation*'s publication. In one of the last papers on science in *The Spectator* (No. 543, Saturday November 22, 1712), Addison stressed the role of human and animal physiology to demonstrate the existence of God and wrote that

> [t]here are many more Demonstrations of a Supreme Being, and of his transcendent Wisdom, Power and Goodness in the Formation of the Body of a living Creature, for which I refer my Reader to other Writings, particularly to the Sixth Book of the Poem Entitled *Creation*, where the Anatomy of the human body is described with Great Perspicuity and Elegance. (Steele, 1961b, pp. 513–4)

Conclusions

The present dissertation has sought to rediscover a poem long neglected by scholarship but of unquestionable cultural and intellectual value, *Sir Richard Blackmore's Creation. A Philosophical Poem* (1712). At a time when natural philosophy was in the process of defining itself as a distinct discipline and when theological concerns still permeated scientific inquiry, Blackmore undertook the ambitious task of presenting in verse what had hitherto belonged mainly to prose: a physico-theological survey of the world. This doctoral project has been guided by the conviction that *Creation* deserves renewed scholarly attention not only as a forgotten literary text but also as an invaluable mirror of the intellectual climate of the early eighteenth century. Hence, the aim of this thesis was threefold. First, it has reconstructed the cultural and scientific context in which Blackmore's poem was conceived and received. In doing so, it has showed how the genre of physico-theology, at the intersection between natural philosophy and theology, provided the poet with the argumentative framework and the rhetorical strategies that he transposed into verse. Second, it has examined the poem's "scientific books"—Books I, II, VI, and VII—through a close reading of Blackmore's treatment of natural philosophy and medicine. It has clarified the nature of the poet's scientific sources and assessed their impact on his theological understanding of the universe. This research enriched the field of inquiry on scientific poetry and opened a window on the kind of scientific knowledge the general public could access thanks to popular literature. Finally, the study has endeavoured to evaluate the originality of *Creation* within the English physico-theological tradition, and it has demonstrated its continuity with earlier prose works and its distinctive contribution to the dissemination of scientific and medical knowledge, especially in poetry. The following concluding remarks will summarise the results of each chapter, before moving to a critical evaluation of Blackmore's scientific knowledge, his understanding of the relationship between God and nature, and the legacy of his poem in eighteenth-century literature. A reflection on possible directions for future research in this field will close the work.

Chapter 1 provided the cultural and intellectual background against which *Creation* was read. The chapter began with a survey of the emergence of physico-theology in late seventeenth-century England. As von Greyerz has recently observed, physico-theology represented "an attempt to reconcile the new science with Christian tradi-

tion by deploying the most advanced natural knowledge of the time in the service of apologetics" (2022, p. 1). It was a hybrid form that could speak both to those familiar with the new experimental philosophy and to the devout reader seeking reassurance of divine providence in a progressively more scientifically oriented intellectual world. Within this context, the figure of Sir Richard Blackmore was introduced in his multifaceted persona, as a poet, physician, and intellectual. His professional expertise as a doctor, his acquaintance with John Locke and other figures of the London intellectual scene of the early eighteenth century, and his commitment to the defence of religion against atheism and deism all prepared the ground for his encyclopaedic and moral poetry. The chapter then offered an introductory overview of *Creation*: its genesis and editorial history, paratexts, style, and early reception.

Chapter 2, then, moved to the close analysis of Books I and II, devoted to the natural world. Research demonstrated that Blackmore drew extensively on the prose tradition of English physico-theology, as exemplified by staple works like those by William Derham, Richard Bentley, and John Edwards. The poet adapted their arguments to verse, covering subjects ranging from the structure of the Earth and the phenomena of magnetism and atomism to the beauty of mountains, rivers, and vegetation, and finally to the vast expanse of the heavens. The chapter showed that Blackmore's depiction of the natural world mirrored the central themes of the physico-theological programme at the turn of the century: the celebration of the utility, harmony, and beauty of nature, the insistence on its hierarchical order culminating in man, and the conviction that scientific inquiry itself can foster religious awe. Though his perspective throughout the poem is chiefly synchronic, the diachronic account of astronomy, from Ptolemy to Newton, revealed not only the poet's familiarity with the milestones of natural philosophy but also his ability to integrate them into a poetic narrative. In his eyes, the discoveries of modern science did not diminish divine providence but rather magnified it, providing further evidence of God's wise design and "architectural" skills.

Chapter 3 complemented this analysis by focusing on Books VI and VII, where Blackmore turns to the human body and the human mind as the best proofs of God's existence and providence. This portion of the poem constitutes Blackmore's most original contribution to the genre. While earlier physico-theologians had dealt with the macrocosm, rarely did they venture into anatomy or physiology due to their lack of expertise in those areas. Blackmore, however, was a medical doctor by trade, so he drew on his professional expertise to describe the circulatory, digestive, and nervous systems, as well as the processes of generation. He then extended his inquiry to the faculties of the mind, borrowing extensively from texts like Willis's *Cerebri Anatome* (1664) and Locke's *Essay Concerning Human Understanding* (1690). Blackmore incorporated state-of-the art medical philosophical knowledge into his poem and in this way he effectively transformed *Creation* into a poetic compendium of natural and human sciences at the turn of the eighteenth century. The chapter concluded that

Books VI and VII stand apart from the more derivative Books I and II, as they testify to Blackmore's professional competence and his ambition to bring informed medical and psychological knowledge into the English physico-theological tradition.

One of the central questions this thesis sought to answer concerned the extent and quality of Blackmore's scientific knowledge as expressed in *Creation*. The analysis has shown that this knowledge was substantial, though asymmetrical. On the one hand, the analysis of Books I and II revealed an author indebted to the already established prose tradition of physico-theology. His treatment of the Earth's structure, of magnetism, of the water cycle, and of astronomical knowledge reminds of the writings of other popularisers. Blackmore appears less as an original scientific thinker than as a good adaptor of contemporary debates. In this sense, his poem confirms Jones's description of *Creation* as a "scientific encyclopaedia in verse" (Jones, 1966). On the other hand, the study of Books VI and VII exhibited Blackmore's distinctive voice. There his medical expertise comes to the fore: he draws on Harvey's theory of the circulation of the blood, on Willis's pioneering neuroanatomy, and on the mechanistic models of physiology that were fashionable in the late seventeenth century (Suzuki, 2003, p. xiii; Rogers, 2022, p. 166). He even resorts to Locke's epistemology to advance a physico-theological account of the human mind. This portion of the poem thus reflects both the broader cultural interest in the body-machine metaphor and Blackmore's own professional knowledge as a physician. Addison's praise in *The Spectator* (No. 543, November 1712), which singled out Book VI for its learning and elegance, confirms that contemporaries recognised the originality of this contribution. The conclusion is that *Creation* is a composite work in terms of its scientific background and a *unicum* in physico-theological literature: while Books I and II are mainly indebted to earlier physico-theological writings, Books VI and VII display Blackmore's professional competence and constitute his greatest and most unique contribution to the genre.

Another recurrent theme throughout the thesis has been Blackmore's conception of the relationship between God and nature, and his outlook is best understood against the background of the mechanical philosophy of the late seventeenth century. As Westfall has argued, the new mechanical conception of nature was a radical break from earlier theology: the world was increasingly seen as a machine, operating according to fixed laws (Westfall, 1973, p. 10). This raised the question of God's role in a universe apparently capable of functioning independently following mechanical laws. Yet, as Westfall (pp. 24-6) also notes, most virtuosi did not embrace atheism and, on the contrary, believed that studying nature could reinforce religious awe, for the stability of natural laws was itself proof of divine wisdom. Blackmore's poem epitomises this view: he describes nature in all its facets as a grand machine, and God as the supreme artificer. His repeated appeals to the contemplation of natural order mirror the empiricist point of view inaugurated by Bacon and developed by the Royal Society and John Locke. At the same time, however, Blackmore maintains

a strongly anthropocentric and utilitarian perspective: for instance mountains exist for the benefit of rivers, rivers for the sustenance of vegetation, vegetation for the nourishment of animals, and ultimately all for the sake of man. Nature is not only beautiful but also useful, designed to meet especially human needs. This utilitarianism does not contradict the poet's admiration of nature but intensifies it, for the usefulness of creation is read as yet another evidence of divine benevolence. In this respect, Blackmore's physico-theology differs from that of other eighteenth-century thinkers. While Rogers (2022, p. 153) has noted that many men of the age studied science in the hope of conquering every aspect of the universe, Blackmore adopts a more reverent stance: for him, the mysteries of nature are not challenges to be overcome but proofs of their divine origin. Even what appears incomprehensible from a scientific point of view, can be understood when considered from God's omnipotent perspective, which might elude human grasp due to its ontological transcendence. *Creation* thus proposes a vision of scientific inquiry as a form of worship ad as such it was appreciated by contemporary readers.

Chapter 1 showed that despite the satirical attacks of Pope and the subsequent neglect of his *oeuvre*, Blackmore's *Creation* exercised a notable influence on eighteenth-century poetry. It was one of the first works to attempt a comprehensive physico-theological survey in verse, and it became a model for later poets who strove to integrate scientific knowledge into their writings. As Fairchild (1939, p. 201) observed, Blackmore's poem is a valuable document of intellectual history and its legacy can be traced in at least two directions. First, it contributed to the flourishing of physico-theological poetry, and by bringing into verse the arguments of natural theology, Blackmore expanded the reach of these ideas beyond learned circles. Second, the poem influenced the development of eighteenth-century nature poetry and helped to shape a literary sensibility that would culminate in the Romantic celebration of nature. Even if Blackmore himself was never included in the canon, his work was an integral part of the larger cultural *milieu* in which more canonical poets wrote.

Last but not least, this thesis hopes to pave the way for further research in the field of eighteenth-century scientific and physico-theological poetry. Future studies of the reception of *Creation* in the eighteenth and nineteenth centuries could shed additional light on its literary influence and eventual decline. More scholarly attention could also be paid to the broader phenomenon of physico-theological poetry in the eighteenth century, a topic acknowledged but very little investigated. The intersection of literature, natural philosophy, and theology in the long eighteenth century is a fertile area of study, and it could add nuances to the way scientific knowledge was disseminated through literature in the age of enlightenment.

This thesis has argued that Richard Blackmore's *Creation* deserves to be reframed as a valuable document of eighteenth-century intellectual history. Blackmore's poem testifies that science and literature, far from being opposed, were once deeply intertwined. In his verse, natural philosophy becomes an instrument of devotion, and

devotion itself becomes a means of scientific inquiry that was accessible to all. To read *Creation* today is to rediscover a unique literary mine of ideas.

Bibliography

A List of the Governours of St. Bartholomew's Hospital (1704).

Addison, Joseph (1716). *The Free-Holder: or Political Essays*. London: Printed for D. Midwinter; and J. Tonson.

Adriaenssen, Han Thomas (2021). "Ideas, Theory of in Early Modern Philosophy". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–12. DOI: 10.1007/978-3-319-20791-9_193-2.

Aird, W.C. (2011). "Discovery of the Cardiovascular System: from Galen to William Harvey". In: *Journal of Thrombosis and Haemostasis* 9, pp. 118–29. DOI: 10.1111/j.1538-7836.2011.04312.x.

Ait-Touati, Frederique (2012). ""Give Me a Telescope and I Shall Move the Earth": Hooke's Attempt to Prove the Motion of the Earth from Observations". In: *History of Science* 50.1, pp. 75–91. DOI: 10.1177/007327531205000103.

Aiton, E.J. (1959). "The Cartesian Theory of Gravity". In: *Annals of Science* 15.1, pp. 27–49. DOI: 10.1080/00033795900200038.

Aiton, Eric J. (1975). "How Kepler Discovered the Elliptical Orbit". In: *The Mathematical Gazette* 59.410, pp. 250–60. DOI: 10.2307/3616881.

Akenside, Mark (1744). *The Pleasure of Imagination. A Poem. In Three Books.* London: Printed for R. Dodsley at Tully's-Head in Pall-Mall.

Alanen, Lilli (2016). "Self-Awareness and Cognitive Agency in Descartes's Meditations". In: *Philosophical Topics* 44.1, pp. 3–26.

Allan, David (2007). *Moray, Sir Robert (1608/9?-1673), army officer and politician*. DOI: 10.1093/ref:odnb/19645. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-19645.

Allen, D. E. (2013). *Merret [Merrett], Christopher (1614-1695), physician and writer on natural philosophy.* DOI: https://doi-org.ezproxy.unicatt.it/10.1093/ref:odnb/18599. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-18599.

Allen, Phyllis (1946). "Medical Education in 17th Century England". In: *Journal of the History of Medicine and Allied Sciences* 1.1, pp. 115–43.

— (1949). "Scientific Studies in the English Universities of the Seventeenth Century". In: *Journal of the History of Ideas* 10.2, pp. 219–53.

"An Account of Mr. Hooks Micrographia, or the Physiological Descriptions of Minute Bodies, Made by Magnifying Glasses" (1665). In: *The Philosophical Transactions of the Royal Society* 1.2, pp. 27–32.

"An Account of Some Books" (1675). In: *Philosophical Transactions (1665-1678)* 10, pp. 481–90.

"An account of two books - I. De Viscerum Structura excrcitatio anatomica Marcelli Malphighii, Philos. Med. Bonon, c. Bononiae 1666. in 4'. II. Ephemerides Mediceorum Syderum, ex hypothesibus et tublic Joh. Dom. Cassini, Bononiae 1668." (1669). In: *The Philosophical Transactions of the Royal Society* 3.44, pp. 888–91.

"An Account of Two Books. I. Tractatus Duo, Prior De Respiratione Alter De Rachitide, A. Joh. Mayow, c. Oxon. 1663. II. A Discourse Concerning Physick, and the Many Aluses Thereof by the Apothecaries, London, A.1668. In 8"' (1668). In: *The Philosophical Transactions of the Royal Society* 3.41, pp. 833–6.

Anderson, Robert (1795). *The Works of the British Poets: With Prefaces, Biographical and Critical*. Vol. VII. London: Printed for John Arthur Arch; Edinburgh: Bell Bradfute and J. Mundell Co.

Andrault, Raphaele (2021). "Life in the Dark: Corals, Sponges, and Gravitation in Late Seventeenth Natural Philosophy". In: *International Archives of the History of Ideas*. Vol. 234. Springer Nature, pp. 365–82. DOI: 10.1007/978-3-030-69709-9_21.

Anonymous (1677). "A Demonstration Concerning the Motion of Light, Communicated from Paris, in the Journal Des Scavans, and here Made English". In: *Philosophical Transactions of the Royal Society of London* 12.136, pp. 893–4.

— (1700a). *Commendatory Verses, On The Author Of The Two Arthurs, And The Satyr against Wit; By some of his particular Friends.*

— (1700b). *Discommendatory Verses, on those which are Truly Commendatory, on the Author of the two Arthurs, and the Satyr against Wit.* London.

Anstey, Peter R. (2011). *John Locke and Natural Philosophy*. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780199589777.003.0005.

— (2022). "Sydenham, Thomas (1624-1689)". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 2039–43. DOI: 10.1007/978-3-319-31069-5_495.

Arbuthnot, John (2006). *The Correspondence of Dr. John Arbuthnot*. Ed. by Angus Ross. Muenchen: Wilhelm Fink.

Arbuthnot, John Gay; Alexander Pope; John (1717). *Three Hours after Marriage*. London Printed; and Reprinted in Dublin, by S. Powell, at the Sign of the Printing-Press in Copper-Alley; for G. Risk, Bookseller, at the London in Dames-street.

Aristotle (1952). *Metereologica*. Ed. by H. D. P. Lee. Cambridge, Massachusetts: Harvard University Press; London: William Heinemann LTD.

Arraez Aybar, Luis Alfonso et al. (2015). "Thomas Willis, a Pioneer in Translational Research in Anatomy". In: *Journal of Anatomy* 226.3, pp. 289–300. DOI: 10.1111/joa.12273.

Arthur, Richard T. W. (2015). "Atom". In: *The Cambridge Descartes Lexicon*. Ed. by Lawrence Nolan. Cambridge University Press, pp. 35–8. DOI: 10.1017/CBO9780511894695.015.

Atkinson, A. D. (1952a). "Dr. Johnson and some Physico-Theological Themes". In: *Notes and Queries* 197.1, pp. 16–18. DOI: https://doi.org/10.1093/nq/197.1.16.

— (1952b). "William Derham, FRS (1657-1735)". In: pp. 368–92. DOI: https://doi.org/10.1080/00033795200200282.

— (1953). "Dr Johnson and the Royal Society". In: *Notes and Records of the Royal Society of London* 10.2, pp. 131–8. DOI: https://doi.org/10.1098/rsnr.1953.0007.

Ault, Norman (1943). "Pope and 'England's Arch-Poet'". In: *The Review of English Studies* 19.76, pp. 376–85.

Axtell, James L. (1970). "Education and Status in Stuart England: The London Physician". In: *History of Education Quarterly* 10.2, pp. 141–59. DOI: https://doi.org/10.2307/367022.

Bacon, Francis (1660). *New Atlantis*. London: Printed for John Crooke at the signe of the Ship in St. Pauls Church-yard.

— (2000). *The New Organon*. Ed. by Lisa Jardine and Michael Silverthorne. Cambridge: Cambridge University Press. DOI: https://doi.org/10.1017/CBO9781139164030.

Baines Paul; Ferraro, Julian; Rogers Pat (2010). *The Wiley-Blackwell Encyclopedia of Eighteenth-Century Writers and Writing 1660-1789*. Malden, MA: Wiley-Blackwell. DOI: 10.1002/9781444390063.

Baird, Ileana (2011). "Visual Paratexts: The Dunciad Illustrations and the Thistles of Satire". In: *Book Illustration in the Long Eighteenth Century: Reconfiguring the Visual Periphery of the Text*. Ed. by Christina Ionescu. Newcastle upon Tyne: Cambridge Scholars Publishing, pp. 329–66.

Baker, Henry (1727). *The Universe: a Philosophical Poem Intended to Restrain the Pride of Man*. London: Printed for T. Worrall, at Judge Coke's Head, against St. Dunstan's Church, in Fleet-street.

— (1742). *The Microscope Made Easy*. London: Printed for R. Dodley, at Tully's Head in Pall-Mall.

Balalykin, Dmitry A (2019). "Galen's Understanding of the Digestive System in the Context of the Commensurability of Medical Knowledge in Different Periods". In: *History of Medicine* 6.2, pp. 98–110.

Baldwin, Martha R. (1985). "Magnetism and the Anti-Copernican Polemic". In: *Journal for the History of Astronomy* 16.3, pp. 155–74. DOI: 10.1177/002182868501600301.

Banchetti-Robino, Marina Paola (2011). "Ontological Tensions in Sixteenth and Seventeenth Century Chemistry: Between Mechanism and Vitalism". In: *Foundations of Chemistry* 13, pp. 173–86. DOI: https://doi.org/10.1007/s10698-011-9126-9.

Barnard, Toby (2013). *Petty, Sir William (1623-1687), Natural Philosopher and Administrator in Ireland*. DOI: 10.1093/ref:odnb/22069. URL: https://www.oxforddnb.

com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-22069.

Barrow, John D. (2012). *The Book of Universes*. London: Vintage.

Barry, Jonathan (2019). "Educating Physicians in Seventeenth-Century England". In: *Science in Context* 32.2, pp. 137–54. DOI: https://doi.org/10.1017%2FS0269889719000188.

Beck, David (2012). "Regional Natural History in England: Physico-theology and the Exploration of Nature". In: *Societate si Politica* 6.12, pp. 8–28.

Beconsall, Thomas (1698). *The Grounds and Foundation of Natural Religion, Discover'd, in the Principal Branches of it in Opposition to the Prevailing Notions of the Modern Scepticks and Latitudinarians. With an Introduction Concerning the Necessity of Revealed Religion.* London: Printed by W.O. for George West, bookseller, in Oxford,

Begley, Justin (2020). "Animals in Early Modern Thought". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–14. DOI: 10.1007/978-3-319-20791-9_628-1.

Bennett, Jim A. (1981). "Cosmology and the Magnetical Philosophy, 1640-1680". In: *Journal for the History of Astronomy* 12.3, pp. 165–77.

Bentley, Richard (1693). *The Folly and Unreasonableness of Atheism*. 4th Edition. London: I.H. for H. Mortlock at the Phoenix in St. Paul's Church-yard.

— (1842). *The Correspondence of Richard Bentley*. Ed. by C. Wordsworth. London: J. Murray.

Bergman, Jerry (1993). "A Brief History of the Theory of Spontaneous Generation". In: *CEN Tech. J* 7.1, pp. 73–81.

Berry, R. J. (2011). "John Ray, Physico-Theology and Afterwards". In: *Archives of Natural History* 38.2, pp. 328–48. DOI: 10.3366/anh.2011.0038.

Bicknell, P. J. (1983). "Atomic Isotacheia in Epicurus". In: *Apeiron* 17.1, pp. 57–61. DOI: https://doi.org/10.1515/apeiron.1983.17.1.57.

Bigotti, Fabrizio (2020). "Nerves and the Mind". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–3. DOI: 10.1007/978-3-319-20791-9_387-2.

Biswas, Asit K. (1970). *History of Hydrology*. Amsterdam, London: North-Holland Publishing Company.

Blackburn, Simon, ed. (2016). *The Oxford Dictionary of Philosophy*. Oxford: Oxford University Press. DOI: 10.1093/acref/9780199541430.001.0001. URL: https://www.oxfordreference.com/view/10.1093/acref/9780199541430.001.0001/acref-9780199541430.

Blackmore, Richard (1695). *Prince Arthur: A Poem in Ten Books*. London: Printer for Awnsham and John Churchill at the black Swan in Pater-Noster-Row.

— (1697). *King Arthur: An Heroick Poem. In Twelve Books.* London: Printed for Awnsham and John Churchil.

— (1700a). *A Paraphrase on the Book of Job*. London: Printed for Awnsham and John Churchill.

Blackmore, Richard (1700b). *A Satyr against Wit*. London: Printed for Samuel Crouch.

— (1703). *A Hymn to the Light of the World. With a Short Description of the [C]artons of Raphael Urbin, in the Gallery at Hampton-Court.* London: Printed for Jacob Tonson within Grays-Inn Gate next Grays-Inn Lane.

— (1705). *Eliza: An Epick Poem. In Ten Books.* London: Printed for Awnsham and John Churchill, at the Black Swan in Pater-Noster-Row.

— (1706). *Advice to the Poets. A Poem.* London: Printed by H.M. for A. and J. Churchill, at the Black Swan in Pater-Noster-Row.

— (1708). *The Kit-Cats, A Poem.* London: Printed and Sold by H.Hills, in Blackfryars, near the Water-side.

— (1709). *Instructions to Vander Bank, A Sequel to the Advice to the Poets: A Poem, Occasion'd by the Glorious Success of Her Majesty's arms, under the Command of the Duke of Marlborough, the last Year in Flandres*. London: Printed and Sold by H. Hills, in Black-Fryars, near the Water-Side.

— (1712). *Creation. A Philosophical Poem*. 1st Edition. London: Printed for S. Buckley, at the Dolphin in Little-Britain; and J. Tonson, at Shakespeare's Head over-against Catherine-Street in the Strand.

— (1716). *Essays upon Several Subjects. In Five Parts.* 2nd Edition. Vol. I. London: Printed for E. Curll at the Dial et al.

— (1717). *Essays Upon Several Subjects*. Vol. II. London: Printed by W. Wilkins, for A. Bettesworth, at the Red Lyon in Pater-Noster-Row; J. Pemberton, at the Buck and Sun against St. Dunstan's Church in Fleetstreet.

— (1718). *A Collection of Poems on Various Subjects*. London: Printed by W. Wilkins, for Jonas Browne at the Black-Swan without Temple Bar; and J. Walthoe, Jun'. over-against the Royal Exchange in Cornhill.

— (1720). *The Nature of Man. A Poem, in Three Books.* London: Printed for John Clark, at the Bible, Crown in the Poultry near Cheapside; and A. Dodd, without Temple-Bar.

— (1721a). *A Discourse upon the Plague, with a Preparatory Account of Malignant Fevers. In Two Parts.* London: Printed for John Clark, at the Bible and Crown in the Poultry, near Cheapside.

— (1721b). *A New Version of the Psalms of David, Fitted to the Tunes used in Churches*. London: Printed by J. March, for the Company of Stationers.

— (1721c). *Just Prejudices against the Arian Hypothesis*. London: Printed by W. Wilkins; for J. Peele at Locke's Head, in Pater-noster-Row.

— (1722). *Redemption: A Divine Poem, In Six Books*. London: Printed for A. Bettesworth, at the Red-Lion in Pater–nonster Row; and James MackEuen at Buchanan's Head over against St. Clement's Church in the Strand.

— (1723a). *A Treatise on the Small-pox. In Two Parts.* London: Printed for John Clarck, at the Bible and Crown in the Poultry, near Cheapside.

Blackmore, Richard (1723b). *Alfred. An Epick Poem. In Twelve Books*. London: Printed by W. Botham, for James Knapton.

— (1725a). *A Critical Dissertation upon the Spleen, so far as concerns the Following Question; Whether the Spleen is necessary or useful to the Animal possess'd of it?* London: Printed for J. Pemberton at the Buck and Sun against St. Dunstan's Church in Fleet-Street.

— (1725b). *A Treatise of Consumptions and other Distempers belonging to the Breast and Lungs*. 2nd Edition. London: Printed for John Pemberton, at the Buck and Sun, over against St. Dunstan's Church, Fleetstreet.

— (1725c). *A Treatise of the Spleen and Vapours: or, Hypocondriacal and Hysterical Affections. With Three Discourses on the Nature and Cure of the Cholick, Melancholy, and Palsies*. London: Printed for J. Pemberton at the Buck and Sun over-against St. Dunstan's Church in Fleet-street.

— (1726). *Discourses on the Gout, Rheumatism, and the King's Evil*. London: Printed for J.Pemberton, at the Buck and Sun, over-against St. Dunstan's Church, in Fleet-street.

— (1727). *Treatises on Consumption, on the Gout, on Dropsy and on the Spleen*. London:

— (1728). *Natural Theology: or, Moral Duties conside'd*. London: Printed for J. Pemberton over against St. Dunstan's Church in Fleet-Street.

— (1731). *The Accomplished Preacher: or, an Essay upon Divine Eloquence*. London: Printed for J. Downing , in Bartholomew-Close.

— (1733). *A Dissertation on the Gravel and Stone*. London: Printed for, and Sold by J. Isted, Bookseller, at the Golden Ball, near St. Dustan's Church, in Fleet-Street.

— (1797). *The Poetical Works of Sir R. Blackmore: Containing Creation; a Philosophical Poem, in Seven books. To which is prefixed The Life of the Author.* Ed. by Charles Cooke. London: Printed for C. Cooke, No.17, Paternoster-Row, sold by all the Booksellers in Great Britain and Ireland.

— (1806). *Creation: A Philosophical Poem. Demonstrating the Existence and Providence of a God. In Seven Books.* Philadelphia: Robert Johnson.

Blackmore, Richard and John Hughes (1714). *The Lay-Monastery. Consisting of Essays, Discourses, Etc. Publish'd singly under the Title of the Lay Monk*. London: Printed by Sam Keimer, for Ferdinando Burleigh, in Amen-Corner.

Blair, Ann and Kaspar von Greyerz, eds. (2020). *Physico-theology: Religion and Science in Europe, 1650-1750*. Baltimore: Johns Hopkins University Press. DOI: https://doi.org/10.1353/book.76884.

Blount, Thomas Pope (1693). *A Natural History: Containing Many not Common Observations: Extracted out of the best Modern Writers.* London: Printed for R. Bentley in Russel Street, in Covent Garden.

Blundell, Stephan (2012). "The Earth as a Magnet". In: *Magnetism: A Very Short Introduction*. Oxford: Oxford University Press, pp. 13–23. DOI: 10.1093/actrade/9780199601202.003.0002.

Boantza, Victor D. (2020). "Fermentation". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Ed. by Dana Jalobeanu and Charles T. Wolfe. Springer International Publishing, pp. 1–16. DOI: 10.1007/978-3-319-20791-9_478-1.

Boeker, Ruth (2021). "Locke and William Molyneux". In: *The Lockean Mind*. London: Routledge, pp. 15–21. DOI: https://doi.org/10.4324/9781315099675-5.

Borcherding, Julia (2021). "Mind-Body Problems". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–15. DOI: 10.1007/978-3-319-20791-9_583-1.

Bossu, Rene Le and Andre Dacier (1695). *Monsieur Bossu's Treatise of the Epick Poem Containing Many Curious Reflexions, Very Useful and Necessary for the Right Understanding and Judging of the Excellencies of Homer and Virgil*. London: Tho. Bennet at the Half-moon in St. Paul's Churchyard.

Bowler, Peter J. (1971). "Preformation and Pre-Existence in the Seventeenth Century: A Brief Analysis". In: *Journal of the History of Biology* 4.2, pp. 221–44. DOI: https://doi.org/10.1007/bf00138311.

Boyce, Benjamin (1938). "The Dispensary, Sir Richard Blackmore, and the Captain of the Wits". In: *The Review of English Studies* 14.56, pp. 453–8.

Boyle, Robert (1660). *New Experiments Physico-Mechanicall, Touching The Spring of the Air, and its Effects (Made, for the most part, in a New Pneumatical Engine)*. Oxford: Printed by H: Hall, Printer to the University, for Tho: Robinson.

— (1661). *The Sceptical Chymist*. London: Printed by J. Cadwell for J. Crooke, and are to be Sold at the Ship in St. Paul's Church-Yard.

— (1674a). "Relations about the Bottom of the Sea". In: *Tracts Consisting of Observations About the Saltiness of the Sea: An Account of a Statistical Hygroscope And its Uses: Together with an Appendix about the Force of the Air's Moisture: A Fragment about the Natural and Preternatural State of Bodies ; To all which is premis'd A Skeptical Dialogue About the Positive or Privative Nature of Cold: With some Experiments of Mr. Boyle's referr'd to in that Discourse*. London: Printed by E. Flesher for R. Davis Bookseller in Oxford.

— (1674b). *The Excellence of Theology, compar'd with Natural Philosophy, (as both are Objects of Men's Study) .... To which are annex'd Some Occasional Thoughts about the Excellency and Grounds Of the Mechanical Hypothesis*. London: Printed by T. N. for Henry Herringman, at the Anchor in the Lower Walk of the New Exchange.

— (1674c). *Tracts Consisting of Observations About the Saltiness of the Sea: An Account of a Statistical Hygroscope And its Uses: Together with an Appendix about the Force of the Air's Moisture: A Fragment about the Natural and Preternatural State of Bodies ; To all which is premis'd A Skeptical Dialogue About the Positive or Privative Nature of Cold: With some Experiments of Mr. Boyle's referr'd to in that Discourse*. London: Printed by E. Flesher for R. Davis Bookseller in Oxford.

Boyle, Robert (1685/6). *A Free Inquiry Into the Vulgarly Receiv'd Notion of Nature; Made in an Essay, Address'd to a Friend.* London: Printed by H. Clark, for Iohn Taylor at the Globe in St. Paul's Church-yard.

— (1688). *A Disquisition about the Final Causes of Natural Things wherein it is Inquir'd, whether, and (if at all) with what Cautions, a Naturalist should Admit them?* London: Printed by H. C. for John Taylor, at the Ship in St. Paul's Church-Yard.

Boyle, Robert, John Thomas Smith and David Von Der Becke (1674). "An Accompt of some Books. I. About the Excellency and Grounds of the Mechanical Hypothesis, some Consideration occasionally Propos'd to a Friend by R. B. E. Fellow of the R. Society. London,1674. in 4'. II. Mr. John Smith's Englands Improvement revived, in a Treatise of Husbandry and Trade, by Land and Sea, c. III. Davidis van Der Becke Experimenta Meditationes circa Naturalium Rerum Principia". In: *Philosophical Transactions of the Royal Society* 9.103, pp. 53–64.

Boys, Richard C. (1949). *Sir Richard Blackmore and the Wits*. Ann Arbor: University of Michigan Press.

Brazier, Mary A. B. (1984). *A History of Neurophysiology in the 17th and 18th Centuries: From Concept to Experiment*. New York: Raven Press.

Brinkley, F.R. (1931). "Blackmore's Portrayal of Spenser". In: *Modern Language Notes* 46.5, pp. 313–6. DOI: https://doi.org/10.2307/2913676.

Bristow, William (2023). "Enlightenment". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Fall 2023. Metaphysics Research Lab, Stanford University.

Brock, W. H. (2008). "Mayow [Mayer, Mayo], John (bap. 1641, d. 1679), physiologist and chemist." In: *Oxford Dictionary of National Biography*. DOI: https://doi.org/10.1093/ref:odnb/18463.

Brooke, Henry (1735). *Universal Beauty*. London: Printed And Sold by J. Wilcox, at Virgil's Head, against the New Church in the Strand.

Brown, Horatio G. (1922). "Monografie storiche sullo Studio di Padova. Contributo del R. Istituto Veneto di scienze, lettere ed arti alla celebrazione del VII Centenario della Universita'". In: Venezia: Premiate Officine Grafiche C. Ferrari. Chap. Inglesi e scozzesi all'Universita' di Padova dall'anno 1618 sino al 1765, pp. 137–213.

Brown, Theodore M. (1970). "The College of Physicians and the Acceptance of Iatromechanism in England, 1665-1695". In: *Bulletin of the History of Medicine* 44.1, pp. 12–30.

— (1977). "Physiology and the Mechanical Philosophy in Mid-Seventeenth Century England". In: *Bulletin of the History of Medicine* 51.1, pp. 25–54.

Buchwald J. Z.; Fox, R., ed. (2013). *The Oxford Handbook of the History of Physics*. Oxford: Oxford University Press.

Bullard, Paddy (2016). *Eighteenth-Century Minds: From Associationism to Cognitive Psychology*. Oxford: Oxford University Press. DOI: 10.1093/oxfordhb/9780199935338.013.95.

Bullard, Paddy, ed. (2019). *The Oxford Handbook of Eighteenth-Century Satire*. Oxford: Oxford University Press.

Burnet, Thomas (1681). *Telluris Theoria Sacra*. London: Typis R. N. Impensis Gualt. Kettilby, ad Insigne Capitis Episcopi in Coemeterio Paulino.

— (1697). *The Theory of the Earth Containing an Account of the Original of the Earth, and of all the General Changes which it hath already Undergone, or is to Undergo till the Consummation of all Things.* The Third Edition review'd by the Author. London: Printed by R. N. for Walter Kettilby, at the Bishop's-Head in S. Paul's Church-Yard.

Bush, Douglas Nash (1950). *Science and English Poetry: a Historical Sketch, 1590-1950*. New York: Oxford University Press.

Bynum, William (2008). *History of Medicine: A Very Short Introduction*. Oxford: Oxford University Press.

Bynum W. F.; Porter, Roy, ed. (1993). *Companion Encyclopedia of the History of Medicine*. London and New York: Routledge.

Bysshe, Edward (1705). *The Art of English Poetry*. The Second Edition. London: Printed for Sam. Buckley: sold by Dan. Midwinter at the Rose and Crown in St. Paul's Church-Yard.

Calloway, Katherine (2016). *Natural Theology in the Scientific Revolution*. London: Routledge, Taylor and Francis Group. DOI: 10.4324/9781315654164.

Caron, Louis (2015). "Thomas Willis, the Restoration and the First Works of Neurology". In: *Medical History* 59.4, pp. 525–53. DOI: 10.1017/mdh.2015.45.

— (2022). "Willis, Thomas (1621-1675)". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 2199–206. DOI: 10.1007/978-3-319-31069-5_435.

Carter, Philip (2005). *Kit-Cat Club (act. 1696-1720)*. DOI: 10.1093/ref:odnb/73609. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-73609.

Carter, Richard B. (1982). "Gilbert and Descartes: The Science of Conserving the Compound Body". In: *Zeitschrift fuer allgemeine Wissenschaftstheorie / Journal for General Philosophy of Science* 13.2, pp. 224–33. DOI: https://doi.org/10.1007/bf01801557.

Cellamare, Davide (2020a). "Human Body from the Perspective of Psychology". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–6. DOI: 10.1007/978-3-319-20791-9_368-1.

— (2020b). "Soul, The". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–15. DOI: 10.1007/978-3-319-20791-9_209-1.

Chalmers, Alan. (2009). *The Scientist's Atom and the Philosopher's Stone: How Science Succeeded and Philosophy Failed to Gain Knowledge of Atoms*. 1st Ed. New York: Springer.

Chalmers, Alan (2019). "Atomism from the 17th to the 20th Century". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Metaphysics Research Lab, Stanford University.

Chambers, Douglas D. C. (2008). *Evelyn, John (1620-1706), diarist and writer*. DOI: 10.1093/ref:odnb/8996. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-8996.

Chambers, Ephraim (1741). *Cyclopaedia, or, An Universal Dictionary of Arts and Sciences*. The Fourth Edition. URL: https://artfl-project.uchicago.edu/content/chambers-cyclopaedia.

Chandler, W. K. (1931). "The First Edition of the "Dunciad"". In: *Modern Philology* 29.1, pp. 59–72.

Chappell, Vere (1994). "Locke's Theory of Ideas". In: *The Cambridge Companion to Locke*. Ed. by Vere Chappell. Cambridge: Cambridge University Press, pp. 26–55. DOI: 10.1017/CCOL0521383714.003.

Charleton, Walter (1654). *Physiologia Epicuro-Gassendo-Charltoniana, or, A Fabrick of Science Natural, upon the Hypothesis of Atoms Founded by Epicurus*. London: Printed by Tho: Newcomb, for Thomas Heath, and are to be sold at his shop in Russel-street, near the Piazza of Covent-Garden.

— (1659). *Immortality of the Human Soul, Demonstrated by the Light of Nature*. London: Printed by William Wilson for Henry Herringman, and are to be sold at his shop, at the signe of the Anchor in the Lower-walke, in the New-Exchange.

Cheselden, William (1713). *The Anatomy of the Humane Body : Illustrated with Twenty-Three Copper-Plates of the Most Considerable Parts; All Done After the Life. By W. Cheselden, Surgeon; Fellow of the Royal Society.* London: Printed for N. Cliff et al.

Cheyne, George (1705). *Philosophical Principles of Natural Religion: Containing the Elements of Natural Philosophy, and the Proofs for Natural Religion, Arising from them*. London: Printed for George Strahan at the Golden Ball in Cornhill over against the Royal Exchange.

Chignell, Andrew and Derk Pereboom (2020). "Natural Theology and Natural Religion". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Metaphysics Research Lab, Stanford University.

Chikly, B (1997). "Who Discovered the Lymphatic System?" In: *Lymphology* 30.4, pp. 186–93.

Christianson, J. R. (1979). "Tycho Brahe's German Treatise on the Comet of 1577: A Study in Science and Politics". In: *Isis* 70.1, pp. 110–40.

Cibber, Theophilus (1753). *Lives of the Poets of Great Britain and Ireland, to the Time of Dean Swift. In Four Volumes.* Vol. V. London: Printed for R. Griffiths, at the Dunciad in St. Paul's Church-Yard.

Cisar, Karel (2001). "Epicurean Epistemology in Lucretius'" De rerum natura" IV 1-822". In: *Listy filologicke/Folia philologica* 124.1/2, pp. 1–54.

Clark, George (1964). *A History of the Royal College of Physicians of London*. Vol. I-II. Oxford: Oxford University Press.

Clarke, Samuel (1823). *A Discourse Concerning the Being and Attributes of God, the Obligations of Natural Religion, and the Truth and Certainty of the Christian Revelation.* Edinburgh: A. Allardice.

Clergy of the Church of England Database 1540-1835. Online. URL: https://theclergydatabase.org.uk/jsp/search/index.jsp.

Clericuzio, Antonio (June 2012). "Chemical and Mechanical Theories of Digestion in Early Modern Medicine". In: *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 43.2, pp. 329–37. DOI: 10.1016/j.shpsc.2011.10.025.

— (2023). "Thomas Willis' Iatrochemistry and the Activity of Matter". In: *Notes and Records* 77.4, pp. 717–32. DOI: https://doi.org/10.1098/rsnr.2023.0025.

Clericuzio, Antonio and Maria Conforti (2022). "Iatrochemistry and Iatromechanism in the Early Modern Era". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Ed. by Dana Jalobeanu; Charles T. Wolfe. Springer International Publishing, pp. 883–95. DOI: 10.1007/978-3-319-31069-5_293.

Clucas, Stephen (1991). "Poetic Atomism in Seventeenth-Century England: Henry More, Thomas Traherne and 'Scientific Imagination'". In: *Renaissance Studies* 5.3, pp. 327–40. DOI: https://doi.org/10.1111/1477-4658.00104.

Clymer, Lorna (2005). "Philosophical Tours of the Universe in British Poetry, 1700-1729; or, The Soaring Muse". In: *Culture and Authority in the Baroque*. Ed. by Massimo Ciavolella; Patrick Coleman. Buffalo, NY; London: Toronto UP for the Medieval Academy of America, pp. 30–62. DOI: https://doi.org/10.3138/9781442673656-003.

Cohen, Jeffrey Jerome and Stephanie Foote, eds. (2021). *The Cambridge Companion to Environmental Humanities*. Cambridge: Cambridge University Press.

Cole, William (1693). *Novae Hypotheseos ad explicanda Febrium Intermittentium Symptomata et Typos Excogitate Hypotyposis: Una Cum Aetiologia Remediorum; Speciatim vero De Curatione per Corticem Peruvianum. Accessit Dissertatuncula de Intesrinorum Motu Peristaltico.* London: D. Browne S. Smith.

Colman, John (2009). "Lucretius on Religion". In: *Perspectives on Political Science* 38.4, pp. 228–39.

Connell, Philip (2016). *Secular Chains: Poetry and the Politics of Religion from Milton to Pope*. Oxford: Oxford University Press, pp. 177–209. DOI: 10.1093/acprof:oso/9780199269587.003.0006.

Connolly, Patrick J (2017). "Metaphysics in Richard Bentley's Boyle Lectures". In: *History of Philosophy Quarterly* 34.2, pp. 155–74. DOI: 10.2307/44983512.

Cook, Alan (2004). *Halley, Edmond (1656-1742), Astronomer*. DOI: 10.1093/ref:odnb/12011. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-12011.

Cook, Harold J. (2011). *Sydenham, Thomas (bap. 1624, d. 1689), Physician*. DOI: 10.1093/ref:odnb/26864. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-26864.

— (2021). *Ent, Sir George (1604-1689), Physician*. DOI: 10.1093/ref:odnb/8823. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-8823.

Coture, Jo (2022). "What About a Flat Earth? Pierre Gassendi's Reconstructions of Epicurus's Atomic Motion and the Shape of the Earth". In: *International Journal of the Classical Tradition* 29.2, pp. 147–67. DOI: 10.1007/s12138-021-00602-6.

Courtillot, Vincent and Jean-Louis Le Mouel (2007). "The Study of Earth's Magnetism (1269-1950): A Foundation by Peregrinus and Subsequent Development of Geomagnetism and Paleomagnetism". In: *Reviews of Geophysics* 45.3, pp. 1–31. DOI: https://doi.org/10.1029/2006RG000198.

Cowley, Abraham (1661). *A Proposition for the Advancement of Experimental Philosophy*. London: Printed by J. M. for Henry Herringman; and are to be sold at his Shop at the Sign of the Blew-Anchor in the Lower-Walk of the New-Exchange.

— (1663). *Verses, Lately Written Upon Several Occasions*. London: Printed for Henry Herringman, and are to be sold at his Shop on the Lower walk in the New Exchange.

Cox, Michael, ed. (2004). *The Concise Oxford Chronology of English Literature*. Oxford: Oxford University Press.

Craig, William Lane and James Porter Moreland, eds. (2009). *Blackwell Companion to Natural Theology*. Oxford: Blackwell.

Crimmins, James E. (2004). *Paley, William (1743-1805), Theologian and Moralist*. DOI: 10.1093/ref:odnb/21155. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-21155.

Cudworth, Ralph (1687). *The True Intellectual System of the Universe*. London: Richard Royston.

Cummings, Robert M., ed. (1971). *Spenser: The Critical Heritage*. New York: Barnes Noble, Inc.

Cunning, David (2015). "Digby, Kenelm (1603-1665)". In: *The Cambridge Descartes Lexicon*. Ed. by Lawrence Nolan. Cambridge: Cambridge University Press, pp. 194–5. DOI: 10.1017/CBO9780511894695.080.

Cunningham, Andrew (2022). *"I Follow Aristotle": How William Harvey Discovered the Circulation of the Blood*. London: Routledge. DOI: 10.4324/9781003247616.

Dahm, John J. (1970). "Science and Apologetics in the Early Boyle Lectures". In: *Church History* 39.2, pp. 172–86. DOI: https://doi.org/10.2307/3163385.

Danet, Pierre (1700). *A Complete Dictionary of the Greek and Roman Antiquities Explaining the Obscure Places in Classic Authors and Ancient Historians Relating to the Religion, Mythology, History, Geography and Chronology of the Ancient Greeks and Romans, Their ... Rites and Customs, Laws, Polity, Arts and Engines of War : Also an Account of Their*

Navigations, Arts and Sciences and the Inventors of Them : With the Lives and Opinions of Their Philosophers / Compiled Originally in French ... By Monsieur Danet ; Made English, with the Addition of Very Useful Mapps. London: Printed for John Nicholson, at the King's-Arms, in Little-Britain; Tho. Newborough at the Golden-Bell, in St. Paul's Church-yard; et al.

Dawes, William (1701). *An Anatomy of Atheisme: a Poem.* London: Printed for Thomas Speed, over against Jonathan's Coffee-House in Exchange Alley, in Cornhill.

Deacon, Margaret (1997). *Scientists and the Sea 1650-1900: A Study of Marine Science*. Aldershot: Ashgate. DOI: https://doi.org/10.4324/9781315243610.

Dear, Peter (2015). "Vacuum". In: *The Cambridge Descartes Lexicon*. Ed. by Lawrence Nolan. Cambridge University Press, pp. 743–4. DOI: 10.1017/CBO9780511894695.251.

Debus, Allen G. (1966). *Alchemy and Chemistry in the Seventeenth Century*. Los Angeles: William Andrews Clark Memorial Library, University of California.

Defoe, Daniel (1700). *The Pacificator. A Poem.* London: Printed, and are to be Sold by J. Nutt.

Demarest, Boris (2020). "Spontaneous Generation in Early Modern Philosophy and Science". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–12. DOI: 10.1007/978-3-319-20791-9_310-1.

Dennis, John (1696). *Remarks on a Book entituled Prince Arthur, an Heroick Poem with some General Critical Observations and Several New Remarks upon Virgil*. London: Printed for S. Heyrick and R. Sare at Grays-Inn-Gate in Holborne.

— (1701). *The Advancement and Reformation of Poetry*. London: Printed for Rich. Parker, at the Unicorn under the Piazza of the Royal Exchange in Cornhil.

— (1704). *The Grounds of Criticism in Poetry: Contain'd in some New Discoveries never made before, Requisite for the Writing and Judging of Poems surely : Being a Preliminary to a Larger Work Design'd to be Publish'd in Folio, and entituled, A Criticism upon our Most Celebrated English Poets Deceas'd*. London: Printed for Geo. Strahan at the Golden-hall against the Exchange in Cornhill, Bernard Linott, at the Middle-Temple Gate, Fleet-street and Bernard Lintott.

— (1943). *Critical Works of John Dennis*. Ed. by E. N. Hooker. Vol. II. Baltimore: The Johns Hopkins Press.

Derham, William (1698). "II. A letter of Mr. W. Derham, Rector of Upminster, dated Jan. 13. 1697/98. to Dr. Sloane, about a contrivance to measure the height of the mercury in the barometer, by a circle on one of the weather plates, with a register of weather, amp;c. for the year 1697." In: *Philosophical Transactions of the Royal Society of London* 20.237, pp. 45–8. DOI: 10.1098/rstl.1698.0008.

— (1699). "IV. Part of a letter from William Derham, to Dr Slaone: accompanying his observations of the height of the mercury in the barometer, rains, winds, c for the year 1698." In: *Philosophical Transactions of the Royal Society of London* 21.249, pp. 45–6. DOI: 10.1098/rstl.1699.0007.

Derham, William (1703a). "III. Some Observations on the Spots of the Sun, by the Reverend Mr. William Derham. F. R. S." In: *Philosophical Transactions of the Royal Society of London* 23.288, pp. 1504–7. DOI: 10.1098/rstl.1702.0067.

— (1703b). "IV. A letter from the Reverend Mr. William Derham, F. R. S. to Mr. John Haughton, F. R. S. containing his observation on the weather, c. for some years last past". In: *Philosophical Transactions of the Royal Society of London* 23.286, pp. 1443–8. DOI: 10.1098/rstl.1702.0058.

— (1705a). "A Prospect of the Weather, Winds, and Height of the Mercury in the Barometer, on the First Day of the Month; and of the Whole Rain of every Month in the Year 1703, and the Beginning of 1704. Observ'd at Towneley in Lancashire, by Ri. Towneley, Esq; and at Upminster in Essex". In: *Philosophical Transactions of the Royal Society of London* 24.297, pp. 1878–81. DOI: 10.1098/rstl.1704.0063.

— (1705b). "IV. An account of Some Magnetical Experiments and Observations". In: *Philosophical Transactions of the Royal Society of London* 24.303, pp. 2136–38. DOI: 10.1098/rstl.1704.0097.

— (1709a). "I. The History of the Great Frost in the Last Winter 1703 and 1708/9". In: *Philosophical Transactions of the Royal Society of London* 26.324, pp. 453–78. DOI: 10.1098/rstl.1708.0073.

— (1709b). "III. Part of a letter from the Reverend Mr. W. Derham, F. R. S. to Dr. Hans Sloane, R. S. Sec. Giving an account of a child's crying in the womb". In: *Philosophical Transactions of the Royal Society of London* 26.324, pp. 485–6. DOI: 10.1098/rstl.1708.0075.

— (1713). *Physico-Theology: or, a Demonstration of the Being and Attributes of God, from his Works of Creation.* London: Printed for W.Innys, at the Princes Arms in St. Paul's Church-Yard.

— (1715). *Astro-theology. Or, A Demonstration of the Being and Attributes of God, from a Survey of the Heavens. Illustrated with Copper Plates*. London: Printed for W. Inns, at the Prince's Arm in St. Paul's Church-Yard.

Descartes, Rene (1644). *Principia Philosophiae*. Amstelodami: Apud Ludovicum Elzevirium.

— (1983). *Principles of Philosophy*. Ed. by Valentine Rodger Miller; Reese P. Miller. Dodrecht: Holland / Boston : USA / London: England: D. Reidel Publishing Company.

— (1989). *The Passions of the Soul*. Ed. by Stephen Voss. Indianapolis/Cambridge: Hackett Publishing Company.

— (1994). *A Discourse on Method, Meditations on the First Philosophy, Principles of Philosophy*. London: Everyman.

Dobree, Bonamy and F. P. Wilson, eds. (1959). *English Literature in the Early Eighteenth Century 1700-1740*. Oxford: Clarendon Press.

Donahue, William (2006). "Astronomy". In: *The Cambridge History of Science*. Ed. by Lorraine Park Katharine; Daston. Vol. 3. The Cambridge History of Science. Cambridge University Press, pp. 562–95. DOI: 10.1017/CHOL9780521572446.025.

Donnelly, Phillip J. (2005). "Enthusiastic Poetry and Rationalized Christianity: The Poetic Theory of John Dennis". In: *Christianity and Literature* 54.2, pp. 235–64.

Donovan, Arthur J (2004). "Richard Lower, MD, Physician and Surgeon (1631-1691)". In: *World Journal of Surgery* 28.9, pp. 938–45. DOI: https://doi.org/10.1007/s00268-004-7553-7.

Dooge, J.C.I (1974). "The Development of Hydrological Concepts in Britain and Ireland between 1674 and 1874". In: *Hydrological Sciences Bulletin* 19, pp. 279–302. DOI: https://doi.org/10.1080/02626667409493917.

Drennon, Herbert (1931). "Henry Needler and Shaftesbury". In: *PMLA* 46.4, pp. 1095–106. DOI: https://doi.org/10.2307/457761.

Drew, Erin (2013). "Teaching and Learning Guide for Ecocriticism and Eighteenth-Century English Studies". In: *Literature Compass* 10.4, pp. 301–10. DOI: https://doi.org/10.1111/lic3.12050.

Dromelet, Catherine, Kathryn Tabb and Charles T. Wolfe (2021). "Doctrines of the Association of Ideas in Early Modern Thought". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–8. DOI: 10.1007/978-3-319-20791-9_187-1.

Drozdek, Adam (2019). "William Derham : Between Nature and Theology". In: *Resovia Sacra : Studia Teologiczno-Filozoficzne Diecezji Rzeszowskiej* 26, pp. 55–66.

Dryden, John (1985). *Dryden: Poems and Prose*. Ed. by Douglas Grant. London: Penguin Books.

Duke, Martin (2012). "Sir Richard Blackmore (1654-1729)". In: *Journal of Medical Biography* 20.2, pp. 86–7. DOI: https://doi.org/10.1258/jmb.2011.011017.

Duncombe, William, ed. (1772). *Letters by Several Eminent Persons Deceased. Including the Correspondence of John Hughes, Esq. (Author of The SIege of Damascus) and Several of His Friends, Published from the Originals: with Notes Explanatory and Historical.. Volume I.* London: Printed for J. Johnson, in St. Paul's Curch-Yard.

Eadie, M. J. (2003). "A Pathology of the Animal Spirits - the Clinical Neurology of Thomas Willis (1621-1675) Part I - Background, and Disorders of Intrinsically Normal Animal Spirits". In: *Journal of Clinical Neuroscience* 10.1, pp. 14–29. DOI: 10.1016/s0967-5868(02)00165-0.

Edwards, John (1696). *Demonstration of the Existence and Providence of God, From The Contemplation of the Visible Structure of the Greater and Lesser World.* London: Printed by J.D. for Jonathan Robinson.

— (1697). *Brief Remarks Upon Mr. Whiston's New Theory of the Earth*. London: Printed for J. Robinson at the Golden Lion, and J. Wyat at the Rose in St. Paul's Churchyard.

Ekman, Martin (1993). "A Concise History of the Theories of Tides, Precession-Nutation and Polar Motion (from Antiquity to 1950)". In: *Surveys in Geophysics* 14.6, pp. 585–617.

Electronic Enlightenment. URL: https://www.e-enlightenment.com/index.html.

Ellis, Clement (1692). *The Folly of Atheism, Demonstrated, to the Capacity of the Most Unlearned Reader*. London: Printed, are to be Sold by William Rogers at the Sun over-against St. Dunstan's Church in Fleetstreet, and Thomas Elis in Mansfield.

Elmer, Peter (2015). "Society of Chemical Physicians". In: *Oxford Dictionary of National Biography*. DOI: https://doi.org/10.1093/ref:odnb/107538.

Engell, James (2011). "Johnson on Blackmore, Pope, Shakespeare, and Johnson". In: *Johnson After Three Centuries: New Light on Texts and Contexts, special issue of Harvard Library Bulletin* 20.3-4, pp. 51–61.

Epicuro (2010). *Epistola a Erodoto*. Ed. by Francesco Verde; Emidio Spinelli. Roma: Carocci.

Epicurus (2010). "EPICVRI AD MENOECEVM EPISTVLA TERTIA MORALIS". In: *Epicurea*. Ed. by Hermann Usener. Cambridge: Cambridge University Press, pp. 57–66. DOI: 10.1017/CBO9780511711077.004.

— (2012). *The Art of Happiness*. Ed. by George K Strodach. New York: Penguin Books.

Eriksen, Christoffer Basse (2021). "Magnifying the First Points of Life: Harvey and Descartes on Generation and Scale". In: *History of Science* 60.4, pp. 524–45. DOI: 10.1177/00732753211033476.

Espinasse, Francis (2004). *Anderson, Robert (1749-1830), Literary Scholar and Biographer*. DOI: 10.1093/ref:odnb/497. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-497.

Espinasse, Francis and Michael Harris (2008). *Chambers, Ephraim (1680?-1740), Encyclopaedist*. DOI: 10.1093/ref:odnb/5070. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-5070.

Evelyn, John (1656). *An Essay on the First Book of T. Lucretius Carus De Rerum Natura. Interpreted and Made English Verse by J. Evelyn Esq;* London: Printed for Gabriel Bedle, Thomas Collins, and are to be sold at their shop at the Middle-Temple-Gate in Fleetstreet.

Fairchild, Hoxie N. (1939). *Religious Trends in English Poetry: Volume I: 1700-1740*. New York: Columbia University Press.

Fairer, David (2003). *English Poetry of the Eighteenth Century: 1700-1789*. Longman Literature in English Series. London: Longman.

Favaretti Camposampiero, Matteo (2022). "Galenism in Early Modern Philosophy and Medicine". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 697–704. DOI: 10.1007/978-3-319-31069-5_286.

Feingold, Mordechai (1997). "The History of the University of Oxford". In: vol. IV. Oxford: Oxford University Press. Chap. The Humanities, pp. 211–357. DOI: 10.1093/acprof:oso/9780199510146.003.0006.

Fisher, Saul (2014). "Pierre Gassendi". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Spring 2014. Metaphysics Research Lab, Stanford University.

— (2023). "Gassendi and Epicureanism". In: *Pierre Gassendi*. London: Routledge, pp. 106–43. DOI: 10.4324/9781315521732-6.

Fitting, Jean William (2014). "From Breathing to Respiration". In: *Respiration* 89.1, pp. 82–7. DOI: 10.1159/000369474.

Flamsteed, John (1677). "Mr. Flamstead's Account of his Observations of the Late Comet, sent in a Letter to the Publisher, Greenwich, May 18. 1677". In: *Philosophical Transactions of the Royal Society of London* 12.135, pp. 873–5. DOI: 10.1098/rstl.1677.0019.

Fletcher, John and John Dryden (1700). *The Pilgrim a Comedy As It Is Acted at the Theatre-Royal in Drury-Lane / Written Originally by Mr. Fletcher and Now Very Much Alter'd with Several Additions ; Likewise a Prologue, Epilogue, Dialogue and Masque Written by the Late Great Poet Mr. Dryden Just before His Death, Being the Last of His Works.* London: Printed for Benjamin Tooke.

Fontenelle, M. de (1702). *A Plurality of Worlds*. England: Printed for R.W. and sold by Tho. Osbourne.

Force, James (1983). "Some Eminent Newtonians and Providential Geophysics at the Turn of the Seventeenth Century". In: *Earth Sciences History* 2.1, pp. 4–10.

Fowler, Joanna and Allan Ingram, eds. (2015). *Voice and Context in Eighteenth-Century Verse: Order in Variety*. London: Palgrave Macmillan. DOI: https://doi.org/10.1057/9781137487636.

Frank, Jr. Robert G. (1997). "Medicine". In: *The History of the University of Oxford: Volume IV Seventeenth-Century Oxford*. Oxford: Oxford University Press, pp. 504–58. DOI: 10.1093/acprof:oso/9780199510146.003.0009.

French, Roger (2004). *Harvey, William (1578-1657), Physician and Discoverer of the Circulation of the Blood*. DOI: 10.1093/ref:odnb/12531. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-12531.

French, Roger and Andrew Wear, eds. (1989). *The Medical Revolution of the Seventeenth Century*. Cambridge: Cambridge University Press. DOI: https://doi.org/10.1017/CBO9780511897078.

Freudenthal, Gad (1983). "Theory of Matter and Cosmology in William Gilbert's De Magnete". In: *Isis* 74.1, pp. 22–37. DOI: https://doi.org/10.1086/353174.

Friday, Linda (2016). "The Royal Society of London and the Royal College of Physicians: The Struggle for Intellectual Dominance in Restoration London". In: *Ex Historia*.

Frisinger, H. Howard (1977). *The History Of Meteorology: To 1800*. New York: Science History Publications.

Galilei, Galileo (1632). *Dialogo di Galileo Galilei Linceo Matematico Sopraordinario dello Studio di Pisa. E Filosofo, e Matematico primario del Serenissimo Gr. Duca di Toscana. Doue ne i congressi di quattro giornate si discorre sopra i due Massimi Sistei del Mondo Tolemaico, E Copernicano, Proponendo indeterminatamente le ragioni Filosofiche, e Naturali tanto per l'una, quanto per l'altra parte*. In Fiorenza, Per Gio, Batista Landini.

— (1953). *Opere*. Ed. by Ferdinando Flora and Luisa. Lanzillotta. Milano: R. Ricciardi.

Galilei, Galileo (2017). "Discorso Del Flusso e Reflusso del Mare". In: *Le opere di Galileo Galilei. Appendice. Volume III*. Ed. by Mario Gatto et al. Firenze: Giunti.

Garau, Rodolfo (2017). "Taming Epicurus: Gassendi, Charleton, and the Translation of Epicurusâ Natural Philosophy in the Seventeenth Century". In: *Translating Early Modern Science*. Brill, pp. 233–57. DOI: https://doi.org/10.1163/9789004349261_011.

Garber, Daniel (1995). "Apples, Oranges, and the Role of Gassendi's Atomism in Seventeenth-Century Science". In: *Perspectives on Science* 3.4, pp. 425–28.

Garrett, Brian (2003). "Vitalism and Teleology in the Natural Philosophy of Nehemiah Grew (1641-1712)". In: *The British Journal for the History of Science* 36.1, pp. 63–81. DOI: https://doi.org/10.1017/s0007087402004909.

Garth, Samuel (1699). *The Dispensary. A Poem. In Six Canto's*. London: Printed and sold by John Nutt near Stationers-Hall.

Gassendi, Pierre (1649). *Epicvri Philosophia: Petri Gassendi Animadversiones In Decimvm Librvm Diogenis Laertii, Qvi Est De Vita, Moribus, Placitisque Epicvri.* Barbier.

— (1658). *Syntagma Philosophicum*.

Gattinoni, Andres (2018). "Richard Blackmore y su tratado sobre el spleen ingles". In: *Prohistoria* 30, pp. 241–64. DOI: https://doi.org/10.35305/prohistoria.vi.1171.

Gaukroger, Stephen (2006). *The Emergence of a Scientific Culture: Science and the Shaping of Modernity, 1210-1685*. Oxford: Clarendon Press ; New York: Oxford University Press. DOI: https://doi-org.ezproxy.unicatt.it/10.1093/acprof:oso/9780199296446.001.0001.

Gay, John (1714). *The Shepherd's Week: In Six Pastorals*. London: Printed and Sold by Ferd. Burleigh in Amen-Corner.

— (1716). *Two Epistles: One, to the Right Honourable Richard Earl of Burlington, the Other, to a Lady.* London: Printed for Bernard Lintot.

— (1745). *Poems on Several Occasions*. Vol. I. London: Printed for H. Lintot, J., R. Tonson and S. Draper.

Gerrard, Christine (2005). "Pope, Peri Bathous, and the Whig Sublime". In: *"Cultures of Whiggism": New Essays on English Literature and Culture in the Long Eighteenth Century.* Ed. by Abigail Williams; David Womersley; Paddy Bullard. Newark: University of Delaware Press, pp. 200–15.

— ed. (2006). *A Companion to Eighteenth-Century Poetry*. Chicester: Blackwell. DOI: 10.1002/9780470996638.

Ghosh, S. K. and R. K. Narayan (2020). "Anatomy of Nervous System and Emergence of Neuroscience: A Chronological Journey across Centuries". In: *Morphologie* 104.347, pp. 267–79. DOI: https://doi.org/10.1016/j.morpho.2020.05.005.

Giglioni, Guido (2006). *Glisson, Francis (1599?-1677), physician and philosopher*. DOI: https://doi.org/10.1093/ref:odnb/10819. URL: https://www.oxforddnb.com/

view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-10819.

Gilbert, Allan H. (1923). "Milton's Textbook of Astronomy". In: *PMLA* 38.2, pp. 297–307.

Gilbert, William (1651). *De Mundo Nostro Sublunari Philosophia Nova*. Amsterdam: Apud Ludovicum Elzevirium.

— (1958). *De Magnete*. Translated by Mottelay, P. F. New York: Dover Publications; London: Constable.

Gingerich, Owen (1973). "Copernicus and Tycho". In: *Scientific American* 229.6, pp. 86–101.

Giudice, Franco (2021). "Natural Philosophy and Scripture in Isaac Newton's Principia Mathematica". In: *The Philosophers and the Bible*. Ed. by Antonella Del Prete; Anna Lisa Schino; Pina Totaro. Leiden, Boston: Brill, pp. 278–91. DOI: https://doi.org/10.1163/9789004471955_018.

Giudice, Franco Salvatore (2014). "Galileo's Cosmological View from the Sidereus Nuncius to Letters on Sunspots". In: *Galilaeana* 11, pp. 49–63.

Glasson, Travis (2012). *The Society for the Propagation of the Gospel in Foreign Parts*. DOI: 10.1093/obo/9780199730414-0067.

Glenney, Brian and Jose Silva, eds. (2019). *The Senses and the History of Philosophy*. London: Routledge. DOI: 10.4324/9781315184418.

Glidden, David K. (Jan. 1979). ""Sensus" and Sense Perception in the "De rerum natura"". In: *California Studies in Classical Antiquity* 12, pp. 155–81. ISSN: 0068-5895. DOI: 10.2307/25010746.

Glisson, Francis (1993). *From Anatomia Hepatis (The Anatomy of the Liver), 1654*. Ed. by Andrew Cunningham. Wellcome Unit for the History of Medicine (University of Cambridge).

Goeing, Anja Silvia, Glyn Parry and Mordechai Feingold, eds. (2021). *Early Modern Universities: Networks of Higher Learning*. Vol. 31. Scientific and Learned Cultures and Their Institutions. Leiden and Boston: Brill.

Goldberg, Benjamin (2022). "Generation Theory". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 726–39. DOI: 10.1007/978-3-319-31069-5_167.

Goldie, Mark (2004). *Beconsall, Thomas (1663/4-1709), Philosopher and Church of England Clergyman*. DOI: 10.1093/ref:odnb/67744. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-67744.

Goodrum, Matthew R. (2002). "Atomism, Atheism, and the Spontaneous Generation of Human Beings: The Debate over a Natural Origin of the First Humans in Seventeenth-Century Britain". In: *Journal of the History of Ideas* 63.2, pp. 207–24. DOI: https://doi.org/10.1353/jhi.2002.0011.

Gordon-Roth, Jessica (2020). "Locke on Personal Identity". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Spring 2020. Metaphysics Research Lab, Stanford University.

Gorham, Geoffrey (2015). "Extension". In: *The Cambridge Descartes Lexicon*. Ed. by Lawrence Nolan. Cambridge University Press, pp. 272–6. DOI: 10.1017/CBO9780511894695.101.

Gouseti, Ourania (2019). "A Short History of Digestion Studies". In: *Interdisciplinary Approaches to Food Digestion*, pp. 3–10. DOI: https://doi.org/10.1007/978-3-030-03901-1_1.

Gowland, Angus (2021). "Soul, Mind, and Passions in Early Modern Europe: Introduction". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–3. DOI: 10.1007/978-3-319-20791-9_523-1.

Grand, Walter (1999). "The Anatomy of the Brain, by Thomas Willis". In: *Neurosurgery* 45.5, pp. 1234–7. DOI: 10.1097/00006123-199911000-00046.

Graney, C. M. (2015). *Setting Aside All Authority: Giovanni Battista Riccioli and the Science against Copernicus in the Age of Galileo*. Notre Dame, Indiana: University of Notre Dame Press.

Graney, Christopher M. (2012). "Anatomy of a Fall: Giovanni Battista Riccioli and the Story of Gravity". In: *Physics Today* 65.9, pp. 36–40. DOI: 10.1063/PT.3.1716.

Green, Ian (2004). *Ellis, Clement (1633-1700), Church of England Clergyman*. DOI: 10.1093/ref:odnb/8689. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-8689.

Greenblatt, Stephen (2012). *The Swerve: How the Renaissance Began*. London: Vintage Books.

Gregori, Flavio (2009). *Blackmore, Sir Richard (1654-1729), Physician and Writer*. DOI: 10.1093/ref:odnb/2528. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-2528.

Gregory, T. Ryan (2009). "The Argument from Design: A Guided Tour of William Paley's Natural Theology (1802)". In: *Evolution: Education and Outreach* 2.4, pp. 602–11. DOI: 10.1007/s12052-009-0184-6.

Grew, Nehemiah (1673). "Some Observations Touching the Nature of Snow, Presented to the R. Society by Dr. Nehemiah Grew". In: *Philosophical Transactions of the Royal Society of London* 8.92, pp. 5193–6. DOI: 10.1098/rstl.1673.0005.

— (1682). *The Anatomy of Plants with an Idea of a Philosophical History of Plants, and Several Other Lectures, Read before the Royal Society*. London: Printed by W. Rawlins, for the Author.

— (1701). *Cosmologia Sacra, or a Discourse of the Universe, as it is the Creature and Kingdom of God. Shiefly Written, To Demonstrate the Truth and Excellency of the Bible; which contains the Laws of his Kingdom in this Lower World*. London: Printed for W. Rogers, S. Smith, B. Walford: At the Sun against St. Dunstan's Church in Fleetstreet; and at the Prince's Arms in St. Paul's Church-Yard.

Greyerz, Kaspar von (2022). *European Physico-Theology (1650-c.1760) in Context: Celebrating Nature and Creation*. Oxford-Warburg Studies. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780192864369.001.0001.

Griffin, Dustin (2004). *Philips, John (1676-1709), Poet*. DOI: 10.1093/ref:odnb/22123. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-22123.

Griffiths, John, ed. (1888). *Statutes of the University of Oxford Codified in the Year 1636 under the Authority of Archbishop Laud, Chancellor of the University*. Oxford: Oxford University Press.

Guerrini, Anita (2008a). *Gregory, David (1659-1708), mathematician and astronomer*. DOI: https://doi.org/10.1093/ref:odnb/11456. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-11456.

— (2008b). *Keill, James (1673-1719), Physician and Anatomist*. DOI: 10.1093/ref:odnb/15255. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-15255.

— (2008c). *Tyson, Edward (1651-1708), Physician and Anatomist*. DOI: 10.1093/ref:odnb/27961. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-27961.

— (2021). *Cole, William (1635-1716), Physician*. DOI: 10.1093/ref:odnb/5862. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-5862.

Guiducci, Mario (1619). *Discorso delle Comete di Mario Guiducci fatto da Lui nell'Accademia Fiorentina nel suo medesimo Consolato*. Firenze: Nella Stamperia di Pietro Cecconcelli, Alle Stelle Medicee.

Guimaraes, Alberto P. (2005). *From Lodestone to Supermagnets: Understanding Magnetic Phenomena*. Wiley.

Guy, Jean M (2006). "Leading a Double Life in 17th-Century Oxford: Ralph Bathurst (1620-1704), Physician-Physiologist and Cleric". In: *Journal of Medical Biography* 14.1, pp. 17–22. DOI: 10.1258/j.jmb.2006.04-21.

Hall, M. (1975). "The Royal Society's Role in the Diffusion of Information in the Seventeenth Century (1)". In: *Notes and Records of the Royal Society of London* 29.2, pp. 173–92.

Hall, Marie Boas (2004). *Oldenburg, Henry [Heinrich] (c. 1619-1677), Scientific Correspondent and Secretary of the Royal Society*. DOI: 10.1093/ref:odnb/20676. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-20676.

Halley, Edmond (1686). "An Historical Account of the Trade Winds, and Monsoons, Observable in the Seas between and near the Tropicks, with an Attempt to Assign the Physical Cause of the said Winds". In: *Philosophical Transactions of the Royal Society of London* 16.183, pp. 153–68. DOI: 10.1098/rstl.1686.0026.

Halley, Edmond (1687). "An Estimate of the Quantity of Vapour Raised out of the Sea by the Warmth of the Sun; derived from an Experiment shown before the Royal Society, at one of their Late Meetings". In: *Philosophical Transactions of the Royal Society of London* 16.189, pp. 366–70. DOI: 10.1098/rstl.1686.0067.

— (1691). "An Account of the Circulation of the Watry Vapours of the Sea, and of the Cause of Springs, presented to the Royal Society". In: *Philosophical Transactions of the Royal Society of London* 17.192, pp. 468–73. DOI: 10.1098/rstl.1686.0084.

— (1692). "An Account of the Cause of the Change of the Variation of the Magnetical Needle. With an Hypothesis of the Structure of the Internal Parts of the Earth: as it was Proposed to the Royal Society in one of their Late Meetings". In: *Philosophical Transactions of the Royal Society of London* 17.195, pp. 563–78. DOI: 10.1098/rstl.1686.0107.

— (1693a). "II. Some Queries Concerning the Nature of Light, and Diaphanous Bodies. Proposed to the Royal Society by E. Halley". In: *Philosophical Transactions of the Royal Society of London* 17.206, pp. 998–9. DOI: 10.1098/rstl.1693.0079.

— (1693b). "IX. A Discourse Concerning the Proportional Heat of the Sun in all Latitudes, with the Method of Collecting the same, as it was read before the Royal Society in one of their Late Meetings". In: *Philosophical Transactions of the Royal Society of London* 17.203, pp. 878–85. DOI: 10.1098/rstl.1693.0061.

— (1705). *A Synopsis of the Astronomy of Comets*. London: Printed for John Senex, next to the Fleece-Tavern, in Cornhill.

Halley, Edmund (1695-1697). "The True Theory of the Tides, Extracted from That Admired Treatise of Mr. Isaac Newton, Intituled, Philosophiae Naturalis Principia Mathematica; being a Discourse Presented with That Book to the Late King James, by Mr. Edmund Halley". In: *Philosophical Transactions of the Royal Society* 19, pp. 445–57.

Hampton, Alexander J. B. and John Peter Kenney, eds. (2020). *Christian Platonism: A History*. Cambridge: Cambridge University Press. DOI: 10.1017/9781108590341.

Hancock, John (1707). *Arguments to Prove the Being of a God. With Objections Against It, Answer'd.* London: Printed for B. Aylmer, Senr. Junr. at the Three Pigeons against the Royal-Exchange in Cornhill.

Hannes., Thomas Millington; Richard Blackmore; Edward (1702). *The Report of the Physicians and Surgeons, Commanded to Assist at the Dissecting the Body of His Late Majesty (William III) at Kensington, March the Tenth MDCC I/II. From the Original Delivered to the Right Honorable the Privy Council.* London: Printed for John Nutt, near Stationers-Hall.

Hardy, Nicholas (2015). "Is the De rerum natura a Work of Natural Theology? Some Ancient, Modern, and Early Modern Perspectives". In: *Lucretius and the Early Modern*. Ed. by David Norbrook; Stephen Harrison; Philip Hardie. Oxford: Oxford University Press, pp. 200–21. DOI: 10.1093/acprof:oso/9780198713845.003.0010.

Harmsen, Theodor (2004). *Hearne, Thomas (bap. 1678, d. 1735), Antiquary and Diarist*. DOI: 10.1093/ref:odnb/12827. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-12827.

Harris, John (1708). *Lexicon Technicum: or, An Universal English Dictionary of Arts and Sciences: Explaining not only the Terms of Art, but the Arts Themselves.* London: Printed for Dan. Brown, Tim. Goodwin, John Walthoe, Tho. Newborough, John Nicholson, Dan. Midwinter, and Francis Coggan.

Harris, W. Nicholas Lemery; translated by (1686). *A Course of Chymistry. Containing An easie Method of Preparing those Chymical Medicins which are used in Physic. WIth Curious Remarks and Useful Discourses upon each Preparation, for the benefit of such who desire to be instructed in the Knowledge of this Art.* London: Printed by R.N. for Walter Kettilby, at the Bishop's-Head in S. Paul's Church-yard.

Harrison, Charles Trawick (1934). "The Ancient Atomists and English Literature of the Seventeenth Century". In: *Harvard Studies in Classical Philology* 45, pp. 1–79. DOI: 10.2307/310631.

Harrison, Peter (2005). "Physico-Theology and the Mixed Sciences: The Role of Theology in Early Modern Natural Philosophy". In: *The Science of Nature in the Seventeenth Century: Patterns of Change in Early Modern Natural Philosophy*. Ed. by P.R. Anstey; J.A. Shuster. Vol. 19. Dordrecht: Springer, pp. 165–83. DOI: 10.1007/1-4020-3703-1_7.

— (2008). "Religion, the Royal Society, and the Rise of Science". In: *Theology and Science* 6.3, pp. 255–71. DOI: 10.1080/14746700802206925.

— (2010). "Religion and the Early Royal Society". In: *Science and Christian Belief* 22.1, pp. 3–22.

— (2014). "Sentiments of Devotion and Experimental Philosophy in Seventeenth-Century England". In: *Journal of Medieval and Early Modern Studies* 44.1, pp. 113–33. DOI: https://doi.org/10.1215/10829636-2389515.

— (2019). "Science Without God? Rethinking the History of Scientific Naturalism". In: ed. by Peter Harrison; Jon H. Roberts. Oxford: Oxford University Press. Chap. Laws of God or Laws of Nature?: Natural Order in the Early Modern Period, pp. 58–76. DOI: 10.1093/oso/9780198834588.003.0004.

Harvey, William (1653). *The Anatomical Exercises of Dr. William Harvey Professor of Physick, and Physician to the Kings Majesty, Concerning the Motion of the Heart and Blood.* London: Printed by Francis Leach, for Richard Lowndes at the White Lion in St. Pauls Churchyard, near the West end.

— (1928). *The Anatomical Exercises of Dr. William Harvey : De Motu Cordis 1628 ; De Circulatione Sanguinis 1649 : The First English Text of 1653*. Ed. by Geoffrey Keynes. London: The Nonesuch Press.

Hattendorf, John B. (2014). *Churchill, John, First Duke of Marlborough (1650-1722), Army Officer and Politician*. DOI: 10.1093/ref:odnb/5401. URL: https://www.oxforddnb.

com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-5401.

Hearne, Thomas (1869). *The Remains of Thomas Hearne, M.A. of Edmund Hall*. Ed. by Philip Bliss. Second Edition. Vol. II. London: John Russel Smith, Soho Square.

— (1885). *Remarks and Collections of Thomas Hearne*. Oxford: Printed for the Oxford Historical Society at the Clarendon Press.

Hecht, Eugene (2019). "Kepler and the Origins of the Theory of Gravity". In: *American Journal of Physics* 87.3, pp. 176–85. DOI: 10.1119/1.5089751.

Heidarzadeh, Tofigh (2008). *A History of Physical Theories of Comets, from Aristotle to Whipple*. Archimedes : New Studies in the History and Philosophy of Science and Technology ; V. 19. Springer. DOI: https://doi.org/10.1007/978-1-4020-8323-5.

Helden, A. van (1974). "The Telescope in the Seventeenth Century". In: *Isis* 65.1, pp. 38–58. DOI: https://doi.org/10.1086/351216.

— (1996). "Galileo and Scheiner on Sunspots: A Case Study in the Visual Language of Astronomy". In: *Proceedings of the American Philosophical Society* 140.3, pp. 358–96.

Helling, Thomas S. and Sean P. McCleary (2016). "The Tunics of Glisson". In: *Surgery* 160.1, pp. 94–9.

Henry, John (2001). "Animism and Empiricism: Copernican Physics and the Origins of William Gilbert's Experimental Method". In: *Journal of the History of Ideas* 62.1, pp. 99–119. DOI: https://doi.org/10.1353/jhi.2001.0004.

— (2010). *Charleton, Walter (1620-1707), Physician and Natural Philosopher*. DOI: 10.1093/ref:odnb/5157. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-5157.

— (2015). "Boyle, Robert (1627-1691)". In: *The Cambridge Descartes Lexicon*. Ed. by Lawrence Nolan. Cambridge University Press, pp. 77–8. DOI: 10.1017/CBO9780511894695.033.

Hetherington, Norris S. (1975). "Almanacs and the Extent of Knowledge of the New Astronomy in Seventeenth-Century England". In: *Proceedings of the American Philosophical Society* 119.4, pp. 275–9.

Heywood, James, ed. (1845). *Oxford University Statutes translated to 1843, by the late G.R.M. Ward, Esq. M.A.* Vol. Volume I. Containing the Caroline Code, or the laudian Statutes, promulgated A.D. 1636. London: William Pickering.

Highmore, Nathaniel (1651). *The History of Generation Examining the Several Opinions of divers authors, especially that of Sir Kenelm Digby, in his Discourse of Bodies : with a General Relation of the Manner of Generation, as well in Plants as Animals : with some Figures Delineating the first Originals of some Creatures ... : to which is joyned, A Discourse of the Cure of wounds by Sympathy, or without any Real Applycation of Medicines to the Part Affected, but especially by that Powder, known chiefly by the name of Sir Gilbert Talbots Powder*. London: Printed by R.N. for John Martin.

Hill, Aaron (1720). *The Creation. A Pindarick Illustration of a Poem, Originally written by Moses, on That Subject*. London: Printed for T. Bickerton, at the Crown in Paternoster-Row.

Hill, Christopher (1968). "The Intellectual Origins of the Royal Society. London or Oxford?" In: *Notes and Records of the Royal Society of London* 23.2, pp. 144–56. DOI: https://doi.org/10.1098/rsnr.1968.0019.

Hitt, Christopher (2004). "Ecocriticism and the Long Eighteenth Century". In: *College Literature* 31.3, pp. 123–47. DOI: https://doi.org/10.1353/lit.2004.0035.

Hobbes, Thomas (1651). *Leviathan*. London: Printed for Andrew Crooke, at the Green Dragonin St. Paul's Churchyard.

Hooke, Robert (1665). *Micrographia: or some Physicological Descriptions of Minute Bodies made by Magnifying Glasses with Observations and Inquiries thereupon*. London: Printed by Jo. Martyn, Ja. Allestry, Printers to the Royal Society, and are to be sold at their Shop at the Bell in St. Paul's Church-yard.

— (1667a). "An account of an experiment made by M. Hook, of preserving animals alive by blowing through their lungs with bellows". In: *The Philosophical Transactions of the Royal Society* 2.28, pp. 53–4.

— (1667b). "History of the Royal Society by Thomas Sprat". In: London. Chap. "For the better making a history of the weather", pp. 173–9.

— (1674). *An Attempt to Prove the Motion of the Earth from Observations made by Robert Hooke*. London: Printed by T.R. for John Martyn.

— (1678). *Lectures de potentia restitutiva, or, Of Spring Explaining the Power of Springing Bodies*. London: Printed for John Martyn Printer to the Royal Society, at the Bell in St. Pauls Church-Yard.

Hopkins, David (2007). "The English voices of Lucretius from Lucy Hutchinson to John Mason Good". In: *The Cambridge Companion to Lucretius*. Ed. by Stuart Gillespie; Philip Hardie. Cambridge: Cambridge University Press, pp. 254–73. DOI: https://doi.org/10.1017/CCOL9780521848015.017.

Hopkins, Marmaduke (1689). *Murmurers reproved. A sermon preached at St. Vedas [sic], alias Foster-Lane, on Feb. 24. 1688/9. By Marmaduke Hopkins rector there*. London: Printed for Jonathan Robinson, at the Golden Lion in St. Paul's Church-Yard.

Hornblower Simon; Spawforth, Antony, ed. (2012). *The Oxford Classical Dictionary*. Oxford: Oxford University Press.

Howard, Robert (1975). "The Rotation of the Sun". In: *Scientific American* 232.4, pp. 106–15.

Howe, Herbert M. (1957). "The Religio of Lucretius". In: *The Classical Journal* 52.7, pp. 329–33.

Hubbell, J. Andrew and John C. Ryan (2022). *Introduction to the Environmental Humanities*. 1st. London and New York: Routledge.

Hughes, D. W. (1988). "The 'Principia' and Comets". In: *Notes and Records of the Royal Society of London* 42.1, pp. 53–74.

Hughes, John (1713). *An Ode to the Creator of the World. Occasion'd by the Fragments of Orpheus*. London: Printed for J. Tonson, at Shakespeare's-Head over against Catherine-street in the Strand.

Hunt, William H., ed. (1907). *The Registers of St. Paul's Church, Convent Garden, London*. London: Mitchell, Hughes and Clarke, printers.

Hunter, Michael (2004). *Boyle, Robert (1627-1691), Natural Philosopher*. DOI: 10.1093/ref:odnb/3137. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-3137.

— (2015). *Grew, Nehemiah (bap. 1641, d. 1712), Botanist and Physician*. DOI: 10.1093/ref:odnb/11521. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-11521.

Hunter, William B. (1950). "The Seventeenth Century Doctrine of Plastic Nature". In: *Harvard Theological Review* 43.3, pp. 197–213. DOI: 10.1017/s0017816000024512.

Hutchins, Barnaby R. (2021). "Life, Mechanization of". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–8. DOI: 10.1007/978-3-319-20791-9_139-1.

Hutton, Sarah (2023). "Ralph Cudworth". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Winter 2023. Metaphysics Research Lab, Stanford University.

— (2024). "The Cambridge Platonists". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Summer 2024. Metaphysics Research Lab, Stanford University.

Huygens, Christian (1698). *The Celestial Worlds Discover'd: or Conjectures Concerning the Inhabitants, Plants and Productions of the Worlds in the Planets*. London: Printed for Timothy Childe at the White Hart at the West-end of St. Paul's Church-yard.

— (2005). *Treatise on Light. In which are Explained the Causes of that which Occurs in Reflexion, in Refraction and particularly in the Strange Refraction of Iceland Crystal*. Ed. by Silvanus P. Thompson. Chicago: University of Chicago Press.

Iliffe, Rob (2017). *Priest of Nature: the Religious Worlds of Isaac Newton*. Oxford: Oxford University Press.

Inglesfield, Robert (1986). "James Thomson, Aaron Hill, and the Poetic "Sublime"". In: *British Journal for Eighteenth-Century Studies* 9, pp. 141–56. DOI: https://doi.org/10.1111/j.1754-0208.1990.tb00130.x.

— (2004). *Needler, Henry (bap. 1690, d. 1718), Poet and Essayist*. DOI: 10.1093/ref:odnb/68280. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-68280.

Ingram, Allan, Clark Lawlor and Helen Williams, eds. (2024). *Myth and (Mis)information: Constructing the Medical Professions in Eighteenth- and Nineteenth-Century English Literature and Culture*. Manchester: Manchester University Press. DOI: https://doi.org/10.7765/9781526166845.

Ishizuka, Hisao (2012). ""Fibre Body": The Concept of Fibre in Eighteenth-Century Medicine, c.1700-1740". In: *Medical History* 56.4, pp. 562–84. DOI: 10.1017/mdh.2012.74.

— (2022). "Fibers in Seventeenth- and Eighteenth-Century Medicine". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 682–88. DOI: 10.1007/978-3-319-31069-5_617.

Isler, Hansruedi (2009). "History of Neurology". In: Elsevier. Chap. The Development of Neurology and the Neurological Sciences in the 17th Century, pp. 91–106. DOI: 10.1016/s0072-9752(08)02108-8.

Ito, Yushi (1988). "Hooke's Cyclic Theory of the Earth in the Context of Seventeenth Century England". In: *The British Journal for the History of Science* 21.3, pp. 295–314. DOI: https://doi.org/10.1017/s0007087400025000.

Jacob, Giles (1723). *The Poetical Register: Or, the Lives and Characters of all the English Poets. With an Account of their Writings.* Vol. II. London: Printed et al.

Jacob, Margaret C. (1977). "Newtonianism and the Origins of the Enlightenment: A Reassessment". In: *Eighteenth-Century Studies* 11.1, pp. 1–25.

Jankovic, Vladimir (2000). *Reading the Skies: A Cultural History of English Weather, 1650-1820*. Manchester: Manchester University Press.

Janowitz, Anne (2010). "The Sublime Plurality of Worlds: Lucretius in the Eighteenth Century". In: *Tate Papers* 13.9.

Jemielity, Thomas (1995). "A Mock-Biblical Controversy: Sir Richard Blackmore in the Dunciad." In: *Philological Quarterly* 74.3, pp. 249–78.

Jenstad, Janelle (2006-present). *The Map of Early Modern London*. URL: mapoflondon.uvic.ca.

Johns, Adrian (2004). *Power, Henry (c. 1626-1668), Natural Philosopher and Physician*. DOI: 10.1093/ref:odnb/22665. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-22665.

Johnson, Monte Ransome (2003). "Was Gassendi an Epicurean?" In: *History of Philosophy Quarterly* 20.4, pp. 339–60.

Johnson, Samuel. *Johnson's Dictonary Online*. University of Central Florida-BOT. URL: https://johnsonsdictionaryonline.org/.

— (1896). *The Lives of the Most Eminent English Poets*. Vol. II. London: Methuen and Co.

Johnson, Samuel and Roger Lonsdale (2006). *The Lives of the Most Eminent English poets. Volume III : With Critical Observations on their works*. Oxford: Clarendon Press.

Jolley, Nicholas (2015). "God". In: *The Cambridge Descartes Lexicon*. Ed. by Lawrence Nolan. Cambridge University Press, pp. 335–44. DOI: 10.1017/CBO9780511894695.121.

Jones, Richard F. (1940). "Science and Criticism in the Neo-Classical Age of English Literature". In: *Journal of the History of Ideas* 1.4, pp. 381–412.

Jones, William Powell (1959). "Science in Biblical Paraphrases in Eighteenth-Century England". In: *PMLA* 71.1, pp. 41–51. DOI: https://doi.org/10.2307/460385.

— (1961). "The Idea of the Limitations of Science from Prior to Blake". In: *Studies in English Literature, 1500-1900* 1.3, pp. 97–114. DOI: https://doi.org/10.2307/449308.

— (1963). "Newton Further Demands the Muse". In: *Studies in English Literature, 1500-1900* 3.3, pp. 287–306. DOI: https://doi.org/10.2307/449346.

— (1966). *The Rhetoric of Science: a Study of Scientific Ideas and Imagery in Eighteenth-Century English Poetry.* London: Routledge and Kegan Paul.

Jorgensen, Larry M. (2020). "Seventeenth-Century Theories of Consciousness". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Spring 2020. Metaphysics Research Lab, Stanford University.

Jung, Sandro and Kwinten Van De Walle, eds. (2018). *The Genres of Thomson's The Seasons*. Bethlehem: Lehigh University Press.

Kaptur, Pawel (2023). "A Stingless Bee: the Glorious Revolution in John Dryden's Translations of Virgil". In: *Anglo Saxonica* 21.1. DOI: 10.5334/as.109.

Karamanou, Marianna and George Androutsos (2010). "Completing the Puzzle of Blood Circulation: The Discovery of Capillaries". In: *Italian Journal of Anatomy and Embryology* 115.3, pp. 175–9.

Kargon, Robert (1964). "Walter Charleton, Robert Boyle, and the Acceptance of Epicurean Atomism in England". In: *Isis* 55.2, pp. 184–92. DOI: https://doi.org/10.1086/349826.

— (1965). "William Petty's Mechanical Philosophy". In: *Isis* 56.1, pp. 63–6. DOI: https://doi.org/10.1086/349926.

Katz, Arnold M (1957). "Knowledge of the Circulation before William Harvey". In: *Circulation* 15.5, pp. 726–34.

Keezer, William S (1965). "Spontaneous Generation, Pre-Formation and Epigenesis". In: *Bios* 36.1, pp. 26–32.

Keill, James (1703). *The Anatomy of the Humane Body Abridg'd: Or, a Short and Full View of All the Parts of the Body. Together with Their Several Uses, Drawn from Their Compositions and Structures.* London: Printed for Ralph Smith, under the Royal-Exchange; and William Davis, at the Black-Bull in Cornhill.

Keill, John (1698). *An Examination of Dr. Burnet's Theory of the Warth together with some Remarks on Mr. Whiston's New Theory of the Earth*. Oxford: Printed at the Theater.

Keller, Eve (2000). "Embryonic Individuals: The Rhetoric of Seventeenth-Century Embryology and the Construction of Early-Modern Identity". In: *Eighteenth-Century Studies* 33.3, pp. 321–48.

Kelly, John Norman Davidson (1989). *St. Edmund Hall: Almost Seven Hundred Years*. Oxford: Oxford University Press.

Kelly, Michael (1961). "Notes and Events. Sir Richard Blackmore in the Judgement of his Fellow Writers". In: *Journal of the History of Medicine and Allied Sciences* 16.2, pp. 186–9.

Kepler, Johannes (1967). *Kepler's Somnium: the Dream, or Posthumous Work on Lunar Astronomy*. Ed. by Edward Rosen. Madison, London: University of Wisconsin Press.

Kepler, Johannes and William H. Donahue (1992). *New Astronomy*. Cambridge: Cambridge University Press.

Kersey, John (1708). *Dictionarium Anglo-Britannicum: or, a General English Dictionary*. London: Printed by J. Wilde, for J. Phillips, at the King's-Arms in St. Paul's Churchyard.

Keynes, Geoffrey (1951). *John Ray, a Bibliography*. London: Faber and Faber.

King, Leste S. (1972). "Medical Theory and Practice at the Beginning of the 18th Century". In: *Bulletin of the History of Medicine* 46.1, pp. 1–15.

King, Lester S. (1976). "Evidence and its Evaluation in Eighteenth-Century Medicine". In: *Bulletin of the History of Medicine* 50.2, pp. 174–90.

Kircher, Anthanasius (1665). *Mundus Subterraneus*. Amsterdam: Janssonium Weyerstraten.

Kochiras, Hylarie (2023). "Locke's Philosophy of Science". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Winter 2023. Metaphysics Research Lab, Stanford University.

Kollerstrom, Nicholas (1992). "The Hollow World of Edmond Halley". In: *Journal for the History of Astronomy* 23.3, pp. 185–92. DOI: https://doi.org/10.1177/002182869202300304.

Konstan, David (2011). "Epicurus on the Gods". In: *Epicurus and the Epicurean Tradition*. Ed. by Kirk R. Fish Jeffrey; Sanders. Cambridge: Cambridge University Press, pp. 53–71. DOI: 10.1017/CBO9780511921704.004.

— (2019). "Lucrezio e la scienza moderna: alcuni punti di contatto". In: *Griseldaonline* 17. DOI: 10.6092/ISSN.1721-4777/9396.

— (2022). "Epicurus". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Fall 2022. Metaphysics Research Lab, Stanford University.

Kupersmith, William (2004). "Richard Blackmore and Eustace Budgell in Alexander Pope's "The First Satire of the Second Book of Horace Imitated"". In: *The Scrblerian and the Kit-Cats* 36.2, pp. 161–6.

Landa, Louis A. (1980). *Essays in Eighteenth-Century English Literature*. Princeton: Princeton University Press.

Lawlor, Clark and Andrew Mangham, eds. (2021). *Literature and Medicine: The Eighteenth Century*. Cambridge: Cambridge University Press. DOI: 10.1017/9781108355476.

Layton, D. (1965). "Diction and Dictionaries in the Diffusion of Scientific Knowledge: An Aspect of the History of the Popularization of Science in Great Britain." In: *The*

British Journal for the History of Science 2.3, pp. 221–34. DOI: https://doi.org/10.1017/s0007087400002211.

Leahteenmaeki, Vili (2020). "Consciousness in Early Modern Philosophy and Science". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–12. DOI: 10.1007/978-3-319-20791-9_189-1.

Leerssen, Joep (2004). *Brooke, Henry (c. 1703-1783), Writer and Playwright*. DOI: 10.1093/ref:odnb/3545. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-3545.

Leeuwenhoek, Antoni van (1674). *Letter, from Antoni van Leeuwenhoek to Henry Oldenburg, dated at Delft*.

Leeuwenhoek, Antoni van (1677). "Mr. Leewenhoecks letter written to the publisher from Delft the 14th of May 1677, concerning the observations by him made of the carneous fibres of a muscle, and the cortical and medullar part of the brain; as also of moxa and cotton". In: *Philosophical Transactions of the Royal Society of London* 12.136, pp. 899–905. DOI: 10.1098/rstl.1677.0027.

Lega, Bradley C. (2006). "An Essay Concerning Human Understanding: How the Cerebri Anatome of Thomas Willis Influenced John Locke". In: *Neurosurgery* 58.3, pp. 567–76. DOI: 10.1227/01.neu.0000197489.17675.c6.

Leigh, Charles (1700). *The Natural History of Lancashire, Cheshire, and the Peak, in Derbyshire. With an Account of the British, Phoenician, Armenian, Gr. and Rom. Antiquities in Those Parts*. Oxford: Printed for the Author; et al.

Levine, J. M. (2004). *Woodward, John (1665/1668-1728), physician, natural historian, and antiquary.* DOI: https://doi.org/10.1093/ref:odnb/29946. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-29946.

Levitin, Dmitri (2014). "Rethinking English Physico-theology: Samuel Parker's Tentamina de Deo (1665)". In: *Early Science and Medicine* 19.1, pp. 28–75. DOI: https://doi.org/10.1163/15733823-00191p02.

Lewenhoek, Antony Van (1700). "III. Part of a letter from Mr. Lewenhoek, concerning the circulation and globules of the blood in butts". In: *Philosophical Transactions of the Royal Society of London* 22.263, pp. 552–60. DOI: 10.1098/rstl.1700.0027.

"Richard Blackmore (1654-1729). Creation" (2017). In: *Religion in Enlightenment England: An Anthology of Primary Sources*. Ed. by Jayne Elizabeth Lewis. Waco, Texas: Baylor University Press, pp. 170–90.

Lewis, Orly (2023). "The Mechanics of Galen's Theory of Nutrition". In: *Body and Machine in Classical Antiquity*. Cambridge: Cambridge University Press, pp. 262–95. DOI: 10.1017/9781009085786.012.

Lievers, Menno (1992). "The Molyneux Problem". In: *Journal of the History of Philosophy* 30.3, pp. 399–416. DOI: https://doi.org/10.1353/hph.1992.0043.

Lister, Martin (1684). "An Ingenious Proposal for a New Sort of Maps of Countrys, together with Tables of Sands and Clays, Such Chiefly as are Found in the North

Parts of England, Drawn up about 10 Years Since, and Delivered to the Royal Society Mar. 12. 1683. by the Learned Martin Lister M. D." In: *Philosophical Transactions (1683-1775)* 14, pp. 739–46.

Littledale, Willoughby A., ed. (1903). *The Registers of St. Vedast, Foster Lane, and of St. Michael le Quern, London*. Vol. XX. Marriages and Burials. London: Mitchell Hughes.

Llasera, Margaret (1981). "Magnetism and English Poetry in the Earlier Seventeenth Century". In: *Études Anglaises* 34.1, pp. 16–31.

Locher, Fabien and Jean Baptiste Fressoz (2012). "Modernity's Frail Climate: A Climate History of Environmental Reflexivity". In: *Critical Inquiry* 38.3, pp. 579–98.

Locke John; Clarke, Edward (1927). *The Correspondence of John Locke and Edward Clarke*. Ed. by Benjamin Rand. Harvard: Harvard University Press.

Locke, John (1696). *The Reasonableness of Christianity, As delivered in the Scriptures. The Second Edition.* London: Printed for Awnsham and John Churchil, at the Black Swan in Pater-Noster-Row.

— (1976). *The Correspondence of John Locke*. Ed. by E.S. de Beer. Vol. 6: Letters nos. 2199-2664. Oxford: Clarendon Press.

— (2008). *An Essay Concerning Human Understanding*. Ed. by Pauline Phemister. Oxford: Oxford University Press.

London, Royal College of Physicians of (1704). *A catalogue of the fellows, candidates, honorary fellows and licentiates of the Royal College of Physicians, London*.

— (1705). *A catalogue of the fellows, candidates, honorary fellows and licentiates, of the Royal College of Physicians, London*.

— (1707). *[A catalogue of the] fellows, candidates, honorary-fellows, and licentiates. [sic] of the Royal College of Physicians, London*.

London Gazette (Mar. 1686/7). Journal. No. 3272.

Long, E. Hudson (1943). "Notes on Sir Richard Blackmore". In: *Modern Language Notes* 58.8, pp. 585–9.

Longo, Lawrence D. and L. P. Reynolds (2016). *Wombs with a View Illustrations of the Gravid Uterus from the Renaissance through the Nineteenth Century*. Cham, Switzerland: Springer. DOI: https://doi.org/10.1086/696556.

Lovejoy, Arthur O. (2001). *The Great Chain of Being: A Study of the History of an Idea*. 22nd Ed. 1st Edition 1936. Cambridge, Massachusetts, and London, England: Harvard University Press.

Lower, Richard (1667). "An Account of Making a Dogg Draw His Breath Exactly like a Wind-Broken, Horse As It Was Devised and Experimented by Dr. Richard Lower; With Some of His Instructive Observations Thereon". In: *The Philosophical Transactions of the Royal Society* 2.29, pp. 544–6.

Lucci, Diego (2020). *John Locke's Christianity*. Cambridge: Cambridge University Press. DOI: 10.1017/9781108873055.001.

Lucretius Carus T. Good, J.M. (1805). *The Nature of Things: A Didactic Poem. In Two Volumes*. Vol. Volume I. The Nature of Things: A Didactic Poem. London: Longman, Hurst, Rees, and Orme.

Lucretius Carus, Titus (1682). *T. Lucretius Carus, The Epicurean Philosopher, His Six Books De Natura Rerum, Done into English Verse, with Notes*. Ed. by Thomas Creech. Oxford: Printed by L. Lichfield, Printer to the University For Anthony Stephens Bookseller near the Theatre.

Lucrezio Caro, Tito (2019). *De Rerum Natura*. Ed. by Guido Milanese; Emanuele Narducci. Milano: Mondadori.

Luzzini, Francesco (2015). "Through Dark and Mysterious Paths. Early Modern Science and the Search for the Origin of Springs from the 16th to the 18th Centuries". In: *Earth Sciences History* 34.2, pp. 169–89. DOI: 10.17704/1944-6187-34.2.169.

Machline, Vera Cecilia (2013). "The Role of Plauto in Richard Blackmore's Conceptions about the Spleen". In: *Circumscribere International Journal for the History of Science* 13, pp. 81–97.

MacKenzie, Raymond N. (2004). *Tonson, Jacob, the elder (1655/6-1736)*. DOI: 10.1093/ref:odnb/27540. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-27540.

Maclean, Ian (2008a). *Fludd, Robert (bap. 1574, D. 1637), Physician and Writer on the Occult*. DOI: 10.1093/ref:odnb/9776. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-9776.

— (2008b). "The Medical Republic of Letters before the Thirty Years War". In: *Intellectual History Review* 18.1, pp. 15–30. DOI: https://doi.org/10.1080/17496970701819327.

Magruder, Kerry V. (2006). "Global Visions and the Establishment of Theories of the Earth". In: *Centaurus* 48.4, pp. 234–57. DOI: https://doi.org/10.1111/j.1600-0498.2006.00048.x.

— (2008). "Chapter Fifteen. Thomas Burnet, Biblical Idiom, And Seventeenth-Century Theories Of The Earth". In: *Nature and Scripture in the Abrahamic Religions: Up to 1700 (2 vols)*. Ed. by Scott Mandelbrote and Jitse van der Meer. Brill, pp. 461–500. DOI: 10.1163/ej.9789004171916.i-782.103.

Maienschein, Jane (2008). "Epigenesis and Preformationism". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Fall 2008. Metaphysics Research Lab, Stanford University.

Malpighi, Marcello (1689). *De structura glandularum conglobatarum consimiliumque partium epistola, Regiae Societati Londini ad scientiam naturalem promovendam, institutae, dicata*. London: Chiswell, Richard, bookseller of the Royal Society.

Mandelbrote, Scott (2004). *Burnet, Thomas (c. 1635-1715), Natural Philosopher and Headmaster*. DOI: https://doi.org/10.1093/ref:odnb/4067. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-4067.

Mandelbrote, Scott (Sept. 2005). *Ray [formerly Wray], John (1627-1705), Naturalist and Theologian*. DOI: 10.1093/ref:odnb/23203. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-23203.

— (2007). "The Uses of Natural Theology in Seventeenth-Century England". In: *Science in Context* 20.3, pp. 451–80. DOI: doi:10.1017/S026988970700138X.

Mandressi, Rafael (2022). "Anatomy in the Early Modern Period". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 57–61. DOI: 10.1007/978-3-319-31069-5_564.

Manning, Gideon (2020). "Circulation of the Blood". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–7. DOI: 10.1007/978-3-319-20791-9_273-1.

Manning, Russell Re (2013). *The Oxford Handbook of Natural Theology*. Oxford: Oxford University Press. DOI: 10.1093/oxfordhb/9780199556939.001.0001.

Maricourt, Pierre de (1904). *The Letter of Petrus Peregrinus on the Magnet, A.D. 1269*. Translated by Brother Arnold. New York: McGraw Publishing Company.

Marsak, Leonard M. (1959). "Bernard de Fontenelle: The Idea of Science in the French Enlightenment". In: *Transactions of the American Philosophical Society* 49.7, pp. 1–64.

Marshall, John (1998). "Latitudinarianism". In: *Routledge Encyclopedia of Philosophy*. London: Taylor and Francis. DOI: 10.4324/9780415249126-DA049-1.

Martensen, Robert L. (2004a). *Garth, Sir Samuel (1660/61-1719), physician and poet*. DOI: https://doi.org/10.1093/ref:odnb/10414. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-10414.

— (2004b). *Radcliffe, John (bap. 1650, d. 1714), Physician and Philanthropist*. DOI: https://doi-org.ezproxy.unicatt.it/10.1093/ref:odnb/22985. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-22985.

— (2004c). *Wharton, Thomas (1614-1673), physician*. DOI: 10.1093/ref:odnb/29174. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-29174.

Mason, F. S. (1953). "Science and Religion in 17th Century England." In: *Past and Present* 3, pp. 28–44. DOI: https://doi.org/10.1093/past/3.1.28.

Mason, Tom and Philip Smallwood (2000). "Introducing the Long Eighteenth Century: Literary History and the New Pedagogy". In: *The Cambridge Quarterly* 29.3, pp. 191–213. DOI: https://doi.org/10.1093/camqtly/xxix.3.191.

Massa, Daniel (1977). "Giordano Bruno's Ideas in Seventeenth-Century England". In: *Journal of the History of Ideas* 38.2, pp. 227–42.

Mayo, Thomas Franklin (1970). *Epicurus in England (1650-1725)*. Ann Arbor: Published on demand by University Microfilms.

McColley, Grant (1936). "The Seventeenth-Century Doctrine of a Plurality of Worlds". In: *Annals of Science* 1.4, pp. 385–430. DOI: 10.1080/00033793600200301.

— (1937). "The Theory of the Diurnal Rotation of the Earth". In: *Isis* 26.2, pp. 392–402. DOI: https://doi.org/10.1086/347188.

McFarland, Ronald E (1971). "Jonson's Magnetic Lady and the Reception of Gilbert's De Magnete". In: *Studies in English Literature, 1500-1900* 1.2, pp. 283–93. DOI: https://doi.org/10.2307/450065.

McGeary, Thomas N. (2006). *Hughes, John (1678?-1720), Writer and Librettist*. DOI: 10.1093/ref:odnb/14077. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-14077.

McGrath, Alistair (2022). *Natural Theology*. Ed. by B. N. Wolfe et al. URL: https://www.saet.ac.uk/Christianity/NaturalTheology.

McKie, D. (1960). "The Origins and Foundation of the Royal Society of London". In: *Notes and Records of the Royal Society of London* 15, pp. 1–37.

McNabb, Jody (2014). "Thomas Willis: The Faculties and His Two Cognitive Frameworks". In: *Brain and Cognition* 91, pp. 131–7. DOI: https://doi.org/10.1016/j.bandc.2014.08.005.

Meadows, Arthur Jack (1969). *The High Firmament: A Survey of Astronomy in English Literature*. Leicester: Leicester University Press.

Means, James (1974). "Sir Richard Blackmore and the Frontispiece to The Dunciad Variorum (1729)". In: *The Scriblerian and the Kit-Cats* 6.2, pp. 101–2.

Meier, Richard Y. (1982). "'Sympathy' in the Neurophysiology of Thomas Willis". In: *Clio Medica. Acta Academiae Internationalis Historiae Medicinae*. Vol. 17. Brill, pp. 95–111. DOI: https://doi.org/10.1163/9789004418677_025.

Mengel, Elias F. (1973). "The Dunciad Illustrations". In: *Eighteenth-Century Studies* 7.2, pp. 161–78. DOI: https://doi.org/10.2307/3031652.

Merrill, R. T. and M. W McElhinny (1983). "History of Geomagnetism and Palaeomagnetism". In: *The Earth's Magnetic Field: Its History, Origin and Planetary Perspective*. Ed. by Ronald T. Merrill and Michael W. McElhinny. Vol. 32. International Geophysics. Academic Press, pp. 1–14. DOI: https://doi.org/10.1016/S0074-6142(08)60395-2.

Michael, Fred S. and Emily Michael (1995). "Gassendi's Modified Epicureanism and British Moral Philosophy". In: *History of European Ideas* 21.6, pp. 743–61. DOI: https://doi.org/10.1016/0191-6599(95)00065-8.

Miller, Ian (2018). "Digesting In The Long Eighteenth Century". In: *Bellies, Bowels and Entrails in the Eighteenth Century*. Manchester: Manchester University Press, pp. 62–79. DOI: 10.7228/manchester/9781526127051.003.0004.

Milton, J. R. (2004). *Locke, John (1632-1704), philosopher*. DOI: https://doi.org/10.1093/ref:odnb/16885. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-16885.

Milton, John (2020). *Paradise Lost*. Ed. by Gordon Teskey. 2nd Ed. New York: W. W. Norton and Company.

Milton, J.R. (2011). "Induction before Hume". In: *Inductive Logic*. Elsevier, pp. 1–41. DOI: 10.1016/b978-0-444-52936-7.50001-x.

Molnar, Zoltan (2004). "Thomas Willis (1621-1675), the Founder of Clinical Neuroscience". In: *Nature Reviews Neuroscience* 5.4, pp. 329–35. DOI: 10.1038/nrn1369.

Molyneux, William (1692). *Dioptrica Nova. A Treatise of Dioptricks in Two Parts*. London: Printed for Benj. Tooke.

— (1708). *Some Familiar Letters between Mr Locke, and Several of his Friends*. London: Printed for A. and J. Churchill at the Black Swan in Pater-noster Row.

Moore, John Robert (1951). "Gay's Burlesque of Sir Richard Blackmore's Poetry". In: *The Journal of English and Germanic Philology* 50.1, pp. 83–9.

Moore, Norman and Michael Bevan (2010). *Quincy, John (d. 1722), Apothecary and Physician*. DOI: 10.1093/ref:odnb/22965. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-22965.

Moray, Robert (1665). "A Relation of some Extraordinary Tydes in the West-Isles of Scotland, as it was Communicated by Sr. Robert Moray". In: *Philosophical Transactions of the Royal Society of London* 1.4, pp. 53–5.

— (1666). "Considerations and Enquiries Concerning Tides, by Sir Robert Moray; likewise for a further Search into Dr. Wallis's newly Publish't Hypothesis". In: *Philosophical Transactions of the Royal Society of London* 1.17, pp. 298–301.

More, Henry (1646). *Democritus Platonissans, Or, an Essay upon the Infinity of Worlds Out of Platonick Principles Hereunto Is Annexed Cupids Conflict, Together with the Philosophers Devotion, and a Particular Interpretation Appertaining to the Three Last Books of the Song of the Soul*. Cambridge: Printed by Roger Daniel.

— (1655). *An Antidote against Atheism, or, An Appeal to the Naturall Faculties of the Minde of Man whether there be nota God.* 2nd Edition. London: Printed by J. Flesher.

— (1679). *Henrici Mori Cantabrigiensis Scriptorum Philosophicorum.qui Suam Variorum Scriptorum Philosophicorum Collectionem Primitus Dictam Complectitur: Viz. Antidotum Adversus Atheismum. Appendicem Ad Dictum Antidotum. Enthusiasmum Triumphatum. Epistolas Ad Cartesium. Immortalitatem Animae. Conjecturam Cabbalisticam. Quibus Accessere Divinorum Dialogorum Duo Posteriores, Qui De Regno Dei Tractant, De Speciali Illius Providentia Per Christum Super Ecclesiam a Principio Usque Ad Finem Saeculorum. Tomus Alter*. Londini: Typis R. Norton, impensis J. Marrtyn Gualt. Kettilby sub Insignibus Campanae, Capitis Episcopi in Coemeterio D. Pauli.

More, Herny (1659). *The Immortality of the Soul*. London: Printed by I. Flesher, for William Morden Bookseller in Cambridge.

Morgan, Thomas (1722). *A Letter to Sir Richard Blackmore: Occasion'd by His Book, Intitu'ed, Modern Arians Unmask'd*. London: Printed for Peele, at Locke's Head in Pater-noster-Row.

Morris, David B. (1972). *The Religious Sublime: Christian Poetry and Critical Tradition in 18th-Century England*. South Atlantic Modern Language Association. Lexington: University Press of Kentucky.

Morse, Katherine (1920). "Milton's Ideas of Science as Shown in "Paradise Lost"". In: *The Scientific Monthly* 10.2, pp. 150–6.

Mueller-Wille, Staffan (2012). "History of Science and Medicine". In: *The Oxford Handbook of the History of Medicine*. Ed. by Mark Jackson. Oxford: Oxford University Press, pp. 469–83. DOI: https://doi.org/10.1093/oxfordhb/9780199546497.013.0026.

Mulvey Roberts, Marie and Roy Porter, eds. (1993). *Literature Medicine During the Eighteenth Century*. Wellcome Institute Series in the History of Medicine. London: Routledge.

Munk's Roll of the Royal College of Physicians, 1518-2005.

N/A (2004). *Kersey the younger, John (b. c. 1660, d. in or after 1721), lexicographer*. DOI: 10.1093/ref:odnb/15475. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-15475.

Nadler, Steven (2024). "Baruch Spinoza". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Spring 2024. Metaphysics Research Lab, Stanford University.

Nash, Paul W (2015). "The 'Wits' who Beset Sir Richard Blackmore". In: *St Edmund Hall Magazine* 18.6, pp. 143–9.

Natale, Gianfranco, Guido Bocci and Domenico Ribatti (2017). "Scholars and Scientists in the History of the Lymphatic System". In: *Journal of Anatomy* 231.3, pp. 417–29. DOI: 10.1111/joa.12644.

Needler, Henry (1724). *The Works of Mr. Henry Needler*. Ed. by William Duncombe. London: Printed for J.Watts, at the Printing-Office in Wild-Court near Liconl's-Inn-Fields.

— (1728). *The works of Mr. Henry Needler. Consisting of original poems, translations, essays, and letters. Publish'd by Mr. Duncombe*. Ed. by William Duncombe. London: Printed for J. Watts; Sold by A. Bettesworth in Pater-noster Row, J. Pemberton in Fleet-Streer, W. Hinchcliffe at Dryden's Head under the Royal-Exchange, and A. Millar at Buchanan's Head against St. Clement's Church in the Strand.

Newton, Isaac (1672). "A letter of Mr. Isaac Newton, Professor of the Mathematicks in the University of Cambridge; containing his new theory about light and colors: sent by the author to the publisher from Cambridge, Febr. 6. 1671/72; in order to be communicated to the R. Society". In: *Philosophical Transactions of the Royal Society* 6.80, pp. 3075–87.

— (1704). *Opticks: or, a Treatise of the reflections, refractions, Inflections and Colours of Light. Also two Treatises of the Species and Magnitude of Curvilinear Figures*. London: Printed for Sam Smith and Benj. Waeford. Printers to the Royal Society, at the Prince's Artms in St. Paul's Church-yard.

Newton, Isaac (2016). *The Principia: The Authoritative Translation and Guide : Mathematical Principles of Natural Philosophy*. Berkeley, CA: University of California Press.

— (2018). *Principi matematici della filosofia naturale*. Ed. by Franco Giudice. Torino: Piccola Biblioteca Einaudi Classici.

Newton, Theodore F. M. (1935). "Blackmore's Eliza". In: *Harvard Studies in Philology* XVIII.

Nicholson, Henry (1709). *A Brief Treatise of the Anatomy of Human Bodies, Demonstrating the Circulation of the Blood, and All Muscular Motion, from the Pressure of the Atmosphere*. London: Printed fro Daniel Browne at the Black Swan, Bible without Temple-bar, and Sold by J. Morphew near Stationers-Hall.

Nicolson, Marjorie Hope (1935a). *The Microscope and English Imagination*. Ed. by Caoline B. Bourland; Elliot M. Grant; Howard R. Patch; Margaret Rooke; Josef Wiher. Vol. XVI. 4. Northampton, Mass: Deptartments of Modern Languages of Smith College.

— (1935b). "The "New Astronomy" and English Literary Imagination". In: *Studies in Philology* 32.3, pp. 428–62.

— (1935c). "The Telescope and Imagination". In: *Modern Philology* 32.3, pp. 233–60.

— (1936). *A World in the Moon: a Study of the Changing Attitude toward the Moon in the Seventeenth and Eighteenth Centuries*. Vol. 17. 2. Northampton, Mass: Smith College, Departments of Modern Languages of Smith College.

— (1962a). *Science and Imagination*. Ithaca, New York: Great Seal Books.

— (1962b). *The Breaking of the Circle: Studies in the Effect of "new Science" upon Seventeenth Century Poetry*. New York London: Columbia University Press.

— (1963a). *Mountain Gloom and Mountain Glory*. New York: W.W. Norton and Company.

— (1963b). "Two Voices: Science and Literature". In: *American Scientist* 51.4, pp. 454–62.

— (2015). *Newton Demands the Muse*. 1st Edition 1946. Princeton: Princeton University Press.

Novak, Maximilian (1992). *Eighteenth-Century English Literature.* London: Macmillan.

Oakes, Peter C. et al. (2016). "A History of the Autonomic Nervous System: Part I: From Galen to Bichat". In: *Child's Nervous System* 32.12, pp. 2303–8. DOI: 10.1007/s00381-016-3246-4.

Ochs, Sidney (2004). *A History of Nerve Functions: From Animal Spirits to Molecular Mechanisms*. Cambridge: Cambridge University Press. DOI: 10.1017/cbo9780511546358.

O'Connor, James P. B. (2003). "Thomas Willis and the Background to Cerebri Anatome". In: *Journal of the Royal Society of Medicine* 96.3, pp. 139–43. DOI: 10.1177/014107680309600311.

O'Connor, Timothy and Christopher Franklin (2022). "Free Will". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Winter 2022. Metaphysics Research Lab, Stanford University.

Ogilvie, Brian W. (2005). "Natural History, Ethics, and Physico-Theology". In: *Historia: Empiricism and Erudition in Early Modern Europe*. Ed. by Gianna Pomata and Nancy G. Siraisi. Cambridge, Mass.; London, England: The MIT Press, pp. 75–103. DOI: https://doi.org/10.7551/mitpress/3521.001.0001.

O'Hara, James G. (2008). *Molyneux, William (1656-1698), Experimental Philosopher and Constitutional Writer*. DOI: 10.1093/ref:odnb/18929. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-18929.

Olson, Michael J. (2020). "Senses, Early Modern Theories of the". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–8. DOI: 10.1007/978-3-319-20791-9_595-1.

Orland, Barbara (2012). "The Fluid Mechanics of Nutrition: Herman Boerhaaveâs Synthesis of Seventeenth-Century Circulation Physiology". In: *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 43.2, pp. 357–69. DOI: https://doi.org/10.1016/j.shpsc.2011.10.028.

Pagel, Walter (1951). "William Harvey and the Purpose of Circulation". In: *Isis* 42.1, pp. 22–38.

Paley, William (2006). *Natural Theology*. Ed. by Matthew D. Eddy; David Knight. Oxford: Oxford University Press.

Palmerino, Carla Rita (2015). "Cosmology". In: *The Cambridge Descartes Lexicon*. Ed. by Lawrence Nolan. Cambridge: Cambridge University Press, pp. 175–9. DOI: 10.1017/CBO9780511894695.071.

— (2023). "Pierre Gassendi and the New Science of Motion". In: *Pierre Gassendi*. Routledge, pp. 266–91. DOI: 10.4324/9781315521732-14.

Park, Jiho and Michele A. Riva (2022). "Gaspare Aselli (1581-1625) and Lacteis Venis: Four Centuries From the Discovery of Lymphatic System". In: *The American Surgeon* 89.6, pp. 2325–8. DOI: 10.1177/00031348221096573.

Park, Katharine and Lorraine Daston, eds. (2006). *The Cambridge History of Science. Volume 3: Early Modern Science*. Cambridge: Cambridge University Press. DOI: 10.1017/CHOL9780521572446.

Parker, Blanford (1998). *The Triumph of Augustan Poetics: English Literary Culture from Butler to Johnson*. Cambridge: Cambridge Uninversity Press.

Parry, Graham (1992). *The Seventeenth Century: The Intellectual and Cultural Context of English Literature, 1603-1700*. London and New York: Longman. DOI: https://doi.org/10.4324/9781315836515.

Patterson, Thomas Stewart (1931a). "John Mayow in Contemporary Setting. A Contribution to the History of Respiration and Combustion". In: *Isis* 15.1, pp. 47–96. DOI: https://doi.org/10.1086/346538.

Patterson, Thomas Stuart (1931b). "John Mayow. In Contemporary Setting. II.–Mayow's Views on Combustion". In: *Isis* 15.3, pp. 504–46. DOI: https://doi.org/10.1086/346579.

Patterson, W. B. (2022). "Religion and the Royal Society in Early Restoration England". In: *Anglican and Episcopal History* 91.3, pp. 323–41.

Payne, Joseph Frank (1900). *Thomas Sydenham*. London: T. Fisher Unwin. Paternoster Square.

Pearce, J. M. S. (2007). "Malpighi and the Discovery of Capillaries". In: *European Neurology* 58.4, pp. 253–5. DOI: 10.1159/000107974.

Pecere, Paolo (2020). "Soul, Seat of the". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–6. DOI: 10.1007/978-3-319-20791-9_556-1.

Peh, Li Qi (2022). "Dispassionate Dissections and Their Emotional Rewards: Reading William Harvey and Richard Blackmore". In: *Configurations* 30.1, pp. 25–46. DOI: 10.1353/con.2022.0001.

Perkell, Christine G. (1978). "A Reading of Virgil's Fourth Georgic". In: *Phoenix* 32.3, pp. 211–21.

Pete, Krisztian (2021). "Knowledge in Early Modern Philosophy". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–10. DOI: 10.1007/978-3-319-20791-9_606-1.

Peterfreund, Stuart (2012). *Turning Points in Natural Theology from Bacon to Darwin: The Way of the Argument from Design*. London: Palgrave Macmillan.

Petty, William (1674). *The Discourse made before the Royal Society the 26. of November, 1674, concerning the Use of Duplicate Proportion in Sundry Important Particulars together with a New Hypothesis of Springing or Elastique Motions.* London: Printed for John Martyn, Printer to the Royal Society, at the Bell in St. Paul's Churchyard.

Philips, John (1708). *Cyder. A Poem. In Two Books.* London: Printed for Jacob Tonson, within Grays-Inn Gate next Grays-Inn Lane.

Pizzol Giacomini, Michela (2007). *Sir Richard Blackmore and the Bible: A Reading of His Physico-theological Poems*. University Press of America.

Plot, Robert (1683). "The Contents of some Letters from two Learned and Curious Observers in Staffordshire, concerning the Sand Found in the Brine of the Saltworks of that County: sent to the Royal Society by Dr. Rob. Plot. S. R. S". In: *Philosophical Transactions of the Royal Society of London* 13.145, pp. 96–9. DOI: 10.1098/rstl.1683.0017.

— (1686). *The Natural History of Stafford-shire*. Oxford: Printed at the Theatre.

Pomata, Gianna (2010). "Sharing Cases: the Observationes in Early Modern Medicine". In: *Early Science and Medicine* 15.3, pp. 193–236. DOI: https://doi.org/10.1163/157338210x493932.

Poole, William (2015). "Lucretianism and Some Seventeenth-Century Theories of Human Origin". In: *Lucretius and the Early Modern*. Ed. by David Norbrook; Stephen

Harrison; Philip Hardie. Oxford: Oxford University Press, pp. 190–9. DOI: 10.1093/acprof:oso/9780198713845.003.0009.

Pope, Alexander (2017). *The Major Works including The Rape of the Lock and The Dunciad*. Oxford: Oxford University Press.

Pope, Alexander and Jonathan Swift (1744). *Miscellanies*. London: Printed for John Thomas.

Porter, Roy, ed. (2001). *The Cambridge Illustrated History of Medicine*. Cambridge: Cambridge University Press.

— ed. (2003). *The Cambridge History of Science. Volume 4: Eighteenth-Century Science*. Cambridge: Cambridge University Press.

Powell, Rosalind (2021). *Perception and Analogy: Poetry, Science and Religion in the Eighteenth Century*. Manchester: Manchester University Press. DOI: https://doi.org/10.7765/9781526157058.

Power, Henry (2009). *Experimental Philosophy, In Three Books : containing new Experiments Microscopical, Mercurial, Magnetical : with some Deductions, and Probable Hypotheses, raised from them, in Avouchment and Illustration of the now Famous Atomical Hypothesis*. Oxford: Oxford Rimes House.

Preti, Cesare (2007). "MALPIGHI, Marcello". In: *Dizionario Biografico degli Italiani* 68. URL: https://www.treccani.it/enciclopedia/marcello-malpighi_(Dizionario-Biografico)/.

Prior, Matthew (1718). *Poems on Several Occasions*. London: Printed for Jacob Tonson at Shakespear's-Head over against Katharine-Street in the Strand, and John Barber upon Lambeth-Hill.

Pugliese, Patri J. (May 2006). *Hooke, Robert (1635-1703), natural philosopher*. DOI: 10.1093/ref:odnb/13693. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-13693.

Pumfrey, Stephen (1987). "Mechanizing Magnetism in Restoration England. The Decline of Magnetic Philosophy". In: *Annals of Science* 44.1, pp. 1–21. DOI: https://doi.org/10.1080/00033798700200101.

— (2004). *Gilbert, William (1544?-1603), natural philosopher.* DOI: https://doi.org/10.1093/ref:odnb/10705. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-10705.

Pumfrey, Stephen and David Tilley (2003). "William Gilbert: Forgotten Genius". In: *Physics World* 16.11, pp. 15–6.

Quincy, John (1736). *Lexicon Physico-medicum: Or, A New Medicinal Dictionary, Explaining The Difficult Terms Used In The Several Branches Of The Professio*. London: Printed for T. Longman, at the Ship in Pater-noster Row.

Rabin, Sheila (2023). "Nicolaus Copernicus". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Winter 2023. Metaphysics Research Lab, Stanford University.

Racine, Valerie (2019). "Embryology from 1600 to 1800". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–7. DOI: 10.1007/978-3-319-20791-9_432-1.

Rappaport, Rhoda (1986). "Hooke on Earthquakes: Lectures, Strategy and Audience". In: *The British Journal for the History of Science* 19.2, pp. 129–46. DOI: https://doi.org/10.1017/s0007087400022937.

Ray, John (1691). *The Wisdom of God Manifested in the Works of the Creation*. London: Printed for Samuel Smith, at the Princes Arms in S. Pauls Church-Yard.

— (1692). *Miscellaneous Discourses Concerning the Dissolution and Changes of the World*. London: Printed for Samuel Smith, at the Prince's Arms in St. Paul's Church-Yard.

— (1693). *Three Physico-Theological Discourses*. London: Printed for Sam Smith, at the Princes Arms in St. Paul's Church-yard.

Readioff, Corrina (2021). "Recent Approaches to Paratext Studies in Eighteenth-Century Literature". In: *Literature Compass* 18.12. DOI: 10.1111/lic3.12650.

Real, Hermann J. (2004). *Creech, Thomas (1659-1700), translator and classical scholar*. DOI: 10.1093/ref:odnb/6661. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-6661.

Renault, Laurence (2015). "Principles of Philosophy". In: *The Cambridge Descartes Lexicon*. Ed. by Lawrence Nolan. Cambridge: Cambridge University Press, pp. 614–7. DOI: 10.1017/CBO9780511894695.210.

Rengachary, Setti S. et al. (2008). "The Legendary Contributions of Thomas Willis (1621-1675): The Arterial Circle and beyond: Historical Vignette". In: *Journal of Neurosurgery* 109.4, pp. 765–75. DOI: 10.3171/jns/2008/109/10/0765.

Reynolds, John (1709). *Death's Vision: Represented in a Philosophical, Sacred Poem*. London: Printed for Thomas Parkhurst in Cheapside, John Lawrance in the Poultry, John Clerk in the Old Change, and William Taylor in Pauls Church Yard.

Riccioli, Giovanni Battista (1651). *Almagestum novum, astronomiam veterem novamque complectens*. Bologna.

Richetti, John, ed. (2005). *The Cambridge History of English Literature, 1660-1780*. The New Cambridge History of English Literature. Cambridge: Cambridge University Press. DOI: https://doi-org.ezproxy.unicatt.it/10.1017/CHOL9780521781442.

Ricker III, Harry Hamlin (2011). "Magnetism during the Seventeenth Century". In: *The General Science Journal*.

Rickless, Samuel (2020). "Locke On Freedom". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Spring 2020. Metaphysics Research Lab, Stanford University.

Ridout, Thomas Hollier (1717). *Poems and Translations*. London: Printed by W. Wilkins, for W. Hinchliffe, at Dryden's Head under the Royal-Exchange.

Rivers, Isabel (2008). *Watts, Isaac (1674-1748), Independent Minister and Writer*. DOI: 10.1093/ref:odnb/28888. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-28888.

Robinson, C. J. and Stephen Wright (2008). *Edwards, John (1637-1716), Church of England clergyman*. DOI: 10.1093/ref:odnb/8545. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-8545.

Robinson, Howard (2023). "Dualism". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Spring 2023. Metaphysics Research Lab, Stanford University.

Rodney, Joel M. (1970). "A Godly Atomist in Seventeenth Century England: Ralph Cudworth". In: *The Historian* 32.2, pp. 243–9. DOI: 10.1111/j.1540-6563.1970.tb00373.x.

Rogers, Pat (2016). "Poems on Science and Philosophy". In: *The Oxford Handbook of British Poetry, 1660-1800*. Ed. by Jack Lynch. Oxford: Oxford University Press. DOI: 10.1093/oxfordhb/9780199600809.013.20.

— ed. (2022). *The Eighteenth Century: The Context of English Literature*. 1st Edition 1978. London: Routledge.

Rolleston, Humphry (1926). "Poetry and Physic". In: *Annals of Medical History* 8.1, pp. 1–15.

Rose, F. Clifford, ed. (1999). *A Short History of Neurology: The British Contribution 1660-1910*. Oxford: Butterworth Hrinemann.

Rosenberg, Alan (1953). *Sir Richard Blackmore: A Poet and Physician of the Augustan Age*. Lincoln: University of Nebraska Press.

Ross, Angus (2004). *Arbuthnot [Arbuthnott], John (bap. 1667, d. 1735), physician and satirist.* DOI: https://doi.org/10.1093/ref:odnb/610. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-610.

Rossi, Paolo (1979). *I segni del tempo: storia della terra e storia delle nazioni da Hooke a Vico*. Vol. 436. Milano: Feltrinelli.

— (1984). *The Dark Abyss of Time: the History of the Earth and the History of Nations from Hooke to Vico*. translated by Lydia G. Cochrane. Chicago: University of Chicago Press.

Rounce, Adam (2014). "The Difficulties of Quantifying Taste: Blackmore and Poetic Reception in the Eighteenth Century". In: *Digital Defoe: Studies in Defoe and His Contemporaries* 6.1, pp. 19–35.

— (2015). "Blackmore, Sir Richard". In: *The Encyclopedia of British Literature, 1660-1789*. John Wiley and Sons, Ltd, pp. 121–3. DOI: 10.1002/9781118607268.wbebl1033.

Ruetten, Thomas (2012). "Early Modern Medicine". In: *The Oxford Handbook of the History of Medicine*. Ed. by Mark Jackson. Oxford: Oxford University Press, pp. 60–81. DOI: https://doi.org/10.1093/oxfordhb/9780199546497.013.0004.

Russell, John L. (1972). "The Copernican System in Great Britain". In: *The Reception of Copernicus' Heliocentric Theory*. Ed. by Jerzy Dobrzycki. Dordrecht: Springer Netherlands, pp. 189–239. DOI: https://doi.org/10.1007/978-94-015-7614-7_7.

Russell, Kenneth Fitzpatrick (1949). "A Bibliography of Anatomical Books Published in English before 1800". In: *Bulletin of the History of Medicine* 23.3, pp. 268–306.

Rusu, Doina-Cristina (2020). "Imagination in Early Modern Theory of Knowledge". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–9. DOI: 10.1007/978-3-319-20791-9_403-1.

— (2022). "Animal Spirits: Bridging Mind and Body in Early Modern Philosophy". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 65–9. DOI: 10.1007/978-3-319-31069-5_216.

Saarinen, Risto (2020). "Psychology and Theology in the History of Early Modern Philosophy". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–11. DOI: 10.1007/978-3-319-20791-9_394-1.

Sakula, Alex (1985). "Dr John Radcliffe, Court Physician, and the Death of Queen Anne". In: *Journal of the Royal College of Physicians of London* 19.4, pp. 255–60.

Sambrook, James (1986). *The Eighteenth Century: The Intellectual and Cultural Context of English Literature 1700-1789*. London and New York: Longman. DOI: https://doi.org/10.4324/9781315843896.

Sander, Christoph (2022). "Teaching Magnetism in a Cartesian World, 1650–1700". In: *Descartes in the Classroom*. Ed. by Davide Cellamare and Mattia Mantovani. Brill, pp. 313–42. DOI: doi:10.1163/9789004524897_016.

Sangiacomo, Andrea et al. (2022). "Mapping the Evolution of Early Modern Natural Philosophy: Corpus Collection and Authority Acknowledgement". In: *Annals of Science* 79.1, pp. 1–39. DOI: 10.1080/00033790.2021.1992502.

Schmaltz, Tad M. (2015). "Galileo and Descartes on Copernicanism and the Cause of the Tides". In: *Studies in History and Philosophy of Science Part A* 51, pp. 70–81. DOI: 10.1016/j.shpsa.2015.02.002.

Schmechel, Carmen (2022). "Descartes on Fermentation in Digestion: Iatromechanism, Analogy and Teleology". In: *The British Journal for the History of Science* 55.1, pp. 101–16. DOI: 10.1017/s0007087421000819.

Schmidgen, Wolfram (2021). *Infinite Variety: Literary Invention, Theology, and the Disorder of Kinds, 1688-1730*. Philadelphia: University of Pennsylvania Press. DOI: doi:10.9783/9780812299908.

Schneer, Cecil (1954). "The Rise of Historical Geology in the Seventeenth Century". In: *Isis* 45.3, pp. 256–68. DOI: 10.1086/348337.

Schuster, John (2020). "Descartes' Mechanical Philosophy". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–13. DOI: 10.1007/978-3-319-20791-9_134-1.

Schuster, John A. (2015a). "Magnetism". In: *The Cambridge Descartes Lexicon*. Ed. by Lawrence Nolan. Cambridge: Cambridge University Press, p. 466. DOI: 10.1017/CBO9780511894695.163.

Schuster, John A. (2015b). "Vortex". In: *The Cambridge Descartes Lexicon*. Ed. by Lawrence Nolan. Cambridge: Cambridge University Press, pp. 757–61. DOI: 10.1017/CBO9780511894695.258.

Selleri, Franco (1990). "Galileo e la falsificazione della cosmologia tolemaica". In: *Scritti di Storia della Scienza*, pp. 37–52.

Shadwell, Thomas (1966). *The Virtuoso*. Ed. by Marjorie Hope Nicolson; David Stuart Rodes. Lincoln and London: University of Nebraska Press.

Shapiro, A. E. (1989). "Huygens' 'Traite de la Lumiere' and Newton's 'Opticks': Pursuing and Eschewing Hypotheses". In: *Notes and Records of the Royal Society of London* 43.2, pp. 223–47.

Shapiro, Barbara J. (1968). "Latitudinarianism and Science in Seventeenth-Century England". In: *Past and Present* 40, pp. 16–41.

— (1971). "The Universities and Science in Seventeenth Century England". In: *Journal of British Studies* 10.2, pp. 47–82. DOI: https://doi.org/10.1086/385610.

— (1983). *Probability and Certainty in Seventeenth-Century England*. Princeton: Princeton University Press.

Sheehan, Donal (1936). "Discovery of the Autonomic Nervous System". In: *Archives of Neurology And Psychiatry* 35.5, p. 1081. DOI: 10.1001/archneurpsyc.1936.02260050155011.

Sherburn, George, ed. (1956). *The Correspondence of Alexander Pope. Volume I. 1704-1718*. Oxford: Clarendon Press.

Sherley, Thomas (1672). *A Philosophical Essay Declaring the Probable Causes Whence Stones are Produced in the Greater World. From which Occasion is Taken to Search Into the Origin of All Bodies, Discovering Them to Proceed from Water and Seeds : Being a Prodromus to a Medicinal Tract Concerning the Causes and Cure of the Stone in the Kidneys and Bladders of Men*. London: Printed for William Cademan, at the Pope's Head, in the Lower Walk of the New-Exchange.

Shields, Christopher (2020). "Aristotle's Psychology". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Winter 2020. Metaphysics Research Lab, Stanford University.

Shields, David S. (1984). "The Religious Sublime and New England Poets of the 1720s". In: *Early American Literature* 19.3, pp. 231–48.

Shugg Wallace; Sherwin, Walter; Freyman Jay (1972). "Henry More's "circulatio Sanguinis": An Unexamined Poem in Praise of Harvey". In: *Bulletin of the History of Medicine* 46.2, pp. 180–9.

Simmons, Clark A. (1988). "The Historical Sources of Sir Richard Blackmore's "Alfred"". In: *English Language Notes* 26.1, pp. 18–23.

Simpson, Marcus B. (2004). *Lower, Richard (1631-1691), physician and physiologist*. DOI: https://doi.org/10.1093/ref:odnb/17091. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-17091.

Singer, P. N. (2024). "Galen". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Fall 2024. Metaphysics Research Lab, Stanford University.

Sitter, Erin Drew; John (2011a). "Ecocriticism and Eighteenth-Century English Studies". In: *Literature Compass* 8.5, pp. 227–39. DOI: https://doi.org/10.1111/j.1741-4113.2011.00797.x.

Sitter, John (2011b). *The Cambridge Introduction to Eighteenth-Century Poetry*. Cambrdige: Cambridge University Press.

Slowik, Edward (2015a). "Earth, Motion of the". In: *The Cambridge Descartes Lexicon*. Ed. by Lawrence Nolan. Cambridge: Cambridge University Press, pp. 231–3. DOI: 10.1017/CBO9780511894695.090.

— (2015b). "Gravity". In: *The Cambridge Descartes Lexicon*. Ed. by Lawrence Nolan. Cambridge: Cambridge University Press, pp. 346–8. DOI: 10.1017/CBO9780511894695.124.

— (2021). "Descartes' Physics". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Winter 2021. Metaphysics Research Lab, Stanford University.

Smedley, Jonathan (1728). *A Specimen of an Universal View of all the Eminent Writers on the Holy Scriptures*. London: Printed for the author.

Smith, Christopher U. M. (2009). "Understanding the Nervous System in the 18th Century". In: *History of Neurology*. Elsevier, pp. 107–14. DOI: 10.1016/s0072-9752(08)02109-x.

Smith, Mark A. (1985). "Galileo's Proof for the Earth's Motion from the Movement of Sunspots". In: *Isis* 76.4, pp. 543–51.

Smith, Mark M. (2007). *Sensing the Past: Seeing, Hearing, Smelling, Tasting, and Touching in History*. Berkeley, Los Angeles: University of California Press.

Smith, Nicholas D. (2019). *Knowledge in Ancient Philosophy: The Philosophy of Knowledge: A History*. Vol. I. London: Bloomsbury Publishing. DOI: 10.5040/9781474258302.

Smolenaars, Marja (2004). *Derham, William (1657-1735), Church of England clergyman and natural philosopher*. DOI: https://doi.org/10.1093/ref:odnb/7528. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-7528.

Snobelen, Stephen D. (2004). *Whiston, William (1667-1752), natural philosopher and theologian*. DOI: https://doi.org/10.1093/ref:odnb/29217. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-29217.

Solomon, Harry M. (1980). *Sir Richard Blackmore*. Boston: Twayne Publishers.

Spears, Monroe K. (1946). "The Meaning of Matthew Prior's Alma". In: *English Literary History* 13.4, pp. 266–90. DOI: https://doi.org/10.2307/2871449.

Sprat, Thomas (1667). *The History of the Royal Society of London*. London: Printed by T.R. for J. Martyn at the Bell without Temple-bar, J. Allestry at the Rose and Crown in Duck-lane, Printers to the Royal Society.

Spruit, Leen (2020). "Sensation and Perception". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–6. DOI: 10.1007/978-3-319-20791-9_397-1.

— (2022). "Mind and Cognition, Early Modern Theories". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1343–50. DOI: 10.1007/978-3-319-31069-5_381.

Steele, Joseph Addison; Richard (1961c). *The Spectator. In Four Volumes.* Ed. by Gregory Smith. Vol. I. Everyman's Library. London: J. M. Dent, New York: E. P. Dutton.

— (1961d). *The Spectator. In Four Volumes.* Ed. by Gregory Smith. Vol. II. Everyman's Library. London J. M. Dent, New York: E. P. Dutton.

— (1961b). *The Spectator. In Four Volumes.* Ed. by Gregory Smith. Vol. IV. Everyman's Library. London J. M. Dent, New York: E. P. Dutton.

— (1961a). *The Spectator. In Four Volumes.* Ed. by Gregory Smith. Vol. III. Everyman's Library. London J. M. Dent, New York: E. P. Dutton.

Stephanson, Raymond and Darren Wagner (2018). *The Secrets of Generation: Reproduction in the Long Eighteenth Century*. Toronto: University of Toronto Press.

Stephen, Leslie (1899). *Dictionary of National Biography, 1885-1900*. Ed. by Sidney Lee. Vol. 57. London: Elder Smith Co.

Stephens, John (2010). *Blackmore, Richard*. DOI: 10.1093/acref/9780199754694.013.0222. URL: https://www.oxfordreference.com/view/10.1093/acref/9780199754694.001.0001/acref-9780199754694-e-222.

Stevenson, Lionel (1928). "Brooke's Universal Beauty and Modern Thought". In: *PMLA* 43.1, pp. 198–209. DOI: 10.2307/457695.

Stillingfleet, E. (1662). *Origines Sacræ, Or, A Rational Account of the Grounds of Christian Faith: As to the Truth and Divine Authority of the Scriptures, and the Matters Therein Contained*. Digital Library of Classic Protestant Texts. R.W.

Storey, Catherine E. (2022). "Then There Were 12: The Illustrated Cranial Nerves from Vesalius to Soemmerring". In: *Journal of the History of the Neurosciences* 31.2-3, pp. 262–78. DOI: 10.1080/0964704x.2022.2033077.

Sutherland, James (1969). "The Oxford History of English Literature". In: *English Literature of the Late Seventeenth Century*. Ed. by Bonamy Dobree; Norman Davies. Vol. VI. Oxford: Clarendon Press.

Sutherland-Foggio, Harry (2017). "Developing the Brain-Early Illustrations of Cerebral Cortex and Its Gyri". In: *Pediatric Neurology* 75, pp. 6–10. DOI: 10.1016/j.pediatrneurol.2017.07.004.

Sutton, C. W. and Michael Bevan (2010). *Leigh, Charles (1662-1701?), Physician and Naturalist*. DOI: 10.1093/ref:odnb/16377. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-16377.

Suy, Raphael, Sarah Thomis and Inge Fourneau (2016a). "The Discovery of Lymphatic System in the Seventeenth Century. Part I: The Early History". In: *Acta Chirurgica Belgica* 116.4, pp. 260–6. DOI: 10.1080/00015458.2016.1176792.

Suy, Raphael, Sarah Thomis and Inge Fourneau (2016b). "The Discovery of the Lymphatic System in the Seventeenth Century. Part II: The Discovery of Chyle Vessels". In: *Acta Chirurgica Belgica* 116.5, pp. 329–35. DOI: 10.1080/00015458.2016.1195587.

— (2016c). "The Discovery of the Lymphatics in the Seventeenth Century. Part III: The Dethroning of the Liver". In: *Acta Chirurgica Belgica* 116.6, pp. 390–7. DOI: 10.1080/00015458.2016.1215952.

— (2017). "The Discovery of the Lymphatic System in the Seventeenth Century. Part IV: The Controversy". In: *Acta Chirurgica Belgica* 117.4, pp. 270–8. DOI: 10.1080/00015458.2017.1326658.

— (2019). "The Discovery of the Lymphatic System in the Seventeenth Century. Part V: An Ode to the Nerves". In: *Acta Chirurgica Belgica* 119.5, pp. 340–6. DOI: 10.1080/00015458.2018.1561797.

— (2020). "The Discovery of the Lymphatic System in the Seventeenth Century. Part VI: The Microscopic Discovery of the Subtle Anatomy". In: *Acta Chirurgica Belgica* 121.1, pp. 61–8. DOI: 10.1080/00015458.2020.1774161.

— (2021). "The Discovery of the Lymphatic System in the 17th Century. Part VII: The Rise of Vascular Injection". In: *Acta Chirurgica Belgica* 121.5, pp. 360–9. DOI: 10.1080/00015458.2021.1893578.

Suzuki, Clark Lawlor; Akihito, ed. (2003). *Literature and Science, 1660-1834*. Vol. 2: Sciences of Body and Mind. London: Pickering Chatto.

Swift, Jonathan (1801). *The Works of the Rev. Jonathan Swift, D.D., Dean of St. Patrick's, Dublin. Arranged by Thomas Sheridan, A.M. with Notes, HistoricalaAnd Critical.* Ed. by John Nichols. Vol. XVII. London: Printed for J. Johnson, J. Nichols, R. Baldwin, Otridge et al.

— (2010). *A Tale of a Tub and Other Works*. Ed. by Marcus Walsh. Cambridge: Cambridge University Press. DOI: 10.1017/9780511780219.

Tavernier, Jean-Baptise (1678). *The six voyages of John Baptista Tavernier, Baron of Aubonne through Turky, into Persia and the East-Indies, for the space of forty years : giving an account of the present state of those countries, viz. of the religion, government, customs, and commerce of every country, and the figures, weight, and value of the money currant all over Asia : to which is added A new description of the Seraglio / made English by J.P. ; added likewise, A voyage into the Indies, c. by an English traveller, never before printed ; publish'd by Dr. Daniel Cox*. London: Printed for R.L. et al.

Taylor, Eva G. R. (1948). "The English Worldmakers of the Seventeenth Century and their Influence on the Earth Sciences". In: *Geographical Review* 38.1, pp. 104–12. DOI: https://doi.org/10.2307/210741.

Terry, Richard (1993). "The Semantics of "Parody" in the Eighteenth Century." In: *Durham: Durham University Journal* 85.1, pp. 67–74.

The Bible. Authorized King James version with Apocrypha (2015). Oxford: Oxford University Press.

The Biographical Magazine: Containing Portraits and Characters of Eminent Persons of Every Age Nation. Volume 2. (1794). Harrison and Company.

The Governors of St. Thomas's Hospital in Southwark, 1710 (1715).

The names of the governours of St. Bartholomew's hospital, London. The Lord-Mayor, and Court of Aldermen for the Time being. Sir William Stewart, Knt. and Alderman, President. Richard Brocas, Esq; and Alderman, Treasurer. The Duke of Chandos. The Earl of Oxford. The Earl of Rochester. The Earl of Anglesea. The Lord Viscount Harcourt. The Lord Vane. The Lord Bishop of Meath (1702).

Thesaurus Geographicus: A New Body of Geography: Or, A Compleat Description of the Earth (1695). London: Printed for Abel Swall and Tim Child, at the Sign of the Unicorn at the West-end of St. Paul's-Church.

Thomson, James (1981). *The Seasons*. Ed. by James Sambrook. Oxford: Oxford University Press. DOI: 10.1093/oseo/instance.00053455.

Toomey, Thomas Noxon (1922). "Sir Richard Blackmore, M.D. (1653-1729): An Account of his Life and Writings Drawn from Original Records not known to his Earlier Biographers". In: *Annals of Medical History* 4.2, pp. 180–8.

Trapp, Joseph (1742). *Lectures on Poetry Read in the Schools of Natural Philosophy at Oxford. Translated from the Latin, With additional Notes.* London: Printed for C. Hitch and C. Davis in Pater-Noster-Row.

Trepanier, Simon (2023). "Lucretius". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Metaphysics Research Lab, Stanford University.

Tropia, Anna (2020). "Nature and Immortality of the Soul". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–5. DOI: 10.1007/978-3-319-20791-9_364-1.

Tubbs R. Shane; Loukas, Marios; Hill Michael; Shoja Mohammadali M.; Cohen-Gadol Aaron A. (2009). "Richard Lower (1631-1691): Acknowledging His Notable Contributions to the Exploration of the Nervous System: Historical Vignette". In: *Journal of Neurosurgery* 111.5, pp. 1096–101. DOI: 10.3171/2008.11.jns081329.

Turner, A. J. (2004). *Plot, Robert (bap. 1640, D. 1696), Naturalist and Antiquary*. DOI: 10.1093/ref:odnb/22385. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-22385.

Turner, G. L.E. (2006). *Baker, Henry (1698-1774), Natural Philosopher and Teacher of Deaf People*. DOI: 10.1093/ref:odnb/1120. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-1120.

Turner, John (1698). *A Phisico-theological Discourse upon the Divine Being, or first Cause of all Things, Providence of God, General and Particular, Separate Existence of the Human Soul, certainty of Reveal'd Religion, Fallacy of Modern Inspiration, and Danger of Enthusiasm to which is added An Appendix concerning the Corruption of Humane Nature, the Force of Habits, and the Necessity of Supernatural Aid to the Acquest of Eternal Happiness : with Epistolary Conferences between the deceased Dr. Anthony Horneck and the*

author, relating to these Subjects : in Several Letters from a Gentleman to his Doubting Friend. London: Printed by F. C. for Timothy Childe at the White Hart at the West End of St. Paul's Church-yard.

Turner, William (1697). *A Compleat History of the Most Remarkable Providences, Both of Judgment and Mercy, Which have Hapned in this Present Age*. London: Printed for Iohn Dunton, at the Raven, in Jewen-Street.

Unwin, Robert W. (1995). "A Provincial Man of Science at Work: Martin Lister, Frs, and His Illustrators 1670-1683". In: *Notes and Records of the Royal Society of London* 49.2, pp. 209–30.

Uzgalis, William (2022). "John Locke". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Fall 2022. Metaphysics Research Lab, Stanford University.

Vaccari, Ezio (2001). "European Views on Terrestrial Chronology from Descartes to the Mid-EighteenthCcentury". In: *Geological Society, London, Special Publications* 190.1, pp. 25–37. DOI: 10.1144/gsl.sp.2001.190.01.03.

Van Gulik, Thomas M. (2022). "Liver Anatomy by Francis Glisson". In: *HepatoBiliary Surgery and Nutrition* 11.4, pp. 502–3. DOI: https://doi.org/10.21037/hbsn-2022-17.

Verwaal, Ruben E. (2020). "Blood: From Humor to Hematology". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–13. DOI: 10.1007/978-3-319-20791-9_271-1.

Vidal, Fernando (2020). "Psychology in the Early Modern Period". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1–15. DOI: 10.1007/978-3-319-20791-9_390-1.

Virgil (2007). *Aeneid*. Ed. by Frederick Ahl. Oxford: Oxford University Press.

Vogt, Katja (2022). "Ancient Skepticism". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Winter 2022. Metaphysics Research Lab, Stanford University.

Vozar, Thomas Matthew (2023). "The New Science and the Virtuoso Reader in Thomas Creech's Lucretius". In: *Modern Philology* 120.3, pp. 356–77. DOI: 10.1086/723113.

Wade, Nicholas J. (2005). *Perception and Illusion: Historical Perspectives*. Boston, MA: Springer-Verlag. DOI: 10.1007/0-387-22723-7_4.

Wallace, Jr. and Dewey D. (2011). "John Edwards: Church of England Calvinist". In: *Shapers of English Calvinism, 1660-1714: Variety, Persistence, and Transformation*. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780199744831.003.0007.

Wallace, Richard (1996). "'Amaze Your Friends!' Lucretius on Magnets". In: *Greece Rome* 43.2, pp. 178–87. DOI: https://doi.org/10.1093/gr/43.2.178.

"The Views of Antiquity on Salt and Sea Water" (1974). In: *The Development of The Chlorinity/Salinity Concept in Oceanography*. Ed. by William J. Wallace. Vol. 7. El-

sevier Oceanography Series. Elsevier, pp. 1–15. DOI: https://doi.org/10.1016/S0422-9894(08)70974-7.

Wallis, John (1666). "An Essay of Dr. John Wallis, Exhibiting his Hypothesis about the Flux and Reflux of the Sea, taken from the Consideration of the Common Center of Gravity of the Earth and Moon". In: *Philosophical Transactions of the Royal Society of London* 1.16.

Walmsley, Jonathan (2007). "John Locke on Respiration". In: *Medical History* 51.4, pp. 453–76. DOI: https://doi.org/10.1017/s0025727300001769.

Walmsley, Jonathan Craig (2024). "Locke on Medicine". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta and Uri Nodelman. Winter 2024. Metaphysics Research Lab, Stanford University.

Wang, Xiaona (2016). "Francis Bacon and Magnetical Cosmology". In: *Isis* 107.4, pp. 707–21. DOI: https://doi.org/10.1086/689695.

Ward, Sophie et al. (2023). "Why Is There a Tide?" In: *A Journey Through Tides*. Elsevier, pp. 81–113. DOI: 10.1016/b978-0-323-90851-1.00001-7.

Watt, Ian (1964). *The Rise of the Novel. Studies in Defoe, Richardson and Fielding*. 1st Edition 1957. Berkley, Los Angeles: University of California Press.

— (1968). *The Augustan Age: Approaches to Its Literature, Life, and Thought*. Greenwich, Connecticut: Fawcett Publications.

Watts, Isaac (1706). *Horae Lyricae. Poems, chiefly of the Lyric Kind. In Two Books*. London: Printed by S. and D. Bridge, for John Lawrence.

Webster, Charles (1976). *The Great Instauration: Science, Medicine and Reform, 1626-1660*. New York: Holmes and Meier Publishers.

— (1980). *La Grande Instaurazione: scienza e riforma sociale nella rivoluzione puritana*. Ed. by Pietro Corsi. Milano: Feltrinelli.

West, David (1994). *The Imagery and Poetry of Lucretius*. London: Bristol Classical.

West, John B. (2005). "Robert Boyle's Landmark Book of 1660 with the First Experiments on Rarified Air". In: *Journal of Applied Physiology* 98.1, pp. 31–9. DOI: 10.1152/japplphysiol.00759.2004.

— (2011). "History of Respiratory Gas Exchange". In: *Comprehensive Physiology* 1.3, pp. 1509–23. DOI: 10.1002/cphy.c091006.

— (2013). "Marcello Malpighi and the Discovery of the Pulmonary Capillaries and Alveoli". In: *American Journal of Physiology-Lung Cellular and Molecular Physiology* 304.6, pp. 383–90. DOI: 10.1152/ajplung.00016.2013.

— (2014). "Galen and the Beginnings of Western Physiology". In: *American Journal of Physiology-Lung Cellular and Molecular Physiology* 307.2, pp. 121–8. DOI: 10.1152/ajplung.00123.2014.

Westfall, Richard S. (1973). *Science and Religion in Seventeenth-Century England*. Ann Arbor: The University of Michigan Press.

Wharton, Thomas (1996). *Thomas Wharton's Adenographia*. Ed. by Stephen Freer; Andrew Cunningham. Oxford: Clarendon Press.

Wheeler, David M. (1986). "John Dennis and the Religious Sublime". In: *CLA Journal* 30.2, pp. 210–8.

Whiston, William and John Whiston (1737). *A New Theory of the Earth, from its Original, to the Consummation of all Things. Wherein the Creation of the World in Six Days, the Universal Deluge, and the General Conflagration, as laid down in the Holy Scripture, are shewn to be Perfectly Agreeable to Reason and Philosophy. With a Large Introduction concerning the Genuine Nature, Style, and Extent of the Mosaick History of the Creation.* London: Printed for John Whiston at Mr. Boyle's Head in Fleet-street.

Wilkins, John (1638). *The Discovery of a World in the Moone, or, A Discourse tending to Prove, that 'tis Probable there may be Another Habitable World in that Planet*. London: Printed by E. G. for Michael Sparke and Edward Forrest.

— (1640). *Discourse Concerning a New Planet, Tending to Prove that 'tis Probable our Earth is one of the Planets*. London: Printed by John Norton for John Maynard, and are to be sold at the Gorge in Fleetstreet, near St. Dustan's Church.

— (1668). *An Essay towards a Real Character and a Philosophical Language*. London: Printed for S. Gellibrand and for John Martin Printer to the Royal Society.

Willey, Basil (1941). *The Eighteenth-Century Background: Studies on the idea of Nature in the Thought of the Period*. Boston: Beacon Press.

Williams, Abigail (2005). *Poetry and the Creation of a Whig Literary Culture 1681-1714*. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/acprof:oso/9780199255207.001.0001.

Williams, Elizabeth A. (2022). "Digestion in Early Modern Science and Medicine". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 460–465. DOI: 10.1007/978-3-319-31069-5_276.

Williams, George G. (1930). "The Beginnings of Nature Poetry in the Eighteenth Century". In: *Studies in Philology* 27.4, pp. 583–608.

Willis, Thomas (1664). *Cerebri Anatome: cui accessit nervorum descriptio et usus*. London: Printed for J. Flesher.

— (1667). *Pathologiae Cerebri et Nervosi Generis Specimen*. Amstelodami: Apud Danielem Elzevirium.

— (1672). *De Anima Brutorum*. Oxonii. E Theatro Sheldoniano. Impensis Ric. Davis.

— (1681a). *A Medical-Philosophical Discourse of Fermentation, Or, of the Intestine Motion of Particles in Every Body by Dr. Thomas Willis ... ; Translated into English by S.p.* London: Printed for T. Dring, C. Harper, J. Leigh, and S. Martin.

— (1681b). *The Remaining Medical Works of That Famous and Renowned Physician Dr Thomas Willis ... The First Part, Though Last Published with Large Alphabetical Tables for the Whole, and an Index for the Explaining All the Hard and Unusual Words and Terms of Art, Derived from the Latine, Greek, or Other Languages, for the Benefit of the Meer English Reader, and Meanest Capacity : With Eighteen Copper Plates*. London: Printed for T. Dring, C. Harper, J. Leigh, and S. Martyn.

Willis, Thomas (1965). *The Anatomy of the Brain and Nerves*. Ed. by William Feindel and Samuel Pordage. Montreal: McGill University Press.

Willmoth, Frances (1987). "John Flamsteed's Letter Concerning the Natural Causes of Earthquakes". In: *Annals of Science* 44.1, pp. 23–70. DOI: 10.1080/00033798700200111.

— (2007). "Rumblings in the Air: Understanding Earthquakes in the 1690s". In: *Endeavour* 31.1, pp. 24–9. DOI: https://doi.org/10.1016/j.endeavour.2007.01.004.

Willughby, Francis and John Ray (1669). "Experiments concerning the Motion of the Sap in Trees, made this Spring by Mr. Willugby, and Mr. Wray, Fellowes of the R. Society: and Communicated to the Publisher of the Inquiries Touching that Subject in Numb. 40". In: *Philosophical Transactions of the Royal Society of London* 4.48, pp. 963–5. DOI: 10.1098/rstl.1669.0019.

Wilson, Brett D. (2010). "The Whig Interpretation of Poetry". In: *Eighteenth-Century Life* 34.3, pp. 23–7. DOI: doi10.1215/00982601-2010-005.

Wilson, Leonard G. (1960). "The Transformation of Ancient Concepts of Respiration in the Seventeenth Century". In: *Isis* 51.2, pp. 161–72. DOI: 10.1086/348871.

Wilson, Mark D. (2012). "The Life and Times of Thomas Willis and his Impact on Contemporary Medicine". In: *Journal of the History of the Neurosciences* 21.2, pp. 127–31. DOI: 10.1080/0964704x.2011.595632.

Wilson, Rod (2000). "William Gilbert: The First Palaeomagnetist". In: *Astronomy and Geophysics* 41.3, pp. 3.16–3.19. DOI: 10.1046/j.1468-4004.2000.00318.x.

Wolfe, Charles T. (2022). "Medical Materialism, Early Modern". In: *Encyclopedia of Early Modern Philosophy and the Sciences*. Springer International Publishing, pp. 1255–60. DOI: 10.1007/978-3-319-31069-5_299.

Womersley, David (1997). *Augustan Critical Writing*. London, England; New York: Penguin Books.

— (2000). "A Modest Reply: Brean S. Hammond and the Whig Canon". In: *Women's Writing* 7.3, pp. 487–90.

— ed. (2001). *A Companion to Literature from Milton to Blake*. Oxford: Blackwell Publishers. DOI: 10.1002/9781405165327.

— (2005a). "Dulness and Pope". In: *Proceedings of the British Academy*. Vol. 131. Oxford: Oxford University Press, p. 229.

Womersley David; Bullard, Paddy; Williams Abigail, ed. (2005b). *"Cultures of Whiggism": New Essays on English Literature and Culture in the Long Eighteenth Century*. Newark: Newark: University of Delaware Press.

Wood, Anthony (1813-1820). *Athenae Oxonienses: An Exact History of All the Writers and Bishops Who Have Had Their Education in the University of Oxford; To Which Are Added the Fasti, or Annals of the Said University*. Ed. by Philip Bliss. Vol. 4th. London: Printed for F. C. and J. Rivington; et al.

Woodard, Roger D., ed. (2007). *The Cambridge Companion to Greek Mythology*. Cambridge: Cambridge University Press.

Woodley, J. D. (2004). *Lister, Martin (bap. 1639, d. 1712), Physician and Naturalist*. DOI: 10.1093/ref:odnb/16763. URL: https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-16763.

Woodward, John (1695). *An Essay toward a Natural history Of the Earth: and Terrestrial Bodies, Especially Minerals: As also of the Sea, Rivers, and Springs. With an Account of the Universal Deluge: And of the Effects that it had upon the Earth.* London: Printed for Ric. Wilkin at the Kings-Head in St. Paul's Church-yard.

Woodworth, Philip L. (2023). "Tidal Science before and After Newton". In: *A Journey Through Tides*. Elsevier, pp. 3–36. DOI: 10.1016/b978-0-323-90851-1.00002-9.

Wooley, Charles F. (1998). "Palpitation: Brain, Heart, and 'Spirits' in the Seventeenth Century". In: *Journal of the Royal Society of Medicine* 91.3, pp. 157–60. DOI: 10.1177/014107689809100316.

Wragge-Morley, Alexander (2018). "Imagining the Soul: Thomas Willis (1621-1675) on the Anatomy of the Brain and Nerves". In: *Imagining the Brain: Episodes in the History of Brain Research*. Ed. by Chiara Ambrosio; William Maclehose. Elsevier, pp. 55–73. DOI: 10.1016/bs.pbr.2018.10.009.

Yolton, John W. (1955). "Locke and the Seventeenth-Century Logic of Ideas". In: *Journal of the History of Ideas* 16.4, p. 431. DOI: 10.2307/2707503.

Yolton, John W (1975a). "Ideas and Knowledge in Seventeenth-Century Philosophy". In: *Journal of the History of Philosophy* 13.2, pp. 145–65. DOI: 10.1353/hph.2008.0068.

Yolton, John W. (1975b). "On Being Present to the Mind: A Sketch for the History of an Idea". In: *Dialogue* 14.3, pp. 373–88. DOI: 10.1017/s0012217300026263.

Young, Edward (1713). *A Poem on the Last Day*. 2nd Edition. Oxford: Printed at the Theatre for Edward Whistle.

Young, James (1929). "Malpighi's "De pulmonibus"". In: *Proceedings of the Royal Society of Medicine* 23.1, pp. 1–11. DOI: https://doi.org/10.1177/003591572902300101.

Young, John R. (2003). "Poetical Allusions to the Circulation of Blood up to the end of the Seventeenth Century". In: *Officiai Journal of the International Societ Revue Officielle De La Societe International*, pp. 3–9.

Zampieri, Fabio et al. (2013). "Origin and Development of Modern Medicine at the University of Padua and the Role of the 'serenissima' Republic of Venice". In: *Global Cardiology Science Practice* 21, pp. 149–62. DOI: https://doi.org/10.5339%2Fgcsp.2013.21.

Zucca, Diego (2020). "Lucretius and the Epicurean View That "all Perceptions Are True"". In: *Lucretius Poet and Philosopher: Background and Fortunes of the De Rerum Natura*. Ed. by P. R. Hardie; V. Prosperi; D. Zucca. Berlin and Boston: De Gruyter, pp. 23–42.

Appendix A

Sir Richard Blackmore's Works: An Annotated Bibliography

1683 Epitaph on the occasion of the death of Thomas Bent of Lincoln College, Oxford

Blackmore composed the epitaph while travelling the continent, probably when he was in Switzerland.

1693 "Ad Clarissimum, Humanissimumque Virum, Exercitatissimum, Phil-osophum Gravissimum, Dominum Doctorem Cole in Novam suam de Febre Hypothesin ingeniosissiman.

95 lines of Latin verse in honour of Dr. William Cole's book on intermittent fevers. The poem was composed on the occasion of the publication of his *Novae hypotheseos ad explicanda febrium intermittentium symptomata et typos excogitate hypotyposis*, that is, new hypotheses on intermittent fevers, in 1693. Cole had been a correspondent of Sydenham, and as such, he was a follower of his clinical approach.

This is the only of Blackmore's productions to be written in Latin, with the exception of the two epitaphs he composed for his wife Mary (d.1727) and for himself. The two can be still be seen inscribed near the altar of St. Peter's Church in Boxted, Essex, where Sir Richard and his wife were buried.

It is the only of Blackmore's composition to include pagan deities, as it is a dialogue between Jupiter and Apollo, for he claimed that "I have more than once publickly declare'd my Opinion, that a Christian Poet cannot but appear monstrous and ridiculous in a Pagan Dress" (Blackmore, 1712, p. xxxvi).

1695 *Prince Arthur: an Heroick Poem in Ten Books*

Prince Arthur was the first of Blackmore's serious literary endeavours. The poem relates the war between the Britons and the Saxons and young Arthur's heroism in the fight, culminating with the occupation of London. Blackmore's Whig allegory was purposely easy to decipher in the post-revolutionary years in which

it appeared: William III was portrayed as the heroic Arthur, while the evil Saxon Octa symbolised James II. The identification of other contemporary persons and events was made extremely recognisable. *Prince Arthur* was heavily indebted to the tradition of the epic, and Solomon comments that "although the Aeneid provides the formal model for *Prince Arthur*, Blackmore has obviously studied the other authors of epic carefully" (1980, p. 41), including Torquato Tasso (1544–1595), John Milton (1608–1674), Guillaume de Salluste Du Bartas (1544–1590) and Edmund Spenser (1552/3–1599). Geoffrey of Monmouth's (12th Century) *Historia Regum Britanniae* (c.1136) was the presumed source of the poem (Rounce, 2015, p. 121).

The poem also inaugurated the program of moral reform that Blackmore ventured to advocate with his literary works: in the preface, Blackmore stated that with this lyric, he intended to rectify the lewd and immoral literary tendencies of his age. He opposed the widespread resistance against the use of the Christian religion epic poetry, and one of the reasons at the basis of *Prince Arthur* was to demonstrate that Christian theology might "enter into an Epick Poem, and raise the Subject without being it self debas'd" (Blackmore, 1695, Preface).

The celebrated "Song of Mopas" (Book IV) was especially praised by readers and was one of Blackmore's finest poetic compositions, to the point that Johnson added it to *Creation* (1712) in his edition of the poem in his *Life of Blackmore*. Indeed, the verses express the same ideas the author later conveyed at greater length in the physico-theological poems: the elements of creation are the work of a divine hand (Moore, 1951).

The poem was a success and went through three editions[1] in the space of two years:

- *Prince Arthur. An Heroick Poem. In Ten Books. By Richard Blackmore, M.D. and Fellow of the College of Physitians in London.* London: Printed for Awnsham and John Churchil at the black Swan in Pater-Noster-Row, MDCXCV.
- *Prince Arthur. An heroick poem. In ten books. By Richard Blackmore, M.D. and fellow of the College of Physitians in London. The second edition corrected. To which is added, an index, explaining the names of countries, cities, and rivers,*

[1] All the bibliographic references—which are maintained in their original capitalisation—are based on the data available from Michael Cox's *The Concise Oxford Chronology of English Literature* (2004) as well as from the following databases:

- SOLO (Search Oxford Libraries Online): <https://solo.bodleian.ox.ac.uk/discovery/search?vid=44OXF_INST:SOLO>
- Oxford Reference: <https://www.oxfordreference.com/search?q=richard+blackmore&searchBtn=Search&isQuickSearch
- The British Library: <https://bll01.primo.exlibrisgroup.com/discovery/search?vid=44BL_INST:BLL01&lang=en>
- The Grub Street Project: <https://www.grubstreetproject.net>
- Google Books: <https://books.google.co.uk/>
- Archive.org: <https://archive.org/>

&c. London: printed for Awnsham and John Churchil at the black Swan in Pater-Noster-Row, MDCXCV.

- *Prince Arthur. An heroick poem. In ten books. By Richard Blackmore, M.D. and fellow of the College of Physitians in London. The third edition corrected. To which is added, an index, explaining the names of countries, cities, and rivers, &c.* London: printed for Awnsham and John Churchil at the black Swan in Pater-Noster-Row, MDCXCVI.
- *Prince Arthur. An heroick poem. In ten books. By Sir Richard Blackmore, Kt. M. D. and Fellow of the College of Physicians in London. The fourth edition revised. To which is annexed, an index, explaining the names of countries, cities, and rivers, &c.* London: printed for J. Tonson at Shakespear's Head over-against Catherine Street in the Strand, MDCCXIV.
- *Prince Arthur. An heroick poem. In ten books. By Sir Richard Blackmore, Kt. M. D. and Fellow of the College of Physicians in London. The fourth edition revised. To which is annexed, an index, explaining the names of countries, cities, and rivers, &c.* London: printed for J. Tonson: and are to be sold by J. Knapton, and D. Midwinter in St. Paul's Church-Yard, A. Betsworth on London-Bridge, W. Taylor in Pater Noster-Row, N. Cliff and D. Jackson near the Poultry, T. Varnam and J. Osborn in Lombard-Street, and J. Browne near Temple-Bar, MDCCXIV.

1697 *King Arthur: an Heroic Poem in Twelve Books*

King Arthur followed its predecessor chronologically and perpetuated its political allegory supporting the new monarch. The poem was not an editorial success and only had one edition.

According to Solomon, however, Blackmore intended more than a simple political allegory with this poem. He also "ambitiously attempt[ed] an abstract and brief chronicle of the times and thoughts of his own age. The meticulous description of fortifies warfare no less than the summations of Lockean psychology and Newtonian cosmology illustrates Blackmore's determination to distill the essence of the age into his epic" (1980, p. 55).

The poem went through two editions in the year of its publication and was reprinted in the early eighteenth century:

- *King Arthur. An heroick poem. In twelve books. By Richard Blackmore, M.D. Fellow of the College of Physicians in London, and one of His Majesty's Physicians in Ordinary. To which is annexed, an index, explaining the names of countrys, citys, and rivers, &c.* London: printed for Awnsham and John Churchil at the Black Swan in Pater-Noster-Row, and Jacob Tonson at the Judges Head in Fleet-street, MDCXCVII.

- *King Arthur. An heroick poem. In twelve books. By Richard Blackmore, M.D. Fellow of the College of Physicians in London, and one of His Majesty's Physicians in Ordinary. To which is annexed, an index, explaining the names of countrys, citys, and rivers, &c.* London: printed for Awnsham and John Churchil at the Black Swan in Pater-Noster-Row, and Jacob Tonson at the Judges Head near the Inner-Temple-gate in Fleet-street, MDCXCVII.

1699 *A Satyr Against Wit*

The poem—one of Blackmore's best-known pieces of writing—was published in November 1699 as Blackmore's response to Dr Samuel Garth's mock-heroic poem *The Dispensary* (1699), which came out earlier the same year. The poem had been written on the occasion of a dispute within the Royal College of Physicians around the possibility of building a public dispensary for the poor. Garth's poem was an immediate success and went through two other editions in two months. As a convinced anti-Dispensarian, Blackmore was maliciously caricatured by Garth. The *Satyr* was Blackmore's counterattack and a defence of the anti-Dispensarian satirised by Garth. It caused a stir and engendered a long literary spat between Blackmore and his rival wits.

The poem was later included in the miscellany *A Collection of Poems on Various Subjects* (1718).

Editions:

- *A satyr against wit.* London: printed for Samuel Crouch, at the corner of Pope's-Head-Alley, over against the Royal Exchange in Cornhill, 1700
- *A satyr against wit: design'd an answer to a poem stil'd The dispensary.* Dublin: printed and sold [by John Whalley?] next door to the Fleece in St. Nicholas-street, 1700.

1699 *A Short History of the Last Parliament*

The text was published anonymously. The pamphlet recounts the actions of the English Parliament during the later years of King William III's reign, after the Glorious Revolution. It also covers the years during and after the war with France. Blackmore, in a distinctly celebratory and patriotic tone, praises the King's courage in defeating Louis XIV's power and securing peace. He lauds Parliament's crucial role in supporting the war effort through taxation, financial reforms, and unity against domestic and foreign enemies. Blackmore also contrasts England's liberty and prosperity granted by the Parliament with the position of the Jacobite conspirators, who critic the government and were enemies of the nation.

Editions:

- *A Short History of the Last Parliament.* London: Printed for Jacob Tonson, at the Judges-Head near the Inner-Temple-gate in Fleetstreet, and at Grays-Inn-Gate, in Grays-Inn-Lane, 1699.
- *A Short History of the Last Parliament. The Second Edition.* London: Printed for Jacob Tonson, at Grays-Inn-Gate, in Grays-Inn-Lane, 1699.

1700 *A Paraphrase on the Book of Job*

Job was Blackmore's first major religious poem, written in heroic couplets. Paraphrases of the Book of Job were common at the time, as in the eighteenth century, many saw Job's sufferings as a matter of high poetry, and Blackmore's text emphasised the sublime aspects of God's creation. What distinguishes Blackmore's poem from other similar lyrical attempts is that the poet did not consider the Book of Job as an allegorical text but rather as a Biblical epic recounting historical events recorded in poetry. With *Job,* Blackmore intended to carry on the program of moral reformation he had started with his two previous epics in a poem he intended to make both entertaining and instructing. In the Preface to the poem, Blackmore agrees with Abraham Cowley (1618–1667) that the Scriptures offer the most noble subjects for poetry and indeed, Job has the characteristics of the Christian hero: he is passive, he is not high-born, and his actions are neither heroic nor great, and as such, he is highly reliable. However, "Job, in his misfortune doubting the justice of his God, makes a hero "every way proper" for an epic intended to demonstrate divine providence" (Solomon, 1980, p. 87). The highly metaphorical style of the Book of Job lent itself perfectly to Blackmore's style, whose tendency towards amplification made it a perfect target for Blackmore's enemy. In his *Peri Bathous* (1728), Pope commented that Blackmore had managed to ruin the sublimity of the Biblical account of Job's noble handling of his misfortunes and baptised him "[t]he most celebrated Amplifier of our Age" (Pope, 2017, p. 211).

Edition:

- *A paraphrase on the book of Job: as likewise on the songs of Moses, Deborah, David: on four select psalms: some chapters of Isaiah, and the third chapter of Habakkuk. By Sir Richard Blackmore, Kt. M.D. one of his Majesty's physicians in ordinary, and fellow of the Colleg of Physicians in London.* London: printed for Awnsham and John Churchill, at the Black Swan in Pater-Noster-Row, 1700.

1703 *A Hymn to the Light of the World*

This 20-stanza poem focuses on the creation of the world and the salvation of man in a manner that strove to imitate Milton (Rosenberg, 1953, p. 81). In particular, Solomon (1980, p. 106) draws attention to the similarities between Blackmore's poem and Milton's "On the Morning of Christ's Nativity," as Blackmore

borrowed Milton's image of Christ as "Light unsufferable." Although not remarkable as a literary accomplishment, the pom boasts original and lyrical passages.

The poem was later included in the miscellany *A Collection of Poems on Various Subjects* (1718).

Edition:

- *A hymn to the light of the world. With a short description of the [c]artons of Raphael Urbin, in the gallery at Hampton-Court.* London: printed for Jacob Tonson within Grays-Inn Gate next Grays-Inn Lane, 1703.

1705 *Eliza: an Epic Poem in Ten Books*

Eliza was Blackmore's third epic poem aimed at allegorically celebrating the reigning monarchs through the heroic actions of Britain's mythical past sovereigns. Queen Anne is portrayed as Queen Elizabeth I defending her country from the Spanish threat, thus portraying the defence of Protestantism against Catholicism (Pizzol Giacomini, 2007, p. 10). The poem was not an editorial success and, in Johnson's words, it "dropped, as it seems, dead-born from the press" (Johnson, 1896, p. 187).

Editions:

- *Eliza: an epick poem. In ten books. By Sir Richard Blackmore, Kt. M.D. and Fellow of the Colledge of Physicians in London. To which is annex'd, an index, explaining persons, countries, cities, rivers, &c.* London: printed for Awnsham and John Churchill, at the Black Swan in Pater-Noster-Row, 1705
- *Eliza: an epick poem; in ten books. By Sir Richard Blackmore, ...* London: printed for W. Chetwood; T. Jauncy, and S. Chapman, 1721.

1706 *An Advice to the Poets: A Poem Occasioned by the Wonderful Success of her Majesty's Arms, Under the Conduct of the Duke Of Marlborough in Flanders*

This patriotic poem was originally published anonymously. It celebrates the victories of the Duke of Marlborough (1650–1722) during the War of Spanish Succession (1701–1714). Marlborough's heroic victories in the Battle of Blenheim (1704) against the Elector of Bavaria and in the Battle of Ramillies (1706) are some of Blackmore's main praise points. Marlborough is depicted as a Christian Aeneas who "undertakes the Pious Toil" (1706, p. 7) to redeem Europe. Blackmore encourages his contemporary poets to choose Marlborough's victories as the sublime subject fit for an epic to surpass those by Virgil and Homer (1706, p. 12). The poem is also an occasion to celebrate Britain under Queen Anne, depicted in the poem as a direct emissary of God's wishes (Womersley, 1997).

The poem was later included in the miscellany *A Collection of Poems on Various Subjects* (1718).

Editions:

- *Advice to the poets. A poem. Occasion'd by the wonderful success of her Majesty's arms, under the conduct of the Duke of Marlborough in Flanders.* London: printed by H.M. for A. and J. Churchill, 1706.
- *Advice to the poets. A poem. Occasion'd by the wonderful Success of Her Majesty's Arms, under the Conduct of the Duke of Marlborough, in Flanders.* London: printed for A. and J. Churchill, at the Black Swan in Pater-Noster-Row, MDCCVI.

1708 *The Kit-Cats. A Poem*

The poem was later included in the miscellany *A Collection of Poems on Various Subjects* (1718).

Editions:

- *The kit-cats, a poem. To which is added The picture, in imitation of Annacreon's [sic] Bathillus. As also The coquet beauty, by the Right Honourable the Marquis of Normandby.* London: printed and sold by H. Hills, 1708.
- *The Kit–cats. A poem.* London: printed for E. Sanger and E. Curll, at the Post-House at the Middle-Temple-Gate, and at the Peacock without Temple-Bar, 1708.
- *The Kit-Cats. A poem*. London: printed and sold by H. Hills, 1708.
- *The kit-Cats, a poem. To which is added The picture, in imitation of Annacreon's [sic] Bathillus. As also The coquet beauty, By the Right Honourable the Marquis of Normanby.* London: printed and sold by H. Hills, in Black-Fryars, near the Water-Side, 1709.

1709 *Instructions to Vander Bank, a Sequel to the Advice to the Poets: A Poem, Occasion'd by the Glorious Success of her Majesty's Arms, under the Command of the Duke of Marlborough, the Last Year in Flanders*

The poem, originally published anonymously, is a sequel to *An Advice to the Poets,* and it is rather unremarkable, in that it reiterates the arguments of its prequel without adding anything new. Marlborough victories are again compared to the deeds of ancient heroes, and Queen Anne's role as a pious Christian monarch is celebrated in a fashion similar to the previous poem.

The poem was later included in the miscellany *A Collection of Poems on Various Subjects* (1718).

Editions:

- *Instructions to Vander Bank, a sequel to the Advice to the poets: a poem, occasion'd by the glorious success of Her Majesty's arms, under the Command of the Duke of Marlborough, the last Year in Flanders.* London: printed for Egbert Sanger at the Post-House in Fleetstreet, M.DCC.IX.
- *Instructions to Vander Bank, A Sequel to the Advice to the Poets: A Poem, Occasion'd by the Glorious Success of Her Majesty's arms, under the Command of the Duke of Marlborough, the last Year in Flandres.* London: printed and sold by H. Hills, in Black-Fryars, near the Water-Side, 1709.

1711 *The Nature of Man. In Three Books*

The poem was originally published anonymously. The *fil rouge* that unifies the three books is the influence climate has on the development of different people, with the conclusion that only in temperate zones can culture and true religion flourish. On the other hand, the areas of the globe characterised by extreme climates tend to generate unbalanced people. The theories around the climatic influence on people's development were not new to the seventeenth century, when they enjoyed a renewal of interest. Solomon (1980, p. 120) reckons that Blackmore's interest in the inequalities of nature which influenced man was probably spurred by Thomas Burnet's *Telluris Theoria Sacra* (1681), which considered the sin deriving from the fall of man responsible for the chaotic state of the world. One of Blackmore's favourite authors of the time, Matthew Prior had composed in 1708 a poem entitled *Solomon* (1718) in which these same inequalities from the torrid to the frozen zones were explored. Indeed, in the preface, we learn that the author had planned on writing *The Nature of Man* about three years earlier but that Blackmore had abandoned his plan because he came to know about the success of a poem in Latin on the same subject by "a French Author, Monsieur Quillet" (Blackmore, 1720, p. 1). According to Rosenberg (1953, p. 99), Blackmore completed the poem only when he learned that the French author did not treat the subject as he intended.

The poem is divided into three books. In the first, Blackmore attributes the "Disparity of the intellectual Faculties, Dispositions, and Passions of Men" (Blackmore, 1720, p. ii) to their relative position to the sun, a temperate climate being more advantageous even to "moral Improvements" (ibid.) than areas of extreme cold or heat. Books II and III have a more political intention in that the distinctive characteristics of the European countries in light of their favourable air and soil are illustrated, and the reasons why they foster a "great and worthy Race of Men" (ibid.) are enumerated. The poem closes on a patriotic note with a panegyric of England.

The poem was later included in the miscellany *A Collection of Poems on Various Subjects* (1718).

Editions:

- *The nature of man. A poem. In three books.* London: printed for Sam. Buckley; and sold by the booksellers of London and Westminster, 1711.
- *The nature of man a poem, in three books. ... By Sir Richard Blackmore, ...* London: printed for John Clark; and A. Dodd, 1720.

1712 *Creation: a Philosophical Poem. In Seven Books*

Creation was the only of Blackmore's poems to be almost unanimously praised, both for its high moral intentions and for its application of the new natural philosophy in demonstrating the existence of a God. See Chapter 2 for an in-depth introduction to the poem and see Appendix B for the Publication History of *Creation*.

1713–1714 *The Lay-Monk*

The periodical was published from November 13, 1713, till February 15, 1714, with three issues per week. There are 40 numbers in total, and Friday's papers were by Hughes, while the remaining two were by Blackmore. According to McGeary (2006), Hughes' contributions provided "a leavening of humour to the otherwise solemn essays."

The essays cover a number of topics, ranging from Newton's recent theory of colours to the description of Raphael's Cartons, from critiques of Atheism and Epicureanism, staples of Blackmore's writings, to discussion on the vanity of Cicero.

The periodical was conceived as a "sequel of the Spectators," as we read from the subtitle of the edition printed for J. Pemberton in 1714.

1714 *The Lay-Monastery. Consisting of Essays, Discourses, etc. Publish'd singly under the Title of the Lay-Monk*

The volume is the collection of the forty papers published between November 1713 and February 1714 as *Lay-Monk* by Blackmore and Hughes.

Editions:

- *The lay-Monastery. Consisting of essays, discourses, &c. Publish'd singly under the title of The lay-monk.* London: printed by Sam. Keimer, for Ferdinando Burleigh, in Amen-Corner, M.DCC.XIV.
- *The lay-monastery. Consisting of essays, discourses, &c. Publish'd singly under the title of The lay-monk. Being the sequel of the Spectators.* London: printed for J. Pemberton, and Tho. Varnam and J. Osborn, 1714.

1716 *Essays Upon Several Subjects* (Volume I)

In Volume I of the *Essays Upon Several Subjects*, Richard Blackmore explores a range of themes through prose aimed at promoting religious and moral values. The volume includes five essays: "Upon Wit," "Upon False Virtue," "Upon the Immortality of the Soul," "Upon the Laws of Nature," and "Upon the Origin of Civil Power." These essays engage with contemporary debates, including an attack on Pope's perceived blasphemy and a challenge to Epicurean views on the soul's immortality, which also characterised much of Blackmore's previous production. Despite mixed reviews, Blackmore's essays remain an important attempt to influence public thought and morality.

Editions:

- *Essays upon several subjects. In five parts. ... By Sir Richard Blackmore, ...* [Dublin]: London printed; and reprinted in Dublin, for G. Grierson, 1716.
  - *An essay upon the origin of civil power. By Sir Richard Blackmore ...* [Dublin]: London printed; and reprinted in Dublin, for G. Grierson, 1716.
  - *An essay upon wit. By Sir Richard Blackmore, ...* [Dublin]: London printed: and re-printed in Dublin for George Grierson, 1716.
  - *An essay upon false vertue. By Sir Richard Blackmore ...* Dublin: printed for George Grierson, 1716.
  - *An essay upon the immortality of the soul. By Sir Richard Blackmore, ...* [Dublin]: London printed; and re-printed in Dublin by Edwin Sandys, for George Grierson, 1716.
  - *An essay upon the laws of nature. By Sir Richard Blackmore, ...* [Dublin]: London printed: and re-printed in Dublin for George Grierson, 1716.
- *Essays upon several subjects. By Sir Richard Blackmore, ...* London: printed for E. Curll, and J. Pemberton, 1716.

1717 *Essays upon Several Subjects* (Volume II)

Volume II continues the exploration of religious, philosophical, and moral themes through six essays: "An Essay Upon Atheism," "An Essay Upon the Spleen," "An Essay Upon Writing," "An Essay Upon Future Felicity," "Of the Happiness of Just Men Hereafter, in Respect of Their Souls," and "An Essay Upon Divine Love." In particular, in "An Essay Upon Atheism," Blackmore asserts that belief in a supreme divine being was universal in primitive times and supported by Greek philosophers. He critiques the decline of religious belief after Socrates' death and examines ancient atheists like Leucippus, Epicurus, and Aristotle, accusing them of promoting impiety through their materialist philosophies. Blackmore also challenges the ideas of modern atheists like Hobbes and Spinoza, linking atheism to moral decay and social instability. Throughout, he opposes the notion that morality can exist without a belief in God, positioning his essays as a defence of religious faith and ethical conduct.

Edition:

- *Essays upon several subjects. By Sir Richard Blackmore, Kt.M.D. and Fellow of the College of Physicians in London. Vol. II.* London: printed by W. Wilkins, for A. Bettesworth, at the Red Lyon in Pater-Noster-Row; and J. Pemberton, at the Buck and Sun against St. Dunstan's Church in Fleetstreet, 1717.

1718 *A Collection of Poems on Various Subjects*

This is a moral and religious anthology intended to elevate Christian values through poetry. Blackmore attempted to counter the perceived moral decay of his time by advocating for the potential of religious themes in literature. In the preface, Blackmore explains that his poetic endeavours were a means to extend moral and divine instruction to the public. His collection, divided into two parts, includes various works ranging from satirical pieces to odes, paraphrases of Psalms, and reflections on divine themes. Notable poems include "The Nature of Man," "An Ode to the Supreme Being," and "A Hymn to the Light of the World." Throughout, Blackmore emphasises the alliance of science and religion, drawing on natural philosophy to deepen the moral impact of his work. Though the anthology contains moments of originality and lyricism, it was poorly received, and no second edition was published.

Edition:

- *A collection of poems on various subjects. By Sir Richard Blackmore, Kt. M. D. Fellow of the Royal-College of Physicians.* London: printed by W. Wilkins, for Jonas Browne at the Black-Swan without Temple-Bar; and J. Walthoe, Jun'. over-against the Royal-Exchange in Cornhill, MDCCXVIII.

1720 *Letters of Religion, Between Theophilus and Eugenio*

Editions:

- *Letters of religion, between Theophilus and Eugenio.* London: printed for J. Roberts, in Warwick-Lane, [1720].
- *Letters of religion, between Theophilus and Eugenio. Part II.* London: printed for J. Roberts, in Warwick-Lane, [1720].
- *Letters of religion, between Theophilus and Eugenio.* London: printed for J. Peele; and sold by J. Roberts, 1720.
- *Letters of religion, between Theophilus and Eugenio. Part III.* London: printed, and sold by J. Downing, in Bartholomew-Close, near West-Smithfield, 1722.
- *Letters of religion, between Theophilus and Eugenio.* London: printed J. Downing, in Bartholomew-Close, near West-Smithfield, M.DCC.XXIX.

- *Letters of religion, between Theophilus and Eugenio. Part II.* London: printed by J. Downing, in Bartholomew-Close, near West-Smithfield, M.DCC.XXIX.
- *Letters of religion, between Theophilus and Eugenio. Part III.* London: printed for M. Downing, in Bartholomew-Close, near West-Smithfield, M.DCC.XXXV.

1721 *A Discourse upon the Plague, with a Preparatory Account of Malignant Fevers*

This medical treatise is divided into two parts, the first is concerned with the nature of those diseases, while the second focuses on the cure. The content of the treatise is base on the knowledge the author acquired through "long Observation of the Nature of Diseases, and the Force of Medicines" (Blackmore, 1721a, Preface), and as such it is empirical in nature. The intended reader of this treatise is the general public, hence the author "avoid[ed] all difficult and uncommon Words and Phrases, proper to the Schools and that are in use only with Philosophers and Physicians, and convey[ed] [his] Thoughts in a plain and easy Manner" (Blackmore, 1721a, Preface).

As Rosenberg (1953, p. 148) points out, however, in the treatise Blackmore offers no panacea for curing the plague.

Editions:

- *A discourse upon the plague, with a preparatory account of malignant fevers. In two parts. The First, Containing, An Explication of the Nature of those Diseases. The Second, The Method of Cure. By Sir Richard Blackmore, M.D.* London: printed for John Clark, at the Bible and Crown in the Poultry, near Cheapside, MDCCXXI.
- *A discourse upon the plague, with a preparatory account of malignant fevers. In two parts. ... By Sir Richard Blackmore, M.D.* London: printed for John Clark, 1722.

1721 *Just Prejudices against the Arian Hypothesis*

Blackmore wrote this treatise "in Vindication of the Christian religion against thee Deist; and of the Divinity of Christ against the Arian and the Socinian" (Landa, 1980, p. 105).

Edition:

- *Just prejudices against the Arian hypothesis. To which is added, A Vindication of this Proposition, Articles of Faith depend upon Inferences, or are left to Consequences. By Sir Richard Blackmore, Kt. M. D.* London: printed by W. Wilkins; for J. Peele, at Locke's Head, in Pater-Noster-Row, M.DCCXXI

1721 *Modern Arians Unmasked*

In the early 1720s, Blackmore got involved in a theological controversy about Arianism and this is the second of the texts devoted to this topic. Blackmore did

not approve the presence and influence of Arianism in the Established Church. The treatise attests to Blackmore's zeal in combating the forces he believed were endangering the Church.

Edition:

- *Modern Arians unmask'd: idolatry fix'd upon them; their criminal manner of subscribing to articles of faith; their insincerity and double-dealing: Greater Difficulties on the Arian, than on the Orthodox Side; The Doctrine of the First pernicious to the Commonwealth: The Orthodox persuaded to exert themselves in Opposition to this spreading Heresy. By Sir Richard Blackmore, M.D.* London: printed for John Clark, at the Bible and Crown in the Poultry, near Cheapside, [1721]

1721 *A New Version of the Psalms of David*

It is well-known from his time at Oxford that Blackmore lacked musical talent and his musical attempts were not received well at the time of the publication of this work. The Society for the Propagation of the Gospel undertook to print a selection of Blackmore's psalms, which was never published because of the opposition of the bishop of London (Pizzol Giacomini, 2007, p. 79).

1722 *Redemption: A Divine Poem, In Six Books*

This religious epic was intended as a companion to the earlier *Creation*. It aimed to defend Christian doctrine, particularly the divinity of Christ and the concept of the Trinity, against the challenges posed by Deism, Arianism, and other rationalist ideas of the time. In the preface, Blackmore stresses the importance of balancing reason and passion in religious devotion, arguing that while reason helps us understand God, it is through love and passion that we truly experience divine joy. The poem is divided into six books that cover topics such as the creation of the world, human fallibility, the necessity of divine revelation, and a defence of Christ's divinity using the Scripture. However, the poem was not widely read and was largely dismissed as dull and uninspired. *Redemption* is nonetheless notable for engaging in the theological debates of the period, in particular those regarding the Trinity and the role of miracles and prophecy in affirming Christian faith. Blackmore's staunch Trinitarian stance and opposition to Arianism reflect his commitment to defending established religious doctrines against contemporary heresies.

Edition:

- *Redemption: a divine poem, in six books. The three first demonstrate the truth of the Christian religion, the three last the deity of Christ. To which is added, A hymn to Christ the Redeemer. By Sir Richard Blackmore, M. D. and Fellow of the Royal College of Physicians in London.* London: printed for A. Bettesworth,

at the Red-Lion in Pater-Noster Row; and James Mackeuen at Buchanan's Head over against St. Clement's Church in the Strand, M.DCC.XXII.

1723 *A Treatise upon the Small-pox, in Two Parts*

Smallpox is categorised as a fever, which is described as "an inordinate Elevation of the oyly or fiery Parts of the Blood, by which the balance of Power between the active and governing Principles being broken, a great Tumult and Disorder arises in the animal economy" (p. 8). Blackmore details various forms and symptoms of smallpox, discusses treatments. In the second part, he critiques the modern practice of inoculation—an approach imported from Turkey. He ultimately expresses opposition through case studies and references to the work of Sydenham.

Editions:

- *A treatise upon the small-pox, in two parts. Containing, I. An account of the nature and several kinds of that disease, with the proper methods of cure. II. A dissertation upon the modern practice of inoculation. By Sir Richard Blackmore, Knt.* London: printed for John Clark, at the Bible and Crown in the Poultry, near Cheapside, M.D.CC.XXIII.
- *A treatise upon the small-pox, in two parts. Containing, I. An account of the nature and several kinds of that disease, with the proper methods of cure. II. A dissertation upon the modern practice of inoculation. By Sir Richard Blackmore, Knt.* London: printed for John Clark, 1723.

1723 *A True and Impartial History of the Conspiracy against the Person and Government of King William III, of Glorious Memory, in the Year 1695*

The text written had been written some time before 1723 but it was published only after a Jacobite plot was discovered in 1722. Blackmore was a supporter of the Hannover and the text revealed his open partiality.

Edition:

- *A true and impartial history of the conspiracy against the person and government of King William III. of glorious memory, in the year 1695. By Sir Richard Blackmore, Kt. M.D.* London: printed for James Knapton, at the Crown in St. Paul's Church-Yard, MDCCXXIII

1723 *Alfred. An Epick Poem. In Twelve Books*

The last of Blackmore's epic poems devoted to the celebration of the new King George and one of the least successful. Simmons (1988) examines how Blackmore employs the Alfred myth in his poem, noting that he neither relied on

the main biography of Alfred nor even placed him in the correct century, placing him between the eighth/ninth century instead of ninth/tenth century. Instead, Simmons argues, Blackmore drew on Obadiah Walker's 1687 translation of John Spelman's *Life* and Ranulph Higden's *Polychronicon*, which explains the omission of several legendary episodes.

Edition:

- *Alfred. An epick poem. In twelve books. Dedicated to the illustrious Prince Frederick of Hanover. By Sir Richard Blackmore, Kt. M. D.* London: printed by W. Botham, for James Knapton, at the Crown in St. Paul's Church-Yard, MDCCXXIII.

1724 *A Treatise of Consumptions and other Distempers Belonging to the Breast and Lungs*

The treatise considers the causes and progression of wasting diseases. Blackmore attributes them to defects in blood composition, digestion, and the malfunction of bodily "strainers" like the liver, lungs, and kidneys. Poor nutrition, faulty glandular function, and corrupted humours may contribute to bodily decline. The second part of the treatise offers remedies—including opium, diet, exercise—, case studies, and reflections on the restorative role of air and respiration in renewing the blood's vitality.

Editions:

- *A treatise of consumptions and other distempers belonging to the breast and lungs. By Sir Richard Blackmore, Kt. M. D. And Fellow of the Royal College of Physicians in London.* London: printed for John Pemberton, at the Buck and Sun, over against St. Dunstan's Church, Fleetstreet, MDCCXXIV.
- *A treatise of consumptions and other distempers belonging to the breast and lungs. By Sir Richard Blackmore, ...* London: printed for John Pemberton, 1725.
- *A treatise of consumptions and other distempers belonging to the breast and lungs, ... By Sir Richard Blackmore, ...* London: printed for John Pemberton, 1735.

1725 *A Treatise of the Spleen and Vapours*

Blackmore discusses the roles of various bodily glands—or "strainers"—in maintaining health. Both obstruction and excessive laxity in these organs can cause serious illness by allowing either too much or too little fluid to pass. These imbalances may lead to conditions such as wasting, digestive issues, nervous disorders, and even mental disturbances.

Editions:

- *A treatise of the spleen and vapours: or, hypocondriacal and hysterical affections. With three discourses on the nature and cure of the cholick, melancholy, and palsies. Never before Published. Written by Sir Richard Blackmore, Kt. M. D.*

and Fellow of the Royal College of Physicians in London. London: printed for J. Pemberton at the Buck and Sun over-against St. Dunstan's Church in Fleet-Street, MDCCXXV.

- *A treatise of the spleen and vapours: or, hypocondriacal and hysterical affections. With three discourses on the nature and cure of the cholick, melancholy, and palsies. Written by Sir Richard Blackmore, Kt. M. D. and Fellow of the Royal College of Physicians in London. The second edition. To which is added, A critical dissertation upon the spleen, so far as concerns the following question; whether the spleen is necessary or useful to the animal possess'd of it?.* London: printed for J. Pemberton, at the Buck and Sun over-against St. Dunstan's Church in Fleetstreet, MDCCXXVI.

1725 *A Critical Dissertation upon the Spleen*

This treatise closely follows the previous one on the same topic. Indeed, here Blackmore defends his earlier claim that the spleen is unnecessary for the health or survival of individual animals, responding to objections advanced by Dr. Sewell. He argues that while its removal may cause changes, it does not result in fatal illness or loss of health. Blackmore draws both on ancient and modern authorities like Aristotle and Marcello Malpighi. He concludes that since nature makes nothing in vain, the spleen must serve some reproductive functions.

Editions:

- *A critical dissertation upon the spleen, so far as concerns the following question; whether the spleen is necessary or useful to the animal possess'd of it? By Sir Richard Blackmore, ...* London: printed for J. Pemberton, 1725.
- *A treatise of the spleen and vapours: or, hypocondriacal and hysterical affections. With three discourses on the nature and cure of the cholick, melancholy, and palsies. Written by Sir Richard Blackmore, Kt. M. D. and Fellow of the Royal College of Physicians in London. The second edition. To which is added, A critical dissertation upon the spleen, so far as concerns the following question; whether the spleen is necessary or useful to the animal possess'd of it?.* London: printed for J. Pemberton, at the Buck and Sun over-against St. Dunstan's Church in Fleetstreet, MDCCXXVI.

1726 *Discourses on the Gout, a Rheumatism, and the King's Evil*

The text focuses on the symptoms, causes, and methods of cure and prevention of these distempers.

Editions:

- *Discourses on the gout, a rheumatism, and the King's evil. Containing an explication of the nature, causes, and different species of those diseases, and the method*

of curing them. Written by Sir Richard Blackmore, Kt. M.D. and Fellow of the Royal College of Physicians in London. London: printed for J. Pemberton, at the Buck and Sun, over-against St. Dunstan's Church, in Fleetstreet, MDCCXXVI.

- *Discourses on the gout, rheumatism, and the king's-evil, ... By Sir Richard Blackmore, ...* London: printed for John Pemberton, 1735.

1727 *Dissertations on a Dropsy, a Tympany, the Jaundice, the Stone, and a Diabetes*

These treatises accounts for the kinds, symptoms, causes, properties, and methods of cure and prevention of all these diseases.

Edition:

- *Dissertations on a dropsy, a tympany, the jaundice, the stone, and a diabetes. By Sir Richard Blackmore, Knt. M. D. and Fellow of the College of Physicians in London.* London: printed for James and John Knapton, at the Crown in St. Paul's Church-Yard, 1727.

1728 *Natural Theology, or, Moral Duties Consider'd apart from Positive*

The treatise aimed to emphasise the necessity of proving the existence of natural laws or moral obligations as the foundation of all religion, which prepares individuals to embrace Christianity (Rosenberg, 1953, p. 141), especially in a "degenerate Age" of "Impiety and Immorality" (Blackmore, 1728, p. iii). Moreover, Blackmore's work also seeks to demonstrate that Christian precepts can be inferred from the study of nature, highlighting a harmonious relationship between natural inquiry and religious doctrine (Womersley, 2005a, p. 231).

Edition:

- *Natural theology: or, moral duties consider'd apart from positive. By Sir Richard Blackmore, Kt. M. D. And Fellow of the Royal College of Physicians.* London: printed for J. Pemberton over-against St. Dunstan's Church in Fleet-Street, MDCCXXVIII.

1731 *The Accomplished Preacher: Or, An Essay Upon Divine Eloquence*

One of Blackmore's works to be published posthumously. It celebrates the joint power of poetry and oratory in fostering Christian devotion against the threats of irreligion. The treatise lauds the accomplished Christian orator as a Minister of God within the Church of England.

Edition:

- *The accomplished preacher: or, an essay upon divine eloquence. By Sir Richard Blackmore, Kt.* London: printed for J. Downing, in Bartholomew-Close, M.DCC.XXXI.

1733 *A Dissertation on the Gravel and Stone*

The work, published after Blackmore's death, is largely based on the physician's work. The treatise is divided into four parts, focusing on the nature, causes, and symptoms of these diseases, their cure, and their prevention. According to the front page, the treatise was considered by all physicians who perused it as "the most rational Discourse, on the Gravel and Stone, ever written; and the Method and Medicines for their Relief and Cure, the most Safe and Efficacious, that can be advis'd to" (Blackmore, 1733).

Edition:

- *A Dissertation on the Gravel and Stone.* London: Printed for, and sold by J. Isted, Bookseller, at the Golden Ball, near St. Dunstan's-Church, in Fleet-Street. 1733

Appendix B

The Editions of *Creation*

Creation was to be reprinted numerous times, not only during the author's life but also after his death, thus enjoying a decent success throughout the eighteenth century.

The present dissertation references the first edition, published in London in 1712. This choice is due to the fact that the following editions published during Blackmore's lifetime presented only minor alterations. Moreover, dissertation intended to study the first physico-theological poem in the history of English literature as it was presented to the public in its first form.

1712 *Creation. A philosophical poem. In seven books. By Sir Richard Blackmore, Knt. M. D. and Fellow of the College of Physicians in London.* London: printed for S. Buckley, at the Dolphin in Little-Britain; and J. Tonson, at Shakespear's Head over-against Catherine-Street in the Strand, MDCCXII.

1712 *Creation. A philosophical poem. Demonstrating the existence and providence of a God. In seven books. By Sir Richard Blackmore, Knt. M. D. and Fellow of the College of Physicians in London.* London: printed for S. Buckley, at the Dolphin in Little-Britain; and J. Tonson, at Shakespear's Head over-against Catherine-Street in the Strand, 1712.

1712 *Creation: A Philosophical Poem. Demonstrating the Existence and Providence of a God. In Seven Books. The second edition.* London: Printed for S. Buckley, at the Dolphin in Little-Britain; and J. Tonson, at Shakespeare's Head over-against Catherine-Street in the Strand.

1715 *Creation. A philosophical poem. Demonstrating the existence and providence of a God. In seven books. By Sir Richard Blackmore, Knt. M. D. and Fellow of the College of Physicians in London.* London: printed for J. Tonson, in the Strand, J. Brown without Temple-Bar, and O. Lloyd near the Church in the Temple, MDCCXV.

1718 *Creation. A philosophical poem, demonstrating the existence and providence of a God. In seven books. By Sir Richard Blackmore Knt M. D. and Fellow of the College of Physicians in London.* London: printed for A. Bettesworth at the Red-Lion in

Pater-Noster-Row, and J. Pemberton, at the Golden Buch against St. Dunstans Church in Fleet-Street, 1718

1727 *Creation. A philosophical poem, demonstrating the existence and providence of a God. In seven books. By Sir Richard Blackmore, ...* Dublin: printed by S. Powell, for G. Risk, G. Ewing, and W. Smith, 1727.

1736 *Creation. A philosophical poem, demonstrating the existence and providence of a God. In seven books.* By Sir Richard Blackmore ... London: printed for J. and J. Pemberton, at the Golden Buck against St. Dunstan's Church in Fleet-Street, 1736.

1779 *The Works of the English Poets. With prefaces, biographical and critical, by Samuel Johnson. Volume The Twenty-Fourth.* London: Printed by J. Nichols : for C. Bathurst ... [et al.]

1793 *A Complete Edition of the Poets of Great Britain. Volume Seventh. Containing Parnell, Garth, Rowe, Addison, Hughes, Sheffield, Prior, Congreve, Blackmore, Benton, Granville & Yalden.* London: Printed for John & Arthur Arch, 23 Gracechurch Street. and for Bell & Bradfute and I. Mindell & Co. Edinburgh.

1795 *The Works of the British Poets: with prefaces, biographical and critical*. Edited by Robert Anderson. London: Printed for John & Arthur Arch; Edinburgh: Bell & Bradfute and J. Mundell & Co.

1797 *Creation: a philosophical poem, in seven books. By Sir Richard Blackmore. To which is prefixed the life of the author. Cooke's edition. Embellished with superb engravings.* London: printed for C. Cooke, No. 17, Paternoster-Row, and sold by all the booksellers in Great Britain and Ireland, [1797].

1797 *The poetical works of Sir R. Blackmore: containing Creation; a philosophical poem, in seven-books. To which is prefixed the life of the author. Cooke's edition. Embellished with superb engravings.* London: printed for C. Cooke, No. 17, Paternoster-Row, and sold by all the booksellers in Great-Britain and Ireland, [1797]

1806 *Creation: A Philosophical Poem, in Seven Books. By Sir Richard Blackmore. To which is prefixed the Life of the Author.* Philadelphia, Pennsylvania: Published by Robert Johnson, No.2, North Third Street.

Appendix C

Materials from Boxted, Essex, UK

These materials were kindly shared with me during my research and they come from Boxted, Essex.

On January 26, 2024 I contacted Karen Thompson, the Clerk to Boxted Parish Council. She put me in contact with Annette Whybrow, local expert. On February 16, 2024, she sent me the following materials, which testify to Blackmore's enduring legacy in Boxted.



Figure C.1: Sir Richard Blackmore's memorial monument.

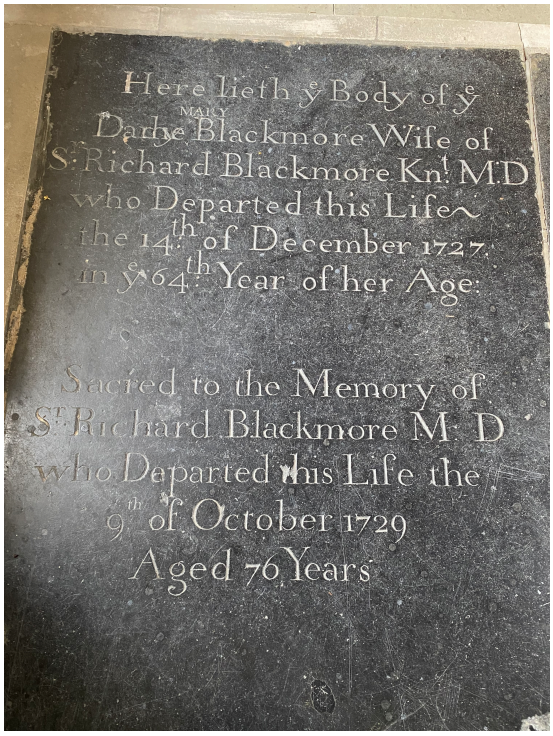


Figure C.2: Blackmore's tomb.

Translation of the Memorial to Sir Richard Blackmore and Lady Mary Blackmore

Sacred to the memory of Mary, Wife of Richard Blackmore Knight and M.D.

Here lies entombed a most faithful Christian, whose breast was inflamed with the Love of God; the best of friends, the best daughter, and the best Wife; courteous, prudent, circumspect, kind, virtuous, mindful of merit, but offended with the Offenders; free to pardon and suffering injuries unrevenged. She extracted rivers of knowledge from the Sacred Fountain of the Scriptures, nor could she satiate her religious thirst. Hence she learnt to live a life unblameable; hence she judiciously explained her Hope and Faith.

Thou art fled to Heaven, fairest partner of my bed. Thee, pious spouse, I quickly follow.

Her sorrowful Husband wrote these lines and erected this monument.

To the Memory of Richard Blackmore, Knight and M.D.

Whilst my unencumbered Spirit flies towards the aetherial regions, here lies my body void of life. But when Christ returns, being raised again, (for this is my hope) I shall live a life immortal. Thou likewise who sleepest here, my colleague in the silent grave, and once the fairest partner of my bed, rising at the sound of the trump, shalt willingly ascend with me to the mansions of bliss. There will we resound the name of Christ and sing sacred hymns to God the Father. We shall be satisfied with the most delightful pleasures, flowing in pure and uninterrupted streams, from the fountain of the Divine Love.

Ob. Octob. 9. 1729.