# Gods of the Gaps: Rethinking Divine Action in William Paley and Robert Chambers

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# Short Abstract

This dissertation explores the works of two 19th-century authors, namely, William Paley and Robert Chambers. More specifically, I explore the different readings of divine action (DA) as found in Paley's *Natural Theology* (1802) and in Chambers' *Vestiges of the Natural History of Creation* (1844) and *Explanations* (1845). In doing so, I employ a combined approach of reception history and reader-response criticism.

The main part of my work deals with the various readings of the DA visions in Paley and Chambers, primarily in the British context of c. 1800–1860. This period saw not only the rise of many new academic disciplines and scientific advances, but also intense debates on DA. I suggest that many of these debates were sparked not only because of the aforementioned works by Paley and Chambers but also, crucially, by the different *interpretations* of their respective visions of DA. My work also takes an exploratory look into some of the recent interpretations of Paley and Chambers, sampled from the 20th and 21st centuries.

My overall goal is not only to establish the presence and diversity of these various readings, but also to explore the underlying reasons why. Using the insights from reader-response criticism, I propose the concept of "gaps": interpretive spaces of various kinds that invite readers' imaginative interpretation. I suggest that various readers of Paley and Chambers used various strategies to fill in these gaps, which ultimately led to many different interpretations of Paley's and Chambers' DA visions. The thesis aims to show that both Paley and Chambers had a more complex view of their DA vision than is typically acknowledged. If the argument in my thesis is correct, we will need to rethink how we view the DA found in the works of Paley and Chambers.

# Long Abstract

How does God act in the world? In my thesis, I am exploring this perennial question within the field of science and religion by focusing on the works of two 19th-century authors, namely, William Paley and Robert Chambers. More specifically, I explore the different readings of divine action (DA) as found in Paley's *Natural Theology* (1802) and in Chambers' *Vestiges of the Natural History of Creation* (1844) and *Explanations* (1845). The reason for making these works central to my thesis is that they set off a series of important theological discussions related to DA. However, since there has been to date no academic treatment of how other thinkers actually read and understood the theology of DA in these works, my thesis aims to begin to explore this potential. As I will try to show, such an intellectual exercise reveals that there is much rethinking to be done regarding the DA in Paley and Chambers.

In short, my thesis will proceed in three movements in the following way: (1) I will document *what* Paley and Chambers wrote in their works regarding DA; (2) I will survey *how* Paley's and Chambers' views on DA were interpreted by their readers; and (3) I will suggest reasons *why* they were read in so many diverse ways. In other words, I will offer the "*what*, *how*, and *why*" related to the three points above. Thus, my thesis deals with what I call the Paleyan divine action (PDA) and Chambersian divine action (CDA). Put simply, the PDA and CDA should be seen as the various interpretations of how God is supposed to act according to the aforementioned works of Paley and Chambers. The thesis explores the PDA and CDA through a combined lens of reception history and reader-response criticism. I will elaborate on this methodology below.

The main part of my work will deal with the reception of the PDA and CDA primarily in the British context of c. 1800–1860. The starting point of this time frame corresponds roughly with the publication of Paley's *Natural Theology* (1802) and its end with Darwin's *Origin of Species* (1859). This period saw the rise of many new academic disciplines, scientific advances, and, consequently, many discussions related to the theology of DA. As more and more phenomena were being brought under the reign of laws of nature, we see many contemporary thinkers engaged in proposing, critiquing, and commenting on the various conceptions of how God could act in the world, or what is often called, models of DA. I suggest that many of these debates were sparked not only because of the works by Paley and Chambers themselves, but also, crucially, by the different *interpretations* of the PDA and CDA.

My work will also take an exploratory look into some of the recent interpretations of Paley and Chambers, sampled from the 20th and 21st centuries. One of my central goals will be to establish the presence and diversity of these various readings, beginning in the 19th century, and to show that these differences in interpretation continue – mostly without being noticed at all – until the present day. Documenting the diversity of these readings of the PDA and CDA since the 19th century will form the *reception history* part of my exploration.

However, apart from reception history, my thesis also makes use of the *reader-response* approach. That is, it is interested not only in *how* Paley and Chambers were read but also *why* there was such a variety of readings. To do this, I employ the concept of *gaps*, which are ambiguous interpretive spaces that invite readers' imaginative interpretation. I suggest that these gaps are present both in the text (textual gaps) as well as outside of the text (extratextual gaps). I argue that it is by filling in these gaps in various

ways that the readers of Paley and Chambers have come up with such a variety of readings of the PDA and CDA. In this way, the various interpretations of these gaps were what led to many different conceptions of Paley's and Chambers' God. This is why my thesis bears the title "Gods of the Gaps." In what follows, I offer a more detailed summary of my chapters.

At the outset, the first chapter introduces the background, methodology, and goals of my research. First, I will begin by introducing the main actors of my thesis – William Paley and Robert Chambers. I highlight the importance of their key texts, that is, Paley's *Natural Theology* and Chambers' *Vestiges* and *Explanations*, especially as related to intellectual history. Because it was these works that were heavily discussed and used in the debates about DA in the period under examination, I have made them the focus of my thesis. The chapter tackles the challenge of terminology that one inevitably must employ when discussing DA. In this connection, it mentions the now-standard terminology that is used in today's theological circles, namely, the terms general divine action (GDA) and special divine action (SDA). I suggest here that while these terms (GDA and SDA) may prove sometimes useful in my discussion, I will have a different approach that will not be dependent on establishing a coherent vocabulary before proceeding with my historical exploration. I will introduce this strategy in Chapter 2. I also elaborate here on the methodology (reception history and reader-response approach) that will form the basis of my work.

Chapter 2 deals with "Historical Background for Divine Action in Paley and Chambers." In this chapter, I provide a historical background to the 19th-century debates on DA. Already in Chapter 1, I pointed to the huge challenge of what terminology to use when discussing DA, and, especially, when dealing with many diverse authors.

That is why I have opted for what I call a "theme-based approach." Behind this term is a very straightforward idea. It suggests that instead of focusing on the precise vocabulary related to DA (an impossible task), I will aim to preserve the key "themes" that were at the heart of the discussions on DA around the mid-19th century. In other words, what were some of the key topics or concerns when these 19th-century thinkers discussed the PDA and CDA? Using this approach, then, I will attend to the "themes" of the various writers as opposed to their vocabulary for describing DA. Naturally, the following question then arises: How is my research going to identify these themes that I would like to explore?

My answer is that I suggest exploring those key themes as found in James Buchanan's *Modern Atheism* (1857). I explain the reasons why this text is methodologically very helpful in providing us with the themes that were at the forefront of contemporary discussions on DA. One of these reasons is that its date of publication (1857) is very convenient since it captures the situation already after *Vestiges* (1844) and still before *Origin* (1859). After this, I outline four themes that Buchanan's text identified as being of key importance in the debates on DA in his time (compatibility, law-cause distinction, interventionism, and God-world relationship). This leads to a discussion of various DA models that Buchanan himself provides, along with his commentary. Thus, at this stage, I outline several key models of DA that were of key importance in these debates and will explore (with Buchanan's help) their similarities and differences.

Chapters 3 and 4 are relatively short chapters whose aim is to familiarize the reader with some key notable features of the PDA and CDA. That is, I lay out here *what* Paley and Chambers actually wrote concerning their conceptions of DA. One of the challenges is that neither of these two authors presented their views in a systematic,

easy-to-follow way. Instead, many comments pertinent to their vision of DA are scattered throughout their pages. Thus, it is in these chapters that I will attempt to bring these features together. In doing so, I will also present many of their DA-relevant comments that I have not encountered in the literature on Paley or Chambers. After this, the reader should be familiar not just with the key statements underlying the PDA and CDA, but also with the larger complexity of both the PDA and CDA. At this point, the stage will be set for investigating the various interpretations of Paley and Chambers in the 19th century and beyond.

As I have indicated, the main body of my work will consist of documenting *how* the PDA and CDA have been interpreted. First, I will zoom in on the 19th-century readings, which will be found in Chapters 5 and 6. Each of these chapters will contain up to 20 different thinkers and will thus offer a rich tapestry of interpreting the PDA and CDA. After this exploration, I will shift the timeline to look at the more recent readings of Paley and Chambers in Chapters 7 and 8. These two chapters will be less extensive than their 19th-century counterparts, but they will serve to make a very important point. That is, they will suggest that this research should be of interest not only to those dealing with the 19th-century context, but it also has present-day relevance. In this way, I will argue that the various readings of the PDA and CDA are not only a thing of the distant past, but that they continue to stay with us today.

I will bring all this together in Chapter 9. This chapter is devoted to answering the question of *why* there have been such diverse readings of the PDA and CDA. Here, I elaborate on the textual and extratextual gaps that we have encountered in the readings of the PDA and CDA in the previous chapters. I suggest that there are two types of textual gaps (ambiguities related to the language of DA, internal tensions) and two main types

of extratextual gaps (selective reading bias, projecting assumptions). I make a further threefold subdivision of the kinds of assumptions the readers of the PDA and CDA projected. I discuss all these gaps using both the insights from the preceding chapters as well as recent scholarship related to the field of science and religion. Thus, this chapter makes the argument that every reader of Paley and Chambers must fill in many types of gaps in the process of interpreting the PDA and CDA, respectively. Such a reader faces many textual ambiguities and (at least potential) internal tensions. The same reader also needs to select which features of the PDA and CDA to interpret in the first place. Furthermore, such an interpreter will bring many types of assumptions to a given text. All these factors, I argue, influence how the PDA and CDA have been read and explain why we observe such an interpretive variety. This chapter, then, provides the fullest elaboration on why the PDA and CDA need rethinking.

I provide my concluding remarks in Chapter 10. Why should the exploration of this thesis matter to the field of science and religion, as well as other related fields? Here, I touch on the potential contributions that a work of this sort might have to the scholars of science and religion, as well as related disciplines. I offer several key takeaways of how the insights of my thesis can be used in future historical (or theological) investigations regarding the DA of many other key figures of history. Thus, I provide here several suggestions for some potentially fruitful applications. Finally, I offer my answer to those who would like to know if we can get to the "real" or "correct" meaning of the PDA and CDA.

# Abbreviations

**Works Abbreviated**

| | |
|---|---|
| E | 1st edition of Robert Chambers' *Explanations* |
| NT | William Paley's Natural Theology |
| V1 | 1st edition of Robert Chambers' *Vestiges* |
| V10 | 10th edition of Robert Chambers' *Vestiges* |

**Other Abbreviations**

| | |
|---|---|
| BAAS | British Association for the Advancement of Science |
| CDA | Chambersian divine action |
| CTNS | Center for Theology and the Natural Sciences |
| CE1, CE2, etc. | 1st, 2nd, etc. Chambersian feature in *Explanations* |
| CV1, CV2, etc. | 1st, 2nd, etc. Chambersian feature in *Vestiges* |
| DA | divine action |
| DAP | Divine Action Project |
| GDA | general divine action |
| P1, P2, etc. | 1st, 2nd, etc. Paleyan feature in *Natural Theology* |
| PDA | Paleyan divine action |
| PIF | Paleyan interventionist feature |
| SDA | special divine action |
| VO | Vatican Observatory |

# 1. Introduction

## 1.1 The Question of Divine Action

How does God act – if at all – in the world? Anyone who could demonstrate the answer to this question would surely win the ultimate cosmic lottery. This theological puzzle has vexed not only medieval theologians, but also early modern natural philosophers, later Enlightenment thinkers, and even many current scholars in science and religion. Let us call all these possible ways how God is imagined to act *divine action* (DA), now a standard term in science-and-religion literature. But whatever background one has, reflecting on DA might seem like a lofty subject. While that might be true, plenty would also surely agree with the 19th-century American geologist Edward Hitchcock who noted that "Yet, it is eminently a practical subject."[1] Our answer to how God acts in the world deeply shapes our thoughts, hopes, and meanings we find in our everyday lives.

Not surprisingly, how this question was answered, has differed significantly. Some of these proposals were bold, others moderate, and many – also vague. As we would expect, all these attempted answers had roots in one's time, place, and, of course, specific beliefs about God and the natural world. These views on DA in the world were in constant flux. While some of the proposed solutions to this question have differed quite wildly, one could also observe many family resemblances and even start grouping them into a few basic categories. Some of these typical designations include

[1] Edward Hitchcock, *Religious Truth, Illustrated from Science* (Glasgow: William Collins, 1858), 80.

theism, deism, pantheism, panentheism, and many other options that proliferate in this theological landscape.[2]

This work is about a small part of the history of the human search for God's ways with His creation. The centrepiece of this thesis will be two major 19th-century books related to natural theology: William Paley's *Natural Theology* (1802) and Robert Chambers' anonymously written *Vestiges of the Natural History of Creation* (1844). While *Vestiges* will remain the primary focus through which we will discuss Chambers' position on DA, it will be supplemented by his sequel *Explanations* (1845), in which he intended to clarify his views. From a methodological point of view, my thesis employs a creative combination of two approaches: reception history and readers response criticism (I will elaborate on this below). In short, my thesis will proceed in three movements in the following way: (1) I will document *what* Paley and Chambers wrote in their work related to DA; (2) I will survey *how* Paley's and Chambers' views on DA were interpreted by their readers; and (3) I will suggest reasons *why* they were read in so many diverse ways. In other words, I will offer the "*what*, *how*, and *why*" related to the three points above.

Why focus on Paley and Chambers? Because they were some of the most impactful thinkers in the debates on DA, certainly before Darwin's *Origin of Species* in 1859. Not only that, but after surveying much of the literature about them, I think their views on DA are often presented as incomplete at best and deeply misunderstood at

[2] The question of DA can get easily more complex since even many within the same group (theism, deism, etc.) can have rather different conceptions of DA. The two recent best overviews of these various conceptions of God-world relationship seem to be Jeanine Diller, Asa Kasher, eds., *Models of God and Alternative Ultimate Realities* (Dordrecht: Springer Netherlands, 2013), and Andrei Buckareff, Yujin Nagasawa, eds., *Alternative Concepts of God: Essays on the Metaphysics of the Divine* (Oxford: Oxford University Press, 2016).

worst. My conviction behind this thesis is that the voices of Paley and Chambers on DA deserve to be resuscitated, revisited, and perhaps even significantly rethought. This will be argued based on their respective key texts, as well as the historical examination of the reception of their visions of DA. But before we can say anything more, we need to become more familiar with the two main actors forming the background of this thesis – William Paley and Robert Chambers.

## 1.2 William Paley's *Natural Theology*

William Paley (1743–1805) is perhaps the best-known natural theologian to have ever lived. In philosophy of religion, he has become famous for his watch-watchmaker analogy which is a key part of his argument from design and is found already on the very first page of his *Natural Theology* (1802). Here is, then, Paley's famous analogy, in its shortened form:

> In crossing a heath, suppose I pitched my foot against a stone, and were asked how the stone came to be there, I might possibly answer, that, for any thing I knew to the contrary, it had lain there for ever: nor would it perhaps be very easy to shew the absurdity of this answer. But suppose I had found a watch upon the ground, and it should be enquired how the watch happened to be in that place, I should hardly think of the answer which I had before given, that, for any thing I knew, the watch might have always been there. Yet why should not this answer serve for the watch, as well as for the stone? Why is it not as admissible in the second case, as in the first? For this reason, and for no other, viz. that, when we come to inspect the watch, we perceive … that its several parts are framed and put together for a purpose, e.g. that they are so formed and adjusted as to produce motion, and that motion so regulated as to point out the hour of the day; … the inference, we think, is inevitable; that the watch must have had a maker; that there must have existed, at some time and at some place or other, an

> artificer or artificers who formed it for the purpose which we find it actually to answer; who comprehended its construction, and designed its use.[3]

This passage has become so famous that it has been constantly referred to by those who want to summarize Paley's main argument. Since it begins by imagining a person "crossing a heath," let us call this passage, for convenience, the *heath passage*. This heath passage is often presented as representing not only the core but perhaps the totality of Paley's argument. As we will see, this is not the case at all. While there are several kinds of design arguments, Paley's version has become highly influential and even paradigmatic. The pages of *Natural Theology* speak of a divine Designer who has not only put the universe into motion but also created its living and non-living features. Philosopher Neil Manson highlights the historical importance of Paley's design argument and points out its continued relevance:

> The most influential version [of the design argument] historically is that of William Paley, who appealed to functional biological parts (eyes, wings, and so on) whose structures seemed explicable only in terms of a supernatural designer. The version currently generating the most heat is 'Intelligent Design Theory'. Like Paley's argument, this version appeals to functional biological parts, but this time at the cellular level. The claim is that some of these parts exhibit a feature – 'irreducible complexity' – that cannot be explained by some combination of law and chance (i.e. by Darwinian natural selection), leaving design as the only remaining explanation.[4]

While Paley's argument was not original, it is fair to say that it has achieved cultural dominance.[5] As the science-and-religion scholar Alister McGrath writes:

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[3] William Paley, Matthew D. Eddy, David K. Knight, eds., *Natural Theology or Evidence of the Existence and Attributes of the Deity, Collected from the Appearances of Nature* (Oxford: Oxford University Press, 2006), 7–8. From now on, I will refer to this edition in the footnotes as NT.

[4] Neil A. Manson, "The Design Argument and Natural Theology", in *The Oxford Handbook of Natural Theology*, ed. Russell Re Maning (Oxford: Oxford University Press), 295. Two references omitted.

[5] As McGrath notes: "[Paley's Natural Theology was] based on a series of sermons composed in the 1780s or 1790s. Here, as in earlier works, Paley borrowed extensively from earlier writers, most notably John

> Paley's *Natural Theology* has every right to be considered a classic work. It remained in print for one hundred years, and is known to have gone through more than fifty editions in Britain alone. A conservative estimate of its sales figures suggests that 80,000 copies of the work were sold, over half of which were published after 1835. It is often stated that Paley's *Natural Theology* was "required reading" at Cambridge University – in other words, that it was a "set text," upon which examination questions might be set.[6]

The success of *Natural Theology* meant that it has "provided the standard text" of the analogical design argument.[7] What made this work famous, in the first place, was its captivating analogy of the heath passage, in which Paley likened the complexity of the watch to that of the world. This complexity was especially manifested in the many so-called contrivances, that is, individually designed parts of the natural world. In the introduction to the modern edition of Paley's work, the historians of science Matthew Eddy and David Knight put it this way:

> *Natural Theology* begins with the famous analogy between the world and a pocket-watch (which, in the form of the chronometer, was high technology in 1802). Paley states that if one were to encounter a stone while walking across a heath, one might think it had always happened to be there. However, if one were to see a watch lying on the ground in the same manner, the intricacy of its parts would surely lead one to conclude that it had been made by an intelligent designer. Following on from this analogy, the rest of the book demonstrates that the world is a great clock, made by a wise and benevolent God.[8]

Paley was well known also for his other writings – notably, his works on Christian utilitarianism (*The Principles of Moral and Political Philosophy*, 1785), and defense of biblical miracles (*A View of the Evidence of Christianity*, 1794). It was, however, his

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Ray's *Wisdom of God* (1691) and William Derham's *Physico-Theology* (1713). However, he also drew significantly on Bernard Nieuwentyt's little-known work *The Religious Philosopher* (1718)." Alister E. McGrath, *Darwinism and the Divine* (Hoboken: John Wiley & Sons, Incorporated, 2011), 86.

[6] Ibid.

[7] Michael Ruse, *The Darwinian Revolution: Science Red in Tooth and Claw* (Chicago: The University of Chicago Press, 1999 [1979]), 70–1.

[8] NT, xviii–xix.

*Natural Theology* that became the culmination of his life's work, and, as such, was published just three years before his death, in 1805. While there were eventually many other versions of *Natural Theology* after Paley's death, he authored only one edition of *Natural Theology* and never got to make any revisions.[9]

Today, Paley is much better known than Chambers. Indeed, according to McGrath, Paley's *Natural Theology* was a "landmark work [that] can be seen as marking the high-water point of English natural theology in general, and 'physico-theology' in particular."[10] Joshua Moritz underscores the importance of his work when he writes that "The Locus classicus of the teleological approach to God is William Paley's *Natural Theology*."[11] Graham Oppy writes that Paley provided the "most memorable formulation" of the teleological argument.[12] When it comes to teleological arguments in philosophy of religion, Paley's argument is almost always referred to.[13] The same is true of Paley when it comes to a general historical discussion of natural theology or providence.[14] Moreover, Paley is today (rightly or wrongly) closely linked to the so-called

[9] Cf. Aileen Fyfe, "Publishing and the Classics: Paley's Natural Theology and the Nineteenth-Century Scientific Canon," *Studies in History and Philosophy of Science* 33 (2002): 729–51.
[10] McGrath, *Darwinism and the Divine,* 85.
[11] Moritz, "What's the Point of It All? The Quest for a Purposeful God", John Templeton Foundation, 23 February, 2023, https://www.templeton.org/news/whats-the-point-of-it-all-the-teleological-quest-for-a-purposeful-god. Italics added.
[12] Graham Oppy, *Reinventing Philosophy of Religion: An Opinionated Introduction* (New York: Palgrave Macmillan, 2014), 92.
[13] See, for example, T. J. Mawson, *Belief in God: An Introduction to the Philosophy of Religion* (Oxford: Oxford University Press, 2005), 8; Roy Jackson, *The God of Philosophy: An Introduction to Philosophy of Religion* (New York: Routledge, 2014), 36–7; William L. Rowe, *Philosophy of Religion: An Introduction* (Belmont, CA: Wadsworth, 2006), 56–7; Oppy, *Reinventing Philosophy of Religion,* 92. One exception is Michael J. Murray, Michael C. Rea, eds., *An Introduction to the Philosophy of Religion* (Cambridge: Cambridge University Press, 2008), which has a section on "design arguments" (146–156) but does not mention Paley.
[14] See, for example, Fergusson, *The Providence of God: A Polyphonic Approach* (Cambridge: Cambridge University Press, 2018), 181–3.

Intelligent Design movement.[15] It is for this academic and cultural significance of Paley that his DA deserves more attention and, as I see it, rethinking.

## 1.3 Robert Chambers' *Vestiges* and *Explanations*

Almost needless to say, however, Paley's work rejected the proposed evolutionary ideas of his time. This is one of the main contrasts with Chambers' *Vestiges*, which ushered his evolutionary view into the public sphere. Unlike Paley, then, Robert Chambers (1802–1871) is today a rather unknown figure, familiar primarily among historians of science. His *Vestiges of the Natural History of Creation* (1844) was the first English work that offered of a grand evolutionary cosmic narrative and one that became, around the mid-19th century, a true sensation.[16] In 1959, Milton Millhauser offered the first scholarly treatment of *Vestiges* along with its historical context, and summed up the work as follows:

> Today *Vestiges* does not impress us as a dangerous book, and certainly not as an impious one. It is merely the attempt of a somewhat unconventional mind to synthesize the universe of mid-nineteenth-century science: a universe in which law had replaced miracle and the ruling principle was everlasting, forward-moving change. In the world of *Vestiges* the law of progress was as pervasive and fundamental as had been the law of gravitation in the Newtonian universe. It manifested itself on a cosmic scale in the creation of planetary systems out of diffuse nebulae, and on a terrestrial one in the evolution of all forms of organic life, including man, out of primordial protoplasm and ultimately out of inorganic dust.[17]

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[15]On these associations, see, for example, T. F. Glick, "intelligent design." Encyclopedia Britannica, 9 February, 2024, https://www.britannica.com/topic/intelligent-design; or the entry on Paley on National Centre for Science Education, Randy Moore, "William Paley, 1743-1805," 23 February, 2024, "https://ncse.ngo/william-paley-1743-1805.

[16] James A. Secord, *Victorian Sensation*: *The Extraordinary Publication, Reception, and Secret Authorship of* Vestiges of the Natural History of Creation (Chicago: The University of Chicago Press, 2000).

[17] Milton Millhauser, *Just before Darwin: Robert Chambers and Vestiges* (Middletown, CT: Wesleyan University Press, 1959), 4.

In this sense, *Vestiges* became a veritable predecessor of *Cosmos* (1980), the book – and a follow-up television documentary series – by the Pulitzer Prize-winning cosmologist Carl Sagan. But in another sense, the theology of *Vestiges* is very much unlike what we find in *Cosmos*. While Sagan declared "The Cosmos is all that is or was or ever will be,"[18] Chambers early on proclaims a radically different scenario:

> Here science leaves us, but only to conclude, from other grounds, that there is a First Cause to which all others are secondary and ministrative, a primitive almighty will, of which these laws are merely the mandates. That great Being, who shall say where is his dwelling-place, or what his history! Man pauses breathless at the contemplation of a subject so much above his finite faculties, and only can wonder and adore![19]

Thus, whereas both Sagan and Chambers wondered at the cosmos, the ontological furniture of their respective universes was substantially different. Today, the best-known historian of science who has taken up analyzing the context of *Vestiges* and its various readings is undoubtedly James Secord. His *Victorian Sensation* (2000) has become a landmark study of *Vestiges* and to say that it has been universally praised would be still an understatement.[20] Secord explains why *Vestiges* was so influential:

> *Vestiges* was a great sensation. Readers included aristocrats and handloom weavers; science writers and the wives of cotton manufacturers; evangelicals and militant freethinkers; as well as Queen Victoria, Alfred Tennyson, Florence Nightingale, Harriet Martineau, William Ewart Gladstone, Thomas De Quincey, Charles Darwin, Thomas Carlyle, and, on a conservative estimate, at least a hundred thousand other men and women across the spectrum of Victorian society.[21]

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[18] Thus, the opening sentence of the first episode "The Shores of the Cosmic Ocean" of Sagan's TV series Cosmos, released by PBS on 1 October 1980.
[19] Robert Chambers, *Vestiges of the Natural History of Creation* (London: John Churchill, 1844), 26. From now on I will refer to this first edition of *Vestiges* in the footnotes as V1.
[20] Cf. John H. Brooke, review of *Victorian Sensation: The Extraordinary Publication, Reception and Secret Authorship of Vestiges of the Natural History of Creation*, by James A. Secord, *The Journal of Ecclesiastical History* 53, no. 3 (2002): 634.
[21] Secord, *Victorian Sensation*, 1–2.

Today we know that the author of *Vestiges* was Robert Chambers who, incidentally, became with his brother William one of the most successful publishers in Victorian Britain, with their base in Edinburgh.[22] However, the book was written anonymously. From 1844 (date of publication) until 1884 (author's passing) the public was not aware of the author's identity. Unlike in Paley's situation, this made it impossible to connect the anonymous writer's identity to any of his previous theological writings and to assess it in the light of his (or was it her?) previous output.

But while *Vestiges* mentions God repeatedly, Chambers felt his views regarding DA were deeply misunderstood by the reviewers. This led him to write a clarifying work, aptly called *Explanations: A Sequel to "Vestiges of the Natural History of Creation"* (1845). As we will see, it remains doubtful whether *Explanations* dispelled all doubts about the meaning of DA.

In contrast to Paley, Chambers is typically never referred to in recent works on DA. For instance, David Fergusson's two books, *Creation* (2014) and *The Providence of God* (2018) do not mention Chambers and his *Vestiges* at all.[23] The same is true of edited volumes, such as *The Blackwell Companion to Natural Theology* (2009) or *The Oxford Handbook of Natural Theology* (2013).[24] Moreover, while Chambers' *Vestiges* is generally mentioned in books on history of science, it is absent in the treatments of design

[22] Aileen Fyfe, *Steam-Powered Knowledge: William Chambers and the Business of Publishing, 1820–1860* (Chicago: Chicago University Press, 2012), 21–5.
[23] David Fergusson, *Creation* (Grand Rapids, MI: Eerdmans, 2014)*;* and Fergusson, *The Providence of God*.
[24] William L. Craig, and J. P. Moreland, eds., *The Blackwell Companion to Natural Theology* (Chichester: Wiley-Blackwell, 2009); Russell Re Manning (ed.), *The Oxford Handbook of Natural Theology* (Oxford: Oxford University Press, 2013). An exception is Andrew Robinson, ed., *Darwinism and Natural Theology: Evolving Perspectives* (Newcastle upon Tyne: Cambridge Scholars, 2012). In this volume, Chambers features in two out of the volume's fourteen chapters.

arguments in the works on theology (both historical and philosophical) and philosophy of religion.[25] Such glaring omissions should be remedied.[26] One strong reason why is that our present-day fascination with evolution and the development of the whole cosmos is not traceable to Darwin's *Origin*, but instead to Chambers' *Vestiges*, as pointed out by Secord.[27]

It is my contention that Chambers deserves his place not only in history of science, but also in fields like theology or philosophy of religion. This is because Chambers in his works discussed here continued the tradition of the design argument while offering its dual scientific and theological *modifications*. Both Paley and Chambers accepted God's work in designing this world, but they had different visions of how this was done. How different these visions were will be part of our exploration. It is precisely because of Paley's near-omnipresence and Chambers' near-neglect that I want to deal with these two key historical figures. We have already indicated that both Paley and Chambers wrote about God and his role in the world. But did all readers understand this equally?

[25] For example, in his *Theology*, McGrath offers an excerpt from Paley's *Natural Theology*, but none from *Vestiges*; Alister McGrath, ed., *Theology: The Basic Readings*, 3rd ed. (Hoboken, NJ: John Wiley & Sons, 2018). While Brian Davies deals with "design arguments", he does not mention Chambers; Brian Davies, *An Introduction to the Philosophy of Religion*, 3rd ed. (New York: Oxford University Press, 2004). More examples could be given.

[26] For example, Stuart Peterfreund in his history of natural theology, has a chapter where he interweaves Paley, Bridgewater Treatises, Chambers, and Darwin; cf. Stuart Peterfreund, *Turning Points in Natural Theology from Bacon to Darwin: The Way of the Argument from Design* (New York: Palgrave Macmillan, 2012), 109–30.

[27] Secord, *Victorian Sensation*, 2.

## 1.4 Rethinking Divine Action in Paley and Chambers

### 1.4.1 Divine Action Project and Historical Approach

While I believe that the results of my exploration will be in themselves of interest to historians of science and religion, there is a way how my research could be potentially informative to at least one more related field. More specifically, it could be useful to scholars who have been examining DA from different theology-and-science angles, yet ones that were not related to history of science. Instead, these have been engaged in projects that have attempted to come up with proposals (also called models or theories) that could integrate both robust scientific knowledge and respectable theology into a coherent view of DA.[28] The most famous of these academic efforts has been the so-called Divine Action Project (DAP). In essence, during the years 1988–2003, the DAP was the largest and most recent interdisciplinary scholarly collaboration that reflected on DA. The aim was to probe both the theological and scientific viability of the various academic proposals for DA. As Wesley Wildman, one of the members of the DAP, explains:

> In the late 1980s, Robert Russell of the Center for Theology and the Natural Sciences (CTNS) in Berkeley and George Coyne, S. J. of the Vatican Observatory (VO), in discussions with Nancey Murphy and William Stoeger, S. J., discerned a need for research on the topic of God's action in the world. Rightly noticing that the question of divine action is one of the theological issues that most directly presupposes facts about the natural world and its governing laws, they reasoned that evaluating theories of divine action in relation to our best knowledge of the natural world was very likely to be fruitful. What would be the fruit of such a discussion? … Together, CTNS and the VO devised a method for the discussions. In this way—and the details are more fascinating [than] this compact summary can hope to suggest—the DAP was born.[29]

[28] For an overview of such recent proposals and the ongoing debate, see Sarah Lane Ritchie, *Divine Action and the Human Mind* (Cambridge: Cambridge University Press, 2019).
[29] Ibid., 33.

In my view, the current scholarly reflections about DA would do well to be informed by historical figures who themselves wrestled with DA and took part in the discussions on DA in their time. This fact has been explicitly or implicitly recognized in several recent works exploring DA from a historical perspective. For example, recently, it has been notably Thomas Aquinas and his account of DA in nature that has captured the attention of several scholars.[30] This group of thinkers attempts to use Aquinas' (or Thomistic) view of DA as a model that should integrate sound science as well as true theology. If nothing else, the scholars involved in other future projects resembling the DAP could have at least a more solid historical foundation related to the discussions on DA.

Perhaps unsurprisingly, other scholars have explored DA-related perspectives, especially among the early modern natural philosophers (including Isaac Newton) and Charles Darwin.[31] Unlike Aquinas, however, these other historical figures have not been so far (to my knowledge) presented as inspirational for developing a theologically respected DA. Nevertheless, it cannot be denied that the reflections of Aquinas, Newton, and Darwin – to use just these three examples – have sparked lots of discussions related to DA. My aim would be to offer Paley and Chambers to this mix. Alternatively, my work should be of use to anyone interested in the historical debates on

[30] See especially, Michael J. Dodds, *Unlocking Divine Action : Contemporary Science & Thomas Aquinas* (Washington, D.C: Catholic University of America Press, 2012); Ignacio Alberto Silva, *Providence and Science in a World of Contingency: Thomas Aquinas' Metaphysics of Divine Action* (London ; Routledge, 2022); Mariusz Tabaczek, *Divine Action and Emergence: An Alternative to Panentheism* (Notre Dame: University of Notre Dame Press, 2021); Simon Maria Kopf, *Reframing Providence: New Perspectives from Aquinas on the Divine Action Debate* (Oxford: Oxford University Press, 2023).

[31] For example, Peter Harrison, "Newtonian Science, Miracles, and the Laws of Nature," *Journal of the History of Ideas* 56 (1995), 531–553; Harrison, "Miracles, Early Modern Science, and Rational Religion," *Church History* 75 (2006), 493–510; John Henry, and J. E McGuire, "Voluntarism and Panentheism: The Sensorium of God and Isaac Newton's Theology," *The Seventeenth Century* 33.5 (2018): 587–612. There are many others.

DA. However, to do so we need to correct the distortions that, I believe, are present about how DA is presented in both Paley and Chambers. Thus, I would like to situate the potential relevance of my historical approach to DA and place it in a wider concern about the various myths that still prevail in science and religion.

### 1.4.2 Correcting Distortions about Paley and Chambers

As we all know, there are stories about the past that many keep on telling and repeating. It is only natural that we have inherited many narratives about the many thinkers, events, and ideas of the past. These narratives are, in turn, based on many preceding bits and pieces of information that were spun into a more or less coherent whole. As the historian of science Susan F. Cannon observed:

> Any narrative, however, depends upon a host of previously assembled facts; and what facts have been assembled, how they have been assembled, indeed what are facts ("things done") at all, depends upon the previously existing collection of ideas, prejudices, interests, and generalizations which other historians have accepted as proper initial conditions for spinning out their patterns of the period.[32]

As historians know well, many "folk" myths are still widespread among non-historians, such as those related to the flat earth, Galileo, and evolution, among many others. Altogether as many as fifty-two such common myths have been recently rejected in two publications edited by Ronald Numbers.[33] But sometimes, even in the field of science

[32] Susan F. Cannon, *Science in Culture: The Early Victorian Period* (New York: Dawson and Science History Publications, 1978), ix.
[33] See, for example Ronald L. Numbers, ed., *Galileo Goes to Jail: And Other Myths about Science and Religion* (Cambridge, Mass.: Harvard University Press, 2009); and Ronald L. Numbers, Kostas Kampourakis, eds, *Newton's Apple and Other Myths about Science* (Cambridge, Massachusetts: Harvard University Press, 2015).

and religion, scholars might be used to retelling parts of a story which, on closer examination, may turn out to be wrong or distorted. These inaccuracies can be repeated and become common knowledge, despite the best attempts to correct them.

Fortunately, there are many publications that revisit historical misconceptions and suggest corrections.[34] This should not come as a surprise – it is a part and parcel of academic life. In this vein, countless books on history, theology, religion, and science suggest the need for some kind of *rethinking*. Likewise, in the field of science and religion, this has been the case already since the beginning of the discipline. This rethinking process, however, continues as it, of course, should. Sometimes, this is evident also in the titles themselves. For example, two recently edited volumes bear telling titles: *Science without God?: Rethinking the History of Scientific Naturalism* (2019) and *Rethinking History, Science, and Religion: An Exploration of Conflict and the Complexity Principle* (2019).[35] Presumably, there are still many non-trivial issues that need to be rethought about the history of naturalism, and the relationship between science and religion in general. Moreover, as recently as 2022, John H. Brooke saw the need to revisit none other than William Paley.[36] My aim would be to build on this trend.

How does, then, my work fit into this revisionist tradition outlined above? The subtitle of my thesis implies that the figures of Paley and Chambers deserve some

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[34] Several recent publications include Jeff Hardin, Ronald L. Numbers, and Ronald A. Binzley, eds., *The Warfare between Science and Religion: The Idea That Wouldn't Die* (Baltimore: Johns Hopkins University Press, 2018); Peter Harrison, Jon H. Roberts, eds., *Science without God?: Rethinking the History of Scientific Naturalism* (Oxford: Oxford University Press, 2019); or Kostas Kampourakis, ed., *Darwin Mythology: Debunking Myths, Correcting Falsehoods* (Cambridge: Cambridge University Press, 2024). For a more thoroughgoing historiography of such literature in the 20th and 21st centuries, see Brooke, "Historians", in Hardin, Numbers, and Binzley, eds., *The Warfare between Science and Religion*, 258–78.
[35] Peter Harrison, Jon H. Roberts, eds., *Science without God?;* Bernard Lightman, ed., *Rethinking History, Science, and Religion: An Exploration of Conflict and the Complexity Principle* (Pittsburgh: University of Pittsburgh Press, 2019).
[36] John H. Brooke, "Revisiting William Paley," *Zygon* 57, no. 1 (2022):141–60.

historical revisiting as well: *Rethinking Divine Action in William Paley and Robert Chambers*. That is, in my view, some key reconsiderations should be made in terms of how many have perceived the PDA and CDA. I will show that there are also some recurring narratives – both in the past and today – that are told about the works and beliefs of Paley and Chambers. But, as we have seen, occasionally, there comes a time when someone challenges the typical or even dominant view of some macro- or micro-history. This is one such humble attempt. Thus, in my work, I will propose that some traditional narratives about the PDA and CDA might need a similar rethinking. And while my work will surely not bring any earth-shattering revolution, I hope to both complexify and clarify some significant issues related to Paley and Chambers, as well as our thinking about DA when it comes to historical exploration.

## 1.5 On Method: Reception History and Reader-Response

### 1.5.1 Reception History: Various Readings of Paley and Chambers

A major part of the thesis will cover how the PDA and CDA were read by a selection of their readers in the 19th century and beyond. The aim of such an exploration will be two-fold. First, it will serve to highlight the *fact* that (and the extent to which) there were various readings of the PDA and CDA. Second, these various readings will offer us reflection for asking *why* the PDA and CDA were read in such varied ways.

We will see that even by reading the same texts, the readers could come to different conclusions on some crucial points related to DA. For example: what does the author understand by “design”? Does “design” mean that God needs to in some way

intervene in the world? Or, alternatively, can the divine plan unfold without such interventions? What exactly do these interventions look like? What is the relationship between DA and laws of nature? Can both act together or are they in causal competition? Does the text explain what causal roles are played by God and other intermediary causes? Does a given worldview allow for divine revelation? Is God portrayed in a given text a providential, caring, and loving Parent? Or is He indifferent, passive, and distant?

If we are aware of these questions, such a realization should make us more cautious about making quick and easy judgments when dealing with other figures of history writing about DA, not just Paley and Chambers. If nothing else, the cautionary warnings in this thesis should make us more attentive to the language of DA that one uses, and the many potential problems in our interpretations. Our historical excursus might help us realize that both Paley and Chambers might be more nuanced in their presentations of DA than many may be aware of. As the philosopher Howard Mounce observed:

> It is worth emphasizing that I should not simply identify William Paley's argument with the argument in its popular form, though the two are easily associated. Paley's argument is more sophisticated than it is often made to appear.[37]

By being aware of these various readings, we can be alerted to the fact that the readers of Paley and Chambers were involved in the process of quite divergent interpretations.

There have been several studies of reception history and reading in the field of science and religion. It should not be surprising that it was Charles Darwin and his

[37] Howard O. Mounce, *Hume's Naturalism* (London: Routledge: 1999), 138.

theory of evolution that attracted much attention in this area. The beginnings of such literature on Darwin can be traced to Alvar Ellegård's influential *Darwin and the General Reader* (1958),[38] although similar works began to gain ground in the early 1970s.[39] The reception of Darwin also began to be studied in non-English-speaking contexts, with Thomas Glick emerging as a leader in comparative Darwinian studies.[40] Since around the turn of the 21st century, however, several studies have emerged that extend this kind of work beyond the narrow focus on Darwin and his *Origin*.

A ground-breaking work in reception history was James Secord's *Victorian Sensation* (2000). In this work, Secord dealt with the production and reception history of Chambers' *Vestiges*. In doing so, he meticulously showed how *Vestiges* was read, understood, and used differently in various geographical contexts. Perhaps this could be seen as a "geographical turn" in the history of science that was already under way, especially in the work of another historian (and geographer), David Livingstone.[41] Livingstone exemplified this approach especially in three works: *Putting Science in Its Place* (2003), *Geographies of Nineteenth-Century Science* (2011, co-edited with Charles Withers), and *Dealing with Darwin* (2014).[42]

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[38] Alvar Ellegård, *Darwin and the General Reader: The Reception of Darwin's Theory of Evolution in the British Periodical Press, 1859–1872* (Göteborg: Elanders Boktryckeri Aktiebolag, 1958).
[39] Thomas F. Glick, "The Comparative Reception of Darwinism: A Brief History," *Science & Education* 19, nos. 6–8 (2010): 693–696.
[40] His notable works are Thomas F. Glick, ed., *The Comparative Reception of Darwinism* (Austin and London: University of Texas Press, 1974); Thomas F. Glick, Miguel Ángel Puig-Samper, and Rosaura Ruiz, eds., *The Reception of Darwinism in the Iberian World* (Dordrecht: Kluwer Academic Publishers, 2001); Thomas F. Glick and Eve-Marie Engels, eds., *The Reception of Charles Darwin in Europe*, 2 vols. (London: Continuum, 2008); and Thomas F. Glick and Elinor Shaffer, eds., *The Literary and Cultural Reception of Charles Darwin in Europe*, 2 vols. (London: Bloomsbury, 2014).
[41] Gowan Dawson, "Dealing with Darwin: Place, Politics, and Rhetoric in Religious Engagements with Evolution," review of *Dealing with Darwin: Place, Politics, and Rhetoric in Religious Engagements with Evolution*, by David N. Livingstone, *Journal of Historical Geography* 49 (2015): 72. Cf. James A. Secord, "Knowledge in Transit," *Isis* 95, no. 4 (2004): 654–72.
[42] David N. Livingstone, *Putting Science in Its Place: Geographies of Scientific Knowledge* (Chicago: University of Chicago Press, 2003); David N. Livingstone and Charles W. J. Withers, eds., *Geographies of Nineteenth-Century Science* (Chicago: University of Chicago Press, 2011); and David N. Livingstone,

Related to this context are at least three other significant works.[43] William Astore's *Observing God* (2001) explores the work of the evangelical astronomer Thomas Dick.[44] The book also examines how Dick's publications were read and used in both Britain and the United States. In *Science and Salvation* (2004), Aileen Fyfe examines the works, activities, and publishing practices of the evangelical Religious Tract Society in the mid-19th century, while also addressing the reading experiences of lay readers.[45] The eight Bridgewater Treatises of the 1830s, which aimed in various ways to reconcile science and Christianity, have been explored by Jonathan Topham. In *Reading the Book of Nature* (2022), Topham focuses on "a narrative history of the writing, publishing, and reading of the Bridgewater Treatises."[46] In their own ways, these three books contribute richly to the intellectual and cultural debates of the first half of the nineteenth century, a period during which Paley's *Natural Theology* and Chambers' *Vestiges* were first read.

While I have been inspired by some of these works (especially Secord's *Victorian Sensation*), my approach does not address the complexities of divergent geographies or the differing experiences of readers. Nor am I interested here in examining the various rhetorical strategies employed by Paley and Chambers.[47] Rather, I simply aim to track

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*Dealing with Darwin: Place, Politics, and Rhetoric in Religious Engagements with Evolution* (Baltimore, MD: Johns Hopkins University Press, 2014).

[43] There are other contributors to these endeavours, including those represented in the edited volume *Geographies of Nineteenth-Century Science* (see previous note).

[44] William J. Astore, *Observing God: Thomas Dick, Evangelicalism, and Popular Science in Victorian Britain and America* (Aldershot: Ashgate, 2001).

[45] Aileen Fyfe, *Science and Salvation: Evangelical Popular Science Publishing in Victorian Britain* (Chicago: University of Chicago Press, 2004).

[46] Jonathan R. Topham, *Reading the Book of Nature: How Eight Best Sellers Reconnected Christianity and the Sciences on the Eve of the Victorian Age* (Chicago: University of Chicago Press, 2022), ix.

[47] Some important work on the use of rhetoric in relation to Paley can be found in Matthew D. Eddy, "The Rhetoric and Science of William Paley's *Natural Theology*," *Literature and Theology* 18, no. 1 (2004): 1–22; Niall O'Flaherty, "The Rhetorical Strategy of William Paley's *Natural Theology* (1802): Part 1, William Paley's *Natural Theology* in Context," *Studies in History and Philosophy of Science Part A* 41, no. 1 (2010): 19–25; and Niall O'Flaherty, "The Rhetorical Strategy of William Paley's *Natural Theology* (1802): Part 2, William Paley's *Natural Theology* and the Challenge of Atheism," *Studies in History and Philosophy of Science* 41, no. 2 (2010): 128–137. For rhetorical strategies in Chambers' *Vestiges*, see Secord, *Victorian*

various readings of the PDA and CDA and to explore the underlying reasons for such diversity. In this way, my approach bears some similarities to Adam Shapiro's 2014 paper, in which he "traces the divergent readings of William Paley's 1802 *Natural Theology* from its initial publication to the recent controversies over intelligent design."[48] Of course, my approach differs in that I examine both Paley and Chambers, focus specifically on readings of their views on DA, and employ insights from reader-response criticism. Even with these differences from the works cited above, reception history nonetheless forms a key framework of my thesis.

But in this work, I want to take one step further: I would like to explore not only *that* we have these different readings but also reflect on *why* we have them. This is where my reader-response approach comes into play and my concept of interpretive gaps. But before we turn to it, I want to address the thorny question of the terminology used to describe DA.

### 1.5.2 Sidenote on Terminology of Divine Action

My work will, then, look at how Paley's and Chambers' proposals of DA were read and understood in the 19th century and beyond. Beginning at this point, I will continue calling these two respective visions (or more precisely, their interpretations) the *Paleyan divine action* (PDA) and *Chambersian divine action* (CDA). That is, the PDA is the way

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*Sensation*, 77–110. On their use in natural theology more broadly, see John H. Brooke and Geoffrey Cantor, *Reconstructing Nature: The Engagement of Science and Religion* (Oxford: Oxford University Press, 1998), 176–206.

[48] Adam R. Shapiro, "Darwin's Foil: The Evolving Uses of William Paley's *Natural Theology* 1802–2005," *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 45, no. 1 (2014): 114. For two different strategies of the argument from design (analogy and exclusion), see David Burbidge, "William Paley Confronts Erasmus Darwin: Natural Theology and Evolutionism in the Eighteenth Century," *Science and Christian Belief* 10 (1998): 54–7.

how Paley was thought to imagine DA in his *Natural Theology*, while the CDA is the way how Chambers supposedly imagined DA in *Vestiges* and *Explanations*.

Next, let me suggest why I want to avoid using the term *model* to describe either the PDA or CDA. While the language of *models* of DA has become popular in the recent literature on DA, I see this as a temptation that we need to resist in any historical investigations of DA. Speaking of and constructing such models of DA has recently become a trend, especially after the DAP began in the late 1980s. The following NGram graph shows the rise of the increased usage of the phrase "models of divine action" after the start of DAP in 1988:[49]

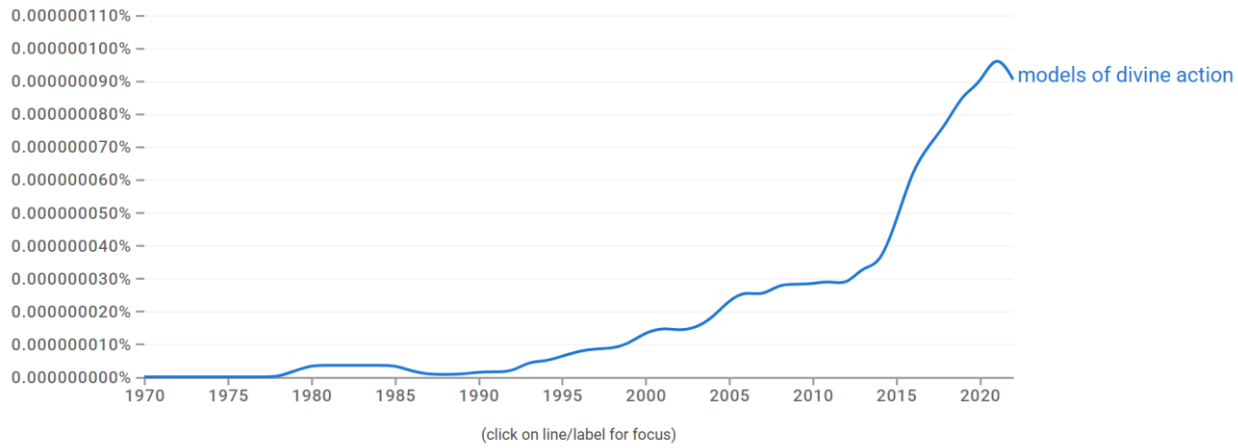


Figure 1. Frequency of the term "models of divine action" in published books since 1970. (Source: Google NGram Viewer).

Nicholas Saunders explains the role of these models in connection with the DAP:

> Surely the best approach to the question of divine action given these difficulties is to consider our current hesitant *models* of God's action in all their details while simultaneously acknowledging the inherent limitations of our human perspective and the provisional nature of our models.[50]

[49] The phrase appears to be non-existent prior to 1970.
[50] Nicholas Saunders, *Divine Action and Modern Science* (New York: Cambridge, 2002), xii.

Saunders proposes that when theologians construct models of DA today, they should "use theological models in an analogous sense to scientific ones, although there are clearly limits to the analogy."[51] The reason why I propose we should reject the talk of *models* of DA in our analysis, is that we should not presume that this was the task of the historical figures we will examine. In my reading of the current literature related to DA, "divine action model" is typically used in the sense of a consciously thought-out framework that seeks to propose a way how God acts and that aims for consistency.[52] Put differently, in *models*, we should expect to look for consistency, coherence and comprehensiveness, whereas the focus on *visions* and their constitutive *features* removes any such expectations. As intellectual historian Robert Bartlett pointed out:

> Some intellectual historians, like some literary scholars or anthropologists, seem to have a strong urge to search for the inner coherence of the beliefs of those they study and might talk easily of "belief systems". This urge is doubtless well intentioned but seems to prejudge the issue. What of our own beliefs? I would be surprised if a thorough and sincere review of my own beliefs I concluded that they were consistent, coherent, and steady. Like most people, I think I hold many discordant beliefs.[53]

Thus, in my exploration, I suggest talking not about DA *models*, but instead DA *visions*. The reason is simply that Paley and Chambers do not provide us with anything like full-fledged *models* of DA. Thus, I will call the PDA and CDA *visions*, in the sense just described, although sometimes I might vary the language a bit (and call them, for example, *proposals*).

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[51] Ibid., xiii.
[52] As could be seen in Ritchie's comment: "It is one thing to build a coherent, consistent divine action model that works well at an abstract theoretical level." Ritchie, *Divine Action and the Human Mind*, 12.
[53] Robert Bartlett, *The Natural and the Supernatural in the Middle Ages* (New York: Cambridge University Press, 2008), 2.

At this point, we need to mention how I am going to tackle the challenging terminology related to DA. How will this thesis understand the complex vocabulary related to this topic? Two key terms in these debates are *special divine action* (SDA) and *general divine action* (GDA). A good starting point might be to cite the definitions given by Wesley Wildman in his influential overview of the DAP.[54] Wildman introduced his definitions of GDA and SDA as follows:

1. General divine action (GDA) is the creation and sustaining of all reality in so far as this does not necessarily presume any specific providential divine intentions or purposes.

2. Special divine action (SDA) is specific providential acts, envisaged, intended, and somehow brought about in this world by God, possibly at particular times and places but possibly also at all times and places.[55]

Wildman notes that there is no consensus on the GDA and SDA among theologians and so "we must stabilize these terms by stipulation."[56] I have provided these definitions above since I will occasionally refer to GDA and SDA in the following chapters. In this sense, at least some kind of definitions are indispensable. But fortunately, we need not be rigid at all, and we can allow for much flexibility. This is because our exploration of DA takes a *themed-based* approach (Chapter 2). That is, we will focus on the themes relevant to the discussions on DA, as seen by historical actors. From this perspective, we do not need any consensus on these definitions at all since it will be exactly the lack of consensus that will be driving our historical investigation. As other scholars have noted when dealing with the difficulties in exploring the historical meanings of the terms

[54] Wesley Wildman, "The Divine Action Project, 1988-2003," *Theology and Science* 2.1 (2004): 31–75.
[55] Ibid., 37.
[56] Ibid., 37.

*atheism* and *deism*: "This diversity can lead to misunderstandings, but it also sometimes facilitates scholarly advances."[57]

Admittedly, the historical actors in the 19th century did not use the terms "general divine action" and "special divine action."[58] In the case of GDA, they generally spoke instead of God's sustaining, preserving, upholding, or maintaining the universe. When speaking of SDA, some of the most frequently related terms included interference, interposition, intervention, special creation, and miracles, among others.

Thus, I will utilize the terms GDA and SDA when convenient, but for the reasons just stated, there is no need to dwell on their precision or any of the other related terms. What will matter above all, is the themes (or concerns) that were seen as crucial for those in the 19th century discussing the issues surrounding DA. Now, let me turn to a key concept I will be frequently referring to – interpretive gaps.

### 1.5.3 Reader-Response: Interpretive Gaps

So far, I have proposed my focus on two particular authors and their key works – one by Paley (*Natural Theology*) and two by Chambers (*Vestiges* and *Explanations*). I have explained that I will focus not only on what *they wrote* about DA but also on how *others understood* them. However, I will also want to explore the reasons why their visions of DA were understood differently. To do so, let me introduce my concept of *interpretive gaps* (often shortened to *gaps*). These interpretive gaps are all those hermeneutical

[57] Wayne Hudson, Diego Lucci, Jeffrey Wigelsworth, "Introduction", in Hudson, Lucci, Wigelsworth, eds., *Atheism and Deism Revalued: Heterodox Religious Identities* (Farnham: Ashgate, 2014), 6.
[58] However, they could talk of "particular providence," "general providence", and "divine action" even in one place; see, for example, John Orr, *Theism: A Treatise on God, Providence, and Immortality* (London: Simpkin, Marshall, and Co., 1857), 274–5.

spaces that are in the process of interpretation filled in by the reader, thus giving them a determined meaning. I borrow this concept from the literary theorist Wolfgang Iser (1926–2007) which he developed in his essay "Indeterminacy and the Reader's Response in Prose Fiction" (1971) and in his *The Implied Reader* (1974).[59] According to Iser:

> The gaps, indeed, are those very points at which the reader can enter into the text, forming his own connections and conceptions and so creating the configurative meaning of what he is reading.[60]

These gaps, writes Iser, give the reader "the motivation and the opportunity" to construe meaning in these hermeneutical blanks.[61] In these gaps, the meaning is not fixed and hence Iser also calls them "gaps of indeterminacy."[62] The filling in of these gaps with a determinate meaning, does not typically happen in isolation, but across multiple such gaps in the text:

> Gaps are bound to open up, and offer a free play of interpretation for the specific way in which the various views [in the text] can be connected with one another. These gaps give the reader a chance to build his own bridges, relating the different aspects of the object which have thus far been revealed to him. It is quite impossible for the text itself to fill in the gaps.[63]

In this way, these gaps offer room for "meaning-projection."[64] Often, filling in these gaps is not a conscious activity: "Generally, the reader will not even be aware of such gaps."[65]

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[59] Wolfgang Iser, "Indeterminacy and the Reader's Response in Prose Fiction," in *Aspects of Narrative: Selected Papers from the English Institute*, ed. J. Hillis Miller (New York: Columbia University Press, 1971); Iser, *The Implied Reader: Patterns of Communication in Prose Fiction from Bunyan to Beckett* (Baltimore, MA: Johns Hopkins University Press, 1978 [1974]).
[60] Iser, *The Implied Reader*, 40.
[61] Ibid., 34.
[62] Iser, "Indeterminacy," 9, 13, 39. Iser also calls them "vacancies." Iser, *The Implied Reader*, 40.
[63] Iser, "Indeterminacy," 18.
[64] Ibid., 12.
[65] Ibid., 12.

That is to say, we will see that also the texts of Paley and Chambers contain many of these gaps that, in turn, open up the possibilities to understand their visions of DA differently.

However, I will expand Iser's meaning of these gaps: while Iser talks about these gaps as present in the text, I will analogically propose interpretive gaps that go beyond the text. Hence, I will make a distinction between *textual gaps* and *extratextual gaps*. For now, suffice it to say that this division should be very commonsensical: (1) textual gaps are those present in the text (involving terminological ambiguities and internal tensions), while (2) extratextual gaps are located outside of the text (selective reading and several types of assumptions on part of the reader). These will be discussed at some length in Chapter 9, based on the findings in the thesis. In the chapters that follow, I will be occasionally referring to *interpretive gaps* or *gaps*, and this is, then, what I mean by them. Since the concept of "extratextual gaps" is my own, however, I will provide a brief explanation here.

As indicated above, I distinguish between two basic types of such gaps. The first type may be called *selective reading bias*. This refers to the reader's selection of which parts of a given text to emphasize, downplay, or ignore. By "bias," I mean the tendency to privilege certain parts of the text over others.[66] In other words, this first type of extratextual gap concerns the reader's selection of the portions of the text brought forward in interpretation. Such selection is practically inevitable: readers choose certain aspects of a text and neglect others, whether in writing a review, offering commentary, or preaching a sermon. This process can significantly shape the meaning

[66] Thus, in my usage, it does not necessarily carry the meaning of an *unfair* selection.

ultimately derived from the text. I therefore treat it as occurring outside the text itself and thus as the first type of extratextual gap.

The second type of extratextual gap is the reader's projection of assumptions. Even before engaging with a text, readers bring a range of prior assumptions, which may take different forms. For instance, they may project philosophical or theological views onto a historical period, presuming what its thinkers – or a particular thinker – must have believed. In this way, one might assume, for example, that, given the period in question, the PDA necessarily required miracles.

Similarly, readers may project intentions onto the author of a text. For instance, one might assume that Paley's intentions in writing *Natural Theology* were theologically harmless, while attributing more problematic intentions to the anonymous author of *Vestiges*.

A further and crucial type of extratextual gap concerns projections regarding equivocal and univocal uses of analogy. For example, should the phrase "God created the world" be understood in the same way as human creative activity (a univocal reading), or as referring to a wholly different kind of creative process (an equivocal reading)? Alternatively, its meaning may be analogical, situated between these two poles. As we shall see, such assumptions significantly shape not only how creative activity is imagined, but also how God is conceived by the reader. As a quick and simple example of such a gap: what meaning should the reader assign to the phrase "God created the human species"? Let us make it personal: how do you, as the reader, understand such creation? What is your interpretive imagination telling you? Can you interpret it in isolation? Of course, you will probably respond, that you need more context to determine its meaning. Would it, then, make a difference if you knew whether

it comes from Paley or Chambers? Most likely, it could make a huge difference. Now, let me reveal that the passage comes from Paley's *Natural Theology*.[67] Did this fact help you fill in the gap about the meaning of "created" mentioned above? If so, why? Did you base it on something else in Paley's *Natural Theology* or did you perhaps bring some assumptions into the text about, say, what Paley "must have believed"? This short exercise could continue with further questions, but I am sure you get the point: just like you, dear reader, those who read Paley and Chambers were filling in many gaps – be it *textual* or *extratextual*. And most of the time they were not even aware of it. [68]

Now, let me explain the main title of my thesis: "gods of the gaps."[69] The idea is very simple. Obviously, it is a word play on the well-known "God of the gaps" critique of some design arguments.[70] This critique attacks the claim that God should fill in some explanatory gap in an otherwise unexplained (or inexplicable) phenomenon. In contrast, "gods of the gaps" are readers' imagined conceptions of a deity, as a result of filling in interpretive gaps. Metaphorically speaking, it was in these gaps that many different conceptions of gods were born. That is, even when readers read the same text (by Paley or Chambers), they can come away imagining quite a different mode of DA that the book supposedly presented. It is these various conceptions of gods, imagined by the readers by filling in the interpretive gaps, that I call "gods of the gaps."

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[67] NT, 242.

[68]Wayne Hudson shrewdly warns us that "it is also dangerous to decide that we know what [the authors] wanted their readers to conclude."[68] Wayne Hudson, *Enlightenment and Modernity: The English Deists and Reform* (New York, Routledge, 2009), 14. In this case, he was talking about English deists.

[69] I thank my supervisor Mark Harris for suggesting this creative and catchy term.

[70] Cf. Erkki V. R. Kojonen, "The God of the Gaps, Natural Theology, and Intelligent Design," *Journal of Analytic Theology* 4 (2016): 291–316.

## 1.6 Goals and Outline

Before providing an outline of individual chapters that will follow, let me say more about my intentions. I will use these texts to attempt to achieve two main goals. First, I will aim to *document* the reception of the PDA and CDA. Perhaps not surprisingly, we will see that how people read the PDA and CDA was far from unified and shows an intriguing variety. While such a variety of readings might be to a degree expected, it still might be true that this fact is not appreciated and reflected by those writing about the PDA and CDA.

My second key goal will be to establish some conclusions based on the various interpretations of the PDA and CDA. As a part of this reflection, I will move from the question of *what* the textual evidence says about this reception history to examining *why* this could be the case. In other words, if there were indeed these different readings of the PDA and CDA, why was that the case? Along the way, I will suggest that it might be far from clear what Paley and Chambers had in mind and if they had a coherent vision of DA in the first place. But even if they had such a coherent vision, were they able to communicate it through their texts and could their readers grasp it? Let me now present a sketch of the journey that awaits us in the six chapters that follow.

Chapter 2 will begin with a brief historical introduction to studying DA in the 19th century before Darwin's *Origin* (1859). How have people thought about DA around the time of Paley's *Natural Theology* and Chambers' *Vestiges*? What were the main themes that they were dealing with when discussing DA? Can we speak of a generally accepted typology of DA around the mid-19th century?

In Chapters 3 and 4, I will look more closely at the PDA in Paley's *Natural Theology* and the CDA in Chambers' *Vestiges* and *Explanations*. I will do so by bringing into view many of the oft-neglected passages related to the respective visions of DA in these works. Based on these, I will form and list the key (what I will call) *features* of the PDA and CDA. It is only after getting a fuller view of these features that we will be able to assess the nature and complexities of both the PDA and CDA.

Next, chapters 5 and 6 will look at the reception of the PDA and CDA in the English-speaking world of the 19th century. By sampling the various reactions to Paley and Chambers, we will focus on and examine how the PDA and CDA were *interpreted* by those who read these works. Our exploration of the reception of the PDA and CDA will continue in Chapters 7 and 8, this time focusing on their recent interpretations. By recent, I mean a selection of such readings as found in some of the key authors writing on science and religion in the 20th and 21st centuries. These two chapters aim to show that the diverse interpretations of PDA and CDA are not only part of a more distant 19th century. Instead, they are still with us, right to the present day.

An analytical Chapter 9 will bring all these diverse readings of PDA and CDA together. Looking back at our textual exploration, what can we say about the reasons for such an interpretative diversity? Here, based on our exploration in Chapter 5–8, I will provide a discussion of the interpretive gaps, dividing them into textual and extratextual. What gaps have played a role in the various readings of the PDA and CDA that we will have encountered? And what lesson can we learn about them when it comes to not only Paley and Chambers, but also other historical actors who have presented us with their vision of DA? My concluding reflections will be found in Chapter 10.

# 2. Historical Background for Divine Action in Paley and Chambers

The goal of this chapter is to provide the relevant 19th-century context in which people were reading, thinking, and arguing about the works of Paley and Chambers. More specifically, this means that I will present here some of the topical issues with respect to the debates on DA in the period before Darwin's *Origin* (1859), on which my work focuses. If we could get a picture of what these discussions revolved around, then we would have a better grasp on the intellectual background against which they were taking place. This will, in turn, help us contextualize Paley's *Natural Theology* and Chambers' *Vestiges* within the contemporary discussions on DA.

In this chapter, I will aim for two main goals. First, (1) I will argue that 19th-century English-speaking thinkers were aware that there was both a huge diversity of opinions about DA as well as pervasive confusion of language related to DA. If this can be established, we will be able to see more clearly why reading the PDA and CDA could (and did) lead to many different interpretations. But if that is the case, we will still need to find a meaningful way to talk about DA from this historical perspective. Hence, this diversity of views and confusion of language will lead to my next aim.

Second, then, (2) I will propose four key themes related to DA that were of key interest for thinkers around the same time. The introduction of these themes will serve as our useful basis for the overcoming of the terminological chaos mentioned above. That is, once we introduce and elaborate on these four themes, we use them as a guide in the upcoming chapters. In other words, I will propose a *thematic* approach, as opposed to aiming for an (unachievable) linguistic precision.

## 2.1 Diversity and Confusion

How, did the 19th-century thinkers view the relationship between DA and laws of nature? It was this issue that became – already since the beginnings of early modern science – a crucial concern if one wanted to know how God acts in the world.[71] Yet, the basic answer to it is quite simple: it was rather complex. The key question on the minds of many was how to relate a theologically meaningful DA to the ever-increasing domain of laws of nature. As James C. Livingston sums up these debates prior to 1860:

> God's creation and governance of the world were not in question; the issue was *how* God providentially creates and governs. Increasingly, the answer was: not by special impositions but in the manner of law. Design by natural law was not, of course, new; it was a feature of Newtonian physico-theology. But renewed scientific emphasis on the all-encompassing reign of law raised novel questions, and the issue focused especially on the reign of law in its relation to theism.[72]

Yet, this struggle did not emerge only in the 19th century. Instead, it goes back in Britain at least to the early modern period. As Richard Greaves commented:

> Much of the disagreement over providence was not its existence but the way in which it operated, some arguing for God's use of natural means, others for divine intervention external to the natural order.[73]

Around the mid-19th century, this question seemed to be on many scholarly minds. According to the Oxford mathematician Baden Powell in 1856, one of the key mysteries of his time was nature and the very knowability of DA:

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[71] See, for example, Harrison, "Newtonian Science, Miracles, and the Laws of Nature;" and his "Miracles, Early Modern Science, and Rational Religion."
[72] James C. Livingston, *Religious Thought in the Victorian Age: Challenges and Reconceptions* (New York: Continuum, 2006), 33.
[73] Richard L. Greaves, review of *Providence in Early Modern England*, by Alexandra Walsham, *Albion: A Quarterly Journal* 33, no. 1 (2001): 94.

> The real question … is not whether certain events or processes are or are not to be traced to the Divine will and counsels – for that is not denied by any reflecting inquirer – but simply whether the *mode and method* of the Divine operation can be either absolutely discovered, or even reasonably conjectured, to have proceeded in this or that particular path.[74]

Increasingly since the beginning of the 19th century, many scientific findings had the potential to undermine old assumptions even about the key aspects of creation – about matter, the universe, our world, plants, animals, humans, soul, and the laws of nature themselves. It became quite quickly clear that extending naturalistic accounts into these areas became at least theologically tricky business if not an outright theological minefield. Thus, in Darwin's generation, the question of how to relate DA to laws of nature was a great question of the day.[75]

But, as could be perhaps expected, there was no consensus about how to relate them or even understand the basic categories. In his presidential address to the British Association for the Advancement of Science (BAAS), the British astronomer John Herschel announced:

> This [disagreement about whether science deals with causes or laws ] can only be reformed by a careful analysis of the widest of all generalizations, disentangling from one another the innumerable shades of meaning which have got confounded together in its progress, and establishing among them a rational classification and nomenclature.[76]

[74] Baden Powell, *The Unity of Worlds and Nature: Three Essays on The Spirit of the Inductive Philosophy; the Plurality of Worlds; and the Philosophy of Creation* (London: Longman, Brown, Green, Longmans & Roberts, 1856), 479. The emphasis is original.
[75] Robert B. Mullin, *Miracles and the Modern Religious Imagination* (New Haven: Yale University Press, 1996), 32–3.
[76] John Herschel, *Essays from the Edinburgh and Quarterly Reviews: With Addresses and Other Pieces* (London: Longman Brown, Green, Longmans, & Roberts, 1857), 674–5.

For Herschel, then, the question of what the goal of science should be is tied to clarifying the many potentially confounding meanings carried by the terms “law” and “cause.” . While he was not speaking about DA per se, his quote could be very fittingly used to describe the vocabulary related to the DA debates as well. But such confusion was evident also in matters of DA. Consider, for example, the very beginning of *The Reign of Law* by the Duke of Argyll in 1867:

> The Supernatural – what is it? What do we mean by it? How do we define it? … These questions, then, concerning the Supernatural are questions of first importance. Yet we find them seldom distinctly put, and still more seldom distinctly answered.[77]

The Duke of Argyll was not just describing a chaotic situation that emerged only several years after the publication of Darwin’s *Origin* in 1859. Even Baden Powell did not escape criticism about his alleged unclarity. In his response to Powell’s contribution on miracles for the controversial *Essays and Reviews* (1860), the archdeacon of Dublin, William Lee, castigated Powell’s use of confusing theological language:

> it is necessary to point out an important ambiguity of language which, on all discussions of this nature, is a fruitful source of error and confusion, and from the influence of which even the most eminent authors are not wholly free. The occurrence of such ambiguous terms, indeed, supplies an explanation of several of the results at which Mr. Baden Powell has arrived. From one meaning of a word, he constantly deduces inferences which follow only from another; while, from his giving to certain terms employed by other writers a sense different from that in which they used them … he has advanced statements the tendency of which he cannot have clearly perceived.[78]

[77] Duke of Argyll, *The Reign of Law* (London: Alexander Strahan, 1867), 1.
[78] William Lee, *On Miracles: An Examination of the Remarks of Mr. Baden Powell on the Study of the Evidences of Christianity, Contained in the Volume Entitled 'Essays and Reviews'* (London: Saunders, Otley, and Co., 1861), 9.

On top of this linguistic obscurity, there were also (unsurprisingly) many differences about the character of DA. This was well captured, for example, by the Scottish theologian James Buchanan, who, writing in the 1850s, sums up the diversity this way:

> large room is still left for diversities of opinion or of statement in regard to *the precise relation which God sustains to His works*, and especially in regard to *the nature and method of His agency in connection with the use of "second causes."*[79]

Buchanan, then, tells us that in his day, there had been many different attempts and ways of relating DA and laws of nature. Just like any other theological matters of importance, it was also the question of DA that gave rise to manifold "diversities of opinion."[80]

We will be encountering such diverse views on almost every step of our exploratory journey. Many were adding their voices to express what they saw as the proper view of DA while criticizing other mistaken, deluded, or heretical opinions along the way. Thus, the many 19th-century thinkers often warn us that we should not be expecting a theologically coherent system or semantic clarity when DA was discussed. On top of that, others could also point to the ambiguity of "nature" as related to DA.[81] In brief, not only there was no consensus on how God acts, but also on the language related to DA.

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[79] James Buchanan, *Modern Atheism: Under Its Forms of Pantheism, Materialism, Secularism, Development, and Natural Laws* (Boston: Gould and Lincoln, 1857), 259. The emphases are original.

[80] By the 1840s, a very similar sentiment was shared also on the other side of the Atlantic by the American Congregational theologian Nathanael Emmons (1745–1840). Cf. Nathanael Emmons, Jacob Ide, ed., *The Works of Nathanael Emmons, with a Memoir of His Life*, Volume 4 (Boston: Crocker & Brewster, 1842), 378.

[81] Cf. Thomas Rennell (1754–1840), theologian and fellow of the Royal Society, commenting on this in the early 19th century; Thomas Rennell, *Remarks on Scepticism: Especially as It Is Connected with the Subjects of Organization and Life. Being an Answer to the Views of M. Bichat, Sir T. C. Morgan, and Mr. Lawrence, Upon Those Points*, 2nd ed. (London: F. C. and J. Rivington, 1819), 46–7.

Moreover, we have been cautioned about the complexities in these debates also by a few present-day historians of science. One of the key insights to realize is that the expanding scope of explanations based on laws of nature was not in itself theologically controversial. As John Brooke and others have shown, it was rather the *metaphysical-theological meaning* of these laws that mattered.[82] Or, as Brooke poetically put it, the key question was what was "behind the veil."[83] In this sense, there have always been multiple options on this metaphysical-theological smorgasbord. These various debates on DA, then, saw the meanings of laws of nature move "between sacred and secular readings of nature."[84]

This is why Brooke proposes that we should be attentive when we deal with the authors who discuss DA in their works and have the following question on our minds: "Was the 'law' to be understood as an expression of divine transcendence, or of divine immanence?"[85] This is a very good question. Could it be also both? There is, in fact, a spectrum of meanings, and such a third option – laws as being the locus of both divine transcendence and immanence – sits in the middle of these extremes.[86] As we will see, the 19th century witnessed discussions involving all of these options, with this third option emerging as a very successful candidate for what should be the scientifically and theologically proper view of DA.

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[82] See especially Matthew Stanley, *Huxley's Church and Maxwell's Demon: From Theistic Science to Naturalistic Science* (Chicago: University of Chicago Press, 2014); and the essays in Harrison; and Roberts, eds., *Science without God?*

[83] John H. Brooke, "Natural Law in the Natural Sciences: The Origins of Modern Atheism?" *Science & Christian Belief*, vol. 4, no. 2, 1992, 95–8.

[84] Ibid., 87.

[85] Ibid., 90.

[86] Brooke himself mentions that the views of Charles Darwin and William Whewell on the relation between DA and laws of nature "by no means exhaust the possibilities." In Brooke's view, there is at also a third option represented by Chambers' *Vestiges* and his notion of "creation by law." Ibid., 89. Cf. Chapter 8.

In short, one of the intellectual wars was not fought over the *existence* of natural laws but over their *meaning*. Pertinent to our exploration, what did Paley and Chambers *mean* when they spoke about laws of nature? Could God act through these laws? Or are the operations of these laws and DA mutually exclusive? How did they relate these laws to the Creator? And, perhaps even more importantly, how was this meaning in their texts construed by their *readers*? All these underdetermined gaps contributed to the infusion of confusion as to how to understand the PDA and CDA – both in the past and today.

Now that we have established that we should expect a variety of views as well as confusion of language related to DA, a crucial question emerges: How should we proceed in exploring the rich 19th century, teeming with such various visions of DA? What kind of methodological compass can we use so that we will not stray from our course in a world that lacked a unified language for talking about DA? That is why, in the next section, I will outline my *key-themes* approach to these debates.

## 2.2 Key-Themes Approach

Apart from intellectual curiosity, this widespread unclarity and diversity with respect to DA, as illustrated above, creates for us also very practical methodological concerns. Since our investigation will involve dealing with the views of several dozens of authors, how can a sufficiently consistent language regarding DA be established? After all, we have just seen some examples of 19th-century authors who alerted us about the lack of such a terminological consistency. Despite these obvious difficulties, I believe that there is a helpful way through this maze. In what follows, I will thus suggest my way forward through this semantic obstacle course.

As part of my approach, what I will aim to focus on are the *themes* (or concerns, interests, key questions) of the debates related to DA, primarily in the period of 1800–1860. This means that while I will retain the 19th-century *vocabulary* when it is useful, it will not be my priority. Part of the reason is that we have already seen the voices testifying to the unclarity of the contemporary terminology. Another motive is that the historians who have explored the question of DA have shown the futility of trying to find or reconstruct a consistent vocabulary. That is, at no point in history was there a consensus on the relevant categories (such as miracle, special or general providence, supernatural, etc.) between and even within key religious groups.[87]

I deem it only reasonable that to understand the intellectual concerns of a given age, it would be much more fruitful to focus the precision on the *themes* rather than on their *vocabulary* (which, as we have noted, is not clear anyway). In this way, I hope to minimize any anachronisms that might creep into our historical exploration. Since it is impossible to come up with a language of DA whose meaning would be widely shared, I suggest that it is the themes – or key questions – regarding DA that should take centre stage. With this background, let us proceed, then, to unpack the key themes related to the DA debates.

## 2.3 Themes Text: Buchanan's Modern Atheism

To avoid imposing anachronistic concerns from later centuries, it would be ideal to have as a point of departure a contemporary text dealing with the relevant issues of the day.[88]

[87] Mullin, *Miracles*, 4–5, 14–15; and David Basinger, "What Is a Miracle?", in *The Cambridge Companion to Miracles*, ed. Graham H. Twelftree (New York: Cambridge University Press, 2011), 19–35.
[88] In his influential account of the contemporary DA debates, Nicholas Saunders adopted five questions posed by Owen Thomas that he (Saunders) deemed helpful in discussing the so-called special divine

Such a text could be at least a very good starting point for mapping out the pressing discussions related to DA. I suggest that I have found such a useful initial analysis in James Buchanan's *Modern Atheism* (1857). Its most relevant part is a very useful, 12-page section called "The Doctrine of Natural Laws and Second Causes" that provides a survey of the various approaches related to DA. It is this landscape of the various DA options and divisions canvassed by Buchanan that I propose to use as our methodological starting point. In my view, there are several advantages for basing our historical background to DA on Buchanan's exposition. I suggest that there are at least four reasons why.

First, its date of publication (1857) is very convenient since it captures the situation already after *Vestiges* (1844) and still before *Origin* (1859). As such, it does not deal with the new complexities coming into the discussions with the emergence of the post-*Origin* debates on DA. Since the concept of natural selection did not feature in the pre-*Origin* discussions, Buchanan's text could be more revealing about the debates on DA before 1859. Second, Buchanan's analysis might turn out to be very useful also because it provides a rather insightful analysis. While it does not provide a thoroughgoing, in-depth discussion of the key issues, it does go deeper into the metaphysical-theological issues related to DA than seen in many other, nineteenth-century thinkers. Third, I suggest that the pertinence of Buchanan's text is vindicated by the fact that his theological concerns will be usually present in the various readings of

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action (SDA). These are (1) By what means does DA occur?; (2) What is the relationship between divine and finite causation?; (3) How often does SDA occur?; (4) What is the effect that SDA achieves?; (5) What is the purpose of SDA? These are, surely, important questions when discussing the nature of DA. However, one of the main aims of this chapter is to excavate the key themes from the contemporary texts, as opposed to imposing them on these texts anachronistically. Cf. Saunders, *Divine Action and Modern Science*, 17–18; Owen C. Thomas, ed. *God's Activity in the World: The Contemporary Problem* (Chico, CA: Scholars Press, 1983).

Paley and Chambers that we will encounter in the following chapters. In other words, Buchanan seems to accurately capture the themes that other authors around him were dealing with. And fourth, unlike many other texts of the period that discuss laws of nature or DA, Buchanan attempts not only to present other opinions but also to offer their typology. In this, way I hope to recover some of the important themes of the pre-*Origin* period, and ones which turned out to be at least of equal importance after 1860. As John Henry and J. E. McGuire stated:

> It is not possible, after all, to fully understand early modern thinkers without properly understanding their theological concerns, and without taking seriously the nuances in their theological positions.[89]

Here, then, is a plan for how I intend to proceed. I will start by providing a brief sketch of the key themes that Buchanan raises, followed by some of my critical remarks. In his brief historical overview, Buchanan will also offer his typology of the historically most influential views of DA. As I have already indicated, these key themes could be usefully considered not only as key areas of disagreement but also as fertile places for interpretive gaps. The extent to which Buchanan's themes indeed correspond to the concerns of the readers of Paley and Chambers will be considered in the concluding summaries to Chapters 5–8. But before we get to that point, let us start by exploring the relevant 19th-century themes of interest as related to DA, based on Buchanan's *Modern Atheism*.

## 2.4 Key Themes Related to Divine Action

[89] Henry, and McGuire, "Voluntarism and Panentheism," 603.

Buchanan identifies the following four theologically and scientifically controversial features concerning natural laws and DA. For now, I will only sum up the kind of questions they raise, and I will expound on them at greater length below.

(1) *Compatibility*. Do laws of nature necessarily exclude DA? Are laws of nature and DA compatible or incompatible? Does science, with its increasing success in uncovering the laws of nature, continually exclude the possibility of DA? If laws and DA are incompatible, does this exclude divine presence from the world?

(2) *Law-cause distinction*. Should laws be seen as having causal powers? Or are they instead mere non-causal descriptions of nature's regularities? Do disagreements related to DA happen by confusing the meaning of "laws" and "causes"?

(3) *Interventionism*. While God might generally and in some way act through laws of nature, does He also intervene in the world?

(4) *God-World Relationship*. The key issue here could be expressed through the following questions: how does DA operate in the world? What is the relationship between DA and laws of nature? What is the locus of DA? Is God continually active through these laws or does His activity consist only in preserving these laws? What are the historical and contemporary options? Can there be a middle position between the extremes?

After the overview of these four key themes, let us now explore each of these in turn with the help of Buchanan's text. On the way, I will supplement Buchanan's exposition with some other relevant texts as well as insights from other past and present thinkers. I should also add that – as can be easily seen – all these four themes are very closely interconnected and hard (even impossible) to take them in isolation.

### 2.4.1 Compatibility

The first issue raised by Buchanan as a key question of his time is the theme of the *compatibility* of DA with laws of nature. That is, are laws of nature and DA a zero-sum

game or can they be taken to be compatible? There were certainly long periods since the invention of the modern concept of the laws of nature in the 17th century when such a distinction was never an issue.[90] As Peter Harrison writes:

> while ideas about what is natural have changed over time, throughout Western history 'natural' occurrences have most often been understood as requiring divine activity. It follows that in the past the supernatural–natural distinction did not map directly onto the exclusive disjunction: 'caused by God' or *'not* caused by God'.[91]

After the rise of early modern science, however, this supernatural-natural disjunction gradually started to take place. Buchanan's text nicely captures these debates on the compatibility of DA with laws of nature, taking place in his time. We learn from him that there were several reasons why discussing the theme of compatibility was theologically important:

> Firstly, because it seems to have been assumed by our opponents, that the discovery of "natural laws," and the admission of "second causes," must necessarily be adverse, and may ultimately prove fatal, to the cause of Religion; or, in other words, that *Faith must recede just in proportion as Science advances*; whereas the Bible speaks both of natural objects, possessing peculiar properties and powers, and also of natural laws, as God's "ordinances" both in the heavens and the earth, but speaks nevertheless of a presiding Providence or governing Will, without ever supposing that the two are incompatible or mutually exclusive. Secondly, because some of the less intelligent members of the Christian community itself seem to be influenced, to a certain extent, by the very same error which we ascribe to our opponents; and evince a very groundless jealousy of Science, as if they feared that the progress of physical research might have the effect of weakening the ground on which they believe in the care of Providence and the efficacy of Prayer; whereas the Bible gives no countenance to any jealousies or fears of this kind, but affirms God's providential government and

[90] For the origin of the modern conception of laws of nature with Descartes, see John Henry, "Metaphysics and the Origins of Modern Science: Descartes and the Importance of Laws of Nature," *Early Science and Medicine* 9.2 (2004): 73–114. See also Peter Harrison, "The Development of the Concept of Laws of Nature," in *Creation: Law and Probability*, ed. Fraser Watts (Hampshire and Burlington: Ashgate, 2008), 13–36.

[91] Harrison, "Introduction," in *Science without God*, eds. Harrison, and Roberts, 17.

> encourages man's believing prayer, at the very time when it founds upon and appeals to the established constitution and course of Nature.[92]

Buchanan implies, then, that *incompatibilism* (though he does not use the word) with respect to DA had already become a widespread belief by the time of his writing in 1857. Already back then, there were those who accepted either compatibilist as well as incompatibilist positions.

Thus, Buchanan mentions a group of thinkers who take laws of nature to be causally sufficient. Such reasoning became available after the gradual decline of Aristotelianism, when the 17th and 18th centuries saw a firmer distinction between God and secondary causes. At the same time, this development served also as the foundation for the whole project of natural theology.[93] In this way, the natural order, viewed in terms of laws of nature, could be for a Christian thinker a double-edged sword. On the theologically problematic side, such a distinction (between God and secondary causes) can pose some serious questions related to the compatibility of God and secondary causes. Here, the theological dangers could be summed up well by the famous reply of Pierre-Simon Laplace (1749–1827) to Napoleon's question about God's place in the former's cosmology: "I had no need of that hypothesis."[94]

While one could try and somehow connect laws of nature with DA, these attempts might turn out to be risky, even for skilful natural theologians. As Polkinghorne

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[92] Buchanan, *Modern Atheism*, 253-4. The emphasis is mine.

[93] According to John Henry, "Natural theology, which achieved its heyday at the end of the seventeenth and the beginning of the eighteenth centuries, was entirely based upon the traditional distinction between God and secondary causes." John Henry, "Causation," in *Science and Religion: A Historical Introduction*, 1st. ed., ed. Gary B. Ferngren (Baltimore: Johns Hopkins University Press, 2002), 139.

[94] It seems the earliest English-language source of Laplace's quote, given in French ("Je n'avais pas besoin de cette hypothèse-là."), is Augustus De Morgan, *A Budget of Paradoxes*, ed. Sophia De Morgan (London: Longmans, Green and Co., 1872), 50.

puts it, the discoveries of new scientific laws could resemble a theological Trojan horse, one that could threaten at least some aspects of Christianity.[95]

The existence of such incompatibilist views of DA is also evident from the pen of the Scottish theologian John Tulloch (1823–1886). In his work *Theism* (1855), he confirms that there were even many theologians who saw laws of nature as incompatible with DA:

> The same fundamental prejudice, strange as it may seem, is found to *pervade the language of Theology*. Looking upon general laws more as vast mechanisms than living forces, the theologian too has been apt to consider them as inconsistent with the idea of directing Volition, or special Providence. They have seemed to him to destroy that living guardian presence of God in nature which the heart instinctively cherishes: and he has, accordingly, sometimes spoken of them with a sort of jealousy.[96]

It is a pity that we do not have any concrete names mentioned in this text. But notice, as Tulloch says, that what is penetrated by such incompatibilist thinking is not the language of science but the "language of Theology." In 1850, the Scottish philosopher James McCosh also objected against such incompatibilists, calling their view a "delusion" and noting that

> There is still a lingering suspicion among many of the extent to which modern scientific research is inclined to push the reign of law. They feel as if science was setting itself up as a rival to deity, and attempting to drive God from one part of his dominions after another, in much the same was as Rome extended itself in ancient times.[97]

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[95] John C. Polkinghorne, *Science and Providence: God's Interaction with the World*, (Philadelphia: Templeton Foundation Press, 2005), 7.
[96] Tulloch, *Theism: The Witness of Reason and Nature to an All-Wise and Beneficent Creator* (Edinburgh and London: William Blackwood and Sons, 1855), 66. The emphasis is mine.
[97] James McCosh, *The Method of the Divine Government, Physical and Moral* (New York: Robert Carter & Brothers, 1851), 127.

Thus, Buchanan, Tulloch, and McCosh are all opposed to those who accept an incompatibilist view of DA. For them, there is no causal competition between God and His laws.

Moreover, this issue of compatibility was in the air by the 1830s and 1840s. We get a mention of a concrete name from the great Oxford mathematician Baden Powell (1796–1860). Powell saw the brilliant amateur geologist Hugh Miller as someone who put DA in opposition to laws of nature.[98] Yet, Powell implied there were many more incompatibilists, as is seen in his account from the 1850s, yet without providing specific names. He spoke only of certain "religionists" with "a certain class of minds" who had been having similar "incompatibilist" objections since Galileo.[99] However, Powell was one of the compatibilists who saw God working through laws of nature. While he shared this compatibilism with many others, we have seen that such a view was around the mid-19th century highly contested.

So far, I have tried to show that the question of causal compatibility between DA and laws of nature was a significant theological dividing point already before 1860. But I want to suggest that there were at least two concrete ways how this issue of compatibility was expressed. The first has to do with God's *presence/absence* in the world. For many thinkers, if the world was explained through laws of nature and if God's interventionist DA was rejected from this explanatory account, this was seen as removing God from the world altogether. This is what the historian of science Neal Gillespie had in mind when he wrote that

[98] Powell, *The Unity of Worlds and Nature,* 485–6. The emphasis is mine.
[99] Ibid., 485.

> Some ... viewed the generic idea of creation by law with distrust, and not without cause. Too far removed from God's directing hand, as in some transmutationist doctrines, such a system of laws might function automatically and exclude God from any direct activity in the world.[100]

But why would a nomological explanation of the world lead automatically to God's banishment from it? A clear answer seen already from the quotes above, is that laws of nature and ongoing DA were seen as *incompatible*. For example, recall the reason given by Tulloch: "Looking upon general laws more as vast mechanisms than living forces, the theologian too has been apt to consider them as inconsistent with the idea of directing Volition, or special Providence." In other words, then, some theologians (or naturalists) were simply *unaccustomed* to look at it differently, that is, as compatibilists. As a result, we will also pay close attention to the comments related to God's banishment from the world, as they might be directly connected to one's position of incompatibility. Here is how Buchanan ties the reliance on laws of nature with God's exclusion from the world:

> The theory of "natural laws" has been applied to disprove or supersede the doctrine of Creation by means of the principle of Development. ... But from the earliest times, it has been the belief of seriously reflecting men, that a system which professedly recognizes the Divine Being as the Creator of the world, but *practically excludes* Him from the government of its affairs, however theoretically different from Atheism, is substantially the same with it.[101]

In other words, for an incompatibilist, too much reliance on explanations by laws of nature might lead to *practical* exclusion of God and thus to atheism. Buchanan goes on to say that this "natural tendency" is not found only among unbelievers, but also among pious thinkers.[102] We see, then, how nomological explanations and God's absence from

[100] Neal C. Gillespie, *Darwin and the Problem of Creation* (Chicago: Chicago University Press, 1979), 22.
[101] Buchanan, *Modern Atheism*, 249. The emphasis is mine; one original emphasis omitted. Cf. 250–1.
[102] Ibid., 251–2.

the world are closely intertwined. In contrast, a compatibilist can continue seeing God as present in the world through these laws, and perhaps even as immanent.[103] (Incidentally, we will see in Chapter 3–4 that both the PDA and CDA take God to be present everywhere.)

To recapitulate: we have seen the first theme raised by Buchanan, namely, that of the compatibility of DA with laws of nature – a concern that was close linked with God's presence in the world. Another big issue involved in the debates on DA was the law-cause distinction, to which we will now turn.

### 2.4.2 Law-Cause Distinction

After compatibilism, the second key issue that Buchanan addressed was the law-cause distinction. Often, this was expressed by pointing to a pervasive confusion between the meanings of the terms "law" and "cause." As will become clearer, this was very closely linked to the concern about the compatibility of DA and natural laws examined above. While Buchanan was far from being the only prominent thinker to call for making a clear distinction between "law" and "cause," he did so precisely because there was a widespread ambiguity about these terms. As he puts it:

> There is an *ambiguity*, however, in the common usage of the term "law," which may seem to give a plausible appearance to their theory, or at least to vail [sic] over and conceal its radical fallacy. It denotes sometimes the mere statement of a *general fact*, or the result of a comprehensive generalization, founded on the observation and comparison of many particular facts; it denotes at other times

[103] For example, by the 1820s, the Unitarian physician Thomas S. Smith (1788–1861), argued for a Creator who is omnipresent in His creation more than metaphorically. Thomas S. Smith, *The Divine Government*, 4th, ed. (London: Baldwin, Cradock, & Joy, Paternoster Row, 1826), 10–1. For more on Smith, cf. Adrian Desmond, *The Politics of Evolution: Morphology, Medicine, and Reform in Radical London* (Chicago: The University of Chicago Press, 1992), 200–2.

> *the force of power*, whatever that may be, which produces any given set of phenomena.[104]

Buchanan was not the only one to talk about this ambiguity. In 1850, James McCosh was even more explicit about the problem:

> It is now acknowledged that there are physical laws determining every "fitful breeze, and every forming cloud, and every falling shower." But while there is a universal recognition among the reflecting community of the existence of general laws, there is about as *universal a confusion* of idea as to the nature of these laws.[105]

The key problem in all these complaints was the confusion between the meaning of "law" (of nature) and "cause." The commonly proposed solution was that of these two terms, it was only "cause" (as opposed to "law") that possessed "the idea of *causation* or *efficiency.*"[106] What is, then, the precise locus of the cause? It turns out there can be two options – either external to the matter or inherent in it. As Buchanan states:

> [A "cause" denotes] a "power" which may be conceived of, either as a *property* inherent in mind or in matter, or as a *force*, such as the Divine volition, acting upon it *ab extra*.[107]

On the other hand, a "law" had no such causal power and was "merely the generalized results of our experience and observation."[108] These rules and generalizations can never explain anything; they can only describe. As the Scottish philosopher Thomas Reid

[104] Ibid., 256. The first emphasis is mine.
[105] McCosh, *The Method of the Divine Government,* 86–7. The emphasis is mine.
[106] Buchanan, *Modern Atheism*, 258. The emphasis is original.
[107] Ibid., 256.
[108] Ibid., 256, 258.

succinctly summed up this problem of nomic causation: "The rules of navigation never navigated a ship; the rules of architecture never built a house."[109]

Thus, by the 1850s, this confusion between "law" and "cause" formed a major point in the debates on DA. It was a confusion, often resulting from the fusion of these two concepts. Buchanan was aware of this and for this purpose, he quoted a lengthy passage from John Herschel's British Association address in 1845. Notice Herschel's stress on the semantic confusion due to the unclarity of these terms:

> It is high time that philosophers, both physical and others, should come to some nearer agreement than seems to prevail, as to the meaning they intend to convey in speaking of causes and causation. On the one hand, we are told that the grand object of physical inquiry is to explain the nature of phenomena by referring them to their *causes*; on the other, that the inquiry into "causes" is altogether vain and futile, and that Science has no concern but with the discovery of "laws." Which of these is the truth? Or are both views of the matter true *on a different interpretation of the terms*? Whichever view we may take, or whichever we may adopt, there is one thing certain – the extreme inconvenience of such a state of language.[110]

Herschel, then, alerted his audience about such confusion right after the publication of *Vestiges* (1844), which was (as we will see) often targeted precisely for endowing laws with causation. Thus, this ambiguity about "law" and "cause," was another gap that it contributed to the many various readings of the PDA and CDA. Still, already in 1838, the seriousness of this terminological misunderstanding was emphasized by Baden Powell:

> To the neglect of such simple distinctions as those we have been engaged in illustrating, and from misconception (mainly caused by *ambiguity of terms*) as to the nature of physical causes, and the relation in which they stand to the Divine Intelligence which has constituted them, may be traced most of those objections and prejudices which prevail with regard to the tendency of physical studies and the inquiry into secondary causes.[111]

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[109] Quoted in Ibid., 257.
[110] Quoted in Ibid., 258–9.
[111] Powell, *Connexion*, 189. The emphasis is mine.

Powell's comment shows that this "ambiguity of terms" was not just a semantic hair-splitting, but had also major consequences for one's understanding of DA. However, as Powell implied, if theologians and natural philosophers used "cause" properly, they would be less quick in accusing others of attempting to banish God through their investigations of nature. [112]

Hence, just because a natural theologian's Creator relied on laws of nature, this need not imply that He was an absentee landlord. For theology, then, it matters profoundly how one fills in this gap: the resulting God might or might not be intimately present in His creation.

### 2.4.3 Interventionism

Another key theme related to DA found in Buchanan's text is that of divine interventionism:[113] Does God intervene in the world or not?[114] Buchanan himself seems to be open to both options, and he explains why this question is for many a crucial one. The reason is that it is connected to a key theological issue. Namely, to some

[112] Ibid., 190; cf. 201–3.
[113] I will define interventionism below, while keeping in mind that it is also another interpretive gap with multiple possible meanings.
[114] When it comes to Buchanan's text *Modern Atheism*, it speaks of divine interventions only twice in the short 12-page section ("The Doctrine of Natural Laws and Second Causes") we have been exploring. However, he does talk about interventionism in many other places in his work. I find his most interesting comments to be found in two his sections on *Vestiges* (47–60), one on George Combe (264–83), and one on the efficacy of prayer (283–301). We might note that while he uses the term "interventionism" only once (57), he uses interference eight times (79, 80, 105, 267, 294, 364, 397, 402), and "interposition" sixteen times (58, 63, 66, 69, 72, 81, 82, 85, 94, 106, 126, 187, 239, 260 twice, 267). I suggest that, since his commenting on interventionism is found throughout the book, it can properly be said to form another of his key themes.

theologians, noninterventionism appears to diminish the evidence for theism and God's perfections. Buchanan, however, disagrees:

> The work of creation is equally real and equally Divine, whether it be effected mediately or immediately, with or without the intervention of means, by the direct and instantaneous exertion of Almighty power, or by the gradual and successive operation of second causes acting according to established laws. In the ordinary course of Providence, the method of mediate production, gradual growth, and progressive development, may be observed in innumerable instances; but it can never be justly held to exclude, or even to obscure, the evidence of a presiding Intelligence and a supernatural Power. On the contrary, it may serve rather to enhance that evidence; since the very arrangements and provisions which have been made with a view to the reproduction of everything after its kind, may bear on them the legible impress of a designing Mind and an ordaining Will.[115]

In one place, Buchanan supports this view by the following analogy: just because we are conceived, gestated, and born through the ordinary reproduction of our parents, we do not cease to be God's creatures.[116] In the same way, we will not cease to be God's children if it turns out that God is a noninterventionist.

Regarding interventionism, Buchanan at one point writes that there are only two options:

> Now, there are evidently *two* suppositions that may be entertained on this subject: either, that God orders *all* events to fall according to "natural laws" and by means of "second causes;" or, that while He *generally* makes use of means in the ordinary course of His Providence, He reserves the liberty and the power of interposing directly and immediately, when He sees cause, for the accomplishment of His sovereign will.[117]

So according to this view, God either (1) does not intervene or (2) sometimes He does. Simple enough. However, Buchanan's basic two-fold option could be supplied by an

[115] Ibid., 57. Cf. 58–60.
[116] Ibid., 57.
[117] Ibid., 267. The emphases are original.

important subdivision of interventionism. Let me, then, mention a brief but crucial sidenote.

Already before the mid-19th century, some of the discussions on DA showed that there could be more ways of understanding interventionism. Namely, in cases when God is said to intervene, He either (2a) violates (or breaks, suspends, alters) laws of nature or (2b) He does not. Instead, on the latter view, while God does intervene, He does so in a way that is compatible with these laws (see below). We could add yet another option, prominent around Buchanan's time, which is that (3) we do not know when or how God acts in the world (this will reappear in the PDA). Thus, a typology of DA based on one's attitude to interventionism would be as follows:

(1) *noninterventionism* – a view that rejects any divine interventions, regardless of whether they are seen as violating laws of nature or not.

(2) *interventionist violationism* – a position that sees divine interventions as violations of laws of nature. This would include the typical position of David Hume on miracles and all who followed his definition.[118]

(3) *interventionist nonviolationism* – a view that takes divine interventions to be compatible with laws of nature. Thus, if God intervenes, He does so in a way that does not violate His laws.

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[118] Since Hume's famous essay "Of Miracles" (1748), it has often become customary to see interventionism as entailing violationism. However, interventionist nonviolationism – although not under this name – was also among the options at least since the time of Hume, including in the nineteenth century and beyond. For example, in 1818, the Scottish physician-philosopher Thomas Brown saw miracles not as a violation of laws of nature, but as a "result of an extraordinary antecedent," namely, the Divine will. In 1825–6, John Henry Newman wrote that a miracle "does not necessarily imply a violation of nature, as some have supposed – merely the interposition of an external cause, which, we shall hereafter show, can be no other than the agency of the Deity." In 1850, Adam Sedgwick offered not one but two options of how to understand a miracle – one violationist and the other nonviolationist. According to the latter, a miracle can be the creation of a new set of laws "in strict co-ordination with laws of nature," comparable to the passing of a new act of parliament. Nonviolationism is found also in some theological dictionaries of the 19th century and this nonviolationist view has its place in the current literature on DA as well. See Thomas Brown, *Inquiry into the Relation of Cause and Effect*, 3rd ed. (Edinburgh: Archibald Constable and Company, 1818), 509–10; John Henry Newman, *Two Essays on Biblical and on Ecclesiastical Miracles*, 9th ed. (London: Longmans, Green, and Co., 1890), 4; Adam Sedgwick, *A Discourse on the Studies of the University of Cambridge*, 5th ed. (London: John W. Parker, 1850), cxxx–cxxxi.

(4) *agnosticism* – a view that leaves the possibility open to divine interventions but, due to our epistemic limitations, we cannot know if they really take place.

Thus, in our explorations of the readings of the PDA and CDA, we will then also track these interpretations in their relation to the theme of interventionism. But, as we could see, even the term "interventionism" (and related terms, such as interference, interposition, and others), opens another gap to be filled with more specified meanings. Let us now turn to the next and final of Buchanan's four themes.

### 2.4.4 God-World Relationship

After presenting the previous themes, Buchanan goes on to offer a brief historical sketch, surveying a variety of, what he calls "theories," which we could also call either *worldviews* or (in this case appropriately) *DA models*.[119] He says that they give an explanation of the "connection between God and nature," or what scholars today dub God-world relationship. Indeed, we could see this theme as an overarching master theme, that is, one that involves the interplay of all the other themes already discussed. Naturally, that is what a worldview does – it attempts to bring multiple themes into a more-or-less coherent whole.

After his brief overview of these historical options, Buchanan offers his short assessment while arguing for his preferred model. On his analysis, there are three main such types – *occasionalism*, *pre-harmony*, and *instrumentalism*.[120] He sees the last one – instrumentalism – as the most relevant and widespread in his day and offers three

[119] Buchanan, *Modern Atheism*, 259.
[120] The designations of these DA models are mine, but they serve just to abbreviate their longer names given in the text as occasional causes, preestablished harmony, and instrumental causes.

further subdivisions within it. In the following few paragraphs, I lay out these distinctions, along with quoting Buchanan's explanations at some length. After this, I will address these models and offer some critical remarks.

*Buchanan's historical DA models:*

1. *Occasionalism* – "first of all, the theory of 'occasional causes,' as taught by Father Malebranche, … a theory which represents physical agencies as the mere *occasions*, and God as the sole *cause* of all changes, which teaches that a healthy eye, with the presence of light, is not the cause of vision, but the occasion only of that Divine interposition by which alone we are enabled to see, and that a man's desire or volition to walk in not the cause of his walking, but the occasion merely of that Divine interposition which alone puts the proper muscles in motion."[121]

2. *Pre-harmony* – "as taught by Leibniz – … [t]his theory teaches that mind and body, although closely united, have no real influence on each other, that each of them acts by its own properties and power, and that their respective operations exactly correspond to each other by virtue of a 'preestablished harmony' between the two, just as one clock may be so adjusted as to keep time with another, although each has its own moving power, and neither receives any part of its motions from the other. This theory, therefore, denies everything like causal action between mind and matter; and when it is extended, as it may legitimately be, to the relation between God and the world, it would seem to imply the coequal existence and independence of both and the impossibility of any causal relation between the two."[122]

3. *Instrumentalism* – "The manifest defects of these theories [occasionalism and pre-harmony] have given rise to a *third*, which, on one of its forms, has been generally adopted by Divines – the theory of 'instrumental causes.' This theory has assumed two distinct and very different forms."[123]

   *Type 1 Instrumentalism (*or *mere conservationism)* – "In the first, all natural effects are ascribed to powers *imparted* to created beings, and *inherent* in them; that is, to powers which are supposed to have been conferred at the era of Creation, and to be still sustained by God's will in Providence, subject, however, to be suspended or revoked according to His pleasure."

[121] Buchanan, *Modern Atheism*, 259–60.
[122] Ibid., 260.
[123] Ibid., 260.

> *Type 2 Instrumentalism (*or de facto *occasionalism?)* – "In the second, which resembles in some respects the doctrine of 'occasional causes,' all natural effects are ascribed to powers not *imparted*, but *impressed*, not belonging to the natural agent, but communicated by impulse *ab extra*; and God's will is represented as the only efficient cause in Nature."[124]

Before we move on, let us take a brief pause and reflect on these two types of instrumentalism. In the recent literature on DA, Type 1 has been called *mere conservationism*.[125] As Alfred Freddoso explains,

> According to mere conservationism, God contributes to the ordinary course of nature solely by creating and conserving natural substances and their accidents, including their active and passive causal powers. For their part, created substances are genuine secondary causes which can and do causally contribute to natural effects on their own, given only that God preserves them and their powers in existence.[126]

This fits nicely with Buchanan's definition, with the difference that Buchanan also stresses God's ability to suspend or revoke these causal powers inherent in matter "according to His pleasure."

When it comes to Type 2 Instrumentalism, Buchanan states that it "resembles in some respects" occasionalism. However, I fail to see any substantial difference. To me, it is puzzling why Buchanan offered his Type 2 and listed it as a kind of instrumentalism, especially since he dealt with occasionalism earlier.

So far, all these divisions almost correspond to Sukjae Lee's comment that, "In response to these questions [about divine agency], historically, three positions have

[124] Ibid., 261–2.
[125] This term is traceable to Alfred J. Freddoso, "God's General Concurrence with Secondary Causes: Why Conservation Is Not Enough." *Philosophical Perspectives*, 5 (1991): 553–585.
[126] Ibid., 554.

appeared: 'conservationism,' 'concurrentism,' and 'occasionalism.'"[127] Admittedly, this remark does not mention the pre-harmony model, mentioned by Buchanan earlier. However, it seemed to have been held exclusively by Leibniz and, in this sense, did not become a historically influential view. Still, up to this point, Buchanan mentioned only occasionalism and conservationism. What about concurrentism? At this point, it might not be a surprise to say that Buchanan will mention it in his next step in his reasoning – as the golden mean in between as well as the best option.

Shortly after introducing the first two types of *instrumentalism*, Buchanan goes on to compare them and explains why they are both theologically threatening – they both sit at the opposite extremes between the causal self-sufficiency of nature and nature's complete lack of causal autonomy.[128] A certain middle ground is needed. Their theological insufficiency is remedied by introducing his third type of instrumentalism, one that he finds as the most appealing option among the DA models:

> *Type 3 Instrumentalism* – "In order to guard against these opposite and equally dangerous extremes, we must hold the real existence and actual operation of 'second causes;' while we are careful, at the same time, to show both that whatever powers belong to any created being were originally conferred by God, and also that they are still preserved and perpetuated by Him subject to his control, and liable to be suspended or revoked, according to the pleasure of His will. We would this have *one First*, and MANY SECOND CAUSES; the former *supreme*, the latter *subordinate*; really distinct, but not equally independent, since 'second causes' are, from their very nature, subject to the dominion and control of that Omniscient Mind which called them into being and which knows how to overrule them all for the accomplishment of His great designs. … It may also be said, in a certain sense, that Mind only is active: for all the properties and powers of matter are the results of the Divine volition, and their mode of action is regulated and determined by 'laws' which God has imposed; but it were unphilosophical, as well as unscriptural, to infer from this that He is the only Agent in the Universe; it is enough to say that He created the system of Nature, and that He still upholds and governs it by His Providence."[129]

[127] Lee, "Occasionalism."
[128] Cf. Buchanan, *Modern Atheism*, 261–2.
[129] Ibid., 262–3.

Thus, Buchanan sees this Type 3 Instrumentalism as the best DA model available since it grants causal powers not only to God but also to all the laws He appointed. This model, then, is a middle position between his Type 1 and Type 2. Historically, this corresponds closest to the position called *concurrentism*: According to Lee,

> Concurrentists hold that when a natural effect is produced, it is immediately caused by both God and the creature. God and the creature are both directly involved and "concur" in bringing about the natural effects typically attributed to the creature.[130]

We will have more to say on concurrentism below. For now, let us mention that for a concurrentist, laws of nature and God are not ontologically equal. As Buchanan stated, these laws are "subject to the dominion and control" of their Creator. And since it is God who gave them both existence and causal powers, one could say "in a certain sense, that Mind only is active." Seen this way, one could hardly say that God is only "a cause among other causes,"[131] but instead, all the laws of nature all still completely dependent on their sovereign Legislator.

After this overview of Buchanan's models of DA, let me elaborate a bit on the DA models in the order as found in Buchanan: occasionalism, pre-harmony, and instrumentalism (with its three-fold subdivision). In what follows, I will also ask the question about the actual representation of these views among some prominent thinkers around the time of Buchanan's typology. We will do so to see if occasionalism and pre-harmony were theologically live options for those who were reflecting on the

[130] Lee, "Occasionalism."
[131] Ignacio Silva, "A Cause among Causes? God Acting in the Natural World," *The European Journal for the Philosophy of Religion* 7, no. 4 (2015): 99–114.

PDA and CDA. To what extent, then, do we find these positions held around the mid-19th-century?

### *2.4.4.1 Occasionalism and Pre-Harmony*

First, can we find any occasionalists in nineteenth-century Britain? As is well-known, occasionalism was the view that became prominent in the seventeenth and eighteenth centuries.[132] In short, to hold occasionalism is to hold that "all causal efficacy in the universe belongs to God."[133] The eighteenth century was also the time of the British Newtonians and among them, we can see some very prominent occasionalists, as was pointed out by Peter Harrison. For example, according to Richard Bentley, "the great basis of all mechanism, is not itself mechanical, but the immediate *fiat* and finger of God, and the execution of divine law." [134]In short, at least several prominent Newtonians – including Bentley, William Whiston or Samuel Clarke – seem to subscribe to what we would call occasionalist DA.

But can we say anything about the popularity of occasionalism in the British context when readers were reading the works of natural theology by Paley and Chambers? I have not succeeded in finding any prominent British occasionalist among the 19th-century thinkers – with one, possibly two exceptions. The only explicit occasionalist of this period that I have identified is the Scottish philosopher and

[132] Their most significant representatives are Nicolas Malebranche, Louis de la Forge, Géraud de Cordemoy, Arnold Geulincx, and Johannes Clauberg. For why René Descartes should not be seen as one of them, see Nadler, *Occasionalism: Causation Among the Cartesians* (Oxford: Oxford University Press, 2010), 29–47. Nadler argues against the view of Daniel Garber who claims that Descartes was at least a partial occasionalist, that is, with respect to body-body causation.
[133] Nadler, *Occasionalism*, 1.
[134] Quoted in Harrison, "Newtonian Science, Miracles, and the Laws of Nature," 535.

mathematician Dugald Stewart (1753–1828). Just like Buchanan, so also Stewart offered his typology of DA in one of his works, this time consisting of eight "hypotheses."[135] I will not go over the details of these types as Stewart imagines them. The point is that while he admits to accepting occasionalism, he fails to identify any of his 19th-century contemporaries with the same view. While he says that his occasionalism is held by "our best and soundest philosophers,"[136] the only such person he quotes for support is the Newtonian Samuel Clarke (1675–1729), who died almost a century before Stewart. Eventually, after quitting Clarke, even Stewart confesses that

> Although, however, my opinion on this subject perfectly coincides with that of Dr. Clarke, I must own that it has not hitherto been the prevailing opinion among the learned, either of ancient or of modern times.[137]

Thus, it does not seem that we have any evidence for a more prominent representation of occasionalism in the 19th century, apart from the lone exception of Stewart.[138]

Is the situation different when it comes to the adherents of pre-harmony? It seems that, yet again, we have trouble finding the followers of this vision of DA. In his overview of DA models, Stewart does not cite any contemporary philosopher who espoused pre-harmony. The only example he does give is its most famous exponent, Gottfried Wilhelm Leibniz (1646–1716).[139] I have not been able to find any adherent of

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[135] Dugald Stewart, William Hamilton, ed., *The Collected Works of Dugald Stewart* (Edinburgh: Thomas Constable and Co., 1855), 15–6, 26–30, 369–79. Keeping his original designations, Stewart's DA proposals consisted of the following models: (1) Pre-established harmony, (2) Occasionalism, (3) Materialism, (4) "Active Powers communicated to Matter at its first formation", (5) "General Laws established by the Deity", (6) "Plastic or formative Nature", (7) "Ancient theory of mind", (8) "The universe is a machine formed and put in motion by the Deity."

[136] Ibid., 28.

[137] Ibid., 29.

[138] However, Lee suggested distinction between strong/global and weak/local versions of occasionalism. Lee, "Occasionalism." Nadler concurs with making similar distinctions: "There are different degrees of occasionalism and different kinds of occasionalists." Nadler, *Occasionalism*. 3.

[139] Stewart, *Collected Works*, 15–6.

pre-harmony in the 19th century, and we saw that Buchanan also referred only to Leibniz.

We have now briefly surveyed occasionalism and pre-harmony and found that these were not live options among the British intellectuals by the mid-19th century. It is now time to turn to the two remaining DA models that had become the most widespread already by the time of Darwin's *Origin* in 1859.

### *2.4.4.2 Mere Conservationism and Concurrentism*

We have seen that Buchanan's third DA model was that of instrumentalism, further subdivided into three types. Since his Type 2 corresponds to occasionalism – which we have already covered – we are left with his Type 1 (*mere conservationism*) and Type 3 (*concurrentism*). Having eliminated occasionalism and pre-harmony as live options around the mid-19th century, we are left with mere conservationism and concurrentism as the two most popular options. And while both employ secondary (instrumental) causes, they differ significantly in the way they deal with causal distribution among God and laws of nature. Whereas mere conservationism has laws of nature that do all the causal work, concurrentism shares these causal powers (in one way or another) between God and His created laws.

We have space to point to just a few examples to illustrate these respective positions. My purpose in doing so is to highlight where the interpretation of one's DA could become problematic and must have involved, in many cases, subjective judgment (consciously or unconsciously). A rare, clear case of mere conservationism could be seen, for example, in the *Bridgewater Treatise* (1833) of the renowned Scottish

theologian Thomas Chalmers (1780–1847). In it, he explicitly talks about the causal sufficiency of the Creator's laws:

> For the continuance of the system and of all its operations, we might *imagine* a *sufficiency in the laws of nature*; but it is the first construction of the system which so palpably calls for the intervention of an artificer, or demonstrates so powerfully the fiat and finger of a God.[140]

But while Chalmers says here that we can "imagine" such a self-sufficient system (created and now conserved by God), he talks of the need for divine interventions in geological eras.[141] Mere conservationism, it seems, was more easily imagined than held.

Concurrentism, on the other hand, is the theologically artful balancing act between the extremes of mere conservationism and occasionalism, while preserving both the divine and creaturely agency. Seen this way, it should not be perhaps surprising that many of Buchanan's contemporaries attempted to adopt this middle (concurrentist) position as the proper way to think about DA. However, the more challenging issue was, as one might expect, how exactly would the details of such a mediating view look like.

Although Buchanan does not provide any historical examples, this concurrentist position has its clear antecedents. According to Alfred Freddoso, "it flourished among the late medieval Aristotelian scholastics and certain figures in the early modern period."[142] Notably, the best-known version of concurrentism is the so-called *double agency* of Thomas Aquinas (c. 1225–1274), also dubbed as Thomistic DA.

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[140] Thomas Chalmers, *On the Power, Wisdom and Goodness of God as Manifested in the Adaptation of External Nature to the Moral and Intellectual Constitution of Man*, Vol. 1 (London: William Pickering, 1833), 27. The emphases are mine.
[141] Ibid., 28.
[142] Freddoso, "God's General Concurrence with Secondary Causes," 554.

We should keep in mind that concurrentism is a larger category that encompasses Aquinas' double agency, and other possible versions of concurrentist DA. This is seen already in the key difference, namely, the distribution of causal powers between God and creation. That is, concurrentism is less specific and states that "a natural effect is produced, it is immediately caused by both God and the creature" (Lee's definition above). On the other hand, Thomistic DA has an effect in the universe produced *wholly both* by God and secondary causes.[143]

Buchanan, however, did not propose the details of his view of concurrentism. We do not know, for example, if he would agree on the specifics with Aquinas. Whatever the details, concurrentism was here to stay, and the mid-19th century saw some fierce theological struggles with what Livingston called "newly emerging conception of divine immanence."[144] Increasingly, there were many who proposed something like concurrentism – that God is acting in some way through laws of nature. Again, this should not be surprising if we recall that concurrentism is the middle way between the extremes of mere conservation and occasionalism. But what this "in some way" meant, naturally differed, and so its varieties abounded.[145]

## 2.5 Summary of Buchanan's Themes

In sum, the primary purpose of my work will be to explore the various readings of both the PDA and CDA. In order to embark on this investigative journey, I have suggested a

[143] Silva, *Providence and Science in a World of* Contingency, 101.
[144] Livingston, *Religious Thought in the Victorian Age*, 40.
[145] Apart from Buchanan, there were other examples who were explicit about their concurrentism (without using the label). For example, cf. Thomas Brown, *Inquiry into the Relation of Cause and Effect*, 105; or McCosh, *The Method of Divine Government,* 90.

key-themes approach that will aim to focus on the concerns and categories as they appeared to the various thinkers, especially before 1860. This is because the period after 1860 will see the emergence of new themes related to DA. Notably, these will include biblical criticism, natural selection, thermodynamics, theodicy, the efficacy of prayer, comparative religion, or free will and determinism.[146] Thus, focusing on the period before 1860 (with some exceptions) will enable us to reflect on the intellectual concerns in a period where most discussions on Paley and Chambers were taking place.

I have explained my reasons for using Buchanan's text as a guide which contains four key topics relevant for the pre-*Origin* period: compatibility, law-cause distinction, interventionism, and God-world relationship. Buchanan views his "instrumentalist" model as the most widespread in his day and subdivides it into three sub-types. The first and third of these are identified with *mere conservationism* and *concurrentism* and I have shown why these were the two most widespread DA models around the mid-19th century. In the next two chapters (3 and 4), we will turn to exploring the features of the PDA and CDA, before surveying their various readings in the 19th century (Chapters 5–6) and beyond (Chapters 7–8). It will be in exploring these various readings of the PDA and CDA (Chapters 5–8) that we will see Buchanan's themes repeatedly reemerging.

[146] See, for example, the relevant chapters in Livingston, *Religious Thought in the Victorian Age*; and Mullin, *Miracles and the Modern Religious Imagination*.

# 3. Features of Paleyan Divine Action

## 3.1 Paleyan Features: Introduction

In this and the next chapter, I will be looking at the various readings of the PDA and CDA. Here is how I intend to proceed. I will introduce what I will call *features* of DA present in Paley and Chambers. By *feature* I will simply mean *a textual insight into the author's presentation of DA*. Or, in the simplest terms, a feature is a characteristic that either Paley or Chambers reveals to us about his vision of DA. These features can be found scattered throughout multiple diverse passages and chapters of these two authors. The reason why exploring these features is crucial and twofold: (1) they will give us a much more rounded picture of both the PDA and CDA, and (2) as we will see, many of them are typically not found in the discussions of the PDA or CDA by the readers of Paley and Chambers from the 19th century until the present. However, to assess both the PDA and CDA, we need a fuller picture of what both Paley and Chambers thought regarding their views of DA. Hence, I want to accomplish this by listing (and commenting on) these features for both the PDA and CDA.

At the same time, knowing about these features in Paley and Chambers will enable us to pay attention to at least two more important things. First, whether the commentators on the PDA and CDA focus only on some features to the neglect of others. And second, it can allow us to notice the potential interpretive gaps. Since we are dealing here with texts where these features are present, we can reflect on two types of textual gaps along the way: namely, various terminological ambiguities as well as

internal tensions among some of the features (within the PDA or CDA).[147] After we become aware of these features and their potential ambiguities as well as internal tensions, we can be also better equipped to spot to what extent did the readers of Paley and Chambers notice them as well and how did they resolve to fill in these interpretive gaps.

In my investigation, then, I will not assume that there is an underlying consistency running across the texts of Paley and Chambers. More concretely, for our purposes, we should not begin by supposing that a given author has provided an internally consistent model of DA without any tensions or possible contradictions. In my view, trying to construct the PDA and CDA from their relevant texts is not an easy task – indeed, if it is possible at all, while trying to engage with all the relevant features. Importantly, I will not attempt to *(re)construct* the PDA or CDA here or in the chapters that follow. That is not my task here. Instead, I will merely present what I take to be the key features of the PDA and CDA, and in doing so, point to the many complexities in their respective DA visions. Then, in chapters 5–8, we will see how these features are taken up and interpreted and perhaps – and crucially – even relativized, neglected, or ignored. Paying attention to which of these features were commented on or neglected by the readers of Paley and Chambers, should itself be a hermeneutical move forward, as it is something I find missing in the literature on these two authors.

My hope is that introducing these features of the PDA and CDA will serve not only to familiarize the reader with what Paley and Chambers claimed but also to assess the extent to which they could be seen as internally consistent. There are at least three

[147] I will elaborate on both textual and extratextual gaps in Chapter 9.

reasons why such an investigation should be profoundly fruitful: First, we could conclude that the PDA and CDA are more complex than scholars had thought. Even such a realization might be a very valuable endpoint. Second, we could aim to locate where the terms and reasoning become unclear and problematic, and perhaps where some internal tensions occur. And thirdly, it will prepare us to engage with the readers of the PDA and CDA in the following chapters and their use and readings of these features. Overall, I hope that this will give us a more nuanced and fuller picture of the PDA and CDA.

## 3.2 Paleyan Features: Overview

Let us move on to the Paleyan features themselves. For an overview and ease of reference, I will start by offering a paraphrased summary. I will follow this by looking at individual features, providing a fuller quote on which they are based, and then supplying my brief commentary. While the following features do not completely exhaust the list of Paley's claims related to the PDA, I have decided to limit them to twenty that I see as the most relevant. This also means that I can be quite plausibly challenged on this point. That is, a reader may ask why I have chosen these features and perhaps left out something else that was of relevance in Paley's text. My reply is that I have done my best to choose the most relevant features related to the PDA. The same point can be said for the CDA in Chapter 4.[148]

[148] If future commentators would like to challenge my selection of the Paleyan or Chambersian features, I will be happy to engage with their objections.

In listing these Paleyan features, I will use only the text of *Natural Theology* of 1802.[149] As a shorthand for the individual Paleyan features, I will use the designations P1, P2, P3, and so on. The features are generally numbered by the order they appear in *Natural Theology*, that is, P1 being the earliest and P20 the latest feature in the work. I start, then, by providing their shortened or paraphrased form and will elaborate on them below.

*Summary of the PDA features:*

P1 We are ignorant of the details of DA.

P2 A watch cannot be explained by appealing merely to a "principle of order." What is also needed, is the intelligence of the watchmaker.

P3 A watch could be produced by a law, but any such law implies an agent.

P4 The discovery of a self-replicating watch would only increase the admiration for the skill of the Designer.

P5 "Contrivance" can be produced by instrumental causes, but they do not fully account for its production.

P6 Design, contrivance, and order "imply the presence of intelligence and mind."

P7 Even a long or infinite series of self-replicating watches would not explain the existence of such a series and needs its designer.

P8 The above is true even if there is no "first" watch.

P9 In addition, contrivance and design also require a directing "adapting hand."

P10 Probably, watches are not made immediately by God. However, even if the watch was not made immediately by God, such a chain of instrumental causes still implies His presence at the beginning of the entire series of watches.

P11 The maker behind the series of self-replicating watches is, properly speaking, the maker (or cause) of every individual watch in such series.

P12 If we cannot trace the functioning of a mechanism in an animal, there are two options: either this explanation is as of now too subtle or there is something else contributing to it than laws of nature.

P13 God acts through instrumental causes which are His general laws.

[149] For convenience, I will use the Oxford World's Classics version of 2006, edited by Matthew Eddy and David Knight (which uses Paley's text of 1802), and I will refer to it in footnotes as NT.

P14 If God wants to achieve a specific purpose in nature, He does not do so by making new laws or suspending the existing ones. Instead, He does so by "interposing" the parts of the contrivance to function in accordance with the general laws.

P15 There can be a very long series of secondary causes in nature, but ultimately, these must be traceable to God.

P16 The details about the nature of the secondary causes are left open and may be effected by other "intelligent beings." What is crucial, however, is that the chain of causation was planned and started by an intelligent mind. God acts through these secondary causes because he prescribed limits to His power.

P17 God's relation to the world and His influence in it is compared to the action of gravity.

P18 Through laws of nature, God's agency can be described as universal. Also, through God's sustaining of these laws, God could be said to be omnipresent – or virtually present – in the world.

P19 At times, God does interfere in nature, including His interruption of laws of nature. Due to our epistemic limitations, the effects of such divine interference might be hidden from our view.

P20 God providentially governs the world, but not through miraculous interventions. Such a mode of providentialism would result in a very different world from our own.

## 3.3 Paleyan Features: Commentary

In this section, I will provide fuller quotes, on which these features are based, along with my brief comments. This will be followed by my remarks on the character of the PDA that we could glance from these Paleyan features.

*P1. We are ignorant of the details of DA.*

> Nor would it, I apprehend, weaken the conclusion, that we had never seen a watch made; that we had never known an artist capable of making one; that we were altogether incapable of executing such a piece of workmanship ourselves, or of *understanding in what manner it was performed*: all this being no more than what is true of some exquisite remains of ancient art, of some lost arts, and, to the generality of mankind, of the more curious productions of modern manufacture. Does one man in a million know how oval frames are turned? *Ignorance of this kind* exalts our opinion of the unseen and unknown artist's skill,

> if he be unseen and unknown, but raises no doubt in our minds of the existence and agency of such an artist, at some former time, and in some place or other.[150]

Paley mentions this rather striking comment regarding the specifics of DA already at the end of the first chapter. While the chapter begins with the famous watch analogy ("In crossing a heath…"), it ends with replies to eight possible objections a skeptic might raise. The quote above comes from Paley's reply to the very first objection, related to our ignorance of how nature's contrivances were made. In other words, Paley here admits that we indeed do not know how the divine Artist created the individual pieces of workmanship and "in what manner it was performed."

In other words, we can be sure that there is a divine Artist behind nature's arts, but we cannot be certain of the mode of its DA. Since we cannot make a given contrivance ourselves and since we have never seen it made, we would do well to remain silent on the exact mode of its production. But while we have "[i]gnorance of this kind", it does not diminish the bigger point, that is, the very existence, intelligence, and agency of such a Creator. We will encounter a similar epistemic limitation in a later feature (P19).

*P2. A watch cannot be explained by appealing to a "principle of order" that is "distinct from the intelligence of the watch-maker."*

> Nor … would it yield his inquiry more satisfaction to be answered, that there existed in things a principle of order, which had disposed the parts of the watch into their present form and situation. He never knew a watch made by the principle of order; nor can he even form to himself an idea of what is meant by a principle of order, distinct from the intelligence of the watch-maker.[151]

[150] NT, 8. The emphases are mine.

[151] Ibid., 9.

Such a claim implies that a watch *is* at least partially explainable by a "principle of order," but one which is not disconnected from the watch-making "intelligence" behind it. Such "principle of order" is causally admissible only as long as we posit its Creator at the beginning. This point is supported by more Paleyan principles that allow for a significant role of laws of nature and secondary causes, as opposed to God's immediate creation (P3–7, P10–16).

*P3. A watch could be produced by a law, but any such law implies an agent.*

> And not less surprised to be informed, that the watch in his hand was nothing more than the result of the laws of *metallic* nature. It is a perversion of language to assign any law, as the efficient, operative cause of any thing [*sic*]. A law presupposes an agent; for it is only the mode, according to which an agent proceeds: it implies a power; for it is the order, according to which that power acts. Without this agent, without this power, which are both distinct from itself, the *law* does nothing; is nothing.[152]

Thus, while even some later authors of natural-theological works deny that all "contrivances" can be produced through laws of nature (or at least the currently known laws of nature), Paley shows no hesitancy in saying that the existence of a "watch" can have a nomological explanation. At the same time, such nomological production is, as we will see, both teleological and theological. But as long as Paley allows the watch to be produced in accordance with laws of nature, it seems perfectly permissible for us to speak of this process as *nomological creation*, as opposed to *special creation* (in the sense of interventionist DA).

[152] Ibid., 9–10; cf. 216–7. The emphasis is original.

*P4. The discovery of a self-replicating watch would only increase the admiration for the skill of the Designer.*

> Suppose, in the next place, that the person who found the watch, should, after some time, discover that, in addition to all the properties which he had hitherto observed in it, it possessed the unexpected property of producing, in the course of its movement, another watch like itself (the thing is conceivable); … The first effect would be to increase his admiration of the contrivance, and his conviction of the consummate skill of the contriver.[153]

Finding the natural causes that would explain the self-replicating process would not remove the need for God. On the contrary, it would be "but an additional reason" for the need of the original Contriver. Note that Paley does not talk about the *mode* through which such contrivances were supposed to emerge. This passage, then, is unclear about whether the original self-replicating watch had to be produced directly by God through "special creation" or some other means. However, we have already seen that Paley admits his ignorance of the exact mode of DA (P1). Similarly, we will see, that he thought it probable that the watch came into existence through secondary causes (or potentially, God's collaboration with secondary causes), that is, not merely through special creation (P10–16).

*P5. "Contrivance" can be produced by instrumental causes, but they do not fully account for its production.*

> Marks of design and contrivance [in watches produced by another self-replicating watches] are no more accounted for now, than they were before.[154]

[153] Ibid., 11.

[154] Ibid., 12.

Paley's view of "contrivance" is that it need not be produced directly by a Contriver. That is, he speaks of contrivances present in the long series of watches that are produced by self-replication. On this understanding, contrivances are not products made by divine interventions, but rather by secondary causes. Although self-replicating watches – which have the function of secondary causes in production of other watches – cannot fully account for the existence of contrivances, they can certainly produce them. As is clear from other principles, God is still needed to start the whole process (P2–7).

*P6. Design, contrivance, and order "imply the presence of intelligence and mind."*

> Arrangement, disposition of parts, subserviency of means to an end, relation of instruments to an [*sic*] use, imply the presence of intelligence and mind. No one, therefore, can rationally believe, that the insensible, inanimate watch … was the proper cause of the mechanism we so much admire in it; could be truly said to have constructed the instrument.[155]

While design, contrivance, and order imply "intelligence and mind", nothing is said (again) about how God acts in creating the individual instances of design. What is emphasized is that divine intelligence is causally needed behind this creative process.

*P7. Even a long or infinite series of self-replicating watches would not explain the existence of such a series and needs its designer.*

> Nor is any thing [*sic*] gained by running the difficulty further back, i. e. by supposing the watch before us to have been produced from another watch, that from a former, and so on indefinitely. Our going back ever so far brings us no nearer to the least degree of satisfaction upon the subject. Contrivance is still unaccounted for. We still want a contriver. A designing mind is neither supplied by this supposition, nor dispensed with. … There is no difference as to the point in question … between a series which is finite, and a series which is infinite. A

[155] Ibid., 12.

> chain, composed of an infinite number of links, can no more support itself, than a chain composed of a finite number of links.[156]

Here, Paley hypothesizes an infinite chain of self-replicating watches. He does not accept such a scenario and is only "supposing" it for the sake of the argument. But even if one wanted to argue against divine design based on such an infinite series, the argument would get the objector nowhere. Any chain, including an infinite one, "cannot support itself" and needs the very first link on which the whole chain hangs.

*P8. Even if the series of self-replicating watches was indeed infinite, it would still need its cause. Thus, this holds true even if there is no "first" watch.*

> (a) A chain, composed of an infinite number of links, can no more support itself, than a chain composed of a finite number of links. And of this we are assured, (though we never *can* have tried the experiment), because, by increasing the number of links, from ten for instance to a hundred, from a hundred to a thousand, etc. we make not the smallest approach, we observe not the smallest tendency, towards self-support. There is no difference in this respect (yet there may be a great difference in several respects) between a chain of a greater or less length, between one chain and another, between one that is finite and one that is indefinite.[157]
>
> (b) The question is not simply, How came the first watch into existence? which question, it may be pretended, is done away by supposing the series of watches thus produced from one another to have been infinite, and consequently to have had no such *first*, for which it was necessary to provide a cause. This, perhaps, would have been nearly the state of the question, if nothing had been before us but an unorganised, unmechanised, substance, without mark or indication of contrivance. It might be difficult to shew that such substance could not have existed from eternity, either in succession (*if it were possible, which I think it is not*, for unorganised bodies to spring from one another), or by individual perpetuity.[158]

[156] Ibid., 13.

[157] Ibid., 13. The emphasis is original.

[158] Ibid., 14. The first emphasis is original.

Paley is here at least hypothetically open to the possibility that the series is infinite and, therefore, without any first watch. However, he qualifies such a thought experiment with such an infinite series of self-replication watches by saying "if it were possible, which I think it is not."

*P9. In addition, contrivance and design also require a directing "adapting hand."*

> And the question, which irresistibly presses upon our thoughts, is, whence this contrivance and design. The thing required is the intending mind, the adapting hand, the intelligence by which that hand was directed.[159]

In the short paragraph above, Paley almost restates the point we have just made previously in P6 – that the design and order in the universe need "the intending mind." However, there is one rather interesting change in this restatement. Namely, it is not just the presence of the divine mind *behind* the process but also "the adapting hand", somehow directed by divine intelligence. The phrase appears to be original with Paley and is not found elsewhere, apart from authors who quote him. What does Paley mean by it? My suggestion is that these could be other "intelligences" or "plastic natures" who are "guiding" at least some parts of the creation process (P15).

Still, it seems to me that this "adapting hand" is an expression open to several interpretations. It is possible that Paley understands it as divine intervention (see P19), but not necessarily. Yet, the importance of this "adapting hand" should not be overlooked – it shows that there is more going on in the production of the watches than just the involvement of general laws instituted by the originating First Cause. This "adapting hand" might relate to another feature below (P14).

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[159] Ibid., 14.

*P10. Probably, no individual watch in the long series of watches was made by God immediately. However, even if these watches were not made by God immediately, such a chain of instrumental causes still implies His presence at the beginning of the watch production.*

> (a) [The discoverer of the self-replicating watch] would reflect, that though the watch before him were, *in some sense*, the maker of the watch, which was fabricated in the course of its movements, yet it was in a very different sense from that, in which a carpenter, for instance, is the maker of a chair; the author of its contrivance, the cause of the relation of its parts to their use. With respect to these, the first watch was no cause at all to the second: in no such sense as this was it the author of the constitution and order, either of the parts which the new watch contained, or of the parts by the aid and instrumentality of which it was produced. We might possibly say, but with great latitude of expression, that a stream of water ground corn: but no latitude of expression would allow us to say, no stretch of conjecture could lead us to think, that the stream of water built the mill, though it were too ancient for us to know who the builder was. What the stream of water does in the affair is neither more nor less than this: by the application of an unintelligent impulse to a mechanism previously arranged, arranged independently of it, and arranged by intelligence, an effect is produced, viz. the corn is ground. … Therefore, … [t]hough *it be now no longer probable, that the individual watch which our observer had found, was made immediately by the hand of an artificer*, yet doth not this alteration in any wise affect the inference, that an artificer had been originally employed and concerned in the production. The argument from design remains as it was.[160]

I will comment on the causation in this rather longer passage below. For now, notice that in the scenario with self-replicating watches, Paley admits that "it be now no longer probable, that the individual watch which our observer had found, was made *immediately* by the hand of an artificer." Although expressed only in terms of probability,[161] it comes across as one of the stronger statements in Paley that to a large extent rejects the immediate creation of the imagined watches.

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[160] Ibid., 11–12.

[161] Paley's use of probability in natural theology was influenced by Joseph Butler: "Throughout his writings, Paley accepts that God's existence cannot be rigorously proved like a theorem in geometry. Bishop Joseph Butler, in his famous *Analogy of Religion* (1736), had written that 'probable evidence is essentially distinguished from demonstrative by this, that it admits of degrees; and all variety of them, from the

> (b) No one, therefore, can rationally believe, that the insensible, inanimate watch, from which the watch before us issued, was the *proper cause* of the mechanism we so much admire in it; could be truly said to have constructed the instrument, disposed its parts, assigned their office, determined their order, action, and mutual dependency, combined their several motions into one result, and that also a result connected with the utilities of other beings. All these properties, therefore, are as much unaccounted for, as they were before.[162]

In these two quotations above, Paley reveals to us his thinking about causation of which there are two basic types: *proper* and, what can be called, *instrumental* causes. While Paley admits that a self-replicating watch would be "in some sense" the maker of the watch, yet, it was in a very different sense from that, in which a carpenter, for instance, is the maker of a chair." For him, "the watch would have contributed to the production of the new watch" but would still require the intelligence of the contriver. The instrumental cause is not the "proper cause." If we appeal only to the instrumental causes, the new watches would still be "unaccounted for." All this, of course, means that both instrumental and proper causes are needed to explain a given state of affairs. This might sound quite like a version of a concurrentist DA.[163] Interestingly, as we shall see, Chambers makes a different distinction – between *originating* and *sustaining* cause (see CV9 in the next chapter).

*P11. The maker behind the series of self-replicating watches is, properly speaking, the maker of every individual watch in such series.*

> (a) Our observer would further also reflect, that the maker of the watch before him, was, in truth and reality, the maker of every watch produced from it; there

highest moral certainty, to the very lowest presumption'. … For Paley as for Butler, science (natural history and natural philosophy) was therefore important in telling us what God had, in all probability, actually done." NT, xx.

[162] Ibid., 12–13. The emphasis is mine.

[163] A very similar reasoning about Paley's "proper cause" is found, for example, already in Aquinas' *Quaestiones De Potentia Dei*, question 3, article 7.

> being no difference (except that the latter manifests a more exquisite skill) between the making of another watch with his own hands by the mediation of files, laths, chisels, etc. and the disposing, fixing, and inserting, of these instruments, or of others equivalent to them, in the body of the watch already made, in such a manner, as to form a new watch in the course of the movements which he had given to the old one. It is only working by one set of tools, instead of another.[164]
>
> (b) [A parent] is the cause of his offspring in the same sense as that in which a gardener is the cause of the tulip which grows upon his parterre, and in no other. … We attribute nothing of this to his agency; yet it may still be true, that, without the gardener, we should not have had the tulip.[165]

This is a point worth emphasizing since it reveals to us that Paley operates with a broader notion of divine "creation" and what it means for God "to create." According to the first passage (P11a), there is "no difference" between the watch-maker making a watch "with his own hands" or by using other mediating instruments, in this case, self-replicating watches. Thus, God is to be seen as the creator of any of the watches in the long series of self-replicating watches, even though he might not produce them directly (as seen in P10). On this view, there can be the "mediation" of various "instruments" which constitute the maker's "tools" by which he works. This shows that, for Paley, to say that "God created the watch", does not imply its direct creation. Rather, it is consistent with the employment of mediating causes. The analogy of the gardener as a co-cause of the tulip (P11b) illustrates this nicely.

*P12. If we cannot trace the functioning of a mechanism in an animal, there are two options: either this explanation is as of now too subtle or there is something else contributing to it than laws of nature.*

> The difference between an animal and an automatic statue, consists in this,—that, in the animal, we trace the mechanism to a certain point, and then we, are

[164] NT, 14–15.

[165] Ibid., 34.

> stopped; either the mechanism becoming *too subtile* [sic] *for our discernment*, or something else beside the known laws of mechanism taking place; whereas, in the automaton, for the comparatively few motions of which it is capable, we trace the mechanism throughout.[166]

Notice that Paley does not think that an unexplained biological process calls for the god-of-the-gaps. Instead, a possibility still remains that the unexplained mechanism is "too subtile [sic] for our discernment."

*P13. God acts through instrumental causes which are His general laws.*

> Whatever is done, God could have done, without the intervention of instruments or means: but it is in the construction of instruments, in the choice and adaptation of means, that a creative intelligence is seen. … [T]he Deity, acting himself by general laws, will have the same consequences upon our reasoning, as if he had prescribed these laws to another. It has been said, that the problem of creation was, 'attraction and matter being given, to make a world out of them:' and, as above explained, this statement perhaps does not convey a false idea.[167]

Here, Paley clearly states that God acts through natural laws as His instruments. However, the exact sense of this is surely another interpretive gap. Recall Buchanan's discussion of his three types of instrumentalism (Chapter 2). This notion of instrumentalism (quoted above) is found in chapter three of *Natural Theology*. If the reader continues to read also Paley's chapter 23 and beyond, she will encounter some potentially critical features (P17–20), in light of which she can qualify this feature. But still on the same page (as P13), we have another insightful feature (P14).

[166] Ibid., 17.

[167] Ibid., 27.

*P14. If God wants to achieve a specific purpose in nature, He does not do so by making new laws or suspending the existing ones. Instead, He does so by "interposing" the parts of the contrivance to function in accordance with the general laws.*

> These are general laws; and when a particular purpose is to be effected, it is not by making a new law, nor by the suspension of the old ones, nor by making them wind and bend and yield to the occasion (for nature with great steadiness adheres to, and supports them), but it is, as we have seen in the eye, by the interposition of an apparatus corresponding with these laws, and suited to the exigency which results from them, that the purpose is at length attained. As we have said, therefore, God prescribes limits to his power, that he may let in the exercise, and thereby exhibit demonstrations, of his wisdom.[168]

Thus, according to this feature, God does not alter laws of nature to achieve His purposes in His creation. But the reader might also notice that there is some DA still taking place. In the creation of contrivances (such as the eye), God acts "by the interposition of an apparatus corresponding with these laws." This all takes place while God has deliberately limited his powers to work through His instrumental causes.

This might be one curious gap for the reader: how does this interposition happen? The *Oxford English Dictionary* (OED) provides several meanings, one of which is "to place between (in space or time)" but also "to cause to intervene." Should we imagine God as somehow moving the parts of, say, an eye, without changing laws of nature? Is this what Paley means by his "adapting hand" (P9)? If so, where did these parts come from, in the first place? Of course, it could be filled in as another gap that God created them *ex nihilo*, but this is not what *Natural Theology* says, at least not explicitly.

*P15. There can be a very long series of secondary causes in nature, but ultimately, these must be traceable to God.*

[168] Ibid., 27.

> Neither mechanism, therefore in the works of nature, nor the intervention of what are called second causes, (for I think that they are the same thing,) excuse the necessity of an agent distinct from both. … There may be many second causes, and many courses of second causes, one behind another, between what we observe of nature, and the Deity; but there must be intelligence somewhere; there must be more in nature than what we see; and, amongst the things unseen, there must be an intelligent, designing, author.[169]

Thus, even revealing the construction of a mechanism (in nature) through secondary causes does not do away with the Deity. While Paley does not use the language of contingency and necessity, this could be plausibly reformulated into the claim that all contingent entities need to have their ultimate source in something that is necessary. Notice also the phrasing "there must be intelligence somewhere," which is rather vague. Yet, in this context, the most straightforward reading appears to be that this "somewhere" refers to the very beginning of the chain of secondary causes (cf. P6–8, P10–11), but the gap remains.

*P16. The details about the nature of the secondary causes are left open and may be effected by other "intelligent beings." What is crucial, however, is that the chain of causation was planned and started by an intelligent mind. God acts through these secondary causes because he prescribed limits to His power.*

> (a) There may be plastic natures, particular intelligent beings, guiding these motions in each case: or they may be the result of trains of mechanical dispositions, fixed beforehand by an intelligent appointment, and kept in action by a power at the centre. But in either case, there must be intelligence.[170]

> (b) As we have said, therefore, God prescribes limits to his power, that he may let in the exercise, and thereby exhibit demonstrations, of his wisdom. For then, i. e. such laws and limitations being laid down, it is as though one Being should have fixed certain rules; and, if we may so speak, provided certain materials; and, afterwards, have committed to another Being, out of these materials, and in subordination to these rules, the task of drawing forth a creation: a supposition

[169] Ibid., 218.

[170] Ibid., 219.

> which evidently leaves room, and induces indeed a necessity, for contrivance. Nay, there may be many such agents, and many ranks of these.[171]

Paley then gives us two options as to the character of the secondary causes: either they are the so-called plastic natures or mechanical causes.[172] Still, both of these require an intelligent Creator. It is possible the employment of such mediating agents could be seen as a rejection of both occasionalism and determinism.[173]

*P17. God's relation to the world and His influence in it is compared to the action of gravity.*

> The great *energies* of nature are known to us only by their effects. The substances which produce them, are as much concealed from our senses as the divine essence itself. *Gravitation*, though constantly present, though constantly exerting its influence, though every where [*sic*] around us, near us, and within us; though diffused throughout all space, and penetrating the texture of all bodies with which we are acquainted, depends, if upon a fluid, upon a fluid, which, though both powerful and universal in its operation, is no object of sense to us; if upon any other kind of substance or action, upon a substance and action from which *we* receive no distinguishable impressions. Is it then to be wondered at, that it should, in some measure, be the same with the divine nature?[174]

We have now reached the final four Paleyan features, which I find both the most remarkable and most neglected by almost all commentators on his *Natural Theology*. In this intriguing passage, Paley reveals his vision about both how God is related to the world as well is He acts in it. The way he does it is by comparing God to gravity. As he puts it, gravity is "constantly present" and "constantly exerting its influence." For Paley,

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[171] Ibid., 27.

[172] The notion of "Plastic Nature" comes from Ralph Cudworth. Cf. Sarah Hutton, "Ralph Cudworth", *The Stanford Encyclopedia of Philosophy* (Winter 2023 Edition), Edward N. Zalta & Uri Nodelman (eds.), https://plato.stanford.edu/archives/win2023/entries/cudworth/.

[173] Cf. Ibid.

[174] NT, 214. The emphases are original.

this is “in some measure” analogical to how God acts in our world as well. Thus, God is not only imagined to act at every moment but is also “diffused throughout all space, and penetrating the texture of all bodies with which we are acquainted.” Just like gravity, then, God acts constantly and with his presence pervades every nook and cranny of the universe.

In reading this passage, one must but wonder how much inspiration he took from Newton’s *Queries* attached to his *Opticks* (1706). In this famous section, Newton discussed God’s “sensorium” as well as his view of gravity as the expression of God’s will.[175] Since there has been a long debate about Newton’s meaning of God’s sensorium, it should not be surprising that it should be similarly puzzling in the case of Paley’s reasoning attested in the current feature. Whatever is beyond this analogy with gravity, Paley wanted to depict his God as present everyone – a point confirmed also in the next feature.

*P18. Through laws of nature, God’s agency can be described as universal. Also, through God’s sustaining of these laws, God could be said to be omnipresent – or virtually present – in the world.*

> A law refers us to an agent. Now an agency so general, as that we cannot discover its absence, or assign the place in which some effect of its continued energy is not found, may, in popular language at least, and, perhaps, without much deviation from philosophical strictness, be called universal: and, with not quite the same, but with no inconsiderable propriety, the person or Being, in whom that power resides, or from whom it is derived, may be taken to be omnipresent. He who upholds all things by his power, may be said to be every where [*sic*] present. This is called a virtual presence. There is also what metaphysicians denominate an essential ubiquity: and which idea the language of scripture seems to favour: but the former, I think, goes as far as natural theology carries us.[176]

[175] Cf. John Henry, “Newton, the Sensorium of God, and the Cause of Gravity,” *Science in Context*, vol. 33, no. 3, 2020, pp. 329–51.
[176] NT, 232.

Strictly speaking, the quote above contains two features – God's universal activity and His omnipresence. But since Paley links these two closely together in the same passage, I will treat them jointly as well. First, the PDA is described here as "universal." This is taken by Paley to mean as God's acting through his general agency, that is, laws of nature which are always at work.

Second, Paley speaks here also of God's omnipresence in the created world. Yet, we need to be careful about what how such theological language is employed here. Paley explains that since God "upholds all things by his power", it is in this sense that that He "may be said to be every where present." He further comments that the term for this is "virtual presence." This harkens back to Newton's comments about how Newton saw God present in the universe. In his *General Scholium* (appendix to the second edition of his *Principia*), Newton noted that "[God] is omnipresent not *virtually* only but also *substantially*; for virtue cannot subsist without substance."[177] Thus, the basic distinction when discussing God's omnipresence was whether it was of a *virtual* or *substantial* kind.[178] The bottom line is that there are more ways of understanding the notion of divine immanence, some of which find a better fit under classical theism, pantheism, or panentheism.[179] If not further explicated, different readers could understand divine omnipresence differently.

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[177] Isaac Newton, *The Mathematical Principles of Natural Philosophy*, vol. 2 (London: 1729), 390. The emphases are original.

[178] This distinction can be traced at least back to Thomas Aquinas. See his *Summa Theologiae* I.8.1.

[179] Cf. Robert Oakes, "Divine Omnipresence and Maximal Immanence: Supernaturalism versus Pantheism," *American Philosophical Quarterly* (Oxford) 43.2 (2006): 171–179.

Fortunately, Paley minimizes the potential confusion by telling is what kind of omnipresence he had in mind – God's *virtual* presence, through His sustaining of laws of nature. Still, even with such a qualifier, the notion of divine omnipresence could be construed in different ways and in such a way, constitutes another interpretative gap.[180] We will see the same feature (divine omnipresence) also in the CDA, yet perhaps with no less ambiguity.

*P19. At times, God does interfere in nature, including His interruption of laws of nature. However, due to our epistemic limitations, the effects of such divine interference might be hidden from our view.*

> Although therefore the *Deity, who possesses the power of winding and turning, as he pleases, the course of causes which issue from himself, do [*sic*] in fact interpose to alter or intercept effects, which without such interposition would have taken place*, yet is it by no means incredible, that his Providence, which always rests upon final good, may have made a *reserve* with respect to the manifestation of his interference, a part of the very plan which he has appointed for our terrestrial existence, and a part conformable with, or, in some sort, required by, other parts of the same plan. It is at any rate evident, that a *large and ample province remains for the exercise of Providence, without its being naturally perceptible by us*; because obscurity, when applied to the *interruption of laws*, bears a necessary proportion to the imperfection of our knowledge when applied to the laws themselves, or rather to the effects, which these laws, under their various and incalculable combinations, would of their own accord produce.[181]

In my view, this is one of the most important passages for our insights into the PDA. It is found almost at the very end of Paley's *Natural Theology*, in its penultimate chapter 26, on "The Goodness of the Deity."[182] This passage alone contains what could be seen even

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[180] Cf. William J. Wainwright, "Omnipotence, omniscience, and omnipresence", in Charles Taliaferro, Chad Meister, eds., *The Cambridge Companion to Christian Philosophical Theology* (New York: Cambridge University Press, 2010), 46–65 (52–64).

[181] NT, 270. Only the second emphasis is original.

[182] I have found it mentioned only in Niall O'Flaherty, *Utilitarianism in the Age of Enlightenment: The Moral and Political Thought of William Paley* (Cambridge: Cambridge University Press, 2019), 157. Elaborating on the passage above, O'Flaherty had already discussed the presence of interventionism in Paley in his earlier article; see O'Flaherty, "The Rhetorical Strategy of William Paley's *Natural Theology* (1802): Part 2," 135.

as two separate features (for convenience, I will keep them together since they are very closely linked). First, Paley says here quite unambiguously that God not only has the power to "interpose" ("the power of winding and turning, as he pleases"), but that he in fact does so. We are not told how often or on what occasions. The use of the present simple tense ("do in fact interpose") indicates that such interferences are not only a thing of the past that happened, say, during the initial creation. God can and does intervene with His creation even today. In other words, this is the only and, at the same time, the clearest indication in the text that divine interventionism is indeed part of the PDA. I suggest the importance of this feature deserves its own label and so I will refer to it as the *Paleyan interventionist feature*, or simply by the acronym PIF. Closely tied to the PIF, is Paley's next feature about our epistemic limitations to discern such interruptions.

The first part of the quote is followed by Paley's claim that due to our epistemic limitations, we cannot identify when and where these interruptions happen. As Paley puts it, it is possible ("by no means incredible") that the "manifestations of his interference" are not "naturally perceptible by us." Such divine hiddenness might be even "required" by the Creator's plan. This is true with respect to divine providence in general, but also in the case of the "interruption of laws." Our perceptual and cognitive abilities are simply not suited to detect such subtle operations of the DA in this world. Still, despite these limitations, we can be quite sure that God acts also through his interference with nature, although we might be clueless as to how, where, when, and why. Nevertheless, it would appear at this point, that the PDA is truly, at least in some instances, interventionist.

Yet, in the broader context of Paley's views, his PIF as well as his statement about our cognitive limitations (cf. P1) regarding divine interferences, did not come completely

out of the blue. In one of his (undated) sermons, called "Sermon XXIV. On the Influence of the Spirit (Part II.)."[183] In this sermon, Paley links the Spirit's activity to God's interactions with nature in which God is said to interpose – also in a way hidden to our eyes (as stated in P19).[184] Thus, the PIF recycled Paley's previous views, already expressed in the foregoing sermon. Of course, most of his readers were probably not familiar with this particular sermon. Still, if they assumed that Paley believed in an interventionist God, they would have been right. However, interpreting *Natural Theology* in this interventionist way might not be as straightforward as it seems solely from the PIF. We will come back to comment on the PIF in the context of the overall PDA in the concluding section.

*P20. God providentially governs the world, but not through miraculous interventions. Such a mode of providentialism would result in a very different world from our own.*

> Of *sensible* interposition we may be permitted to remark, that a Providence, always and certainly distinguishable, would be neither more nor less than miracles rendered frequent and common. It is difficult to judge of the state into which this would throw us. It is enough to say, that it would cast us upon a quite different dispensation from that under which we live. It would be a total and radical change. And the change would deeply affect, or perhaps subvert, the whole conduct of human affairs.[185]

This next feature is in line with the traditional Protestant distinction between miracles and "special providences," although Paley does not use the phrase in *Natural Theology*. In short, while special providences offer only partial evidence of God's involvement in the given event, it is only miracles that provide the full proof.[186]

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[183] Paley, *The Works of William Paley* (Philadelphia: J. J. Woodward, 1836), 580–2.

[184] Ibid., 580–1.

[185] NT, 269–70. The emphasis is original.

[186] Cf. James B. Mozley, *Eight Lectures in Miracles Preached before the University of Oxford in the Year MDCCCLXV* (London: Rivingtons, Waterloo Place, 1865), 8–9.

Paley, then, does not see these special providences as "sensible interpositions" since, in that case, they would amount to regular miracles and make our world radically different than it is. It seems that there is an emerging tripartite scheme of how God acts in Paley's world: through general laws (P13), through miraculous interventions (P19), as well as nonmiraculous special providences (P20). Whether Paley's readers saw it the same way, and how much they emphasized or downplayed these different subtypes of the PDA is, of course, another matter.

## 3.4 Paleyan Features: Summary and Gaps

Having looked at these Paleyan features, the following observations can be made. The overall thrust of the PDA in its opening chapters appears to point to a noninterventionist or, possibly, agnostic view of DA.[187] The first 14 features (P1–14) are found at the very beginning of *Natural Theology*, already in its first three chapters. Among other things, these have disclosed to us that we are ignorant of the exact nature of DA (P1), and although none of the watches can be explained solely by a recourse to laws of nature (P2–3, P5–8), it is possible that the watches are capable of self-replication (P4). We even learn that "probably" the watches were not made by God immediately (P10). None of the features so far stated, or even hinted, at an interventionist PDA, if by that one means violating laws of nature. Instead, we are told that God works through general laws (P13) and does not break these laws to achieve His purposes in nature (P14).

[187] Agnostic DA, as defined in Chapter 2, that is, "a view that leaves the possibility open to divine interventions but, due to our epistemic limitations, we cannot know if they really take place."

But already in these features (P1–14), some kind of tension might be lurking in the background. We are told that the creation of contrivances requires an "adapting hand." At the same time, it is not clear what Paley meant by this. Furthermore, while we are told that the Creator does not suspend His laws, He does some kind of "interposing" when it comes to the parts of these contrivances (P14). Thus, a careful reader who notices the presence of the PDA's "adapting hand" and the mention of God's "interposing" might wonder what these expressions mean. It is, however, in the later pages of *Natural Theology* that we learn about some PDA features that are quite dissimilar to those encountered at the beginning of Paley's work.

In a sense, the first six chapters of Paley's text constitute his philosophy of natural theology. Then, chapters 7–22 form the bulk of the book, with many examples of "design" taken from nature (including chapter 22, dealing with astronomy). In perusing all these examples from the natural world and admiring their design-like traits, the reader has not been told anywhere explicitly that these instances of design were created differently than through laws of nature. Just before Paley's final chapter 27, chapters 23–26 then take a turn and discuss divine attributes. It is in these chapters that we are once again reminded that there can be a long series of secondary causes, but that there must be "intelligence somewhere" (P15); that while the details of secondary causation are not clear, the whole had to be started by an intelligent mind (P16).

Paley proceeds to state that the God-world relationship and divine influence are compared to the action of gravity (P17). But what does this mean exactly? We soon learn also that God is present everywhere by virtue of His laws of nature (P18). And if, as Paley says, God is only "virtually" (not substantially) present through these laws, how would a reader be looking for consistency square this with the PDA acting as if through gravity

(P17)? Even this appears to provide ample space for various interpretations. (As we will see in the case of the CDA, Chambers also mentions that God is present in all particles in the universe.)

However, towards the very end (Paley's chapter 26), we come across what could be seen as a major disruption in this overall thrust of the PDA up to this point. It is at this point that Paley expresses the view that there are indeed "interruptions of laws," even if we cannot and probably never will be able to detect them (P19). We can recall that right up to this point Paley's rhetoric was rather cautious and expressed general caution about the details of DA and secondary causation.[188] Thus, this Paleyan interventionist feature (PIF), expressing the certainty that God surely at times acts through the interruptions of the natural order, emerges rather abruptly, if not unexpectedly.

I am not saying that this would be surprising to his readers (of course not), or in the context of his other works, especially *Evidences*, where he defends the reality of biblical miracles. Rather, what I am suggesting is that PIF is quite puzzling considering all the PDA's previous features, all of which seemed to point at noninterventionistic PDA. This also implies that before his readers encounter PIF at the end of the book, their range of possible interpretations is very much open to noninterventionist readings of the PDA. In other words, the reader was relatively free to fill in the interpretative gaps in the text of *Natural Theology* with either interventionist or noninterventionist PDA. However, if the careful reader noticed PIF, this could have dramatically reduced the flexibility to interpret all the previous features of the PDA as noninterventionist. Once the reader learned from the PIF that Paley sees God unambiguously as an interventionist deity, the

[188] There were many others in the 19th century who were similarly cautious. Cf. Gillespie, *Darwin and the Problem of* Creation, 19, 29–30.

reader's perception of the PDA might have changed significantly. And yet we remain epistemically ignorant as to the details of these interruptions (P19).

If it were not for Paley's ultimate admission of God's intervention in the world, one would be left with Paley's overall stress on secondary causes, perhaps – in the eyes of some of his critics – even to the point of resembling deism. In the opening chapters of *Natural Theology*, the reader reads about self-replication watches, secondary causes, laws of nature, and the need for the Designer at the beginning of the causal chain. Still, we are faced with an interesting hermeneutical question: How crucial was the PIF for one's overall interpretation of the PDA? Would the reader who did not reach or who skipped chapter 26 (with PIF) be left with a radically different view of the PDA? Does the reader have to read the specific paragraph with the PIF to arrive at an interventionist reading of the PDA?

While it seems tempting to reply that we can only speculate on such an answer, there are some tangible clues that noticing PIF was not necessary to reach an interventionist view of the PDA. This will be evident from the readings of the PDA in the upcoming Chapters 5 and 7. That is to say, there were readers of Paley who arrived at an interventionist reading of the PDA, without citing the PIF as a reason for such a view. Instead, these readers were guided by other textual or extratextual considerations (Chapter 9).

There is one more crucial factor we must mention when it comes to the interpreters of the PDA. This is the issue of intertextuality. In other words, the way one understands the PDA in *Natural Theology* could be already significantly influenced by what one knew about Paley from his other written texts and published (or heard) sermons. Most notably, as seen in his *A View of the Evidences of Christianity* (1794),

Paley believed in the reality of the biblical miracles as performed by Jesus and his apostles. His biographer D. L. LeMahieu has briefly remarked on the importance of such an intertextual interpretation of Paley: "Without the *Evidences*, [Paley's] philosophy could easily be construed as deistic or even unitarian."[189] Paley's other works, then, might have provided a lens through which to read the PDA. In this sense, one did not need to pay special attention to PIF to come to an interventionist understanding of the PDA.

Here is a case in point how it might have worked. Probably every reader of Paley must have been aware of his defense of the reality of biblical miracles. If this is the case, then the next hermeneutical move is not difficult to imagine: since Paley believed in biblical miracles, he believed that miracles were real. Hence, if Paley accepts miracles, then he must accept that God, at least at times, intervenes in the world. However, after the Protestant Reformation, most Protestants accepted that miracles ceased after the time of the early Church.[190] Was Paley one of them? In my view, Paley is not completely clear, which might open the door to further ambiguity. On the one hand, his *Evidences* seem to suggest that he did accept the cessationist view:

> Upon the greatest, therefore, of all possible occasions, and for a purpose of inestimable value, it pleased the Deity to vouchsafe a miraculous attestation [of Jesus' divine character]. Having done this for the institution, when this alone could fix its authority, or give to it a beginning, he *committed its future progress to the natural means* of human communication, and to the influence of those causes by which human conduct and human affairs are governed.[191]

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[189] Dan LeMahieu, *The Mind of William Paley: A Philosopher and His Age* (Lincoln: University of Nebraska Press, 1976)., 91.

[190] For a more nuanced history of such a cessationist view, see Jane Shaw, *Miracles in Enlightenment England* (New Haven: Yale University Press, 2006).

[191] Paley, *A View of the Evidences of Christianity* (Cambridge: Cambridge University Press, 2009 [1817]), 2:388–9. The emphasis is mine.

After the miracles of Jesus and the early Church, God confined the subsequent history "to the natural means" regarding the spreading of the Gospel message. Paley's cessationist view seems to be confirmed by his comment that "God could have wrought miracles in every different age and country," but He did not.[192] Yet, as we have seen, Paley's sermon XXIV. talked about the Spirit's miraculous activity in human souls.[193] Then again, we saw Paley's claim (P20) that God acts providentially, but without the use of miracles. However the reader assesses these pieces of textual evidence together, it may be that taking intertextuality into account makes Paley's reasoning less than straightforward.

The overall picture of the PDA's vision, in my view, is rather messy and lacking in clarity. This is reflected in several comments by Paley's commentators. Almost four decades after Paley's *Natural Theology*, one author noted that the work is "not remarkable for metaphysical acuteness."[194] Another author said that it is even "free from metaphysics" – which he saw as a recommendation.[195] Consistent with these claims, many things about the PDA might remain puzzling. Using Buchanan's themes for our final summary: on the one hand, the PIF makes it rather unambiguous that the PDA is interventionist (and even violationist). But how the PIF can be reconciled with other, seemingly noninterventionist, features might be an interesting intellectual exercise for every reader of Paley. Moreover, while the PDA lacks a clear statement about

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[192] Ibid., 2:342.

[193] Sermons XXIII. and XXV. are part one and three of the same topic. See also his "Sermon XXII. The Agency of Jesus Christ Since His Ascension." These sermons are found in Paley, *The Works of William Paley*, Ibid., 574–84.

[194] E. Bartlett, "Paley's Natural Theology, with Selections from the Dissertations and Notes of Lord Brougham and Sir Charles Bell, &c., the whole being newly arranged and adapted for the School Library," *Christian Examiner* (1841) Vol. XXX, Third Series, Volume XII, 273–4.

[195] Thomas Martin, *Remarks Occasioned by Lord Brougham's Paley's' Natural Theology Illustrated*, 2nd ed. (London: James Ridgway and Sons, 1836), 32.

compatibility or incompatibility of laws with DA, some of them strongly suggest compatibility (P13, P17–18). As the quotes at the start of this paragraph indicated, Paley does not offer any robust metaphysics of laws of nature, but he does provide some hints (P11, P16). Paley would certainly not describe the PDA's worldview differently than a version of a Christian theism. However, what kind of God-world relationship *Natural Theology* actually offered, could be construed by different readers differently, as we shall see.

# 4. Features of Chambersian Divine Action

## 4.1 Chambersian Features: Introduction

In this chapter, I will review the features of the PDA as found in the works of Robert Chambers. I say "works" because, in contrast to Paley's *Natural Theology*, the situation with Chambers is more complex in the following way. First, Chambers authored not only *Vestiges* but also *Explanations*. These are already two different texts, and, for this reason, we would do well to avoid a priori conflating the conceptions of DA in these two works, even though they were penned by the same author. To be sure, we could expect strong continuities between the CDA in *Vestiges* and the CDA in *Explanations*, respectively. However, as we shall see, Chambers did indeed use in some cases different ways to express his view of the CDA in these two works. This also means that we should not assume that the reader who read just *Vestiges* was left with the same idea of the CDA as the reader who read both *Vestiges* and *Explanations* or (surely, much more rarely) only his *Explanations*.

Second, unlike Paley and his *Natural Theology*, Chambers was continually revising his *Vestiges*. In total, it went through eleven editions during his lifetime. They all fall between 1844 when the first edition was published, and 1860, the year of the eleventh edition. The biggest changes employed by Chambers were those seen in the sixth (1847) and tenth (1853) editions.[196] It was in the twelfth (1884), posthumous edition that the identity of the anonymous author was finally revealed. As regards its American

[196] Marilyn B. Ogilvie, "Robert Chambers and the Successive Revisions of the Vestiges of the Natural History of Creation." The University of Oklahoma, 1973, 5.

counterparts, "The eight American editions published from 1845 through 1858 were in essence reprints of their British counterparts with Americanization of spelling and other minor changes."[197]

For the purposes I am interested here, it would be both impossible and futile to deal with all these editions and to compare the extent to which Chambers' changes touched on his conception of DA. The analysis of the changes that *Vestiges* has undergone has been helpfully provided by Marilyn Ogilvie. In his work, Ogilvie notes that these textual alterations were often subtle and affected only the form, such as capitalization, word order, or moving around larger passages.[198] In my perusal of the changes, I do not think that these changes affect the presentation of his CDA, with three exceptions: there are Chambers' (1) later omissions of his expression "creation by law" from the later editions of *Vestiges*; (2) his later removing of several "decretalist" and "divine will" passages; and (3) including an appendix in the 10th edition of *Vestiges* with a section dealing with several authors' views on laws of nature, intended as a support for a noninterventionist CDA. I will mention these exceptions below, under the relevant features.[199]

In my outline of the Chambersian features, I will use three textual layers: the first and tenth editions of *Vestiges*, and the first edition of *Explanations*. I will proceed to designate these Chambersian features in the following way: those extracted from the first edition of *Vestiges*, I will label as CV1, CV2, CV3, and so on ("C" for Chambers; "V"

[197] Ibid., 6–7.

[198] Ibid., 8. In some cases, the modifications were more substantial and involved altering Chambers' views on scientific issues, such as the nebular hypothesis or the biological (quinarian) system of classification.

[199] These three revisions have not been noted by Ogilvie. I suspect, then, that an analysis of the revisions in *Vestiges* focused specifically on the changes related to the CDA could reveal more insights.

for *Vestiges*). There will be only one feature discussed that comes exclusively from the tenth edition of *Vestiges*, and there is no need to label it in any specific way (conveniently, it is labelled as CV10). In some features, I have used textual support from both the first and tenth editions of *Vestiges*. In the footnotes, I will refer to these as V1 (the first edition of *Vestiges*) and V10 (the tenth edition of *Vestiges*). Conversely, for those features taken from *Explanations*, I will use the shorthand CE1, CE2, CE3, and so on. I will label *Explanations* as E in the footnotes.

In what follows, I have chosen to focus on ten features from *Vestiges* and five more from *Explanations*. Just as was the case with the Paleyan features, these listed here are not necessarily comprehensive. However, my defense of these features would be the same as in the case of Paley: in my view, these form the most salient insights into the CDA. Moreover, several of them are also ones that are typically never discussed in the scholarly literature and only very rarely by Chambers' other readers.

## 4.2 Chambersian Features: Overview

CV1 Laws of nature are expressions of God's decrees.

CV2 The laws of nature are an expression of divine will.

CV3 The creation of the world, and presumably the laws of nature employed in its creation, was a result of divine commands and divine will.

CV4 In "creation by law," God works through laws of nature and in a fixed manner, without any interference in the natural order.

CV5 Artificial creation of organic life in a laboratory by humans is not an act of the experimenter. Rather, it is "an act of the Almighty himself." Moreover, such a creation "was ordained from the beginning", and, apparently, also all animals, including humans.

CV6 Both humans and non-human animals are God's instruments in the production of higher animals. Both groups take part in "the drama of the organic world" that

was organized by the "Great Father." This drama includes the participation of highly creative humans.

CV7 Behind the "apparent ruthlessness" of fixed laws of nature is "a system of Mercy and Grace." Our history is only a part of a bigger cosmic story with a kind of eschatological redemption.

CV8 God is present in all particles and all of them are sustained by His providence.

CV9 In terms of how God acts, there is a difference between a "sustaining" and an "originating power."

CV10 (10th edition) Laws of nature do not possess inherent intelligence. This being so, they cannot be autonomous causes and require their Creator. These laws are a providential way how a caring, ever-present, and sustaining God constantly acts. This God is "personal and intelligent." Moreover, in an appendix to this passage, Chambers defends his view of "natural law" by offering supporting quotes from four authors: Stewart, Paley, Doddridge, and Carpenter.

CE1 Laws of nature do not work independently of God. Rather, they are God's mode of working. Thus, these laws do not supersede God's activity.

CE2 Laws of nature are a continuing expression of God's will.

CE3 It is highly unlikely that in creating planets, on the one hand, and living organisms, on the other, God acted in two different ways. Instead, it is highly probable he worked nomologically in creating both.

CE4 While we can imagine that God acted instantaneously through SDA, this is not confirmed empirically.

CE5 God works in nature with "minute attention to specialties."

## 4.3 Chambersian Features: Commentary

*CV1. Laws of nature are expressions of God's decrees:*

> (a) These facts clearly shew how all the various organic forms of our world are bound up in one—how a fundamental unity pervades and embraces them all, collecting them, from the humblest lichen up to the highest mammifer, in one system, the whole creation of which must have depended upon *one law or decree* of the Almighty, though it did not all come forth at one time.[200]
>
> (b) [L]et us, I say, only consider these things, and we shall see that the *decreeing of laws* to bring the whole about was an act involving such a degree of wisdom

[200] V1, 197.

> and device as we only can attribute, adoringly, to the one Eternal and Unchangeable.[201]

The position according to which laws of nature are expression of God's decrees is often called *decretalism*. As Alving Plantinga defines this position:

> God just decrees that objects—material objects, say—shall behave in accordance with the laws. … On this alternative, there is not really any force between them—i.e., they do not exert forces on each other—but they behave as if there were. These objects do not really have any causal powers; they do not in fact exert any forces on each other. They simply behave in accord with the divine decree.[202]

It is easily seen why the above two passages quoted from *Vestiges* would support such a decretalist understanding of DA. In addition to these, as we shall see shortly, there is one more passage in *Vestiges* where both divine *decrees* and *will* are mentioned as God's ways of creating the world. But for now, let us comment on the above "decree passages" separately. While we find them in the original edition of *Vestiges*, they were removed by the tenth edition (1853), and so, in this later version, the textual support for decretalism diminishes. This obviously raises an interesting question: why did Chambers remove these two passages almost ten years later? Was this related to his changed view of DA or as a reaction to his criticisms?

While it seems we might only speculate about why he did so, I think that the reason is much simpler: He removed these decretalist passages because he substantially changed the surrounding text of which they were originally a part. However,

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[201] Ibid., 233.

[202] Alvin Plantinga, "Law, Cause, and Occasionalism," in *Reason and Faith: Themes from Richard Swinburne*, eds. Michael Bergmann, and Jeffrey E. Brower (Oxford: Oxford University Press, 2016), 135–6.

I find it hard to see a reason why this removal could have had more than a minimal impact on how a reader of the 10th edition of *Vestiges* perceived the CDA. Still, even after this omission, one could find some support for decretalism if one considers decretalism as tantamount to the claim that laws of nature are expressions of divine *will*. But caution is needed: behind these seemingly identical terms (divine *decrees* and divine *will*) lie some unresolved theological differences. Thus, I suggest that even this seemingly minor point might have the potential to influence one's reading of the CDA.

Thus, at this point, we would do better to tread carefully and not identify divine *decrees* and *will* too hastily. Curiously, the relationship between these two terms is still unresolved even in today's philosophy of religion. This unclarity, in turn, stems from an unresolved disagreement on what exactly is entailed by decretalism. In short, there has been a lively scholarly disagreement on whether laws of nature viewed as divine *decrees* or as divine *will* amount to decretalism. For this reason, I will treat these two alternatives as (at least potentially) different modes of DA.[203]

In short, the crux of the disagreement is this: decretalism can be seen either as (1) a type of continuous DA amounting to occasionalism or as (2) a one-off divine declaration of laws before creation.[204] In other words, today's philosophers of religion still discuss whether decretalism is indeed the same position as occasionalism.[205] While it is true that these comments relate to the *current* discussion in the philosophy of religion, there is no reason to suppose the issue was clearer in the 19th century. If this

[203] Jeffrey Koperski, "Breaking Laws of Nature," *Philosophia Christi* 19.1 (2017), 98.

[204] Koperski holds that decretalism can be viewed as this one-off event, whereas Plantinga espouses a version of decretalism that entails occasionalism, Ibid.

[205] Koperski, "Decretalism Is (Still) Not Occasionalism: Reply to Larmer," *Philosophia Christi* 25.1 (2023): 117–125.

is so, it would add another reason why the CDA could be read in multiple ways. Indeed, it would also explain why – as we shall see later – Thomas Huxley (and only Huxley) equated the CDA he found in *Vestiges* with occasionalism.

This distinction, then, is not just a minor scholarly hair-splitting. Based on which interpretation we take, we could see someone holding one of two radically different views: either God acted only once (at the original creation) or He is still acting continually. However, there is one crucial point we need to add. I am not aware of a good argument for why decretalism should have only two meanings: either a *one-off creation* or *occasionalism*. The middle position of *concurrentism* – both God and secondary causes acting together – appears to me to be another viable candidate. Even if this suggestion of mine was rejected, we would still need a further context that would shine some light on one's meaning of decretalism. Do Chambers' texts provide such illumination? In my estimation, this is far from clear: I will argue that several of the Chambersian features are in tension, which creates an interpretive gap. I will elaborate on this in the final section of this chapter after we review the remaining features.

*CV2. Laws of nature are an expression of divine will.*

> (a) Some other idea must then be come to with regard to *the mode* in which the Divine Author proceeded in the organic creation. … We have seen powerful evidence, that the construction of this globe and its associates, and inferentially that of all the other globes of space, was the result, not of any immediate or personal exertion on the part of the Deity, but of *natural laws which are expressions of his will*. What is to hinder our supposing that the organic creation is also a result of *natural laws, which are in like manner an expression of his will*?[206]

[206] V1, 153–4. The first emphasis is original.

> (b) Keeping this in view, the words used in a subsequent place, "God *formed* man in his own image," cannot well be understood as implying any more than what was implied before,—namely, that man was produced in consequence of an *expression of the Divine will* to that effect.[207]
>
> (c) My aim has been, is, and must be, with unswerving consistency, to maintain that in nature the Deity manifests, and has ever manifested himself as a God of order, *natural laws being simply expressions of his will*.[208]
>
> (d) In the present work, it has constantly been maintained that the *laws of nature appear as the expression of a Will* external to the world, leading us to the conception of a divine originator and ruler of all things.[209]

Here, we learn that laws of nature are contrasted to "any immediate or personal exertion" on God's part and that they are "an expression of the Divine will." But, as we have remarked above, it is not clear whether God should be seen as acting continuously through these laws. It might be worth noting that (CV2a–b) disappear in the later editions and (CV2c–d) make their first appearance in the appendix to the tenth edition. As I have indicated, one explanation is that these changes might be explained simply by Chambers' reorganization of material.

*CV3. The creation of the world, and presumably the laws of nature employed in its creation, was a result of divine commands* and *divine will*.

> When we carefully peruse it with awakened minds, we find that all the procedure is represented primarily and pre-eminently as flowing *from commands and expressions of will*, *not from direct acts*.[210]

[207] Ibid., 155–6. The first emphasis is original.
[208] V10, li. The emphasis is mine.
[209] Ibid., liii. The emphasis is mine.
[210] V1, 155.

This is the single passage in Chambers where we have (divine) *commands* and *will* used in a single sentence. Should we take them as interchangeable? It is hard to tell how this relationship between will and commands was seen by Chambers and thus might form another layer of unclarity. Still, Chambers claims here that the creation described above did not happen through God's "direct acts." Such comment appears to preclude occasionalism as the mode of the CDA. It is also a feature closely related to Chambers' notion of "creation by law," which forms the next feature.

*CV4. In "creation by law," God works through laws of nature and in a fixed manner, without any interference in the natural order.*

> (a) To a reasonable mind the Divine attributes must appear, not diminished or reduced in any way, by supposing a *creation by law*, but infinitely exalted.[211]
>
> (b) Being who brought all these countless worlds into form by the simple establishment of a natural principle flowing from his mind, was to *interfere personally and specially* on every occasion when a new shell-fish or reptile was to be ushered into existence on one of these worlds? Surely this idea is too ridiculous to be for a moment entertained.[212]
>
> (c) We there see the *Deity operating* in the most august of his works *by fixed laws*, an arrangement which, it is clear, only admits of the main and primary results being good, but *disregards exceptions*.[213]

*Vestiges* proposes a specific way of creation that Chambers called "creation by law."[214] It seems quite clear what Chambers meant by such creation since he restricted its meaning – the CDA is noninterventionist and thus has no nomological exceptions in the

[211] Ibid., 156. The emphasis is mine.

[212] Ibid., 154. The emphasis is mine.

[213] Ibid., 363. The emphases are mine.

[214] Interestingly, while the phrase "creation by law" is used five times in the first and second edition of *Vestiges*, it is dropped by the time of the 8th edition (1850). It reappears again in the 10th edition (1853), but only in the appendix when reacting to Edward Hitchcock, who discussed "creation by law" in his *The Religion of Geology and Its Connected Sciences* (1851). I am not sure why Chambers decided to drop this phrase.

natural order. At the same time, Chambers also tells us that God is still "operating … by fixed laws" (CV4c) and so it seems that His activity should not be seen as confined to the original act of creation. Yet again, much hinges on the meaning one ascribes to the word "operating." To say that God is still acting through laws of nature is compatible with multiple positions – be it occasionalism, concurrentism, or even with a one-off original creation event (if God's present "operating" is understood in a broader sense).

*CV5. Artificial creation of organic life in a laboratory by humans is not an act of the experimenter. Rather, it is "an act of the Almighty himself." Moreover, such a creation "was ordained from the beginning", and, apparently, also all animals, including humans.*

> (a) We can even conceive that man, in his many doings upon the surface of the earth, may occasionally, without his being aware of it, or otherwise, *act as an instrument in preparing the association of conditions under which the creative laws work*; and perhaps some instances of his having *acted as such an instrument have actually occurred in our own time*. I allude, of course, to the experiments conducted a few years ago by Mr. Crosse, which seemed to result in the production of a heretofore unknown species of insect in considerable numbers.[215]

According to Chambers, humans should be viewed as God's instruments in His laboratory creation of life. While Chambers seems to speak of a more general situation where such a collaboration might take place (humans "act as an instrument in preparing the association of conditions under which the creative laws work"), this is later narrowed down to the recent electrical "experiments conducted a few years ago by Mr. Crosse." Yet, a careful reading would suggest that the scope of such God-human collaboration could be wider and not just reduced to this one laboratory instance. That is, humans "in [their] many doings" might have acted as God's collaborators in His still

[215] V1, 185. The emphases are mine.

ongoing creative activity, and even "perhaps [in] some instances … in our own time." Chambers later expands on this divine causation that took place in Crosse's experiment and which allegedly led to the creation of a new type of insect:

> (b) The supposition of impiety arises from an entire misconception of what is implied by an aboriginal creation of insects. The experimentalist could never be considered as the author of the existence of these creatures, except by the most unreasoning ignorance. The utmost that can be claimed for, or imputed to him is that he arranged the natural conditions under which the true creative energy—that of the *Divine Author of all things—was pleased to work in that instance*. On the hypothesis here brought forward, the *acarus Crossii* was a type of being ordained from the beginning, and destined to be realized under certain physical conditions. When a human hand brought these conditions into the proper arrangement, it did an act akin to hundreds of familiar ones which we execute every day, and which are followed by natural results; but it did nothing more. The production of the insect, if it did take place as assumed, was as clearly an *act of the Almighty himself, as if he had fashioned it with hands*.[216]

Given that *Vestiges* is often viewed as presenting the universe without divine involvement, this passage is quite remarkable. It illustrates the type of causation employed by the CDA, at least in the case of creating a new life under laboratory conditions. In this scenario, while it is the scientist who is the immediate cause of the created organism, she is implied not to be the real cause ("could never be considered as the author"). The experimenter merely "arranged the natural conditions" but it was God who provided "the true creative energy" and who "was pleased to work in that instance."

Moreover, it also seems that Chambers has a rather meticulous view of divine providence: his language is not that of (what we today call) evolutionary convergence. That is, for Chambers, it is not the case that many animals developed very similar

[216] Ibid., 188–9. The second emphasis is original.

evolutionary strategies independently. Rather, the exact types of animals were "ordained from the beginning, and destined to be realized." Notice also that while, otherwise, Chambers distances himself from an anthropomorphic view of an interfering God, here he evokes the similarity of a nomological creation to manual work ("as if [God] had fashioned it with hands"). The CDA's meticulous relation to this world will be mentioned again in Chambers' Explanations (CE5).

Compared to the previous Chambersian features we have looked at so far, this passage stands out for at least two reasons. First, it states that God "work[ed] in that instance" (CV5b) and "perhaps some instances" (CV5a). That is, His creative activity was not confined only to the initial creation of laws of nature. Rather, the depiction here seems to imply a God who is not idle and whose creative activity is still present in the world. Second, it seems that, at the same time, it was not God alone who created the new laboratory life, but that humans were His co-creators by arranging the proper conditions. Still, the passage speaks only of bringing a new life into being in a laboratory context and does not say, for example, that humans are co-creators with an ever-active God in a more general sense. But is there more to say about the extent of such collaboration? That is, did Chambers imagine human beings as God's collaborators also in other areas of life? We will look at this possibility in the next feature. Nevertheless, already this point – that God is active in laboratory life – should certainly bring some doubts about viewing the *Vestiges*-God as merely deistic or solely transcendent.

> (c) It has pleased Providence to arrange that one species should give birth to another, until the second highest gave birth to man, who is the very highest: be it so, it is our part to admire and to submit.[217]

[217] Ibid., 234.

We have just seen how the instance of creating laboratory life was divinely preordained. But this appears to be the case with all the animals in the evolutionary chain and, according to the CDA, this is clearly the case with humans. That is, God arranged the transformation of species in a way that would ultimately lead to the creation of humans, who are "the very highest."

*CV6. Both humans and non-human animals are God's instruments in the production of higher animals. Both groups take part in "the drama of the organic world" that was organized by the "Great Father." This drama includes the participation of highly creative humans.*

> (a) For it may be asked, if He, as appears, has chosen to *employ inferior organisms as a generative medium for the production of higher ones, even including ourselves*, what right have we, his humble creatures, to find fault? There is, also, in this prejudice, an element of unkindliness towards the lower animals, which is utterly out of place. These creatures are all of them part products of the Almighty Conception, as well as ourselves. All of them display wondrous evidences of his wisdom and benevolence. All of them have had assigned to them by their Great Father *a part in the drama of the organic world*, as well as ourselves.[218]
>
> (b) Amongst the arrangements of Providence is one for the production of original, inventive, and aspiring minds, which, when circumstances are not decidedly unfavourable, strike out new ideas for the benefit of their fellow-creatures, or put upon them a lasting impress of their own superior sentiments.[219]

These are two intriguing passages that speak about the participation of humanity in a Chambersian-style theo-drama. Not only do all these creatures bespeak God's wisdom and goodness, but their "Great Father" made them a part of an evolutionary story of cosmic proportions. More specifically, we learn that a crucial part of this story is not just a (literally) mindless evolution, but also "original, inventive, and aspiring minds" whose

[218] Ibid., 235.

[219] Ibid., 321–2.

capacities contribute to the betterment of the world, and, in such a way, improve the storyline of the ongoing wider cosmo-drama as well. Note that *Vestiges* calls God twice "Great Father" – here once more later in the text.[220]

However, one could object that even such a grand story is ultimately pointless if it is without hope and redemption. What about our short lives which are often filled with tragedy and suffering? If one needs such an eschatological optimism, Chambers is willing to provide it. He goes on to tell us that this evolutionary epic is not a story where its Author is indifferent and where there is no hope for future redemption.

*CV7. Behind the "apparent ruthlessness" of fixed laws of nature is "a system of Mercy and Grace." Our history is only a part of a bigger cosmic story. While there is much injustice and suffering at individual moments of history, we should have faith that the benevolent God has a plan where all this misfortune will be remedied in the future. There is some kind of eschatological redemption.*

> (a) It may be that while we are committed to take our chance in a natural system of undeviating operation, and are left with apparent ruthlessness to endure the consequences of every collision into which we knowingly or unknowingly come with each law of the system, there is a system of Mercy and Grace behind the screen of nature, which is to make up for all casualties endured here, and the very largeness of which is what makes these casualties a matter of indifference to God.[221]

If God operates through fixed laws of nature, what effect does this have on our relationship to Him? The question is significant since such a reconception would have major theological consequences. But while Chambers does not evade the question, he does not elaborate on the answer. Yet, he offers a terse response – there is more hope than meets the eye. While it is far from obvious, behind these laws and the seeming

[220] Cf. Ibid., 348.

[221] Ibid., 384–5.

brutality in nature, there is "a system of Mercy and Grace." But the reader should perhaps rightfully ask: What does this mean? Chambers' answer seems to be in realizing that our lives are merely a part of a much larger cosmic story that will eventually remedy all the current injustices:

> (b) The system of nature assures us that benevolence is a leading principle in the divine mind. But that system is at the same time deficient in a means of making this benevolence of invariable operation. To reconcile this to the recognised character of the Deity, it is *necessary to suppose* that the *present system is but a part of a whole, a stage in a Great Progress*, and that the *Redress is in reserve*. … For let us but fully and truly consider what a system is here laid open to view, and we cannot well doubt that we are *in the hands of One who is both able and willing to do us the most entire justice*. And in this *faith* we may well rest at ease, even though life should have been to us but a protracted disease, or though every hope we had built on the secular materials within our reach were felt to be melting from our grasp.[222]

This passage does not depict a God who is uncaring about His creation. Instead, "we are in the hands" of the Creator who wills and will bring about "the most entire justice." The passage focuses on the future – "the Redress is in reserve." Our current stage is only a chronological blip on the cosmic radar and Chambers envisions here some kind of eschatological redemption. Historically, on the reality of such eschatology, deists were divided.[223] Such a belief is, of course, not empirical, nor is it a conclusion of natural theology. Rather, it rests on "faith" and it is "necessary to suppose" that it is the case if final justice is to be achieved.

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[222] Ibid., 385–6. The emphases are mine.

[223] Cf. William L. Rowe, "Deism", in Edward Craig (ed.), *The Shorter Routledge Encyclopedia of Philosophy* (New York: Routledge, 2005). On the elusiveness of defining deism, cf. Fergusson, *The Providence of* God, 115–24.

*CV8. God is present in all particles and all of them are sustained by His providence.*

> (a) Much more worthy of him it surely is, to suppose that all things have been commissioned by him from the first, though *neither is he absent from a particle of the current of natural affairs in one sense*, seeing that the whole system is continually supported by his providence.[224]
>
> (b) The Eternal One has arranged for everything beforehand, and trusted all to the operation of the laws of his appointment, himself being ever *present in all things*.[225]

At first sight, this seems to be a remarkable insight into the CDA – according to Chambers, God is "present in all things." It appears like a striking passage that rejects the notion of an aloof, distant, merely transcendent God. Does this not immediately point to either pantheism or panentheism? I suggest, however, that there are complications with either of these identifications.

First, we have already noted theological complexities with the notion of omnipresence in our discussion of the PDA (in P18). We have seen that there are more meanings of divine omnipresence, which remains an ambiguous term unless better specified. Second, Chambers added a qualifying note, saying that God is omnipresent "in one sense," namely, based on the view "that the whole system is continually supported by his providence" (CV8a). Would this qualify as the weaker (*virtual*) or stronger (*substantial*) notion of omnipresence? It certainly looks like the former, given that it should be due to God's presence through his general providence, as opposed to a more literal understanding of divine presence. On the other hand, the second statement (CB8b) is without such a qualifier and thus open to potential ambiguity.

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[224] V1, 156–7.

[225] Ibid., 184–5.

*CV9 In terms of how God acts, there is a difference between a "sustaining" and an "originating power".*

> When all is seen to be the result of law, the idea of an Almighty Author becomes irresistible, for the creation of a law for an endless series of phenomena—an act of intelligence above all else that we can conceive—could have no other imaginable source, and tells, moreover, as powerfully for a *sustaining* as for an *originating power*.[226]

Chambers distinguishes here between *sustaining* and *originating* DA. While this sustaining DA is continuous, he does not mention here any other type of continuous DA that goes beyond such sustaining. Still, we should ask if this two-fold division should be seen as comprehensive as we have seen that, for Chambers, God is active also in different ways (CV4–7).

*CV10. (10th edition) Laws of nature do not possess inherent intelligence. This being so, they cannot be autonomous causes and require their Creator. These laws are a providential way how a caring, ever-present, and sustaining God constantly acts. This God is "personal and intelligent." Moreover, in an appendix to this passage, Chambers defends his view of "natural law" by offering supporting quotes from four authors: Stewart, Paley, Doddridge, and Carpenter.*

While this one feature could be divided into perhaps a couple more, I will keep it as one due to the fact that it is based on one novel paragraph appearing only in the tenth edition of *Vestiges*. It was in this tenth edition where Chambers substantially changed the text in his first chapter to emphasize at least four relevant points: (1) laws of nature are dependent on God, (2) laws of nature are means through which God exhibits His providential care, and (3) these laws are God's mode of working that (4) enable Him to

[226] Ibid., 157–8. The emphases are mine.

be omnipresent. In addition, (5) he linked this understanding to Paley. For our purposes, this is the key text that Chambers added:

> (a) There cannot, however, be an *inherent intelligence* in these laws. The intelligence appears *external to the laws*; something of which the laws are but as the expressions of the Will and Power. If this be admitted, the laws cannot be regarded as primary or independent causes of the phenomena of the physical world. We come, in short, to a Being beyond nature—its author, its God; infinite, inconceivable it may be, and yet one whom these very laws present to us with attributes showing that our nature is in some way a faint and far-cast shadow of His, while all the gentlest and beautifulest of our emotions lead us to believe that we are as children in His care, and as vessels in His hand. Let it then be understood—and this is for the reader's special attention—that when natural law is spoken of here, reference is only made to the *mode* in which the Divine Power is exercised. It is but another phrase for the *action* of the *ever-present* and sustaining God.[227]

Since the emphases in the paragraph above are original, one can sense immediately what Chambers wanted to stress: that there is no "inherent intelligence" in laws of nature, that this intelligence is "external to the laws," and that these laws are the "mode" of the Creator's "action." Note how it mentions humans compared to "children in his care," "vessels in His hand," as well as divine omnipresence ("ever-present" God). No doubt, all these additions happened as a response to the previous criticisms Chambers received, and so he wanted to make his position (once again) clearer.[228]

As indicated, Chambers also ties this view of laws of nature to Paley. He does so in the appendix which is referenced at the end of the paragraph quoted above. For us, the relevant (short) section of the appendix is called "Natural Law," in which he provides four authorities to support his nomological views.[229] These four authors are Dugald

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[227] V10, 10. The emphases are original.

[228] Cf. V10, appendix, i.

[229] At the introduction to the appendix, Chambers states that he could have used many more authors to support his views: "It is scarcely necessary to say that the number of authorities could easily have been

Stewart, William Paley, Philip Doddridge, and William B. Carpenter. I will deal with these views presented here more in Chapter 5, where I will look also at how Chambers understood the PDA.

> (b) As to the denial of a personal and intelligent God, or a belief "that dead inanimate matter may, without external aid, and by its own inherent powers, work itself into what is vital, sensitive, and intellectual," they are hallucinations of [Sedgwick's] brain as to me, whatever they may be as to others. I believe in a personal and intelligent God, and cannot conceive of dead matter receiving life otherwise than from Him, though of course in the manner of order or law.[230]

This passage is also found in the same appendix, although several pages later. (For simplicity's sake, I will keep it under the same feature, CV10.) Here, Chambers reacts directly to Adam Sedgwick's review in *Edinburgh Review* of 1845 (cf. Chapter 6) by stating explicitly that the God of the CDA is "personal and intelligent." We know of one reviewer (John Tulloch) who explicitly referred to this feature (also Chapter 6).

*CE1. Laws of nature do not work independently of God. Rather, they are God's mode of working. Thus, these laws do not supersede God's activity.*

> (a) I must start with a more explicit statement of the general argument of the *Vestiges,* for this has been extensively misunderstood. ... The object is one to which the idea of an organic creation in the manner of natural law is only subordinate and ministrative, as likewise are the nebular hypothesis and the doctrine of a fixed natural order in mind and morals. This purpose is to show that the whole revelation of the works of God presented to our senses and reason is a system based in what we are compelled, for want of a better term, to call LAW; by which, however, is not meant a system independent or exclusive of Deity, but one which only proposes a *certain mode of his working*.[231]

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extended; but the author has been content to limit himself to pronouncements which chance to be given forth in brief forms and popularly intelligible language." V10, appendix, i.

[230] Ibid., appendix, lv.

[231] E, 3. The emphasis is original.

This is the first of five features we will look at from Chambers' *Explanations*. Chambers here stresses that he sees natural laws as dependent on God. He says further that these laws are "certain mode of his working." It is this aspect of the CDA that he sees as the most understood feature of *Vestiges*. As a result, Chambers felt to address this right at the outset of *Explanations*. This admission of feeling misunderstood also supports the supposition that Chambers left a lot of gaps in his CDA. The above quote is supplemented by the following one:

> (b) It approaches the region of ascertained truths, and may reasonably be held as a strong corroboration of what first appears from the material laws of the universe, that the whole Uranographical arrangements were effected in the manner of natural law. It is, however, *altogether a mistake to regard this conclusion, as far as it is one, as equivalent to a superseding of Deity in the history of creation*. It proposes nothing beyond a view of the *mode in which the Divine Will has been pleased to act*, in this first and most important of its works.[232]

In like fashion, Chambers claims here that natural laws are "the mode" of God's working. Additionally, he makes here explicit his commitment to compatibility. That is, laws of nature do not have a "superseding" role with regard to the Creator. There seems to be no similarly explicit statement like this in *Vestiges* (CV1–10), a situation that opened the CDA to be construed potentially in multiple ways.

*CE2. The laws of nature are a continuing expression of God's will. This divine will is in contrast to the "brief energy of a human will."*

> (a) In these laws arise the first powerful presumption that the formation and arrangements of the celestial bodies were brought about by the *Divine will, acting in the manner of a fixed order or law,* instead of any mode which we conceive of as more arbitrary.[233]

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[232] Ibid., 22. The emphases are mine.

[233] Ibid., 5. The emphasis is original.

> (b) To a mind accustomed, as is every educated mind, to regard the operations of Deity as essentially differing from the *limited, sudden, evanescent impulses of a human agent*, it is distressing to be compelled to picture to itself, the power of God as put forth *in any other manner than in those slow, mysterious, universal laws, which have so plainly an eternity to work in*; it pains the imagination to be obliged to assimilate those operations, for a moment, to the *brief energy of a human will*, or the manipulations of a human hand.[234]

These passages repeat what we have seen already in *Vestiges* – that laws of nature are the result of God's will. Moreover, Chambers puts the divine will in contrast to the short bursts of willpower exerted by human beings. Thus, the divine will, expressed through laws of nature, is not of a short-term duration, as the human will is, but rather has "an eternity to work in." In other words, the CDA is not just a one-off occurrence at the beginning of creation but is seen as operating constantly. The way God does so is by "acting in the manner of a fixed order or law," not limited to the past history of the Earth.

*CE3. It is highly unlikely that in creating planets, on the one hand, and living organisms, on the other, God acted in two different ways. Instead, it is highly probable he worked nomologically in creating both.*

> (a) On coming to the consideration of the question, I am at the very first struck by *the great a priori unlikelihood* that there can have been two modes of Divine working in the history of nature – namely, a system of fixed order or law in the formation of globes, and a system in any degree different in the peopling of these globes with plants and animals.[235]

> (b) Such a mode of [creation by law] … rendered likely by the manifestation of a presidency of law both in the physical arrangements of the universe and in the constitution of our own minds. It seemed to me that, with evidences of law in these things, we had *a strong probability* established that law had been the mode of the divine working in the whole system revealed to our senses and reason, throughout all ages of its existence.[236]

[234] Ibid., 144. The second emphasis is original.

[235] Ibid., 28–9. The emphasis is mine.

[236] Ibid., 123–4. The emphasis is mine.

Although this tells us nothing new about the nature of the CDA, we can see that Chambers' case for a nomological DA is expressed in probabilities.

*CE4. While we can imagine that God acted instantaneously through special DA, this is not confirmed empirically.*

> Now we can *imagine* the Deity calling a young plant or animal into existence *instantaneously; but we see that he does not usually do so*. ... So, also, we can *imagine* Divine, power evoking a whole creation into being by one word; but we find that such had not been his mode of working in that instance, for geology fully proves that organic creation passed through a series of stages before the highest vegetable and animal forms appeared.[237]

Here, Chambers appears to be open to the possibility of SDA. However, the reason for its rejection is that we do not "see" or "find" it in nature. Note also his curiously cautious wording in the first part – although God could create organisms instantaneously, "he does not usually do so." On the other hand, he is much more confident when it comes to geology, in which SDA "had not been [God's] mode of working" which "fully proves" that life went through stages.

*CE5. God works in nature with "minute attention to specialties."*

> [T]here surely would have been no such waste allowed, in a system where Omnipotence was *working upon the plan of minute attention to specialties*.[238]

According to this passage, God operates by paying "minute attention" to minute to the details of His creation. This seems to resemble what is in today's theological discourse called "meticulous providence", that is, "that God has in mind certain very specific,

[237] Ibid., 31. The second emphasis is mine.

[238] Ibid., 151. The emphasis is mine.

particular events that He intends, effectively, to bring about." However, if this is seen as a version of meticulous providence, Chambers does not further specify its extent or the way in which it is to be achieved. Moreover, if one sees Chambers as a deist, it should also be noted that such a meticulous providentialism is atypical of deism.

## 4.4 Chambersian Features: Summary and Gaps

In our overview of the features of the CDA, we have come across several key observations. *Vestiges* sees laws of nature as God's decrees or expressions of divine will (CV1–3, CE2). Overall, the most cited and defining feature of the CDA is its "creation by law" (CV4). That is, it sees God acting through laws of nature which are fixed and exceptionless. Furthermore, *Vestiges* makes the standard distinction between God's "originating" and "sustaining" power (CV9) and it might seem there is no other way in which Chambers' God has acted.

However, the CDA also includes some other statements that show a more intimate connection between God and His creation. Not only are laws of nature expressions of God's will or decrees but we are told that God works through them (CV4, CE1–2). What kind of causation, then, does the CDA represent? Is this in some loose sense (as in laws of nature being dependent on God), or a more robust sense, that is, God actually exerting some activity? Added to this vision of the CDA is the claim that the Creator operates meticulously in each detail of His creation (CV5), albeit this is mentioned only in *Explanations*.

Another intimate connection of the Creator with His creation is that the laboratory creation of life by scientists is said to be the act of the deity (CV5). Related to

this is another point, namely, that humans and other animals are instruments in the production of higher life forms, through which they participate in a kind of cosmic drama (CV6). Moreover, the world with all its pain and suffering might seem ruthless, but all this evolutionary drama is heading toward a certain eschatological resolution (CV7). Because of its general neglect, one of the most striking features of the CDA is that God is "present in all things" (CV8). These other features seem to complicate a simplified description of the CDA as deistic or as a worldview with a distant and passive Deity.

What can we say about the interpretive gaps in these Chambersian features? And can we perceive their overall consistency? Or rather, do we see some lurking tensions and opportunities for construing various meanings of the CDA? Undoubtedly, the features contain numerous ambiguities. For example, in various ways, we are told that God acts without interruptions through laws of nature (CV1–4), but is His acting only by delegation or is it more robust? In what sense should we imagine God acting through humans and animals (CV5–6)? How is God's mercy and grace exactly enacted and how will God act during the final eschatological redemption (CV7)? And, perhaps most intriguingly, how should we understand the feature that makes God present everywhere (CV8)?

Using the lens of Buchanan's four themes, the following can be said: the only piece of information that Chambers conveys clearly and explicitly is that the CDA is noninterventionist. However, its stance on compatibilism, metaphysics of laws of nature, and the resulting God-world relationship is much less certain and open to various reading gaps. This is why all readers could agree on the CDA's noninterventionism, but were divided on how to understand its compatibilism, laws of nature, and God's relationship to this world. We will also see that since the mid-20th

century, there has been a significant shift toward reading the CDA as deistic. This is an interpretive change that has gained widespread acceptance in the literature, but it is also an assessment that we do not see in the 19th century. I suggest that one of the possible reasons is that there was perhaps a more direct engagement with *Vestiges* and *Explanations,* as well as a greater variety in how these Chambersian features were understood. I will offer a few more comments on this "deistic shift" in Chapter 9.

This underdetermined character of the CDA might be amplified when the reader attempts to struggle with the internal consistency among the features. It may be true that focusing on just some of the features will result in a God who is much more removed from His creation, and who at present may appear merely to sustain it (e.g., CV1–4). But if supplemented by the other features mentioned above, we might get a rather different picture. However, if we admit all the features into a composite portrayal of the CDA, it seems that we are faced with one underlying internal tension. Namely, if the CDA only initially created and now sustains the universe (CV9), how should the reader reconcile it with the same God still acting today through humans and animals (CV5–6)?

I do not think there is any tension between the claim that God is present in every particle (CV8) and other Chambersian features. However, such tension would immediately emerge if one presupposed (or concluded) that the CDA offers merely a remote, Epicurean-like Creator, one that is now completely disconnected from His creation. As we will see (Chapter 5), this will be a recurring charge among those who find the CDA theologically dangerous. But if the reader takes the CDA that presents us only with a distant deity, one must either neglect, dismiss or creatively integrate the CDA's omnipresence feature (CV8). A similar problem for such a view is the claim in *Explanations* about God's minute attention to detail (CE5). Either the critics of the CDA

missed these passages, or they had to engage with them. How one could do this, could vary from reader to reader.

In comparison to Paley, there is, of course, one outstanding characteristic when it comes to authorship – Chambers published his *Vestiges* and *Explanations* anonymously. When *Vestiges* came out in 1844, it was perhaps this anonymity that was "[m]ost intriguing of all."[239] This very fact was also bound to have consequences not only for how readers read Chambers' scientific claims embedded in his grand evolutionary epic but also for his theology related to the CDA. Unlike in Paley's case, the readers of *Vestiges* did not know who the author was, they did not know anything about his (or perhaps her?) previous theological background, and they could only guess what his intention might be based on what Chambers wrote – that is, if they decided to trust him. In other words, there was no possibility of intertextual interpretation, as when the readers of Paley could potentially interpret his *Natural Theology* considering his previous works.

The only intertextuality that the readers of Chambers could make use of was to read *Vestiges* in light of its sequel *Explanations*. In *Explanations*, the anonymous Chambers expressed his consternation at seeing Vestiges being "misapprehended in its general scope, and also so much excepted to, justly and unjustly, on particular points, that ordinary readers might be ready to suppose its whole indications disproved."[240] Interestingly, the first point that Chambers feels he "must start with" is the metaphysics of "natural law," including its relationship to the Creator.[241] It is this point, Chambers

[239] Secord, *Victorian Sensation*, 1.
[240] E, 1.
[241] Ibid., 3.

writes, that has been "extensively misunderstood."[242] Right from the outset of Explanations, then, Chambers explains that laws of nature are not independent of God and they are only the divine *modus operandi*. Consequently, he stresses that these laws do not replace DA and are thus compatible with it (CE1). Indeed, they should be seen as a continuing expression of God's will (CE2). We have already alluded to the feature which speaks of God's "minute attention to specialties" (CE5). This is found only in the last third of *Explanations*, but to its readers, it might provide an important insight into the CDA.

We have also noted that the 10th edition of *Vestiges* went through a major revision. For our purposes, it included an appended section offering support for the CDA's view of natural laws by several other authorities (CV10). While it offered a new strategy by bringing the four authorities (Stewart, Paley, Doddridge, Carpenter) in one place, it seems that this part of the appendix did not bring any novel insights related to the CDA not seen previously.[243] Of course, it seems highly likely that a specific part of the appendix in an 1853 edition of *Vestiges* would be only a rare place visited by Chambers' readers and critics in the first place.

The bottom line is this: the fact that Chambers had to include some of his "updating" features in *Explanations*, can be seen as an admission that he had left *Vestiges* with many unresolved ambiguities regarding the CDA. Whether his further comments in *Explanations* brought clarity or only more confusion is up to the reader to decide. Indeed, the fact that after *Explanations* in 1845, *Vestiges* still had to go through many subsequent editions, testifies further to the need for greater clarity. Still, after

[242] Ibid., 3.

[243] For support, Chambers mentioned briefly Doddridge's view of DA already in E, 134–5.

1845, readers kept filling in the interpretive gaps in the CDA in rather different ways. We will now proceed to these readers and explore how they read the PDA in the 19th century.

# 5. Nineteenth-Century Readings of Paleyan Divine Action

In this chapter, I will look the various ways the PDA as found in Paley's *Natural Theology* (1802) was read and understood in the 19th century. Here, let me introduce the general structure of this chapter which will be used in Chapters 5–8. Since these four chapters will deal with the various readings of the PDA and CDA either in the 19th century or beyond, it will be convenient to give them a similar division.

In general, Chapters 5–8 will have four main sections. In turn, I will deal with (1) authors who admit the presence of ambiguities, (2) those who offer their interpretations, without admitting such ambiguities, and (3) and those who express somewhat mixed views with respect to the PDA or CDA. Hence, these sections will be called "Admitting Ambiguities," "Unambiguous Views," and "Mixed Views," respectively. The final part in these chapter will summarize these findings and evaluate them through the lens of Buchanan's categories (interventionism vs. noninterventionism, compatibilism vs. incompatibilism, character of laws of nature, God-world relationship).

## 5.1 Admitting Ambiguities

In what sense should we understand the term "design" in Paley? **William Jackson** (1817–1891), a rather obscure figure who was a Fellow of Worcester College at Oxford, thought this was a major interpretive gap. In 1870, Jackson entered a Prize Essay contest

for the best "Essay in Confutation of the Materialism of the Present Day."[244] Two years later, he was announced the winner and was awarded £100. He reworked and published the essay as a book in 1875 under the title *The Philosophy of Natural Theology*.[245] In this work, Jackson looks at Paley's natural-theological argument and deals with the various objections, difficulties, and misunderstandings:

> Our plan here will be to take the argument in its best-known shape, and examine it from the points of view occupied by several classes of objectors, beginning, as is reasonable, with the most popular difficulties and misapprehensions.[246]

Immediately, then, we get the sense that Paley's argument related to "misapprehensions." But what is their source? As Jackson sees it, there have been many instances of misunderstanding Paley's design argument, and the term "design" in particular:

> Untrained minds misapprehend the meaning of the word Design, and are further still from apprehending the real force of argument from analogy. And when these subjects come to be discussed by skilled writers, various questions are always raised which generally issue in irreconcilable differences of opinion.[247]

While he mentions "untrained minds" as the main source of this confusion, it does not seem more than a rhetorical ploy. This group of "untrained minds" comes, however, to such diverging conclusions that Jackson describes as "irreconcilable differences of opinion." But what was it, then, that Jackson finds problematic or confusing about Paley's design argument? Right at the outset of his exploration, he notes that it was

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[244] See the announcement in F. K. Leighton, "Prize Essay", *Oxford University Gazette*, June 14, 1870.

[245] William Jackson, *The Philosophy of Natural Theology: An Essay in Confutation of the Scepticism of the Present Day* (New York: A. D. F. Randolph & Co., 1875).

[246] Ibid., 45.

[247] Ibid., 45.

already Paley's watch analogy that provided "the first general misapprehension of his treatise."[248] Jackson sees the main reason in the ambiguity of the key term "design" that is used throughout Paley's book. In other words, Jackson admits that "design" serves as major interpretative gap for Paley's readers, one that can be understood by different readers differently. Although one might pass over "design" quite quickly, this concept turns out to be rather troublesome:

> The word itself, like all figurative terms—or words used in a secondary sense—is by no means free from ambiguity. It has, in common parlance, several shades of signification. Design being the centre of Paley's argument, and containing the one idea which gives force to all the rest: his first object was to fix the sense in which he employed it.[249]

Given that this term plays a central part in Paley's argument, this ambiguity is, of course, no trivial matter. Having examined the complexities of the PDA (Chapter 3), we might question Jackson's claim that Paley's first task was to "fix the sense" of this ambiguous term. Jackson writes that Paley attempted to explain what he meant by "design" narratively, by offering his famous watch analogy:

> To explain by comparison is always a popular resource, some serious drawbacks notwithstanding. Almost every one prefers that an author should use a sparkling similitude which tells a great deal, rather than write what looks like a grammar and dictionary of his science.[250]

However, by employing his famous narrative about finding the watch on the heath, can one reasonably hold that Paley succeeded in fixing the meaning of "design"? At least based on the variety of readings of the PDA, we might doubt that he did. As we will see,

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[248] Ibid., 46.
[249] Ibid., 46.
[250] Ibid., 46.

many read the CDA differently as well, but no one thought that the CDA could be read as interventionist DA. On the other hand, this is not the case with Paley – the PDA was indeed read both as interventionist and noninterventionist, as well as compatibilist and incompatibilist. As a result, it could be seen as theistic, deistic, or potentially even worse. Thus, it seems that Paley (as opposed to Chambers) hardly constrained the multiple possible interpretative gaps of "design," at least with respect to interventionism and compatibilism. As a result, "design" was a key term on the pages of Paley's *Natural Theology*, but one that lacked any conceptual precision. In one place, Jackson himself realized this:

> With many writers on Natural Theology the different shades of meaning implied in the word Design may prevent clearness of conception in this respect.[251]

Shortly after this observation, Jackson offered his own understanding of what Paley meant by "design" and "contrivance":

> But Paley, though writing popularly, did not intend a mere ad captandum effect, as may be seen by a reference to his second chapter. He meant by Design and Contrivance to express in brief the conditions he had laid down as characteristic of the *intentional adaptation of means to definitely purposed ends*—with which conditions he appears to have been fully satisfied.[252]

Thus, on Jackson's view, Paley's "design" carried the meaning of God fixing the conditions for "intentional adaptation". The stress here is on the divine intention that is lying behind the purposes in nature. From this perspective, the hallmark of Paley's

[251] Ibid., 69.

[252] Ibid., 98. I have changed the original emphases.

"design" is teleology, not necessarily a particular mode of DA.[253] But even if Jackson is right, this would not completely fill in the gap (that is, the meaning of "design") and many questions would still be open. Should the PDA be read as interventionist or noninterventionist? Will it be compatible with laws of nature or incompatible? Will the resulting worldview be that of theism, or some other alternative? Because of this, not even Jackson's teleological definition of "design" would help settle its meaning. Jackson, then, is a later voice from the 1870s who looked back at the already present various uses of Paley and the ambiguous concept of "design" – a concept that formed perhaps the most essential component of the PDA.

**George Combe** (1788–1858) is another thinker who points to the lack of clarity about the nature of the PDA. Combe is one of the most interesting characters of the early 19th century, known for his promotion of phrenology.[254] His phenomenal success in publishing a cheap edition of his *Constitution of Man* by Robert Chambers made him one of the bestselling authors of the 19th century.[255] In his *Constitution*, Combe proposed a completely naturalistic understanding of the human mind which was seen as yet another serious threat to Christianity coming from materialism. For him, "The natural laws are universal, invariable, and unbending," even when it comes to the mental capacities of his readers.[256]

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[253] Today, similar views on what is implied by Paley's "design" can be seen, for example, in Brian Davies and William L. Rowe; cf. Davies, *An Introduction to the Philosophy of Religion* (Oxford: Oxford University Press, 1993), 95; and Rowe, *Philosophy of Religion: An Introduction* (Belmont: Wadsworth, 2006), 57.

[254] For its connection to Victorian scientific naturalism, see John Van Wyhe, *Phrenology and the Origins of Victorian Scientific Naturalism* (Aldershot: Ashgate, 2004).

[255] James A. Secord, *Visions of Science: Books and Readers at the Dawn of the Victorian Age* (Oxford: Oxford University Press, 2014), 173–204.

[256] George Combe, *The Constitution of Man*, (New York: William Pearson & Co., 1835), 5.

In *Constitution* itself, Combe does not make any revealing comments about his understanding of the PDA. However, it is in his other work, *The Relation between Science and Religion* (1857), where he gives his readers an interesting insight into Paley's lack of clarity when discussing the PDA. He reveals that apart from John Ray's *Wisdom of God in Creation* (1691), it was also:

> Paley's *Natural Theology* [that] confirmed my faith that God does govern the world; although, owing to their containing *no clear exposition of the manner* in which He does so, they conveyed rather an impression than a conviction of the fact. ... In point of fact, I reached to man's estate with a firm faith that God governs the world, but utterly baffled in all my attempts to discover *how* this government is effected.[257]

This is a telling admission, showing that even the apparently honest Combe who wanted to understand the character of the PDA, could not find its "clear exposition." Unlike many other readers of Paley, the successful phrenologist admits that he remained "utterly baffled" about the nature of the PDA.[258]

But although Combe remarked on the unclear nature of the PDA, he did see Paley's thought (as well as the Bridgewater Treatises) as compatible not only with a law-like but also progressionist development in both the inorganic and organic world:

> At present, we are capable of penetrating fully into neither the plan nor the design of the constitution of the earth and its occupants, but wherever our knowledge of nature is exact and tolerably complete, we are led to the conclusion that, with all its unexplained anomalies and apparent imperfections, it is not only an Institution, *but and advancing Institution*, rather than the wreck of a higher order of things. The work of Paley on Natural Theology, and the Bridgewater Treatises, afford strong evidence in support of this proposition;[259]

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[257] Combe, *On the Relation between Science and Religion* (Edinburgh: Maclachlan and Stewart, 1857), x. I have changed the first emphasis; the second one is original.

[258] Interestingly, Combe extends this lack of clarity on DA as far back as John Ray, who was one of Paley's main sources, alongside William Derham. Ibid., x.

[259] Combe, *On the Relation between Science and Religion*, 181. The emphasis is original.

For Combe, then, the PDA could accommodate a progressive unfolding of the earth and its life. However, the exact mode of how God worked to accomplish such a plan has to be filled in by the reader. Conveniently for Combe, the ambiguity of the PDA meant that Combe could read it at as taking place in a noninterventionist, law-like universe.

Another figure pointing to the ambiguities is **Lewis E. Hicks** (1839–1921) who in his *A Critique of Design-Arguments* (1883) also alerted his readers to this hermeneutical issue. Hicks, an American geologist and zoologist, deals here with design arguments from Newton until his own time, including that of Paley. But before overviewing and critiquing them, he offers some introductory remarks. One of these is to point out the inherent ambiguity of the term "design."[260] The way he puts it is very telling:

> What is mean by *design* in natural theology? From the fact that it has been constantly associated with teleology, we might infer that it means *contrivance for a purpose*, or *adaption of means to an end*. That has undoubtedly been the thought of authors in the majority of places where they have written the word. But it is an ambiguous word: it has a number of other meanings. It may mean *preliminary sketch, outline, plan*, or *delineation, as in drawing and architecture*; or it may mean *scheme, plot, device, aim, intent*, or *purpose*.[261]

Moreover, as Hicks sees it, there is ever a larger problem with this term. Not only does the usage of "design" differ across different authors – the meaning shifts even within the same piece of writing:

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[260] Lewis Ezra Hicks, *A Critique of Design-Arguments: A Historical Review and Free Examination of the Methods of Reasoning in Natural Theology* (New York: Charles Scribner's Sons, 1883), 26–30.
[261] Ibid., 26.

> Any one [*sic*] who will examine the writings of design-advocates will easily find examples of gliding insensibly from the meaning usual with them, *contrivance for a purpose*, to some other of these numerous meanings.[262]

For these reasons, Hicks does not see good prospects for the use of "design." In fact, he proposes that future discussions of natural theology must either remove or sideline such an unclear word:

> It is a pity that this ambiguous term should have so long held a foremost place in physico-theology; and, if this branch of theology is ever to have any pretensions to exactness and scientific method, the word "design" must either be wholly banished from its vocabulary, or at least remanded to a subordinate place, and used with extreme caution, in order not to mislead and confuse both the author and the reader.[263]

However, later Hicks admits this would not be possible or even practical: "Design, with all its shortcomings, is too good a word, and too firmly fixed by usage, to be wholly banished from natural theology."[264] Nevertheless, his critique underscores one very crucial point: "design" is a highly ambiguous term and if natural theologians want to keep on using it, they must at least be very cautious about its meaning. The fact that he had to say so in 1883 means that, in his view, such a cautious approach to "design" had been almost completely ignored.

One more example of the perceived ambiguity of the PDA comes from Anglican liberal churchman **Frederick Temple** (1821–1902). This insight, which was probably just Temple's off-the-cuff remark, comes from his *The Relations between Science and Religion* (1884). Even after more than eighty years, Temple does not see Paley's

[262] Ibid., 26.
[263] Ibid., 26.
[264] Ibid., 28–9.

reasoning as obsolete. Instead, Paley's *Natural Theology* provided an argument that even on full acceptance of evolution retains if force.[265] At the same time, one of Temple's observations related to Paley's assumptions is rather revealing:

> Paley, *no doubt, wrote on the supposition* (and at that time it was hardly possible to admit any other supposition) that we must take animals to have come into existence very nearly such as we now know them: and his language, on the whole, was adapted to that supposition.[266]

At first glance, this comment might seem of minor relevance. I suggest, however, that it is quite revealing in that it shows us that Paley was nowhere clear about how the initial organisms originated. Instead, Temple claims that Paley *must have assumed* that species were created in their near-contemporary forms. Since this was Temple's assumption, he did not argue to this conclusion. Instead, it amounted to Temple's assertion that, in Paley's time, surely, everyone would have thought that way. But Temple's comment is notable in that he admits that this meaning needs to be filled in rather than directly perceived in the text.

In this section, we have seen Jackson, Combe, Hicks, and Temple, all express in different ways the ambiguity of the interventionist nature of the PDA. Since Paley was not clear about its character, its meaning had to be supplied by the reader. Perhaps to some, such ambiguity might have added a certain aura of deism about the PDA. In fact, we will see that this was in some cases a real worry.

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[265] Frederick Temple, *The Relations between Religion and Science: Eight Lectures Preached before the University of Oxford in the Year 1884* (New York: Macmillan and Co., 1884), 113–4.
[266] Ibid. The emphasis is mine.

## 5.2 Unambiguous Views

What about other voices who felt more confident about the character of the PDA? Let us begin by surveying a few early reviews of Paley's *Natural Theology* and gradually move on to the later authors. However, in this next section, allow me a short but important detour as a backdrop for the unambiguous views that will follow.

### 5.2.1 Sidenote: Early Reviews of Paley

There were at least six reviews of Paley's *Natural Theology* that were published in the years 1802–3. I think it is a fair summary to say that these early reviewers saw Paley's *Natural Theology* very positively, with some occasional objections. However, they do not seem to reveal many details about the character of the PDA. That is, they typically do not explicitly connect the PDA with any of Buchanan's four themes. What we can say is that they generally see the PDA as operating in a world divinely governed through secondary causes. If such a metaphysical view of these secondary causes was in place, such a nomological arrangement seemed to be in harmony with DA (as expressed by P2–3). This can be seen, for example, in the anonymous reviewer for the *Edinburgh Review* (1802) and in the one for the *British Critic* (1803).[267]

Other reviews also mention the PDA, but the meaning of their remarks is not clear. This is the case of the anonymous reviewer for the *Imperial Review* (1804) who supplies an interesting but ambiguous comment by noting that "Through the whole, and in every chapter and page of the Natural Theology, we have a convincing evidence of a

[267] [Anon], "Dr. Paley's Natural Theology", *Edinburgh Review* (1802), 1, 287–305; [Anon], "Natural Theology; or Evidences of the Existence and Attributes of the Deity, collected from the Appearances of Nature", *British Critic* (1803), 12, 221–30

great First Cause, *constantly and every where* [sic] *acting* with infinite design and contrivance."[268] What can such an expression of DA mean? Did the reviewer see the PDA as employing regular instances of SDA or rather as noninterventionist DA through laws of nature? Unfortunately, we are not given further details. It would be instructive if the reviewer elaborated on his conception of DA, especially since we have not seen it in other reviews. Other reviewers were generally satisfied to have the contrivances point to the original cause behind the universe. It is clear, however, that the mere laws of nature – at least acting independently – are not enough to explain nature's contrivances.

### 5.2.2 Unambiguous Views: Negative

But not all these early reviews lavished praise. The theological negativity about the PDA is, then, seen already in one of the early reviews, written by **William Wilberforce** (1759–1833).[269] Wilberforce was one of the leading Evangelicals in the Clapham Sect, writing for the *Christian Observer* (1803). Contrary to other early reviewers, Wilberforce perceived the PDA as problematic.[270] On the one hand, Paley's work was very timely since "[a]theism has of late years been chiefly supported by considerations drawn from the mechanical structure of the whole natural world, and, particularly, of the human frame."[271] However, in Wilberforce's view, one concern with Paley's *Natural Theology* (and natural theology in general) is the lack of focus on revelation which should give us

[268] [Anon], "Natural Theology; or Evidences of the Existence and Attributes of the Deity, Collected from the Appearances of Nature," *Imperial Review* (1804), 1, 38.
[269] This point was mentioned already by Fyfe, "The Reception of William Paley's Natural Theology in the University of Cambridge," 323–4.
[270] [W. Wilberforce], "Review of Paley's Natural Theology", *Christian Observer* (1803), 163–8, 243–7, 376–381.
[271] Ibid., 164.

at least the same certainty of God's existence. Wilberforce does not find Paley's focus on design congenial, and if contrivances were the only way how God could be known, this would constitute "so questionable an argument."[272]

On top of that, another serious problem for him is that Paley's reasoning resembles that of the deist "arch infidel" Thomas Paine in his *Age of Reason* (1794).[273] One of the key things that Paine rejected was the whole notion of miracles as incompatible with "true religion."[274] Thus, having Paine's rejection of miracles in mind, Wilberforce's objection seems to be that the perceived lack of interventionism in the PDA is so glaring that it could be mistaken for deistic arguments. And while Wilberforce admits that "the agency, and the wisdom of the Deity, are satisfactorily proved by the display of the contrivance", he seems uneasy with the nomological thrust of the PDA.[275] Thus, Wilberforce appears to show his need for instances of divine interventions which he possibly finds lacking in the PDA. That is, as we have seen, his worry seems to be the lack of interventionism in Paley, which makes the PDA resemble the notorious deists.

Similar worries about the PDA can be seen in our next figure. For those familiar with the Victorian period, **John Henry Newman** (1801–1890) needs little introduction.[276] He achieved his fame as one of the Tractarians, from his conversion from Anglicanism to Catholicism, and from many of his writings on the topics still relevant today. Pertinent to our discussion of the PDA are his comments in his lectures delivered at the Catholic

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[272] Ibid., 167.

[273] Ibid., 167.

[274] Thomas Paine, *The Age of Reason: Being an Investigation of True and Fabulous Theology* (New York: Liberal and Scientific Publishing House, 1877 [1794]), 47.

[275] [Wilberforce], "Review of Paley's Natural Theology," 167.

[276] For a good book-length introduction see Frank M. Turner, *John Henry Newman: The Challenge to Evangelical Religion* (New Haven: Yale University Press, 2002). For a treatment of Newman's philosophy of religion, see Ian Ker, "John Henry Newman", in *Nineteenth-Century Philosophy of Religion*, edited by Graham Oppy and Nick N. Trakakis (Abingdon: Routledge, 2014), 105–117.

University in Dublin, eventually published as *The Idea of the University* (1852).[277] It is in this work, that his interpretation of the PDA becomes apparent.

Newman's distaste for natural theology (which he calls "physical theology") is well known.[278] Strikingly, the reasons for his repudiation of natural theology seem to be connected not only with the nature of the whole project but also his perception of the PDA. This aversion can be seen in the following examples from *The Idea of the University*. In one place, shortly after mentioning Paley and his *Natural Theology*, Newman has this to say about the insufficiency of reasoning from nature to God:

> I do not hesitate to say that … this so-called science [of Physical Theology] tends, if it occupies the mind, to dispose it against Christianity. And for this plain reason, because it *speaks only of laws; and cannot contemplate their suspension, that is, miracles*, which are of the essence of the idea of a Revelation.[279]

For Newman, then, it is bad enough that natural theology sets aside revealed theology. But things are even worse – natural theology also has the tendency "to dispose [the mind] against Christianity." How come it has this effect? Because, he implies, natural theologians, such as Paley, "cannot contemplate" the suspension of natural laws, "that is, miracles." This is quite an exaggerated generalization since many of the natural theologians had the tendency to make at least some allowance for such miraculous interventions. At minimum, surely, they were at least able to contemplate the subject (though it is quite certain that Newman exaggerated about such inability). Yet, what matters for us is not the historical accuracy of Newman's position, but that this is how

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[277] In this chapter, my page references are from John Henry Newman, *The Idea of a University: Defined and Illustrated* (London: Longmans, Green, and Co., 1891).

[278] Cf. Frank M. Turner, "Newman", in *The Blackwell Companion to Nineteenth-Century Theology*, edited by David A. Fergusson (Wiley-Blackwell, 2010), 131–5.

[279] Newman, *The Idea of a* University, 454. The emphasis is mine. Paley is mentioned in Ibid., 450.

he perceived the PDA. To appreciate more fully how he viewed Paley (among others), here is how Newman's criticism of natural theology continues:

> Thus, the God of Physical Theology may very easily become a mere idol; for He comes to the inductive mind in the medium of *fixed appointments*, so excellent, so skilful, so beneficent, that, when it has for a long time gazed upon them, it will think them *too beautiful to be broken*, and will at length so contract its notion of Him as to conclude that *He never could have the heart* (if I may dare use such a term) *to undo or mar* His own work; and this conclusion will be the first step towards its degrading its idea of God a second time, and identifying Him with His works. Indeed, a Being of Power, Wisdom, and Goodness, and nothing else, is not very different from the God of the Pantheist.[280]

Paley is thus implied to be as one of the natural theologians who think of God's laws as "fixed appointments" that are "too beautiful to be broken" and that God could "never have the heart to undo or mar". In fact, he likens such a view to pantheism. As we can see, then, Newman provides another interpretive lens how to view the PDA – one that not only excludes any interventionist miracles but that could be dangerously anti-Christian. Thus, unlike many of the previous authors we have looked at, Newman had no sympathies for the PDA which he saw as theologically unsafe due to its (perceived) exclusive reliance on unbreakable laws. In fact, this is quite a paradox since Paley's *Natural Theology* was widely employed at Cambridge precisely because it was perceived to be a theologically safe conduit for learning about nature.[281]

Thinkers did not suddenly stop commenting on Paley after the publication of Darwin's *Origin* in 1859. On the contrary, we find examples also in this later period of the Victorian era.[282] One of them belongs to a critical and one of the most explicitly

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[280] Newman, 454. The emphases are mine.

[281] Aileen Fyfe, "Publishing and the Classics," 741, 745.

[282] As Fyfe notes, even Paley's *Natural Theology* continued to be published in new editions also in the 1870s as a reaction to the existing tensions since "The harmony between science and faith which had

interventionist readings of the PDA in the 19th century that I have found. It comes from George **John Romanes** (1848–1894), an evolutionary biologist as well as Darwin's friend and research assistant. Romanes is also known for his spiritual journey – from faith, through scientific naturalism, agnosticism, and back to theistic faith.[283] In his skeptical phase, he published *A Candid Examination of Theism* (1878) under the pseudonym Physicus. In the following revealing passage from this work, he comments on the PDA as follows:

> [Paley] treated [his argument from design] with a feebleness and inaccuracy very surprising in him; for while he has failed to assign anything like due weight to the inductive evidence of organic evolution, he did not hesitate to rush into a supernatural explanation of biological phenomena."[284]

Quite clearly, then, Romanes, equates the PDA with providing a "supernatural explanation." Just a few lines later, he implies that the PDA does not conceive of laws of nature as operating universally when he writes of the need to "change the teleological argument from its gross Paleyian [*sic*] form, into the argument from the ubiquitous operation of general laws."[285] Romanes, as he understood Paley, did not appreciate that Paley was making a specific claim about how God relates to the world:

> all we are now engaged upon is to show that we have no right to found arguments on the assumed *mode*, *manner*, or *process* by which the supposed intelligence is thought to have operated. We can here see, then, more clearly where Paley stumbled. He virtually assumed that the relations subsisting between the Deity and the universe were such, that the exceptional adaptations met with in the

been so obvious in Paley's day was coming under threat." See Fyfe, "Publishing and the Classics," 747–748.

[283] Livingston, *Religious Thought in the Victorian Age*, 65–8.

[284] [George John Romanes], *A Candid Examination of Theism* (Boston: Houghton, Osgood, & Company, 1878), 104–5.

[285] Ibid., 105.

> organized part of the latter cannot have been due to the same intellectual *processes* as was the rest of the universe.[286]

Romanes, writing with an agnostic mind, apparently wished to remain agnostic about any specific proposal for DA in the world. Otherwise, as he saw it, it would be a huge overstepping, beyond our best intellectual capacities. However, it is almost certain that Paley would have agreed with Romanes on this point. That is, a part of the PDA are also two features in which Paley exhibited his agnosticism about the details of DA (P1, P17). But what happened, it seems, is that Romanes himself made a crucial assumption, namely, that Paley and his PDA, without any doubt, presumed interventionism:

> I do not say that Paley committed this error expressly, but merely that if it had not been for his pre-formed conviction as to the truth of the special-creation theory, he would probably not have written his "Natural Theology."[287]

Romanes, then, read the PDA quite negatively for its alleged specificity about DA. In his view, Paley was not cautious at all but instead expressed his views about DA explicitly and rather confidently. Romanes spent the last eight years of Darwin's life as his research assistant. Perhaps, then, we can wonder: did both equally share the same negative attitude toward the PDA during this whole time? And did both see the PDA as interventionist and incompatibilist view of DA, not suitable for scientific minds?

In what follows, we will see that many other thinkers differed from such a confident interventionist conclusion quite markedly. That is, there were many other

[286] Ibid., 39. Cf. 105

[287] Ibid., 40.

thinkers who read the PDA in a noninterventionist way, in which laws of nature were very much compatible with God's action in His creation.

### 5.2.3 Unambiguous Views: Positive

One interesting, noninterventionist, and compatibilist reading of the PDA that is full of endorsement comes from **William Prout** (1785–1850), one of the authors of the Bridgewater Treatises in the 1830s. In his treatise on "Chemistry, Meteorology, and the Function of Digestion," In it, Prout reserves special creation only to the original species. Since, in this event, all plants and animals were also endowed with the capacity for self-propagation (recalling Paley's self-replicating watches), the need for similarly special creations ceased:

> Hence, when plants and animals were *first produced*, it is evident that there must have been a *power or agent in operation*, which has long *since discontinued so to operate*; and that this power or agent not only created plants and animals; but at the same time imparted to them a capability of perpetuating their existence, for a period, at least, commensurate with that state of equilibrium in which they have been placed.[288]

Notice here, however, the language used by Prout – he mentions that this first creation was done by "a power or agent in operation." Of course, we would be forgiven to identify it upon reading with God. Yet, Prout, perhaps surprisingly, allows for two options – it could have been an instance of divine interventionism or, possibly, of a law-like creation:

> Now, whether we consider the power or agent who accomplished all these things, to have been the Deity himself operating immediately, which is most

[288] William Prout, *Chemistry, Meteorology, and the Function of Digestion, Considered with Reference to Natural Theology* (London: William Pickering, 1834), 164. The emphases are mine.

> probable; or whether we consider with some, that He *operated by delegated agencies and laws*, the result is the same as far as our argument is concerned.[289]

It is thus "most probable," says Prout, that God created first species through His intervention. Still, the author leaves the possibility open that all this was done by "delegated agencies and laws." Prout then assures his readers that after this, the species do not undergo transmutation and stay fixed. But again, he offers two recipes for how new species could come about:

> organized beings at the present time, are at least as fixed and permanent in their nature, as the state of equilibrium in which they have been placed; and consequently, no new plants or new animals, can, as the world now exists, be imagined to be produced, without a *new and specific act of creation; or at least, without an entire change in the standard of equilibrium*.[290]

Prout is here repeating his previous move. At first, he offers divine intervention as the obvious solution but then slips in an alternative – new species could have also possibly emerged if there was "an entire change in the standard of equilibrium", that is, through a lawlike explanation. It is a subtle move, but he makes it twice in a short succession. Moreover, he does this (what we could call) *naturalistic move* where this would be quite unexpected in his historical context.[291]

What is interesting about all this, is that Prout saw himself as continuing and expanding the work and vision of Paley – only this time, in the field of chemistry.[292]

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[289] Ibid., 179. The emphasis is mine.

[290] Ibid., 179–180. The emphasis is mine.

[291] For the assumptions of biblical anthropology prevalent in the first half of the nineteenth century, see George W. Stocking, *Victorian Anthropology* (New York: London: Free Press; Collier Macmillan, 1987), 44. Cf. Livingstone, James C., *Religious Thought in the Victorian* Age, 150–6.

[292] Up to that time, chemistry was never a popular part within natural theology. Jonathan R. Topham, *"'An Infinite Variety of Arguments': The Bridgewater Treatises and British Natural Theology in the 1830s"* (PhD diss., University of Lancaster, 1993), 78.

Crucially, throughout the treatise, Prout no less than seven times repeats Paley's view about how the Deity confined his operations to "general laws" and is instead working through other agents.[293] Prout initially quotes one of Paley's features (P16), according to which God has limited His power, does not break His laws, and instead works through many "agents."[294] This lawlike, noninterventionist character of the PDA in this passage received Prout's full imprimatur:

> This admirable passage from Paley is so much in point, and so exactly impresses our opinions regarding physical agents, that, as in a former instance, we have chosen it as a text for illustration.[295]

Thus, Prout here explicitly endorses the noninterventionist features of the PDA he has just quoted from. In Prout's words, the selected passage from Paley "exactly impresses our opinions regarding physical agents." Like Paley, Prout later states that God could have chosen to work through interventions, but instead, he opted for "limitations, which the Deity has thought proper to prescribe to his power; and to which He always most rigidly adheres."[296] The fact that Prout repeats as a chorus on his pages could serve as a pointer not only to his strong endorsement of such noninterventionism but, seemingly, also compatibilism. In other words, such a reading of the PDA would go something like this: probably, God initially created the world and original species through interventionism, although, alternatively, it might have taken place through secondary causes. After this, the history of the world unfolded naturalistically, that is, without divine interventions.

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[293] Prout, *Chemistry, Meteorology, and the Function of Digestion*, 24–25, 29, 57, 184, 188, 363, 436.
[294] Ibid., 24–25.
[295] Ibid., 25.
[296] Ibid., 184.

With this strategy, he was explicitly building on Paley's text of *Natural Theology* and stressed (multiple times) only those passages which had God working through subordinate agents. Surely, then, our world is a designed world. But it is a world where God worked through his employment of secondary causes, and not through miraculous interventions. In this sense, Prout quoted from the passages which he took to be the essence of the PDA. Such an essence, at least in Prout's view, would be the PDA's emphasis on noninterventionist DA through laws of nature.

Someone who should not be overlooked when discussing the readings of the PDA in the 19th century is the very author of *Vestiges*, **Robert Chambers** (1802–1871). He was another author who saw the PDA positively and suitable for his purposes. As we will see, he took the PDA to be – just like his own of vision of the CDA – noninterventionist. Yet, such a view would be far from clear until 1853, when Chambers published his tenth edition of *Vestiges*. That is, in the previous editions, the entire text of *Vestiges* mentioned Paley only once and did so approvingly:

> It has been one of the most agreeable tasks of modern science to trace the wonderfully exact adaptations of the organization of animals to the physical circumstances amidst which they are destined to live. … It would be tiresome to present in this place even a selection of the proofs which have been adduced on this point. The *Natural Theology* of Paley, and the Bridgewater Treatises, place the subject in so clear a light, that the general postulate may be taken for granted.[297]

Paley (along with the Bridgewater Treatises) is thus seen as successful in providing "the general postulate" of natural theology, that is, in establishing the argument that design implies a designer. However, as we have already mentioned when discussing the CDA features (Chapter 4), Chambers made a substantial change in the text of his tenth

[297] V1, 324. Italics added.

edition of *Vestiges*. We may recall that in the appendix to this edition, he added a paragraph in which he emphasized the dependence of laws on their Creator; providential care through these laws; and that laws of nature are a mode of DA thanks to which He is omnipresent (CV10).

In the same appendix, Chambers also tied his view of laws of nature to the following four authors: Dugald Stewart, William Paley, Philip Doddridge, and William B. Carpenter. Chambers' aim here was to support his scientific as well as theological views by citing relevant authorities as an ammunition in responding to his critics. As Chambers explains:

> The scientific facts on which this work is founded, and many of the ideas and phrases of the author, having been for controversial purposes contradicted and misrepresented, he has been induced to set all these matters in a clear light by quotations from the writings of reputable naturalists and others, so that they may no longer be the subject of doubt among unlearned readers.[298]

In the appendix section titled "Natural Law," he, then, mentions also Paley as a natural-theological authority when it comes to laws of nature. Chambers quotes only short paragraphs from these four authors, including Paley, and does not elaborate on them. Instead, he only prefaced these quotes by the following:

> On the subject of natural law, the following extracts will probably help to dispel certain prejudices which have been formed with regard to the conclusions aimed at in the present work.[299]

Thus, what Chambers is concerned about are the "prejudices," in this case, about his conception of laws of nature. How, then, does Chambers seek textual help from Paley?

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[298] V10, appendix, i.

[299] Ibid., appendix, i.

Chambers quotes a longer passage from Paley's P3 which can be summarized by its final words: "Without this agent ... the 'law' does nothing; is nothing."[300]

Chambers might be pointing here to two similarities that he shares with the PDA. First, it is the claim that laws of nature imply the existence of a causally originating agent. The second thing they have in common is that, in some way, laws of nature are God's "mode" of operating. This Chambers' use of Paley indicates his desired closeness to the PDA, at least for rhetorical purposes. Thus, it seems correct to say, that Chambers wants to highlight the PDA as a compatibilist and noninterventionist DA, where laws of nature are fully dependent on God.

Chambers also sought similar support from the remaining three thinkers he quoted – Dugald Stewart, Philip Doddridge, and William B. Carpenter. Since I want to focus on Chambers' view of the PDA, I will not elaborate on these other three names. It will be enough to mention that he quoted them to achieve similar effect. That is, Chambers wanted to bring home the point that there are also other orthodox scholars who emphasize both noninterventionism and laws of nature as means of DA. The point of his quoting Paley was, of course, that if one accepts the PDA there is not much to be theologically worried about the CDA.

Let us end this section with a critic of theism who, perhaps surprisingly, endorsed the PDA. This is none other than another person closely connected to Darwin – his "bulldog", **Thomas Huxley** (1825–1895). How did the modern founder of agnosticism perceive the PDA? At one point, he quoted the famous German biologist Ernst Haeckel from his *The Genealogy of Animals* (1869) on the following compatibility:

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[300] Ibid., appendix, i–ii. The quote is from NT, 216–7. Chambers quotes the beginning a bit inaccurately, but this is not relevant in making his point.

> The teleological and the mechanical views of nature are not, necessarily, mutually exclusive. On the contrary, the more purely a mechanist the speculator is, the more firmly does he assume a primordial molecular arrangement of which all the phenomena of the universe are the consequences, and the more completely is he thereby at the mercy of the teleologist, who can always defy him to disprove that this primordial molecular arrangement was not intended to evolve the phenomena of the universe.

Thus, for Haeckel, mechanistic explanations are completely compatible with teleology – a position also endorsed by Huxley. Huxley immediately connected the previous passage with Paley and the PDA:

> The acute champion of Teleology, Paley, saw no difficulty in admitting that the 'production of things' may be the result of *trains of mechanical dispositions fixed beforehand by intelligent appointment* and kept in action by a power at the centre, that is to say, he proleptically [i.e., in advance] accepted the modern doctrine of Evolution; and his successors might do well to follow their leader, or at any rate to attend to his weighty reasonings, before rushing into an antagonism which has no reasonable foundation.[301]

On this view, Paley's God was not characterized by a hands-on involvement. Rather He had everything teleologically preordained. This is a position that Huxley happily endorses and puts forward as an example to the contemporary theologians who should "follow their leader" – Paley – instead of denouncing his *Natural Theology*. Moreover, on Huxley's view, Paley "proleptically … accepted" evolution, that is, in the sense described in the quote. For Huxley, if the PDA is (presumably) noninterventionist but can providentially plan every organic development, that appears like a DA that he can fully endorse, at least, as a recommendation to the theologians of his age. While it is a recommendation that rests on seeing the PDA in completely "mechanistic" terms, but

[301] Huxley, "On the Reception of the 'Origin of Species'", in *The Life and Letters of Charles Darwin*, vol. 1, ed. by Francis Darwin (New York: D. Appleton and Company, 1893), 555. The emphasis is mine.

that can still be compatible with teleology. More precisely, on the preceding page, Huxley called this compatibility a "wider teleology" which is not affected by evolution at all.[302] This wider teleology is based on interactions of various forces in nature that enabled the development of life in the first place.[303] In other words, this is a kind of 19th-century version of the modern fine-tuning argument. Crucially for our purposes, it is a type of fine-tuning argument that he saw present in the PDA and which he heartily recommended.

## 5.3 Mixed Views

The views of the next two figures regarding the nature of the PDA, appear to be somewhat unclear or even mixed. **Adam Sedgwick** (1785–1873), a Woodwardian Professor of Geology at Cambridge was a towering intellectual in the early part of the 19th century. In his *Discourse on the Studies of the University* (1832), he argued for the place of geology within natural theology, against its rejection by a group of the so-called scriptural geologists.[304] It is, however, in its fifth edition with a 366-page long and reworked preface where he provides some quite revealing comments.[305] In this preface, we learn a good deal about his views on DA, evolution, and laws of nature. I suggest that

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[302] Ibid., 554–5.

[303] Cf. Bernard Lightman, "The Theology of Victorian Scientific Naturalists," in *Science without God? Rethinking the History of Scientific Naturalism*, edited by Peter Harrison, and Jon H. Roberts (Oxford: Oxford University Press, 2019), 241–5.

[304] James A. Secord, "Sedgwick, Adam (1785–1873), Geologist," *Oxford Dictionary of National Biography* (Oxford University Press, 2004). Originally delivered as a sermon in Trinity College chapel. Its fifth edition (1850) contains a long introduction directed against the arguments in the *Vestiges* by its still anonymous author. For the scriptural geologists, see Millhauser, *Just before* Darwin, 46–57; and for Sedgwick's *Discourse* Ibid., 122–4.

[305] Adam Sedgwick, *A Discourse on the Studies of the University of Cambridge* (London: John W. Parker, 1850).

it is also here where he makes use of Paley in a way that might disclose how Sedgwick perceived the PDA.

Sedgwick, like other theologically educated men of science in his time, spoke highly of the role of laws of nature.[306] But for him, these laws cannot account for all natural phenomena. At one point, he clearly says that both the history of nature as well as humanity contains events that are completely inexplicable. How then are we to account for them? It is, as he writes, by "the will and energy of the great First Cause, who created all worlds, animate or inanimate, and ordained the laws by which they were first called into being, and are still upheld."[307] Therefore, in these apparently inexplicable cases, we should resort not to laws of nature but to divine interventions. How does Sedgwick relate his view to the PDA? Fortunately, we can gain some insight into Sedgwick's thinking since he follows this passage by linking it with miracles and Paley. Here is how.

After stating that we need a recourse to this higher, non-naturalistic power, Sedgwick realizes that a skeptic might have problems accepting such a proposal. After all, "an Atheist admits no power but that of nature."[308] It is the common ground of "The Rationalist, the Pantheist, and the Materialist."[309] We then see the same worry expressed by Wilberforce. However, unlike the early reviewers, Sedgwick interprets the PDA as interventionist. He does so by quoting the following Paley's dictum: "Once believe that there is a God, and miracles are not incredible."[310] Sedgwick employs this

[306] Ibid., cxxx.
[307] Ibid., ccxxix.
[308] Ibid., ccxxx.
[309] Ibid., ccxxix.
[310] Ibid., ccxxix.

claim in the context of discussing nature, natural laws, and the creation of new species. However – and this is the key – in doing so, he took Paley's quote out of its original context and put it to a completely new use. This move is significant because it does not come from Paley's *Natural Theology*, but rather from his earlier work *A View of Evidences of Christianity*.[311] In his *Evidences*, Paley discussed miracles in the context of responding to Hume on the question of the historicity of the New Testament miracles. Thus, its function had nothing to do with arguing for miracles in producing nature's designs. Moreover, this intertextual use of Paley by Sedgwick is intriguing since Paley appears to be a cessationist. That is, he believed that at least the biblical miracles ended with the New Testament period.[312]

In such a move, however, Sedgwick, transported Paley's quote into a new argument, arguing that God could perform miracles also in nature and not just, in Paley's words, as the "attestation of a message from God" by Jesus of Nazareth.[313] This intertextual move in Sedgwick is interesting. Instead of appealing to the PIF (in P17) in Paley's *Natural Theology*, Sedgwick chose to lift a passage from Paley's *Evidences*. There should be no doubt that Sedgwick was an interventionist also with regards to the contrivances in nature, as is clear from this passage:

> In one view, we see the great animating First Cause in the laws impressed by Him on the vast bodies of the visible universe. In another view, we see Him in positive acts of creative power, shown in the organs of successive animated beings brought into life during long successive periods.[314]

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[311] Paley, *A View of the Evidences of Christianity* (Cambridge: Cambridge University Press, 2009 [1817]), 1:11. Originally published in 1794.

[312] Ibid., 2:388–389. The emphasis is mine.

[313] Ibid., 1:4.

[314] Sedgwick, *Discourse*, ccxxxviii.

Sedgwick's reasoning above, then, portrays the PDA as interventionist. On the other hand, in one of his appendices, we find one note dedicated to his comments on Paley's design argument in *Natural Theology*. In this case, however, there is nothing that would suggests that the PDA is interventionist. Instead, for Sedgwick, the point of the design argument is that God's existence is proved by the teleology built into nature. As he puts it, it is an argument "drawn from final causes."[315] What it points to, is that there must be the First Cause at the very beginning:

> Surely then we may conclude with Paley, that the world around us proceeds from design and intelligence—"intelligence properly and strictly so called, including under that name foresight, consideration and reference to utility." ... "After all the schemes of a reluctant philosophy, the necessary resort is to a Deity."[316]

So which way is it? Does the PDA say anything about divine interventions or not? While I do not think that these two strands in Sedgwick are necessarily in contradiction, they are in some tension. In the former, he made use of Paley's acceptance of biblical miracles in his discussion of nature; but in the latter, the focus was on the teleology of nature provided by the Creator. Whereas both of these perspectives have an in-built teleology, the latter view does not require miraculous interventions. For this reason, it is not entirely clear to me how Sedgwick understood the character of the PDA and why his view on it appears to be mixed.

One of those who might have read the PDA in a critical, yet ambiguous, way was none other than **Charles Darwin** (1809–1882). His admiration for Paley's *Natural*

[315] Ibid., 144.
[316] Ibid., 150.

*Theology* is well-known: "I do not think I hardly ever admired a book more than Paley's *Natural Theology*: I could almost formerly have said it by heart."[317] It was already shortly after finishing his Beagle voyage (1831–36) when he started to reflect on a naturalistic alternative for the creation of species through SDA.[318] However, it is in one of his letters to Charles Lyell (1860) that he includes a telling comment about the PDA. As first thing in the letter, Darwin tells us that just as he rejects divine intervention to explain the movements of the planets, so he does for the organic world.[319] But why, in his view, do many thinkers continue to believe in the need for interventionism in creating species? He proceeds to identify the blameworthy party:

> It is only *owing to Paley & Co*, as I believe, that this more special interference is thought necessary with living bodies.[320]

The answer he gives here is clear: it is due to "Paley & Co." But perhaps we need to be careful how to interpret this passage since there seem to be two ways how to read it: (1) Darwin himself might have believed that Paley (and his followers) saw interventionism as God's mode of operation in nature. Or alternatively, (2) Darwin merely claimed here that the PDA was *interpreted* in such an interventionist way. Whichever option is right, we have here further evidence that the PDA was interpreted as SDA – either by Darwin,

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[317] Darwin's letter to John Lubbock, 22 November 1859. Darwin Correspondence Project, "Letter no. 2411," accessed on 10 September 2022, https://www.darwinproject.ac.uk/letter/?docId=letters/DCP-LETT-2411.xml

[318] See his note in his B notebook of 1837 and the comment in his *Essay* of 1844; quoted in Michael Ruse, *The Darwinian Paradigm* (London: Routledge, 1989), 15–16.

[319] Letter to Charles Lyell, 17 June 1860. The emphasis is mine. Darwin Correspondence Project, "Letter no. 2647," accessed on 10 September 2022, https://www.darwinproject.ac.uk/letter/?docId=letters/DCP-LETT-2647.xml

[320] Ibid. The emphasis is mine.

by others Darwin has in mind, or, of course, by both.[321] In any case, it is clear that Darwin was critical of such interventionist way of thinking about the natural world.

Now, while I think this puzzle might be ultimately unresolved and both readings may remain possible, the first option – Darwin himself reading the PDA as SDA – seems to me slightly more plausible. The case for this is perhaps not convincing, but I suggest that it should carry some weight. In short, if Darwin saw the PDA as noninterventionist he could use Paley for supporting his view of natural laws. That is, although Darwin at the beginning of his *Origin* made use of three quotations by three prominent authors (William Whewell, Joseph Butler, Francis Bacon), whom he saw as espousing noninterventionism, he did not use Paley.[322] In no way do I claim that this is a smoking gun. But we should also point out that before Darwin's *Origin*, this strategy – to support one's controversial views of laws of nature – was used previously by Robert Chambers (see below) and also by George Combe.[323] While Darwin cited the three foregoing authorities he deemed to be of use for his defence, he did not see Paley – an author whom he used to admire – as one of them.

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[321] I thank Alistair Sponsel for alerting me to this second option for how to read Darwin's comment on "Paley & Co."

[322] Quote from Whewell's Bridgewater Treatise: "But with regard to the material world, we can at least go so far as this—we can perceive that events are brought about not by insulated interpositions of Divine power, exerted in each particular case, but by the establishment of general laws." Quote from Bishop Butler's Analogy of Revealed Religion: "The only distinct meaning of the word 'natural' is stated, fixed or settled; since what is natural as much requires and presupposes an intelligent agent to render it so, i.e., to effect it continually or at stated times, as what is supernatural or miraculous does to effect it for once." Quote from Francis Bacon's Advancement of Learning: "To conclude, therefore, let no man out of a weak conceit of sobriety, or an ill-applied moderation, think or maintain, that a man can search too far or be too well studied in the book of God's word, or in the book of God's works; divinity or philosophy; but rather let men endeavour an endless progress or proficience [*sic*] in both." Charles Darwin, *On the Origin of Species*, 2nd ed. (London: John Murray, 1860), vi. Charles Darwin, *On the Origin of Species*, 2nd ed. (London: John Murray, 1860), vi.

[323] Combe, *Constitution of Man*, 17.

Moreover, what, I believe, adds to the view that Darwin himself saw the PDA as interventionist is that he quite evidently took it to be incompatibilist. This is seen from his remark in his *Autobiography*:

> The old argument from design in Nature, as given by Paley, which formerly seemed to me so conclusive, fails, now that the law of natural selection has been discovered. We can no longer argue that, for instance, the beautiful hinge of a bivalve shell must have been made by an intelligent being, like the hinge of a door by man.[324]

This passage uses a very hands-on metaphor (making a hinge) as a comparison to God's creative process. He then ends this passage by referring the reader to his other work, *Variation of Animals and Plants Under Domestication* (1868) where he "discussed this subject."[325] This is where things start to be again a bit muddy. In that work (*Variation*), he spoke only of "design" in terms of divine preordination, not direct creation.[326] However, in his earlier work on orchids (1862), he gives his intent of the whole work as follows:

> This treatise affords me also an opportunity of attempting to show that the study of organic beings may be as interesting to an observer who is fully convinced that the structure of each is due to secondary laws, as to one who views *every trifling detail of structure as the result of the direct interposition of the Creator*.[327]

This is some really meticulous creation. Later, he spoke of this view of DA as having "each Orchid created as we now see it."[328] Did Darwin have the PDA in mind? If so, what should we make of his switch in 1868 when he took "design" to be something divinely

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[324] Francis Darwin, ed., *The Life and Letters of Charles Darwin*, vol. 1 (London: John Murray, 1888), 309.
[325] Ibid., 309.
[326] Charles Darwin, *The Variation of Animals and Plants Under Domestication*, Volume 2 (New York: Orange Judd & Company, 1868), 513 –6.
[327] Charles Darwin, *On the Various Contrivances by which British and Foreign Orchids are Fertilised by Insects* (London: John Murray, 1862), 2. The emphasis is mine. Cf. Gillespie, *Charles Darwin and the Problem of Creation*, 68 –9.
[328] Ibid., 306.

preordained? Examining his various uses of “design” would require more space and would take us too far away from our aim. However, Darwin’s ostracism of Paley seems, at least to me, to favour Darwin’s reading of the PDA as interventionist, and potentially also incompatibilist. Still, it is not completely clear if Darwin saw the PDA as interventionist or as preordained divine plan. I admit that my argument above – that Darwin saw the PDA as interventionist - is not strong (I have my own doubts). Be that as it may – he rejected the PDA, regardless of how he saw its details.

## 5.4 Themes in Paley’s Nineteenth-Century Readers

Based on Paley’s readers in this chapter, what can we conclude, then, about the themes that they discussed? We started with a brief look at some early reviews of Paley’s *Natural Theology*. Generally, these showed us that the early reviewers did not complain about the character of the PDA. While Wilberforce had some concerns about the very project of natural theology, they typically saw the PDA as theologically safe. The PDA explained the world through (apparently) natural causes, while inevitably keeping the Designer at the beginning of the whole process. Put differently, these authors did not see it as a competing, zero-sum game. Explanations in terms of laws of nature did not push God out of the picture. God is still there, providentially supervising the whole process. For example, not even the reviewer of the conservative, High-Church *British Critic* raised any objections in relation to any perceived incompatibility between explanations in terms of secondary causes and the PDA. Nor did any of these early reviewers accuse the PDA of banishing God or denying the role of providence because of the PDA’s strong emphasis on laws of nature.

What this indicates, I think, is that in the early 1800s, our four themes were still not a hot topic of debate. It was generally understood that one of the roles of natural theology was to provide a vision that would bring laws of nature and DA together, in both scientifically and theologically meaningful ways. Such a compatibility seems to have been assumed and not argued for. However, this compatibility assumed at the time of Paley could not have been assumed in the upcoming decades. As we will see, this compatibility will be fiercely contested by the time we come to look at the reactions to Chambers' *Vestiges* in the 1840s. But the beginnings of these disagreements about compatibility started to emerge already sooner. This is because the turn of the 19th century was also a time shortly after the French Revolution. As a result, there began to emerge worries about the extent to which the emphasis on laws of nature – as employed in works of natural theology – might supply ammunition to a deistic, agnostic, pantheistic, or atheistic infidel.[329] This was the worry expressed by Wilberforce: while the PDA was a good weapon in the arsenal of natural theology, it could be relatively easily taken by the unbeliever, especially one inspired by the French infidel ideas.

Perhaps we should put this last point more precisely: it was only as long as the PDA was interpreted in a noninterventionist way that it could be seen as a theologically dangerous weapon to fight the unbelievers. Although one reviewer, writing in 1841, could claim of Paley's project that "The great truth of a being at the head of creation, possessing intelligence, power, and goodness, in a degree beyond our utmost conceptions to measure, ought to be enough for anyone," not everyone thought the same way.

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[329] John H. Brooke, *Science and Religion: Some Historical Perspectives* (Cambridge: Cambridge University Press, 2014 [1991]), 204–60.

As I have already indicated, when we come to the debates on the CDA in the 1840s (Chapter 6), such a reliance on a noninterventionist, nomological vision of DA will be seen as highly controversial. At least for some, in the early 1800s, even a noninterventionistic reading of the PDA was not a hotly debated issue. That is, at least based on the early reviews, laws of nature and DA were, for the most part, seen as compatible explanations of the natural world.

What did we see in our discussions of the PDA? First, we saw at least three authors who were openly uncertain about the character of the PDA, notably because of the ambiguities in the term "design" (Jackson, Combe, Hicks, possibly Temple). Apart from these exceptions, this is a point that is barely reflected on by those who comment on the PDA. These authors together provide a chorus of voices that should alert us to "design" as one of the crucial undetermined meaning gaps.

We then moved on to negative readings of the PDA. In the case of Wilberforce and Newman, their worries were formed by the notable absence of interventionism in the PDA. With respect to the PDA, they both emphasized Paley's lack of focus on revelation. Wilberforce started to note the dangers of emphasizing nomological explanations – there was just too much similarity to deism. Newman read the PDA as working with unbreakable "fixed appointments," but he labelled the lurking threat behind it not as deism but pantheism. What is clear is that Wilberforce and Newman became readers who saw the PDA's stress on natural laws. Did both, however, miss Paley's PIF? If they missed it, they would not be alone – no one in this chapter picked up on it. Despite this, the PDA could still be read as interventionist, as can be seen in the next pair of thinkers.

Darwin and Romanes were certainly not the ones to recommend the PDA. At minimum, Darwin saw Paley ("Paley & Co") as the primary natural theologian responsible for a widespread notion of an interventionist creation of the organic world. For Darwin, his view of nature did not mix with teleological explanations. The same holds for Romanes who accused Paley of employing a "supernatural explanation of biological phenomena."

However, such a view was not only in contrast to those of Prout and Chambers who stressed the nomological side of the PDA. It was also radically different from Huxley's reading, one of Darwin's staunchest defenders. For Huxley, the PDA was not only noninterventionist, but it allowed for a compatibilism with his notion of "wider teleology." And while he did not claim that God was acting through laws of nature, these laws could go hand in hand with divinely established purpose.

Furthermore, we saw an idiosyncratic way of interpreting the PDA in Sedgwick who also took the PDA to be interventionist. However, his textual support for this did not come from Paley's *Natural Theology*. *Instead*, it came from Paley's *Evidences*, where the key issue was biblical miracles and not organic creation. This Sedgwick's specific reading of Paley supports the view that intertextuality also helped to fill interpretive gaps. In the next chapter, we will see how another set of readers were filling the gaps in the CDA.

# 6. Nineteenth-Century Readings of Chambersian Divine Action

How did various thinkers interpret the CDA on the pages of the anonymous and sensational *Vestiges*? To what extent do we see their opinions converge and diverge? And what were some of the major interpretive gaps that could enable readers to come to different readings of the CDA? I will show that examining the various responses to *Vestiges* and *Explanations* shows a wide variety of different readings. The chapter will follow the now-established structure of four key sections: admitting ambiguities, unambiguous views, mixed views, and a summary look at the themes covered.

By necessity, the selection of the authors explored here is highly selective. That is, I chose some of the best-known names in the discussion of *Vestiges* (David Brewster, Adam Sedgwick, Hugh Miller), omitted others (for example, William Whewell), and chose to investigate other, lesser-known figures. There is still much more material to explore and make use of – the appendix in James Secord's volume on *Vestiges* lists reviews of *Vestiges* and *Explanations* on eight pages. Still, not all the reviews (and other works commenting on *Vestiges*) are equally relevant for specifically exploring the various readings of the CDA. In my sample, then, I focused on those readers of Chambers who provided us with interesting insights into how they imagine the CDA. With this in mind, let us explore these in turn, beginning with two authors who noted ambiguities or tensions in the CDA.

## 6.1 Admitting Ambiguities

We saw that there were several representatives who expressed at least some ambiguity regarding the PDA. When it comes to the CDA, I have found two authors who show some struggle to understand the meaning behind the CDA. The first author is **John Sheppard** (1785–1879), a religious writer, born at Frome in Somerset. In 1812, he entered the University of Edinburgh to study medicine but soon switched to philosophy and Hebrew. Sheppard comments on the CDA in his *Thoughts in Theology* (1845). His reflections contained therein are quite revealing since they offer a rather rarely displayed struggle to understand the meaning of the CDA. How do these struggles show up in Sheppard's writing?

At the outset, Sheppard says of the theology of *Vestiges* that it should not count as "real theism."[330] As he sees it, true theists believe that God has acted in history through His "immediate exertion."[331] While it might be clear that *Vestiges* does not share this view, other aspects of the CDA might be less transparent. In this regard, Sheppard begins to notice some ambiguities. Sheppard contrasts Paley's divinely-dependent view of law to that of the CDA.[332] In Sheppard's view, the natural laws of the CDA operate independently:

> Can it be meant by this author, who fully professes theism, that the Deity has erected "natural laws" into an *independency*, so that they go on of *themselves* to organize matter and mind, and this in the ascending series which is described, of organizations less and less imperfect; while He neither, on the other hand, continues *actually* to uphold, nor can, on the other, alter or rescind them? This appears to be variously intimated. But what, *then*, is virtually affirmed of the *power* of the First Cause? It has created an unalterable power, and so far

[330] Sheppard, *Thoughts in Theology: Christian Theism Argued from Organized Life and Fossil Osteology* (London: Hodder and Stoughton, 1870), 10.
[331] Ibid., 10.
[332] Ibid., 11.

> independent of itself. "Law" (or fate) appears the true Deity in the scheme of such a theist. The "one God" has abdicated.[333]

Notice, however, Sheppard's phrasing that implies that this interpretation – of the CDA as having an absentee God – is not completely obvious. That is, he asks if "it can be meant" and says that it "appears to be variously intimated".[334] If such claim were true, this would indeed mean that God "abdicated" and left His creation. But this assessment of the CDA (as God abandoning the world) seems far from certain. That is, while mentioning some other passages from *Vestiges*, he also realizes that they might contain a rather different view:

> Indeed, in some places, the writer appears himself to admit the ceaseless ubiquitous presence and energy of the Deity; alleging that the "phenomena" are "carried on from first to last, here and elsewhere, under immediate favour of the creative will and energy;" and again, that He is not "absent from a particle of the current of natural affairs in one sense, seeing that the whole system is continually supported by His providence."[335]

> Here, Sheppard highlights the perceived tensions in the text. In fact, to my knowledge, he is the only author in the 19th century who acknowledged the Chambersian "omnipresence" feature (CV8). So, which one is it? Is God present everywhere or has God "abdicated," as he stated previously? While Sheppard is aware of these tensions, he does not try to reconcile these two views. Instead, the CDA might have in mind a watchmaker who created self-evolving watches, but then left its creations:he appears to have in view the skill of a human mechanist, who should form a watchthat might be left to itself, not needing to be wound up, and so framed, as itself toelaborate, and evolve, or turn out other watches—each in succession capable ofevolving another and another still more complex and perfect.[336]

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[333] Ibid., 12–13.

[334] In a footnote he, refers to several of these passages; Ibid., 13.

[335] Ibid., 13–14.

[336] Ibid., 15–16.

While again being careful ("he appears to have in view"), Sheppard eventually sees the Vestiges-God as an absentee watchmaker. It is not clear how he came to this view, given that he had just quoted *Vestiges* and its statements on God's omnipresence in creation. Yet, Sheppard realized at least some ambiguities within the CDA. It shows an author trying to understand a text which is not at all clear with respect to the character of the CDA.

Another instance of admitting ambiguities can be seen in a short yet notable comment by **John Wallis** (1788–1852). A popular astronomy lecturer, known for his regular lectures at the Royal Institution,[337] Wallis admits – and perhaps warns us – that the CDA is highly ambiguous:

> The *ambiguity and vagueness* of this system, have rendered it acceptable to sceptics and atheists. While this is no recommendation, neither, in truth and candour, is it of any the least importance. Newton in his day was charged with atheism and favouring magic, or the doctrine of occult causes, inasmuch as he assigned no physical or material cause as the source of force in producing motion.[338]

In Wallis' view, the CDA could become ammunition for both "sceptics and atheists." Those encountering and reflecting on the CDA would do well to remember Newton and all the theological charges against him. While it is true that Newton's view of DA could potentially be of service to skeptics of all kinds, its theologically negative reading is far from the only one available. In Wallis' view, one of the reasons why the CDA could be suitable for skeptics is that *Vestiges* uses the terms *law* and *cause* interchangeably:

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[337] Huang Hsiang-Fu, "A Shared Arena: The Private Astronomy Lecturing Trade and Its Institutional Counterpart in Britain, 1817–1865," *Notes and Records* 72:319–341.

[338] John Wallis, *A Brief Examination of the Nebulous Hypothesis* (London: R. Groombridge & Sons, 1845), 27. The emphasis is mine.

> By the author of the 'Vestiges,' the term *law* is employed as equivalent to *cause*: but these words have a meaning entirely different from each other. … It therefore merely implies, so far as is known, that *order or mode of action among the forces or properties of bodies, which has been ordained by the Creator*.[339]

Here, we have a clear instance of one of Buchanan's themes (law-cause distinction) in action. Even despite the perceived confusion between law and cause, Wallis opted for a theistic reading of the CDA. In his view, the fears of sliding toward atheism, given law-like explanations, are baseless. He manages to classify the CDA as theistic thanks to his curiously minimalistic demarcation line between atheism and theism: "No one, in the sane state of his rational powers, can *believe* an effect to take place without an *adequate* cause; and this is *all* that the theist requires."[340] Surely, skeptical questions can be raised about the nature of this "adequate cause," but, for Wallis, this is the theological line in the sand. However, not everyone read the CDA in these terms, and, instead, many saw it as theologically dangerous.

## 6.2 Unambiguous Views

### 6.2.1 Unambiguous Views: Negative

Our first group of thinkers are those who see the CDA as theologically negative or dangerous. This group exhibits a strong correlation of views: almost all of them view the CDA not only as noninterventionist, but also as incompatibilist, with laws of nature independent of the Deity. Of course, it was never in doubt that the CDA was

[339] Ibid., 26. The first emphasis is original.

[340] Ibid., 28. The emphasis are original.

noninterventionist – its noninterventionist "creation by law" was perhaps its key feature (CV4). However, how to read the other themes that comprise the CDA was still for many readers an open question on which they differed.

One who offered such a negative view was the Scottish scholar **David Brewster** (1781–1868). Brewster was certainly one of the most prolific natural philosophers, writers, and academic administrators of the 19th century. Whereas he is known as a staunch defender of Newton, the same could not be true of his attitude to the author of *Vestiges*. Not only did he see *Vestiges* as mere scientific speculation (as many, of course, did), but he did not have much positive to say about the CDA either. There was one thing, however, that he was sure about: the CDA has certainly no practical effect on our daily and spiritual lives. According to the Scottish man of science, *Vestiges* offered only an absentee God who left the universe after its initial creation:

> [It is true that God] has not been wholly omitted in the speculations which we condemn;-—but the Divinity which they recognize is little more than the electric spark which disappears for ever, when it has lighted the train of causes and effects by which the planetary systems are to be framed, and all the orders of living beings fashioned and perpetuated.[341]

That is, God provided the divine electric spark which started causes and effects like a chain of dominoes, but with this act, God's presence vanished from the world. While it could be traced through the dominoes to the First Cause, that seems to be the Deity's only connection with the causes. It was only at this first creation that Brewster saw this God act.[342]

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[341] [David Brewster], "Vestiges of the Natural History of Creation. Fourth Edition," *North British Review*, Aug. 1845, 472.
[342] Ibid., 483.

But could not such a worldview be compatible with God *acting* through the laws that He established? Apparently, Brewster did not think so. As he saw it, *Vestiges* would have us believe in a non-active God who is asleep:

> If it be a received truth that the Creator has repeatedly interposed in the government of the universe, and displayed his immediate agency in miraculous interpositions, it is an insult to any reader to tell him that that being *slumbers on his throne*, and rules under a "primal arrangement in his counsels," and "by a code of laws of unbending operation."[343]

In this statement, the reason for Brewster is clear – *Vestiges* completely contradicts the "received truth" according to which God miraculously acted in certain stages of the Earth's history. In contrast, the CDA's God "slumbers on his throne" and the only causal activity belongs to laws of nature. Brewster, then, appears to think of the CDA as an incompatibilist, zero-sum game: it is either God or laws of nature that are causally active. He goes on to explain that such a view would have huge theological and relational consequences. While such a slumbering God could be a great watchmaker, he would be far from being a caring parent.[344]

A similar view was found also in probably the most famous, and certainly most extensive, review of *Vestiges*. This came from the pen of one of the era's most famous geologists, **Adam Sedgwick** (1785–1873), whom we already met in the previous chapter. His review of *Vestiges* was published in *Edinburgh Review* in July 1845, and it ran on to a full 85 pages. The many editions of *Vestiges* were coming out quickly and so at the beginning of his review, Sedgwick notes that he is replying already to the fourth edition of "this remarkable book." However, even this extensive review pales in

[343] Ibid., 474. The emphasis is mine.
[344] Ibid., 472–3.

comparison to his later work in which he attacked *Vestiges*, namely, the fifth edition of his *A Discourse on the Studies of the University* (1850). It includes a 366-page preface, of which a considerable part is devoted to refuting *Vestiges*. This is followed by his "Discourse" (94 pages), "Appendix" (81 pages), and "Supplement to the Appendix" (146 pages). Thus, in our exploration of his views on the theology of *Vestiges*, we will be making use of his review as well as his *Discourse*.

Just like Brewster, Sedgwick also sees the CDA as wholly inactive after God's initial creation. *Vestiges*, he says, offers an evolutionary scheme "without any external help" from outside.[345] This was echoed in his later Discourse, using a very similar language:

> Those who exclude from their creed all conception of a personal and intelligent God of nature, must believe that dead, inanimate matter may, *without external aid and by its own inherent powers*, work itself into what is vital, sensitive, and intellectual.[346]

While these two passages express the same core objection – protesting an inactive Deity – notice how the latter one is more specified. First it now mentions the expulsion of "personal and intelligent God" and that the matter in *Vestiges* acts "by its own inherent powers." In Sedgwick's view, the CDA can talk about "creative law," but this creative activity does not come from any external creative intelligence.[347] Sedgwick, then, implicitly denied that the CDA could have a God whose continuous activity is compatible with His created laws. Even worse, the problem was that the laws offered by the CDA were incompatible with divine care:

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[345] [Adam Sedgwick], "Natural History of Creation," *Edinburgh Review* 82 (1845), 1. The emphasis is mine.
[346] Sedgwick, *Discourse*, clv. The emphasis is mine.
[347] Sedgwick, "Natural History of Creation," 2.

> Thus we rise to a conception both of Divine power and Divine goodness; and we are constrained to believe, not merely that all material law is subordinate to His will, but that He has also … exhibited the attributes of His will as to show himself to the mind of a man as a personal and superintending God, concentrating his will on every atom of the universe.[348]

What we need, writes Sedgwick, is "a personal and superintending God." In this regard, he argues, the CDA fails. It will not suffice that God's power and planning are exhibited through laws of nature, however one might try to exalt these specific divine attributes. It did not help that *Vestiges* addressed God as "Grand Father" (twice) or that it mentioned His care in the appendix of the 10th edition (CV10). If Sedgwick took *Explanations* seriously, he was not convinced by the CDA's meticulous care either (CE5). While Sedgwick found in *Vestiges* many superficially theologically flattering expressions, what really mattered to him was the work's underlying philosophy. For Sedgwick, the problem was that what was behind the veil of *Vestiges*, was just heartless and dangerous materialism that is just one step away from pantheism.[349]

In the end, Sedgwick denied that the CDA is pantheistic. It only uses language which could be mistaken for such a worldview. Sedgwick even grants that the author of *Vestiges* could be indeed a "philosophical and rational Theist" and possibly even a Christian.[350] The key problem, however, appears to be this: if Chambers is consistent with his own principles, he cannot "believe in any form of revealed religion."[351] Why should this be the case?

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[348] Ibid., 62–3.

[349] Ibid., "Natural History of Creation," 63–4; Sedgwick, *Discourse*, xvii.

[350] Sedgwick, *Discourse*, ccxxxii–ccxxxiii.

[351] Ibid., ccxxxiii.

> [F]or he is a Materialist from first to last. He sees in Nature, past and present, nothing but the sequence of second material causes; and any pretended truths not comprehended in this sequence are … to be put in the catalogue of human fables,[352]

Herein, then, seems to be the key issue for Sedgwick: a noninterventionist CDA would simply preclude any divine revelation. While Sedgwick could potentially view the anonymous writer (Chambers) as Christian, the CDA itself cannot be seen as properly Christian. If so, it would do away with Christian revelation, a *sine qua non* of Christianity. Sedgwick sees the CDA as "materialist" – a system relying completely on laws of nature, incompatible with DA.

**Hugh Miller** (1802–1856), the famous Scottish amateur geologist and a prominent critic of the *Vestiges*, was even more blunt. For Miller, the CDA was not just a slippery slope, but it was itself the valley of Epicurean materialism. In 1849, Miller published his *Footprints of the Creator* in which he reacted against *Vestiges* as well as its sequel *Explanations*, which came out by that time. While most of *Footprints* is aimed against the geological aspects of *Vestiges*, there are a few places in which Miller's interpretation of the CDA comes to the surface.

Notably, Miller identifies the CDA as embedded within the framework of some of the preceding developmental explanations. In total, he mentions three names in particular: Lamarck, Oken, and Epicurus. Miller considers the evolutionary hypothesis of *Vestiges* to be identical with that of Lamarck.[353] But for Miller, even the link with Epicurus should be obvious:

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[352] Ibid., ccxxxiii.

[353] Hugh Miller, *Footprints of the Creator: Or, the Asterolepis of Stromness* (London: Johnstone, 1849), 270, 272. Cf. John H. Brooke, "Richard Owen, William Whewell, and the Vestiges," *The British Journal for the History of Science* 10, no. 2 (1977): 132–45.

> We are supplied with a curious example of that ever-returning cycle of speculation in which the human mind operates, by not only the introduction of the *principle* of Epicurus into the "Vestiges," but also by the unconscious employment of even his very *arguments*, slightly modified by the floating semi-scientific notions of the time.[354]

When Chambers (in his *Explanations*) complained that many religious objections were turned against Newton as well, Miller dismissed such objection. But does such dismissal mean that the CDA was fundamentally different from Newton's perception of DA? Miller avoids such questions. Instead, he provided only a non-sequitur answer: the key difference was that, unlike Newton's work, *Vestiges* was "a mere dream-like hypothesis, founded on nothing" and "a fiction as baseless and wild as any in the "Fairy Tales" or the "Arabian Nights.""[355]

An examination of Miller's arguments reveals a related complaint. This is his charge of the incompatibility between the CDA and God's providence. In other words, as long as God acts solely through the employment of His laws of nature, He cannot be acting providentially. For Miller, it is one or the other, not both. In describing what seemed to him an apparent Scottish influence on *Vestiges*, we learn more about this incompatibility of laws with providence:

> And the belief in a special Providence, who watches over and orders all things, and without whose permission there falleth not even a "sparrow to the ground," the apostles of this school [of infidelity in Edinburgh] set wholly aside, substituting, instead, a belief in the indiscriminating operation of natural laws; as if, with the broad fact before them that even man can work out his will merely by knowing and directing these laws, the God by whom they were instituted should lack either the power or the wisdom to make them the pliant ministers of his. It

[354] Miller, *Footprints of the Creator*, 258. He goes on to offer an example of this alleged textual and argumentative similarity between *Vestiges* and Epicurus' thinking.
[355] Ibid., 264, 275.

> is, I fear, to the distinctive tenet in the creed of this hapless school that the author of the "Vestiges" refers.[356]

Miller, then, rejects such compatibility of laws of nature with providence as long as these laws are not God's "pliant ministers." In other words, Miller requires a God who could care both about sparrows and all His human children through divine interventions, not just by setting up His laws.

In several ways, the Oxford-educated **Samuel Bosanquet** (1800–1882), a wealthy Welsh lawyer and a rather obscure figure, adds his voice to such critiques.[357] He also sees the CDA as having a merely absentee God. As a learned and well-read man interested in natural philosophy, he published his pamphlet on *Vestiges* as early as 1845, with its second edition of 56 pages. He also points out that *Vestiges* has only fiat, at the very beginning of the creative process:

> The author of Vestiges says, that God issued one fiat from eternity, since which He has never worked any new creation, or performed any special operation or acts.[358]

Supposedly, on Bosanquet's reading of *Vestiges*, this initial fiat was all that its author needed. But such view would be theologically threatening for the consequences it would have on the character of such a Creator. As he sees it, the CDA "limits [God's] goodness and perfection, and denies his omnipotence."[359] Presumably, for Bosanquet,

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[356] Ibid., 262.

[357] For Bosanquet, see Secord, *Victorian Sensation*, 13–14, 230–31; and S. A. Skinner, "Bosanquet, Samuel Richard (1800–1882)," Oxford Dictionary of National Biography, 25 May 2006.

[358] Samuel Bosanquet, *"Vestiges of the Natural History of Creation:" Its Argument Examined and Exposed*, 2d ed. (London: John Hatchard & Son, 1845), 18–19.

[359] Ibid., 7.

only an interventionist DA could exhibit God's perfect goodness and power. Unfortunately for the CDA, it offers only a God who has been inactive ever since:

> No, the great truth which is to be received is, that God made all things from eternity, even the infinity of the universe, by one fiat; since which, He has reposed, and not interfered with the affairs or the order of Creation; for this would be "a mean view of Him. ... Our author attributes no work to God, since the very beginning, which He is not equally performing at this present period.[360]

The problem is not that this Deity has drastically limited His activities since this creation, but that He did absolutely "no work." As a result, such a worldview must also dismiss revelation and the spirit world.[361] Bosanquet, then, is another author who sees the CDA as having a God who is idle and after His initial creation disconnected from the world.

For reasons that will become apparent, the theologian **Richard W. Church** (1815–1890) should also find his place in this group. As we will see, however, it will be with an interesting twist. Church was one of John Henry Newman's closest friends, and later (since 1871) a Dean of St Paul's.[362] In 1846, he became a co-founder of the Anglican weekly *The Guardian* (1846–51) for which he was a regular contributor. It is on its pages that we see his review of the sequel *Explanations*, which is at the same time inseparably connected to his thoughts on *Vestiges*.[363] He does not have any praise for the anonymous author whom he sees as "a superficial man and a shallow thinker."[364] But in

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[360] Ibid., 4–5, 19.

[361] Ibid., 8–9.

[362] G. Martin Murphy, "Church, Richard William (1815–1890), Dean of St Paul's," *Oxford Dictionary of National Biography* 2004.

[363] Richard W. Church, "A Sequel to the 'Vestiges," in *Occasional Papers; Selected from the Guardian, the Times, and the Saturday Review 1846-1890*, Volume 1 (London: Macmillan and Co., 1897), 53–65.

[364] Ibid., 55.

Church's view, the biggest problem with *Vestiges* is not its evolutionary worldview, but the theology of DA:

> The writer's master error is his theology—not his speculations as they may be, as to the mode in which things came into being; but that gross "shortness of thought" which in the case of the Infinite and Omnipresent makes His acting by what we call "law" the contradictory of His special and personal acting.[365]

For Church, then, God's acting through law is "contradictory" to "personal acting" through interventions. In other words, Church is another reviewer who sees the CDA as incompatible with laws of nature. For him, such a stance was "the fatal poison which pervades his whole line of thought."[366] As he sees it, there is only one way to reconcile laws of nature with DA He goes on to explain that naturalistic explanations in themselves are not "infidel" and that they only become such when they are devoid of its divine nature.[367]

But, for Church, the real theological test is if scientific explanations can allow for divine interventions, including the ones on the pages of the Bible. The possible reconciliation hinges on this key question:

> The important question is, not whether in the order of external nature the Almighty working was ever in a different mode, but whether the philosophical notion of working by *laws* excludes the scriptural and popular one of real and special interference.[368]

[365] Ibid., 57–8.
[366] Ibid., 58.
[367] Ibid., 59.
[368] Ibid., 59.

Church's next comment, however, offers a shrewd reflection on compatibilism. In it, he equates the ordinary course of nature with an ever-present God and ties this issue with *Vestiges*:

> If a man really thinks that there is any more "special exertion or fiat" of divine power in creation than in providence—if he thinks that God is not as really present whenever rain is falling or fire ascending, as in the beginning of the world, we should tremble for his faith. But if the two notions are thought compatible, the line of argument which has been mainly taken against the *Vestiges* seems almost wasted; the true answer to its mischief is not a heap of apparent exceptions to "natural order," which further knowledge may *and is likely to* resolve, but an account of what "natural order" means. And it is not in physics or in history that we must seek for that account.[369]

Church deals here with the key issue of compatibility between God's presence and the "natural order." If, as he says, we take these to be compatible – the chief theological objections against the CDA will be "almost wasted." If that is the case, the right step is not to require instances of interventionism, but to have an "account of what 'natural order' means." Yet, Church seems to reject such compatibility, and as a result, the vision offered by the CDA as well. For Church, if the laws of the CDA allowed for divine presence, this would completely blunt the theological objections against it. We may recall, of course, that such divine omnipresence is exactly what the CDA envisioned (CV8), similarly to Paley (P17–18). The Anglican theologian, however, realized that this is a metaphysical issue, the resolution of which "is not in physics."

**Thomas Pearson**, an Evangelical minister from North Berwick, east of Scotland's capital of Edinburgh, was fearful of the spread of infidelity in his time.[370] There

[369] Ibid., 59.

[370] I have been unable to find relevant biographical information about Pearson. I have first encountered him in Fyfe, *Science and Salvation*, 16. However, Fyfe provides neither his biographical details nor his dates.

were many causes of such worries, but for him, "the printing press was identified as the worst culprit of all."[371] As he saw it, one rather frightening incarnation of such a printed threat came from an obscure and anonymous writer, who had just recently published his ideas under the name of *Vestiges of the Natural History of Creation*.

Pearson offers an analysis of the various types of "infidelity" in his *Infidelity: Its Aspects, Causes and Agencies* (1853). It is in its first part where he offers a typology of infidelity, dividing it into six categories, namely (1) "atheism; or, the denial of the divine existence", (2) "pantheism; or the denial of the divine personality", (3) "naturalism; or the denial of the divine providential government", (4) "spiritualism; or the denial of the Bible redemption", (5) "indifferentism; or the denial of man's responsibility", and (6) "formalism; or the denial of the power of godliness."[372]

So where does Pearson place *Vestiges*? He lists it under "naturalism", which, on his definition, is characterized by the absence of divine providence. In a more elaborate description of what naturalism entails, he writes:

> Naturalism, or, as it is sometimes called, rationalism, is distinguishable enough from atheism and pantheism. The rationalist is distinguished from the atheist by his theoretical belief of a Supreme Power, and he is distinguished from the pantheist by his denial of an ever-present and all-pervading Divine energy. The pantheist says, God is at hand; the rationalist says, God is afar [sic] off. Pantheism sees the Divine Being in all things, and confounds the Creator with the creation. Whereas naturalism, though distinguishing Him from his works, banishes Him into a distant solitude. It is not essential to this system that the evidences of design in proof of a creative intelligence be denied, however much it may tent in that direction, and though many of its abettors may have gone that length. But its distinctive characteristic, as a form of infidelity, is, that while admitting the world to have been originally created by God, it, as it were, extrudes him from that world, by reducing it to a self-sustained mechanism, and by

[371] Ibid., 17.

[372] Thomas Pearson, *Infidelity; Its Aspects, Causes and Agencies: Being the Prize Essay of the British Organisation of the Evangelical Alliance* (London: Partridge and Oakey, 1853). Based on the contents of the book (unnumbered page, just before page i).

> resolving, what are generally understood by the works of Providence, into a regularly successive series of necessary developments.[373]

In this very insightful definition of naturalism, Pearson claims that *Vestiges*, as a version of naturalism, banished God "into a distant solitude" and offered "a self-sustained mechanism." Thus, when he comes to discussing the CDA directly, he sees it as a system that "excludes God as effectually from the concerns of the universe."[374] Interestingly, Pearson mistakenly thinks that the CDA denied God's omnipresence (CV8).

But why does Pearson think that *Vestiges* banishes God from the world? After all, does not the book, at minimum, speak of a providential DA acting through laws of nature? Pearson is aware of this, but dismisses it very quickly:

> The naturalism of this anonymous publication, notwithstanding the term Providence is occasionally on the author's lips, appears without disguise. The theory is one of those extreme systems of development, according to which, the world with all its varied phenomena, moves on in its stern necessary course, guided only by physical laws, to the exclusion of the Divine agency.[375]

So admittedly, the CDA has God personally involved in the initial creation of the world, but after this, God is "not necessary to fashion, dispose, continue, and control it."[376] Indeed, in his following comment, Pearson reveals that the Vestiges-God does not act through laws of nature at all:

> The author of the "Vestiges" tells us that law formed the masses of space into goodly theatres of existence for plants and animals. But what are natural laws

[373] Ibid., 85–6.
[374] Ibid., 97.
[375] Ibid., 97–8.
[376] Ibid., 98–9.

> without a Divine intelligence working in them and by them? Not realities but merely abstractions.[377]

The remark above shows that while Pearson imagined God working through natural laws, he did not read the CDA in that way. After all, he listed the CDA under naturalism, which he saw as a universe with an absentee God and autonomous laws of nature.

The charge of an absentee God comes also from across the Atlantic, as we will see in the next three examples. The American philosopher **Francis Bowen** (1811–1890) similarly takes the Vestiges-God as an idle Architect who left His creation after bringing it into existence.[378] Later in the review, Bowen charges the CDA with Epicureanism and even outright atheism, but only after his very curious interpretive move:

> It is a revival of the old atheistic hypothesis,—the Epicurean doctrine of the formation of the universe by a fortuitous concourse of atoms,—with all the modifications and improvements that were rendered necessary by the discoveries of modern science. We call it an atheistic theory, because, though the writer supposes that primitive matter was first endowed by divine power with its mysterious qualities and capacities, this supposition is gratuitous and arbitrary, and only mars the simplicity of the scheme, and injures the consistency and coherence of the parts with each other.[379]

Notice, then, Bowen's strategy: he clearly knows that *Vestiges* acknowledges the involvement of God in creating the universe. Yet, God's presence in *Vestiges* is, on his evaluation, "gratuitous and arbitrary," and perhaps inconsistent. Thus, Bowen perceived these internal tensions in Vestiges and would have preferred if its author was more

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[377] Ibid., 101.

[378] [Francis Bowen], *A Theory of Creation. A Review of "Vestiges of the Natural History of Creation."* (Boston: Otis, Broaders, and Company, 1845)., 3. The emphases are mine.

[379] Ibid., 14.

consistent – by removing God from *Vestiges* altogether. And since Chambers did not do so himself, it was Bowen who did him the favour:

> We can more easily believe that these qualities are necessarily inherent in the constitution of matter, forming a part of its very essence, just like the properties of impenetrability and extension, than that they subsequently developed themselves by forming myriads of intricate organizations, *without further aid from the divine architect*. If we can credit the hypothesis, that bricks and mortar came together of their own accord, and arranged themselves into the first house meet for the habitation of man, we can very readily admit, also, that the bricks first assumed the proper shape, and mortar the proper tenacity and hardness, without the intervention of human labor and skill. *If there is no need of a bricklayer, we may discard also the brick-maker*.[380]

Based on his own admission, then, Bowen removed God from *Vestiges* as that is a cosmogony "[w]e can more easily believe." It did not matter that *Vestiges* operated with a cosmic Brickmaker, or that these cosmic bricks might have been prepared with His supreme wisdom, goodness, and forethought. For Bowen, it seems, we have no good reason to believe in existence of the divine Brickmaker unless he also doubles in function as a Bricklayer. Therefore, when Bowen labels the CDA as atheistic, he is doing so for its pruned version, one which he wished to modify by removing its Deity. What is truly relevant for Bowen, is consistency, or at least consistency as he sees it.

Another American scholar with the same view was **Albert B. Dod** (1805–1845), a Presbyterian theologian who published extensively in the Princeton's *Biblical Repertory and Princeton Review*. One such contribution was his early review of *Vestiges*, spanning more than fifty pages. But even though it "gives proof of an extensive acquaintance with modern science," it still fails, both scientifically and theologically. What fault, then, does Dod find with the CDA? Ultimately, it comes down to the same recurrent theme among

[380] Ibid., 14. The emphases are mine.

many critics – because the universe presented by *Vestiges* is one that was abandoned by its Maker and left without any divine guidance whatsoever: The universe, with its organic as well as inorganic forms, has reached its present state, and will pass on through all future changes, without any creative act or guiding control on the part of its Maker. When created, it was created complete in itself.[381]

But has Dod missed or dismissed the parts where the CDA talks about these laws as divine decrees and will (CV1–3)? We will see that while other authors made a distinction between the DA in Laplace and *Vestiges*, Dod is not one of them. Indeed, he sees *Vestiges* offering the same atheistical worldview as that of the French author.[382] Does the CDA, then, offer any theological novelty? No; it is just an updated version of ancient Epicureanism:

> It is the Epicurean system defended and embellished by modern science. ... The only novelty in our author's exposition of it, consists in the diligence with which he has collected and arranged the fragments of various sciences in its apparent support.[383]

For Dod, this means that the CDA has a mere absentee Watchmaker who not only does not intervene but does not even providentially govern His creation. As such, He makes no difference to our lives at all.[384] As he put it: "To pray to Him would be as idle as a dog baying the moon."[385] Dod is then one of the critics who is quite explicit in his rejection of

[381] [Albert B. Dod], "Vestiges of the Natural History of Creation", *Biblical Repertory and Princeton Review 17* (1845), 505–57, 517.
[382] Ibid., 532.
[383] Ibid., 530–1.
[384] Ibid., 533.
[385] Ibid., 533.

*Vestiges* since he takes it to have no more DA and providential purpose than what could be found in Laplace and the Epicureans.

**Tayler Lewis** (1802–1877) was an American distinguished biblical scholar, and professor of Greek in Union College. Both politically and theologically, he was a "true conservative."[386] As we will see later, his views on Genesis brought him into a conflict with one of the foremost American geologists of the time, James Dwight Dana. As Lewis sees it, the CDA is more dangerous than just being a mere deviation from orthodoxy: "To style this book infidel, would be pronouncing upon it too mild a condemnation." In fact, we learn in no uncertain terms that

> The doctrine of the book is atheism—blank atheism, cold, cheerless, heartless, atheism. The author, it is true, does not deny the existence of God in express terms. He seems to acknowledge such a power in every chapter, and sometimes even to glow with a sort of sentimental piety in the indulgence of those view of the Divine Greatness, by which he would fain believe that he excels the crowd of vulgar religionists; but yet, we again repeat it, the doctrine of the book is atheism, and the author is an atheist.[387]

From Lewis' perspective, the CDA is atheistic as it has no perceived effect in the world: Chambers' God never performed a miracle, never created any animals through SDA, and is morally indifferent.[388] Again, as some previous commentators, he also equates the CDA with Epicureanism.[389] He goes on to list several "very lowest elements of a religious Christian creed " that an orthodox believer must adhere to.[390] One of them is that the

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[386] Joseph L. Blau, "Tayler Lewis: True Conservative," *Journal of the History of Ideas* 13, no. 2 (1952): 218–33.

[387] [Lewis Tayler], "Vestiges of the Natural History of Creation", *American Review: A Whig Journal of Politics, Literature, Art, and Science 1* (1845), 527.

[388] Ibid.,527.

[389] Ibid., 527.

[390] Ibid., 528.

believer has to maintain "that these laws instead of being immutable may at any time be suspended by the same power that made, or rather appointed them." In addition, the true Christian must hold that

> there is also a special or particular providence, conducted by a supernatural power which ever sits behind this law of nature to direct them to this or that special result, which, without such invisible interventions they would not have effected; this giving rise to what are called special interpositions, yet in a sense short of the miracle or open suspension, and furnishing the ground for the belief in the rationality of special prayer for special blessing.[391]

The unerring believer, then, must accept at least the Christian “doctrines of creation, providence, and prayer." Since *Vestiges* offers none of these, Lewis uses a warfare metaphor to condemn it: "The book we are examining, is at war with every one of these positions."[392] In short, *Vestiges* is “[b]lank and avowed” atheism.[393]

What is interesting is that we see Lewis’ attempt to anticipate and answer several objections to his strong condemnation. At the beginning of the review, he demanded to be shown any difference between the CDA and Epicureanism. While Lewis immediately finds several, he rather quickly dismisses them. That is, he is aware that *Vestiges* attributes “personality to this First Cause”, that it describes laws of nature as “expressions of Divine will”, or that it uses “occasional theistical language.”[394] However, in Lewis’ view, this is “clearly a misnomer” and "there is no mistaking the writer's meaning" since "according to this theory, God has had nothing more to do with the universe than the extra-mundane deities of Epicurus and Lucretius."[395] Thus, it is not the

[391] Ibid., 529.
[392] Ibid., 529.
[393] Ibid., 528.
[394] Ibid., 529.
[395] Ibid., 529.

case that the CDA does not possess at least some of Lewis' desired features, but he simply dismisses them.

Lastly in this category of negative reviews, the Harvard botanist **Asa Gray** (1810–1888) is one of the foremost figures in trying to reconcile Darwinian evolution with Christian faith. This is mainly seen in well-known correspondence with Darwin and a collection of his essays entitled *Darwiniana* (1876).[396] In this science-and-religion dialogue, he was trying to argue that the Darwinian view of evolution is not atheistic and can be compatible with Christian theology. However, as we will see shortly, this does not mean that he saw the same prospects for the theology of *Vestiges*, at the time of its publication. Gray reviewed *Explanations* anonymously for *North American Review* in 1846. Naturally, however, in his rather lengthy review (42 pages) he deals with both *Vestiges* and *Explanations*. What does he think, then, of the CDA?

While Gray starts by recognizing that its author has an "implicit faith", that might be the best theological compliment in the whole review.[397] His denouncement is clear from his reading of the CDA as removing God from the world altogether:

> To what purpose have the converts of this scheme been forced to receive this series of gratuitous and most improbable suppositions, all this false science pressed to the most revolting conclusions, for the express object of banishing the Deity from the present world, if, when all is done, even this machinery is insufficient to exclude him?[398]

[396] David N. Livingstone, *Darwin's Forgotten Defenders: The Encounter between Evangelical Theology and Evolutionary Thought* (Grand Rapids, Michigan: William B. Eerdmans, 1984), 60–4.
[397] [Asa Gray], "Explanations: A Sequel to the Vestiges of the Natural History of Creation", *North American Review* 62 (1845), 465.
[398] Ibid., 495.

Gray's reasoning seems to be that when one removes God's special creative acts from the world, it is equivalent to His complete banishment: "He has admirably pushed back the Creator to a point where there is no longer any use of him."[399]

To drive the point home, he says explicitly that the idea of allowing God to act in the world must not have even crossed the author's mind.[400] And because all the laws in *Vestiges* – both organic and inorganic – are "strictly natural," we should not really speak of *creation* but of *growth*: "That is to say, all the higher races of plants and animals were not, in any proper sense of the word, *created* at all, but they *grew*."[401] Gray, as an apparent incompatibilist, then, sees the CDA's noninterventionism as fatal.

But toward the end of his review, Gray realized he needs to answer one key theological claim found in *Explanations*. He was aware that one of the crucial claims of the CDA is that it is not "a system independent or exclusive of Deity, but one which only proposes a certain mode of his working" (CE1). Yet, despite this (as we saw), Gray already mentioned that the CDA excluded God from the universe. How, then, did Gray reconcile this apparent contradiction? His solution was to claim that this tension could be resolved by other passages in the work. Rather than explaining why the interpretation cannot go the other way, he used the following metaphor to illustrate how he viewed the CDA:

> In fundamental character, how does it differ from the doctrine of Epicurus? We do not forget our author's declaration, that by *law* he does not mean system independent or exclusive of Deity, but one which only proposes a certain mode of his working. … We are concerned only with the logical results of the scheme; and these are quite unaffected by the moral reflections interspersed, which so gild and bedizen the flimsy reasoning, that the whole passes for pure and solid

[399] Ibid., 501.
[400] Ibid., 475.
[401] Ibid., 485.

> gold with his aesthetic admirers around us. But there is no organic connection between them. These rags of religious sentiment, in which our author swaddles the offspring of his fancy, doubtless render its appearance more becoming in his eyes.[402]

Thus, we learn that the pious expressions – and perhaps even more orthodox features of the CDA – are there only for deceitful decoration. There are no connections between his orthodox and nonorthodox passages. Ultimately, just like Bowen, Gray urges the anonymous writer not to be metaphysically redundant and remove God from the scheme altogether.[403]

As a final note on Gray, two of his brief comments might be helpful to contextualize the passage above. There are two reasons why this was indeed an "extraordinary" mode of DA for Gray and his intellectual context. First, Gray reveals that the idea that God created all species was "the received view" in his time.[404] And, second, the CDA presented a real novelty since learning "that the Deity does not create a young plant or animal *instantaneously*, is quite new to us."[405] Thus, for all his reasons we mentioned, the novel and potentially revolutionary model of the CDA was rejected also by one of the greatest botanists of the Victorian age. It would be only later thanks to Darwin's work that Grey changed his stance toward organic creation and DA.

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[402] Ibid., 501–2. The emphases are original.
[403] Ibid., 501.
[404] Ibid., 483.
[405] Ibid., 473.

### 6.2.2 Unambiguous Views: Positive

Now, we come to quite different readings – ones which are much more positive toward the CDA. As we will see, these positive views correlate with a rather different reading of CDA's interventionism, compatibility, nature of laws, and the God-world relationship.

One such alternative reading of the CDA comes from **George Luxford** (1807–1854). Luxford was a printer, botanist, lecturer, and editor of the botanical monthly, *The Phytologist*, from 1841–51. He expressed his view on *Vestiges* anonymously in the *Westminster and Foreign Quarterly Review* and, as a trained botanist, he was well positioned to comment on its biological parts. But since biology has always been a close relative of the argument for design, it is not a surprise to see Luxford's discussion move seamlessly into natural theology.

Not only does Luxford distance the CDA from the materialistic Lamarckian mechanism, but he considers Chambers as advocating the design argument as found in Paley and the Bridgewater authors:

> [The author of *Vestiges*] admits and supports the evidence of design, as demonstrated by Paley, and the authors of the Bridgewater treatises; and carefully guards his hypothesis from any possible identification of the argument … with the theory of Lamarck, which attributed varieties of organization to the innate properties of matter alone, differently acted upon in fortuitous circumstances.[406]

Several differences of opinion, then, already emerge. In disconnecting *Vestiges* from Lamarck, Luxford stresses that the CDA does not rely on "the innate properties of matter alone." Just like in Paley and the Bridgewater treatises, God was at least somehow

[406] [George Luxford], "Natural History of Creation," *Westminster and Foreign Quarterly Review* 48 (Oct. 1847): 130.

involved in the process of creation and nature's laws. In his review, Luxford reacted explicitly to Sedgwick's contrary view that the latter expressed two years earlier in his extensive piece in *Edinburgh Review*.[407] By late 1847, when Luxford was writing his review, he must have encountered many of the criticisms accusing *Vestiges* of infidelity, including atheism. However, this is a view that Luxford completely rejects. On the contrary, its cosmological scheme bespoke piety and reverence.[408] Moreover, not only is *Vestiges* theologically safe, but it also promotes good natural theology, even one fit for church sermons. As he puts it:

> There is nothing in the 'Vestiges' that might not be proclaimed from the pulpit, and preached from the text—"In the beginning God created the heavens and the earth." The essential fact of creative intelligence as the final cause of all things is stated and re-stated by the author, in numerous instances; and it is only as an interpreter of the *order* of creation that his conclusions are at variance with the crude but popular conceptions which generally prevail upon the same subject.[409]

For Luxford, then, this is the proper reading of the CDA. Admittedly, there are other interpretations out there too, but these are merely "crude but popular conceptions." This is because one needs to recognize the CDA operates with a Deity who did not leave the world to chance but is "the final cause of all things." What about the accusations of a dormant Deity? While deism and atheism did not regard God as active in the world, the CDA did not share this view:

> Is not every stage of the process, every stroke of the master workman, a separate miracle, over which we are invited to pause, and wonder, and adore? It is a beautiful thought, and one that belongs to the sublimest conceptions of both philosophy and religion, that the work of creation has *not* ceased with the past; that every birth is the creation of a new being; that every spring is, to the vegetable

[407] Ibid., 130. In fact, Luxford cleverly turns the table on Sedgwick and reminds him that he himself is considered by some Anglicans to hold heretical geological opinions of his own; Ibid., 133.
[408] Ibid., 132.
[409] Ibid., 132–3.

> world, a *resurrection*, as literal as that which has been promised to man; that the impulse of gravitation—the centripetal and centrifugal forces—all the laws of nature, are the *direct acts of Deity*, guided by His own infinite wisdom.[410]

This is quite a remarkable contrast to the previous commentators we have looked at. On Luxford's reading, the CDA does indeed offer a God who is *directly active* in His continual creation in the world. Interestingly, he goes on to admit that such a vision of DA is quite a novel one among men of science: "scientific men have not hitherto been much accustomed to view the operations of nature in this light."[411] In sum, for Luxford, the CDA is compatible with God's continuous action through laws of nature. These laws are not only subordinate agents expressing divine will, but are the very locus of DA.

A similarly positive view of the CDA is found in **John Tulloch** (1823–1886), principal and professor of theology at the University of St Andrews.[412] Although Tulloch authored many theological works, his views on *Vestiges* are largely confined to *Theism* (1855). While he accepted the idea of "successive creative interpositions" in nature, he was also open to their being explained scientifically. In making this concession, he did not regard the possible naturalistic explanations offered by *Vestiges* as theologically threatening. Rather, even if science were to fill all explanatory gaps, this would not undermine theism at all. Nor, in his view, would it diminish God's presence in the world:

> Yet it is clearly evident to us, and deserves to be carefully considered, that even should advancing science tend to throw obscurity upon the supposed traces of direct Creative Energy, … *the fact of a Creative Presence would not thereby be really affected*. God would equally, if not so strikingly, live and work in the supposed extended development of creation, as in the supposed instances of direct Creative Power. It is worthy of notice how completely this is admitted by

[410] Ibid., 139. The last emphasis is mine.

[411] Ibid., 139.

[412] T. W. Bayne and H. C. G. Matthew, "Tulloch, John (1823–1886), Church of Scotland minister and university principal," *Oxford Dictionary of National Biography*, 23 Sep. 2004.

> the chief expounder of the development hypothesis in our own country [in *Vestiges*].[413]

From this perspective, scientific discoveries cannot touch God's "Creative presence" in the world. Thus, Tulloch here offered a very explicit compatibilist position. Notice also that this is not just Tulloch's personal view. Instead, he wants his readers to realize "how completely this is admitted" by the CDA which certainly does not banish God from the universe. He makes this explicit in the following paragraph:

> [T]he author strongly recognizes a Supreme Mind, as necessarily implied in all the order of the universe; and, in the most recent [tenth] edition of his work, he has added the special confession, that he "believes" in a *personal and intelligent God, and can not* [*sic*] *conceive of dead matter receiving life otherwise than through Him*.[414]

Here, Tulloch makes use of a Chambersian feature in the tenth edition of *Vestiges* (CV10) to bring home the point that the CDA cannot be atheistic. At least if we trust its words, the source of life on earth is found not merely in an intelligent, but also a personal God.

Another interpretive voice in the discussion of *Vestiges* belongs to a lesser-known figure. **William P. Urquhart** (1815–1871) was an Irish writer and politician, educated at Harrow and Trinity College.[415] While his works typically included treatises on agriculture and taxation, he decided to publish his views on *Vestiges* in his *Some Thoughts on Natural Theology Suggested by a Work Entitled 'Vestiges of the Natural*

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[413] Tulloch, *Theism*, 82. The emphasis is mine.

[414] Ibid., 83-4. The emphasis is original.

[415] Bridget Hourican, "Urquhart, William Pollard," *Dictionary of Irish Biography*, accessed 1 December 2022, https://doi.org/10.3318/dib.008768.v1.

*History of Creation'* (1849). His reflections are prompted by the "recent discoveries of geology and zoology" and, as the full title suggests, the publication of *Vestiges*.[416]

Clearly, with *Vestiges* on his mind, Urquhart raises the issue of the potential theological fears stemming from some versions of popular cosmogonies. He says that at least some of the authors of these cosmogonies do feature a providential Creator who cares about His creation. However, despite this, these divine depictions have been interpreted quite differently:

> [S]ome have looked upon the recent discoveries of science with no small degree of pious fear, lest, though law did not suppose a system independent of the Deity, it should give rise to the opinion that the Almighty, having once ordained a plan which should lead to the creation of all things, both the things that have been, now are, or are to be hereafter, took no care nor interest in the working of the system, of which He had been the grand Author.[417]

For Urquhart, then, theologians should not assume that scientific explanations are incompatible with providential care. While he admits that some interpret the CDA in such a way, it cannot be the actual view of the author of *Vestiges*:

> [There are some] admitting the existence of God, but denying His care for man. There are some passages in the "Vestiges," which might induce one to suspect that the author was of a similar opinion. Far be it from us to assert that such are his opinions.[418]

At the same time, it is a pity that Urquhart does not go on to elaborate on the reasons for his preferred interpretation of the CDA as compatible with providence. In my view, a plausible contributing factor might have been his use of intratextuality. That is, Urquhart

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[416] William Pollard Urquhart, *Some Thoughts on Natural Theology Suggested by a Work Entitled 'Vestiges of the Natural History of Creation'* (London: Longman, Brown, Green, and Longmans, 1849), 1.
[417] Ibid., 144.
[418] Ibid., 144.

might have supported his view by his reading of Chambers' sequel *Explanations*. While there are providential passages in *Vestiges* as well (CV6–8), *Explanations* talks more explicitly about God actively working through laws of nature (CE1–2). As Urquhart puts it:

> In the *Explanations*, which form a sequel to the "Vestiges of Creation," the author goes on to say that the great purpose of his work … is to show that the whole revelation of the works of God presented to our senses and reason, is a system based in, what we are compelled, for want of a better term, to call, "law," by which however is not meant a system independent of or exclusive of the Deity, but one which only proposes a certain mode of His working.[419]

Thus, while Urquhart fully agreed with the theological threat of nonprovidential worldviews, this was not – as he thought – the case of the CDA. As we have seen, however, perhaps the key obstacle for some theologians was their assumption of incompatibilism.

We have, of course, already met **James Buchanan** (1804–1870) in Chapter 2. Fortunately for us, in one of his works, he also commented on the nature of the CDA. Concerned about the contemporary atheistic tendencies, Buchanan wrote his *Faith in God and Modern Atheism Compared* (1855). On its pages, *Vestiges* gets a mention as well and he examines whether its worldview should fall under the rubric of atheism. While recognizing multiple varieties of atheism,[420] his answer is, in the end, clear: the scientific claims in *Vestiges* do not provide any foundation to view it, even under a broad definition, as atheistic:

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[419] Ibid., 142.

[420] James Buchanan, *Faith in God and Modern Atheism; Compared, in their Essential Nature, Theoretic Grounds, and Practical Influence* Vol. 1 (Edinburgh: James Buchanan, Junr., 1855), 15.

> That even were it admitted, either as possible, or probable, or certain explanation of the origin of the present planetary systems, it would not necessarily destroy the evidence of Theology, nor establish on its ruins the cause of Atheism.[421]

Moreover, for Buchanan, the CDA is theologically unproblematic. This is seen in his approving quotation of Chambers' clarification of laws of nature, in which Chambers states that these laws are not autonomous and are only a mode of DA (CV10). For Buchanan, such a view of laws of nature will land us on theologically safe ground. The only problem is that the development hypothesis currently finds no support among the men of science.[422] Yet, if the central theory of *Vestiges* could be shown to be true, a believer should not shun it. We have already seen (Chapter 2) how in his *Modern Atheism* (1857), Buchanan forcefully argued against the incompatibilists who rejected the CDA as theologically threatening. This is

> because it seems to have been *assumed* ... that the discovery of "natural laws," and the admission of "second causes," must necessarily be adverse, and may ultimately prove fatal, to the cause of Religion; or, in other words, that Faith must recede just in proportion as Science advances; whereas the Bible speaks both of natural objects, possessing peculiar properties and powers, and also of natural laws, as God's "ordinances" both in the heaves and the earth, but speaks nevertheless of a presiding Providence or governing Will, without ever supposing that the two are incompatible or mutually exclusive.[423]

Buchanan, then, suggests that we should not only abandon such a clash between natural laws and DA as a mere assumption, but that such compatibility is completely biblical. It is also why he found the CDA to be theologically safe.

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[421] Ibid., 53.

[422] Ibid., 247.

[423] Buchanan, *Modern Atheism*, 253–4. The emphasis is mine.

Briefly mentioned should be also a philosopher and theologian **Robert Flint** (1838–1910). Flint held the chair of divinity at the University of Edinburgh since 1883 and, among other honours, became a fellow of the Royal Society of Edinburgh in 1880.[424] He revealed his thinking about *Vestiges* in his history of various strands of materialism in his 1877 Baird lecture, later published as *Anti-Theistic Theories*.[425] In the chapter called "English Materialism of the First Half of the Nineteenth Century", he writes:

> The existence of a personal Deity is distinctly recognised in [*Vestiges*], but all the forms of life and mind are taught to have been necessarily evolved from primary nebulous matter.[426]

Flint, then, openly states that behind the CDA is a "personal Deity" which is "distinctly recognised" – a statement that many critics vehemently disagreed with. He goes on to mention the criticism the book got from such figures as Brewster, Dod, Miller, Sedgwick, or William Whewell. He admits that the book could indeed support materialist (and atheistic) explanations of this universe, since *Vestiges* was also translated by the materialist Karl Vogt into German in 1847.[427] On the surface, then, multiple readings might be possible. Although Flint does not seem to provide us with more insight on the CDA, his comment that it has a distinctly recognizable personal Deity is noteworthy.

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[424] Alan P. F. Sell, "Flint, Robert (1838–1910), philosopher and theologian," *Oxford Dictionary of National Biography*; 23 Sep. 2004. See also Donald Macmillan, *The life of Robert Flint, DD, LLD* (London: Hodder & Stoughton, 1914).

[425] Robert Flint, *Anti-Theistic Theories; Being the Baird Lecture for 1877* (Edinburgh and London: William Blackwood and Sons, 1885).

[426] Ibid., 477.

[427] Ibid., 478.

## 6.3 Mixed Views

Yet another group of authors had, what we could call, mixed views regarding the CDA. That is, they show some theological reservations about the CDA. Generally, for various reasons, they are not prepared to endorse the CDA as a whole, nor to condemn it.

One interesting take on noninterventionism comes from **Francis Newman** (1805–1897). Francis, a brother of the more famous John Henry Newman, was best known as a moral philosopher and doubter about Christianity. As for his views on Chambers, not only did he write anonymous reviews of both *Vestiges* and *Explanations*, but his views are closely linked to those of Baden Powell.[428]

In his review of *Vestiges*, Newman is skeptical about some scientific details of Chambers' account, but gladly subscribes to its mode of DA. That is, Newman, like Chambers, rejects any special divine interference in nature and rather sees everything as happening according to laws of nature, set up at the beginning of creation by their Creator. What is more noteworthy is the exact *mode* of how Newman envisions the CDA. That is, in one passage, he talks about two meanings of how God can act. One way is by special creations, and the other is by law. But in the latter mode, God does not really act, but merely *permits* things to happen:

> We may conceive of a destructive earthquake as wrought by the Divine Power, not because under the immediate circumstances his wisdom judged it a desirable event, but merely because it was better to *allow* of it than to break through certain physical laws, or (if any so call them) modes of procedure prescribed by the Great Spirit to himself.[429]

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[428] Corsi, *Science and Religion*, 264–70.

[429] [Francis W. Newman], "Vestiges of the Natural History of Creation," *Prospective Review: A Quarterly Journal of Theology and Literature* 1 (Jan. 1845), 60–1. The emphasis is mine.

God is, then, not really *acting* through the physical laws, but only *permitting* things to happen to avoid breaking these laws. Such a position has the added benefit of not raising questions of theodicy, or at least not as acutely as a God who causes things to happen directly.[430] The question, then, is whether this coheres with some of the Chambersian features which point to more than just God permitting things (CV4–6, CE1–2, CE5). Moreover, despite Newman's attempt to clarify things, he might leave his readers confused as he also uses the expression "exertions of divine power" to describe these divine decisions not to interfere.[431]

Unsurprisingly, Francis Newman rejected the view that *Vestiges* presented an atheistic account of DA.. In fact, in his review of Chambers' *Explanations*, he says that *Vestiges* did nothing else than what the men of science in the British Association of Science (BAAS) were attempting to do in the past two decades – to establish "Law and Order" through noninterventionist nomological uniformity.[432] Despite these attempts,

> a chorus of scientific men protest that Creation by Law is but a decent name for Atheism. The author of the Vestiges is attacked as if *he* were responsible for the great ideas, to establish which, the leading members of the [BAAS] have been devoting their whole lives.[433]

For Newman, then, the CDA has nothing to do with atheism. It is merely the application of scientific knowledge, achieved by the best British men of science, applied on a cosmological scale. At the end of his review of *Explanations*, he remained optimistic and

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[430] Ibid., 61.

[431] Ibid., 61.

[432] Ibid., 61.

[433] [Francis W. Newman], "Explanations. A Sequel to the Vestiges of the Natural History of Creation," *Prospective Review: A Quarterly Journal of Theology and Literature* 2 (Jan. 1846), 35–6.

sensed that this new conception of DA would be soon spreading more widely.[434] Despite stating this before Darwin's *Origin*, his claim was in the following decades of the century accurately describing the historical and theological trends.

**Edward Hitchcock** (1793–1864), one of the most distinguished American geologists of the 19th century, also contributed to the debate. Hitchcock certainly seems to have had some mixed feelings about the CDA. On the one hand, *Vestiges* fails both in terms of verified facts as well as sound theology. Still, when it comes to its theology, he offers a kind of moderate, yet equally important, conciliation. In the end, a critical reader must conclude, he argues, that *Vestiges* is not atheistic and is in reality compatible with theism.

Hitchcock offers some of his revealing comments about *Vestiges* in his *The Religion of Geology and Its Connected Sciences* (1851). This work also made a significant influence on Chambers, who, in the tenth edition of *Vestiges* (1853), devoted to Hitchcock's views nine pages.[435] In the chapter called "The Hypothesis of Creation by Law," Hitchcock's remarks about *Vestiges* begin by suggesting that it might well be on a theologically safe ground. Contradicting people like Sedgwick, this is because the CDA is indeed compatible not only with theism but also with revelation.[436] Quite uniquely and remarkably, he even suggests that under the CDA's "creation by law," miracles might be the product of laws of nature:

> From these views and reasonings, it is clear, I think, that the hypothesis of creation by law does not necessarily destroy the theory of religion. For if we admit that everything in the world of matter and of mind, *not excepting miracles* and

[434] Ibid., 57.

[435] V10, lix–lxvii.

[436] Edward Hitchcock, *The Religion of Geology and Its Connected Sciences* (Boston: Philips, Sampson, and Company, 1851), 286.

> special providences, is regulated, if not produced, by law, it does not take away the necessity of a contriving, sustaining, and energizing Deity. Even though we admit that God has communicated to nature's laws, at the beginning, a power to execute themselves (though the supposition is quite unphilosophical), no event is any the less God's work than if all were miraculous.[437]

The theological danger, however, is that while such *creation by law* is compatible with theism, it is also compatible with atheism. This was best seen in the work of Laplace.[438] While the CDA might be compatible with much of Christianity, at least practically speaking, the CDA's creation by law seems to be, for many of its readers, devoid of God's presence:

> It may, indeed, be doubted whether this anonymous writer has not virtually taken away the Deity, and even moral accountability, by his materialism and his ultra-phrenology; yet we do not see but he may assert his law system without denying God's existence or attributes. It must be admitted, however, that the influence of this hypothesis upon practical religion is disastrous. It does, apparently, so remove the Deity from all concern in the affairs of the world, and so foists law into his place, that practically there is no God.[439]

From the standpoint of practical theology, then, the CDA is rather calamitous. But even despite this criticism, Hitchcock claims that the CDA is a type of theism. This is because his demarcation criterion is lower than that of the critics who might demand instances of SDA. But for Hitchcock, the decisive question is where the laws have their origin in God.[440]

In the end, Hitchcock courageously concludes that "if this system of materialism is true, we ought to embrace it, without any fear of ultimate bad effects."[441] For him, the

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[437] Ibid., 295.
[438] Ibid., 288.
[439] Ibid., 295–6.
[440] Ibid., 289.
[441] Ibid., 262.

CDA appears to be a mixed bag – theologically compatible with Christianity, but, in its practical impact on everyday lives, as he put it, “disastrous.”

Our last author in this group is **James D. Dana** (1813–1895), another significant American geologist and zoologist. Overall, Dana seems to have also mixed views about the CDA. In his 1846 review of *Explanations* – and already after his very short review of *Vestiges* from the previous year – Dana saw no theological danger in the pages of *Vestiges*.[442] However, he was aware that many theologians felt a serious threat by such advances and “the fear of truth that shows itself in many (not all) theological periodicals."[443] But while we should "doubt the speculations" by the author of *Vestiges*, the work itself does not pose a threat to revealed Christian theology:

> Should the theory of the writer of the Vestiges be finally established, faith and religion would still stand immovable, supported by reason as well as the inspired Word.[444]

Yes, the pages of *Vestiges* might be filled with “some errors,” but the work "will continue to be, of incalculable value to science and … the final establishment of truth."[445] Yet, in neither of his two reviews (of *Vestiges* and *Explanations*), did he elaborate on this compatibility. He did, however, provide some clarification in his April 1846 letter to Asa Gray:

> [The recent geological discoveries] were the means of settling on foot a train of investigation which resulted in a vast increase of knowledge, and above in confirming the Bible history in every point—In the same manner I believe that the

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[442] [James Dwight Dana], “Vestiges of the Natural History of Creation”, *American Journal of Science and Arts 46* (1845), 395; [Dana], “Sequel to the Vestiges of Creation”. *American Journal of Science and Arts 49* (1846), 250–254.

[443] Ibid., 250.

[444] Ibid., 251.

[445] Ibid., 254.

> publication of the Vestiges will be the means of such good to Religion & Science in general. … This argument from the internal character of the Bible-system, affords the best possible evidence of the truth of religion. … And on this ground I have inferred that the theory of the Vestiges, if proved, would not affect the truths of Christianity.[446]

Thus, a theory like that in *Vestiges* – if substantiated by good science – would eventually lead not just to re-evaluating biblical passages, but to their better interpretation, and consequently to their confirmation. We learn more about his view of the CDA some ten years later when he reacted to the theologian Tayler Lewis.[447] In Dana's reaction, we see him defending geology against Lewis's scriptural literalism, and at one point describes the system of *Vestiges* as "pantheistic."[448]

Dana makes this point clearer a few pages later. He lists seven points that characterize Lewis's worldview, and says that he shares the following first three with *Vestiges*:

> 1. His personifying Nature, after Plato's notion; and, as a consequence, regarding her as, in a sense, "self-acting;" …
>
> 2. Hence making mother earth to bring forth, through her "parturitive powers", plants and animals, and even man, as far as his physical nature goes.
>
> 3. Admitting that matter is not eternal, but neglecting the obvious meaning of the phrase "In the beginning."[449]

Dana, then, perceives that the nature in *Vestiges* is "self-acting," with the power to generate both inorganic and organic beings. The difference from Lewis (regarding these

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[446] Letter to Gray, 27 April 1846. Quoted in Livingstone, 74 [who incorrectly states the year as 1844].

[447] Lewis, *The Six Days of Creation, or the Scriptural Cosmology, with the Ancient Idea of Time-Worlds in Distinction from Worlds in Space* (London: John Chapman, 1855).

[448] Dana, *Science and the Bible; A Review of 'the Six Days of Creation' of Prof. Tayler Lewis* (Andover: Warren F. Draper, 1856), 93.

[449] Ibid., 98–9.

three points) is that the latter requires also “occasional need of the supernatural.”[450] In summary, none of Dana’s even later works attacks *Vestiges* for its theology. On the other hand, he ended up listing the CDA as pantheistic and not as “true theism,” which was one of his other employed categories.[451] While seeing the CDA as compatible with Christian theology, he certainly appeared to have some theological reservations.

## 6.4 Themes in Chambers' Nineteenth-Century Readers

After the survey of these four various groups, let us summarize our findings regarding the views and themes we have encountered. First, we met two authors who at least implicitly admitted ambiguities regarding the CDA. John Shepperd was uncertain whether the CDA imagined laws of nature to be independent of their divine source or not. He also points to some of the internal tensions he noticed in the text. Has God abandoned the world or is He ever-present? Wallis explicitly mentioned the “ambiguity and vagueness” of the CDA. He reminded his readers that Newton had also been construed atheistically, implying a possibility of multiple interpretations when it comes to an author’s vision of DA.

We then met a second group of “unambiguous and negative” thinkers who were united in their theological disapproval of the CDA. What is interesting, is their similarities as well as differences in the reasons for their rejection. Most of them saw the CDA as acting only in the initial creation and entirely inactive, with a God who "slumbers on his throne," as Brewster put it. Of course, this has serious theological

[450] Ibid., 99.
[451] Ibid., 102.

consequences, the chief of which – expressed at least implicitly by all – is that the CDA is bereft of providential care.

How did these authors grapple with some Chambersian features that might have contradicted the reasons for their condemnations? Most of the time, we cannot be sure. Possibly, they could have gone unnoticed or were passed over. For example, Sedgwick demanded a proper DA to have "a personal and superintending God, concentrating his will on every atom." But then, the CDA agrees (CV8). This feature (CV8) would also clash with the main complaint of this group, namely, that the CDA has merely a distant, inactive God. These critics did not engage with the Chambersian features that indicated God's involvement in the world (CV5–6) For those commentators who also read *Explanations*, there were yet more features that could bring out a contradiction with such a passive view of a Deity (CE1–2, 5).

Typically, the reviewers in this group merely dismissed the Chambersian features that were not convenient. For example, Pearson and Gray made it evident that they have encountered some internal tensions within the CDA. Yet, the way they resolved them is tantamount to the dismissal of the pious language and the more orthodox features of the CDA. Pearson implied that these orthodox passages provided a mere rhetorical "disguise." For Gray, they served just to "gild and bedizen the flimsy reasoning."

Significantly, it appears that the representatives in this "negative" group were all united by their incompatibilism: for them, DA and laws of nature did not mix. None of these authors contemplated as a live option, that the CDA worked with a notion of laws that were *dependent* on God. Neither did they entertain the claim of the CDA that laws of nature were a mode of God's working. As Sedgwick expressed it, for the CDA, nature worked "without external aid and by its own inherent powers." In this sense, they were

incompatibilists. These were, seemingly, precisely the theologians and naturalists that our second group talked about. We may recall again Buchanan's words that this opposition existed: "because it seems to have been *assumed* ... that the discovery of 'natural laws,' and the admission of 'second causes,' must necessarily be adverse."

Along with rejecting compatibilism, these incompatibilists also required God's interventions. One effect of noninterventionism would seem to be a theological catastrophe, also because it would do away with the possibility of revelation. We can be reminded that complete noninterventionism was still a novel position. We saw Gray's remark that special creation was still a "received view" in the mid-19th century. Both Gray and Luxford agreed in claiming that the CDA was a novel way of thinking about God's relationship to the world. Many thinkers, then, had probably a similar view to that we met openly stated in Lewis, namely, that true Christians must accept not only the "doctrines of creation, providence, and prayer," but also some kind of supernatural interventions. But as we saw, this demarcation line – what makes one a "true" theist or Christian – was itself a bone of contention.

This group of authors also construed the God-world relationship differently. They disagreed whether the CDA was atheistic, or just a slippery slope to atheism. Lewis was most explicit in calling it "blank, cheerless atheism," while others tended to see it as a theologically dangerous road leading to the dark kingdom of atheism. Several agreed that the CDA is essentially a revival of the ancient Epicureanism (Sedgwick, Bowen, Dod) or simply like the godless system of Laplace (Dod). Pearson classified the CDA as naturalism, but the reason was the same – it was a system with a passive, remote God who provided the universe with a self-sustained set of laws. Still, he wished to

distinguish it from both pantheism and atheism. Likewise, Sedgwick in the end did not equate the CDA with pantheism but claimed that its language was indeed pantheistic.

In contrast, let us now summarize the third group of thinkers who were "unambiguous and positive" about the CDA. What distinguished them – and what allowed them to be positive in their assessment of the CDA – was their shared compatibilism. They saw the CDA as much more theologically optimistic, which could be seen from Luxford's claim that it could be even "proclaimed from the pulpit." Underlying their position was the view that natural laws were not only created by the Creator, but were also dependent on Him, and were the means for His acting. In contrast, then, to the "negative" incompatibilists, these thinkers took the CDA's conception of laws of nature as God's own working (explicit in Luxford, Tulloch, Urquhart). The presumed incompatibility between laws and DA is just that – a presumption. But if we do not assume this, there is no reason to remain incompatibilists (Buchanan). Moreover, as Buchanan argued, the compatibilist position is fully in line with Scripture: "the Bible speaks both of natural objects, possessing peculiar properties and powers, and of natural laws, as God's 'ordinances' both in the heavens and the earth." In most cases, these "positive" representatives were not suspicious of the pious and orthodox language used in *Vestiges* and *Explanations*. For Luxford, the CDA could even be proclaimed during sermons, as he took *Vestiges* to be a continuation of the natural theology of Paley and Bridgewater Treatises.

Finally, we met those who represent "mixed views" regarding the CDA: Francis Newman, Hitchcock, and Dana. In my view, Newman was not completely clear on how he sees the CDA (is God only permitting things or also "exerting" his influence?). However, he wholeheartedly endorsed the CDA as the extension of the project of the

recently founded (1831) British Association of Science. Hitchcock's stance seems rather mixed: while, in a compatibilist fashion, he supported the CDA's creation by law, he was very much troubled by its practical theological import. And while Dana at first defended the CDA as not affecting Christianity in any way, he began to see it later as a type of pantheism. However, despite their differences, these three thinkers all seem to share a compatibilist outlook which, in turn, allows them their rather positive endorsements of the CDA.

# 7. Recent Readings of Paleyan Divine Action

In this chapter, I will sample the readings of the PDA in the 20th and 21st centuries. Since I cannot examine all the voices that have commented on Paley, I decided to select the following authors based on two criteria. First, I will not use the readings of Paley which are too vague in terms of how they understand the PDA. In my selection of authors, then, I opted for those who not only comment on Paley's argument for design but for those who also say something substantial about the nature of the PDA. I have also decided to focus predominantly on the scholars working within history of science, science and religion more generally, as well as evolutionary biologists. This is because Paley and his design argument feature frequently in their accounts as a foil for Darwin and his discovery of natural selection. My main motivation is, then, to see to what extent they represent the PDA fairly or whether it became just a caricature.

My selection of these scholars, then, includes Dan LeMahieu (historian and biographer of Paley), Richard Dawkins, Francisco Ayala (evolutionary biologist), Peter Bowler, Michael Ruse, Keith Thomson (historians of science), David Fergusson, Alister McGrath, and Erkki Kojonen ("science-and-religion" theologians). The chapter follows now a traditional four-fold division: (1) admitting ambiguities, (2) unambiguous views, (3) mixed views, and (4) a summary.

## 7.1 Admitting Ambiguities

The Harvard-educated historian **Dan LeMahieu** (b. 1945) is one of the few academics who has written a biography of Paley. It is entitled *The Mind of William Paley* (1976) and

it provides us with several very important remarks for our exploration. For our purposes, its value consists in tackling the reason for the plurality of different meanings that Paley's famous watch analogy might convey. LeMahieu argues that there are certainly multiple ways of reading the PDA. The specific way in which it is interpreted depends on several context-defining factors. For example, he admits that if Paley's *Natural Theology* is read as a separate work without other intertextual interpretation, it could have the appearance of an argument from design that would be deistic, to say the least:

> Without the *Evidences*, his philosophy could easily be construed as deistic or even unitarian; without the *Natural Theology*, his biblical criticism would be robbed of the theoretical foundations of its central arguments.[452]

Fortunately, LeMahieu does not stop here and provides us with another useful insight. This relates to how Paley's readers decide to read the key analogy of *Natural Theology* – that between the human and divine watchmaker. This will be explained more below. At the same time, LeMahieu connects this with an ambiguity or tension regarding God's character in Paley's work. On the one hand, due to Paley's vagueness, one could meet in his *Natural Theology* a rather remote and deistic deity:

> Yet, despite Paley's extensive and occasionally controversial discussion of God's attributes, it might be argued that his Deity remained a fleshless abstraction, a foreign and wholly unimaginable stranger for whom any feelings of love or fear would seem inappropriate. Neither omnipotence nor omniscience nor omnipresence is a quality which elicits concrete mental images; they were consciously not intended to. Whether or not this vagueness consequently meant that Paley's God was a transcendent deity–the distant "watchmaker" which many students seem to associate with the word "deism"–remains an open question.[453]

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[452] LeMahieu, *The Mind of William Paley*, 91. Italics added.

[453] Ibid., 91.

On this reading, Paley's text presents us with an ambiguous view of the Creator and His presence in this world. One option is that the Designer could be viewed merely as a remote and unconcerned Deity. And while LeMahieu does not mention this explicitly, this would surely have important theological implications regarding the Creator's interactions with nature. However, LeMahieu avers, Paley could also be read differently:

> But a case can be made that God portrayed in *Natural Theology* was as immediate and personal as those found in traditional religions, that he was within the realm of human comprehension and therefore of love.[454]

It seems then it is possible to see the God in Paley's *Natural Theology* in (at least) two quite different ways – one impersonal and transcendent, and the other personal and immanent. If that is so, what is it that influences the reader's interpretation one way or the other? In LeMahieu's view, what significantly shapes one's reading, is the way in which one understands the use of Paley's analogy:

> [How we view Paley's Designer] partially turns on our interpretation of the initial analogy of proportionality which compared nature to a watch, and God to a watchmaker. In interpreting such an analogy the major problem centers on whether Paley has asserted the analogue univocally or equivocally. Both approaches involve traps. If the terms within the analogy were taken univocally–if the statements on either side of the analogy stood in a legitimately proportional relation–then the theologian conceded an intimate kinship between the watchmaker and God: the Deity became deeply anthropomorphic. If, on the other hand, the analogy was asserted equivocally–if the wisdom involved in constructing a watch was not entirely similar to that of God creating nature–the result was a mystical and transcendent God of whom little accurate or precise knowledge could be posited.[455]

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[454] Ibid., 85. Italics added.

[455] 85–6.

The crux is, then, whether we read Paley's analogy equivocally or univocally. The various uses were discussed by medieval theologians, who were themselves building on previous authors.[456] It is well known that one of the standard arguments for rejecting an interventionist type of DA is that such a deity is too anthropomorphic. The oft-stated objection is that such an anthropomorphic deity would be more inclined to work similarly to human activity, including, presumably, the production of nature's designs. In other words, univocal analogy tends to lead to an anthropomorphic view of a deity, and such a conception, in turn, to a more hands-on divine involvement in nature. Similarly, the opposite appears to be true as well: equivocal analogy lends itself to a transcendent understanding of God, and therefore, to a DA which is not hands-on. We will return to the importance of univocal-versus-equivocal analogy in Chapter 9.

## 7.2 Unambiguous Views

I begin this section on the PDA and interventionism with **Richard Dawkins** (b. 1941). As one of the most prominent, skilled, and bestselling writers on the topic of evolution in recent decades, he serves to illustrate one prominent trend in the recent interpretations of the PDA. Namely, as we will see, many authors read the PDA as interventionist. There are, however, differences as to how this is expressed. How, then, does Dawkins approach the PDA?

[456] In dealing with logic, metaphysics, and the language about the divine, the meanings of analogy were historically discussed as part of the theory of equivocation. While Aristotle focus elaborated on univocal and equivocal meaning, he only hinted at the middle ground between them, namely, analogical. It was later during the Middle Ages when these three meanings of analogy were recognized and formalized: equivocal, univocal, analogical. See E. Jennifer Ashworth, Domenic D'Ettore, "Medieval Theories of Analogy", *The Stanford Encyclopedia of Philosophy* (Winter 2021 Edition), Edward N. Zalta (ed.), https://plato.stanford.edu/archives/win2021/entries/analogy-medieval/.

If one thing seems certain, it is that Dawkins holds Paley in high regard. In his famous *The Blind Watchmaker* (1986), he remarked about Paley and his *Natural Theology* that "It is a book that I greatly admire."[457] In fact, Dawkins saw his project in *The Blind Watchmaker* as an extension of that of Paley, by bringing him up to date.[458] Such an update is much needed since "when it comes to complexity and beauty of design, Paley hardly even began to state the case."[459] But we also learn something about how Dawkins perceived the PDA when he writes:

> His hypothesis was that living watches were *literally designed* and built by a master watchmaker. Our modern hypothesis is that the job was done in gradual evolutionary stages by natural selection. Nowadays theologians aren't quite so *straightforward* as Paley. They don't point to complex living mechanisms and say that they are self-evidently designed by a creator, just like a watch.[460]

Dawkins states here that Paley saw the watches designed by the Designer as "literally designed." Moreover, such a reading is not hiding under some layers of complexity; instead, Paley was very "straightforward" about this. Of course, Paley did not accept evolution, but was his only alternative to have organisms "literally designed"? Which Paleyan feature exactly would substantiate this? If Dawkins was aware of Paley's strong emphasis on natural laws (e.g. P3–5), Dawkins did not engage with these features. On the other hand, later in the work, Dawkins mentions that Paley's design argument was all about "creative intelligence."[461] That is true, of course, but the more revealing question would relate to the exact mode of operation of such intelligence in the world.

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[457] Richard Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design* (New York: W. W. Norton & Company, Inc., 1996), 4.
[458] Ibid., 15.
[459] Ibid., 21.
[460] Ibid., 37. The emphases are mine.
[461] Ibid., 66.

Still, what Dawkins seems to be imagining here is a literal (or strongly univocal) meaning of divine design.[462]

As indicated, what appears to shape Dawkins' interpretation of the PDA is his neglect of the many, especially nomological, features in Paley's *Natural Theology*. The passages that Dawkins does quote, all come from chapters one and three. At one point, he mentions Paley's analogy between the eye and the telescope.[463] This eye-telescope analogy is found in chapter three (of *Natural Theology*), which means that Dawkins would have encountered the features P1–14 up to that point. The same chapter three itself mentions several important points about God limiting himself by working through general laws (P13) and that God does not create new laws or suspend the existing ones (P14). Did Dawkins simply neglect to mention these points? Dawkins, then, does not mention the more subtle points that Paley makes about the role of laws of nature, which even in chapter three are mentioned 22 times.[464]

In his other famous work, *The God Delusion* (2006), Dawkins mentions that

> Before Darwin, philosophers such as Hume understood that the improbability of life did not mean it had to be designed, but they couldn't imagine the alternative.[465]

Yet, the truth of this statement depends on what one means by "designed." If by "designed" Dawkins means "literally designed" – then it is not so clear what Dawkins bases this on.

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[462] In Chapter 9, we will see that there are various ways of how *design* has been understood.

[463] Ibid., 5.

[464] This is the second largest use of "law" or "laws" in a chapter, superseded only by chapter twenty-two on astronomy (55 times).

[465] Dawkins, *The God Delusion* (London: Bantam Press, 2006), 114.

In his *Outgrowing God* (2019), a book that is, in a sense, his reworked *The God Delusion* for a younger audience, Dawkins described Paley's watchmaker this way:

> A watch is complicated. ... Unlike the stone, the watch couldn't have just *happened* by luck. It had to have been deliberately designed and put together by a skilled watchmaker.[466] Of course, you can easily see where Paley was going with this. Just as the watch must have had a watchmaker, the eye must have had an eye-maker, the heart must have had a heart-maker. And so on. It's possible you are now even more persuaded by Paley's point than you were before. Even more reluctant to hear that it's wrong and that there really is no need for a creator god.[467]

Here Dawkins writes that the divine Designer both "designed and put together" His watches. Perhaps he put them together, but the question is in what way? Further, he says that we "can easily see where Paley was going with this," but as we have seen, people read the PDA quite differently. Perhaps, in the first place, constructing the vision of the PDA is not as straightforward as Dawkins imagined.

Peter Bowler (b. 1944) is undoubtedly one of the most significant contemporary historians of evolution. Because of this, he might be of additional interest since his some of his publications have become not only widespread but also authoritative references on the history of evolution. As one of the foremost authorities in the field, what view of the PDA does he hold? Let us begin, then, by collecting some of the clues from his works. In his book *Darwin Deleted* (2013), Bowler summarized Darwin's objection to Paley, while offering his own commentary, as follows:

> Darwin remained true to functionalism, convinced that the main task of an evolution theory was to explain how species became adapted to their environments. His decision can be seen as a reflection of British naturalists'

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[466] Dawkins, *Outgrowing God: A Beginner's Guide* (London: Black Swan, 2020), 175.

[467] Ibid., 175.

> traditional commitment to the functionalist version of the "argument from design" embodied in William Paley's *Natural Theology* of 1802, a book that fascinated the young Darwin. Paley's argument was summed up in his classic example of the watch and the watchmaker. If you see a watch, you know that an intelligent artificer constructed it to serve a particular purpose. So when you see the complex structures of living things, all adapted to serve the needs of the animals that possess them, you have to ask how this intelligent design (to use the modern term) came about, and the only answer is the Creator. It was this version of what we now call creationism that Darwin set out to challenge by suggesting adaptation as a natural process rather than as a fixed state indicating *supernatural design*.[468]

Notice one glaring ambiguity in the quote above, namely, the notion of "supernatural design." Does Bowler read the PDA as interventionist and perhaps as incompatibilist? It seems that the answer is yes, as can be supported by several quotes from some of his other works. A similar contrast between Darwin and Paley is offered in his *Theories of Human Evolution* (1986) where Bowler comments that

> Natural theologians as William Paley had interpreted adaptation as an indication of the Creator's benevolence. Darwin's study of biogeography on his voyage around the world on HMS *Beagle* convinced him that *miraculous creation* could not account for the way in which species are distributed around the globe.[469]

Here, Bowler's reason is more explicit. As in the previous passage, Darwin could not accept Paley's understanding of creation. However, this time, we are told, this was because Darwin rejected Paley's "miraculous creation."

There are still more clues in Bowler's other works. For example, in *Monkey Trials and Gorilla Sermons* (2009), Bowler states that "[For Paley and others,] a well-designed system cannot have originated by chance—it must be the *direct* product of the Creator's

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[468] Peter J. Bowler. *Darwin Deleted: Imagining a World without Darwin* (Chicago: The University of Chicago Press, 2013), 48. The emphasis is mine.

[469] Bowler, *Theories of Human Evolution: A Century of Debate, 1844–1944* (Baltimore: Johns Hopkins University Press, 1986), 43. The emphasis is mine.

will."[470] In this passage, Bowler stated clearly that the PDA entailed a direct involvement of DA. Still, however, we could ask: Was this confined only to God's initial planning or did it involve also, say, a series of miraculous creations? This direct divine creation, as opposed to just divine forethought, also seems to be behind his following comment: "The Darwinists challenge the individual examples but also complain that to invoke the *supernatural* is to erect a barrier against any further scientific exploration of the topic."[471]

There are several clues also in his *Darwin Deleted* (2013). Here, Bowler seems to have primarily Paley in mind, when he writes that "support for the idea of miraculous creation diminished in the 1850s"[472] and when he mentions "the traditional idea of the miraculous creation of species."[473] He also refers to the PDA as "Paley's version of creationism" and as "supernaturalism."[474] As Bowler states, by the mid-19th century, such "Supernaturalism was on the wane, and the search was on for a natural explanation."[475] This is a revealing comment since it points to the incompatibilism of the PDA with secondary causes. That seems, however, at odds with many of the Paleyan nomological features (3–5, P10, P13).

But one of the clearest indications that Bowler viewed the PDA as providing an interventionist account of design in nature comes from his autobiography of Darwin. Thus, in *Charles Darwin* (1990), Bowler comments that

> Paley himself may have been reacting against early evolutionary suggestions put forward by Erasmus Darwin and others. He *argued that no natural process* could

[470] Bowler, *Monkey Trials and Gorilla Sermons: Evolution and Christianity from Darwin to Intelligent Design* (Cambridge, MA: Harvard University Press, 2009), 18. The emphasis is mine.
[471] Ibid., 19. The emphasis is mine.
[472] Bowler, *Darwin* Deleted, 67.
[473] Ibid., 68.
[474] Ibid., 49, 68.
[475] Ibid., 49.

> explain the creation of complex organic structures. Hence these structures in all their bewildering variety must each be the result of an act of divine creation.[476]

What I think we have here is a reading of *Natural Theology*, where Paley's appeal to the Designer is interpreted as giving up on the naturalistic processes to explain the natural world. But (just as in other authors) it would have been useful to have it elaborated where exactly Paley "argues" for this. There is one more detail as the passage above continues as follows:

> But already, by the time Paley published his book, it was becoming clear that the traditional belief in a single period of creative activity 'in the beginning' was untenable.[477]

In Bowler's view, then, Paley and his contemporaries tended to believe that there was just one creative activity at the start of the divine creation, referring obviously to the biblical creation week. Perhaps, but it is at least nowhere mentioned in Paley's *Natural Theology* explicitly. For Bowler, we can trace the modern conception of creation through natural laws to Chambers's *Vestiges* whose CDA argued for an explanation of divine creation through natural law rather than miracles.[478]

Overall, then, this passage confirms Bowler's view – that Paley was one of those who believed that it was "divine miracle" that was needed for the creation of species with their contrivances. For Bowler, the PDA was an instance of "supernatural" creation which required miracles to take place, at least when it came to creation of new species.

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[476] Bowler, *Charles Darwin: The Man and His Influence* (Cambridge: Cambridge University Press, 1996 [1990]), 17. The emphasis is mine.
[477] Bowler, *Charles Darwin*, 17.
[478] Bowler, *Monkey Trials and Gorilla Sermons*, 32.

Along with Bowler, **Michael Ruse** (1940–2024) has been one of the most prolific and important authors on the history of evolution. As a philosopher of science, his works have encompassed a wider scope than just history of evolutionary thought, and, notably, he is known for his engagement in the legal battles involving evolution, creationism, and Intelligent Design. Since in his rich output, we also find frequent treatments of Paley (as well as Chambers), we should examine at this point how he handles the PDA.

At times, Ruse described the PDA in a way that is not necessarily interventionist. For example, in a short biography of Paley in his *The Evolution Wars* (2009), he described him as follows:

> Paley stated that his main purpose in writing the book was to establish, as an irrefutable truth, that the world was created and sustained by God in an *intelligent, planned fashion*. With the exception of one chapter on astronomy, nearly the entire book is based on examples in medicine and natural history; Paley used the complexity of human anatomy to argue that human beings could not exist if not for the *input* of an intelligent design by God.[479]

There is nothing to contest in this passage apart from its vagueness. For example, what does divine "input" mean? As Ruse well knows, a nomological noninterventionist creation was something that Darwin himself accepted: "[Darwin] thought that there was a designer, albeit one who worked at a distance through unbroken law."[480] But, what about the PDA? Were Paley's and Darwin's conceptions of their respective DAs essentially the same? Not according to Ruse. Here is how he offers a succinct contrast between these two versions:

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[479] Ruse, *The Evolution Wars: A Guide to the Debates* (Millerton, NY: Grey House Publishing, 2009), 665. The emphases are mine.

[480] Ruse, *Charles Darwin* (Malden, MA: Blackwell Publishing, 2007), 254.

> But whereas Paley thought that everything existed by God's *design*, Darwin's deistic being created through *unbroken laws* at a distance.[481]

This passage, then, states that Paley and Darwin held two different views of DA: whereas, for Darwin, God acted through fixed laws, this was not the case for Paley.

What it also implies is that "design" is here contrasted to "unbroken laws." Thus, whatever "design" means here for Ruse, it appears it cannot be executed merely through natural laws. In this way, Ruse tells us that both Paley and Darwin believed in a Designer, both accepted design in nature, but what this "design" meant was radically different. What this means, as could be observed from this juxtaposition of Paley and Darwin, we would do better to specify what we mean by "Designer" and "design" to avoid confusion. Ruse makes the distinction between the DA visions of Paley and Darwin clear:

> The importance of Paley for Darwin was that, although Darwin may have rejected a *miracle-intervening* designer, he always accepted Paley's premise that the organic world is "as if" designed.[482]

Thus, there seems to be little confusion here about the nature of the PDA. Such a view implies that Paley's God was creating design in nature specifically by miraculous interventions. But it is in his *Darwin and Design* (2009) where Ruse is even more explicit. What we learn here is that, allegedly, Paley and all around him could not but think in terms of interventionist DA:

> Obviously, looking at things with hindsight, Paley's was something of a stopgap position. Because he and everyone else was ignorant of an adequate alternative

[481] Ruse, *Simply Darwin* (New York: Simply Charly, 2017), 14. The emphases are mine.

[482] Ruse, *The Evolution* Wars, 665. The emphasis is mine. Cf. Ruse, *The Darwinian Revolution*, xi, 69, 78, 84–90, 183, 241, 250.

> to *direct divine intervention*, this does not mean that Hume's arguments were bad.[483]

True, we saw that interventionism (PIF) was one of the Paleyan features. But other Paleyan features seem to offer more nomological imaginations of the PDA (P3–5, P13–14). These other features paint a more complex (and perhaps inconsistent) vision of the PDA, but Ruse does not engage with them.

Another significant scholar who contributed to the discussion on **Francisco J. Ayala** (1934–2023). As a Spanish-American evolutionary biologist, he was a vocal voice in the debates surrounding evolution, especially in the early 21st century in connection with the so-called Intelligent Design movement. One of his books, where he intertwines the themes from science and religion is evident in its title: *Darwin's Gift to Science and Religion* (2007). Here, we begin by learning about the purpose of Paley's work:

> After detailing the precise organization and exquisite functionality of each biological entity, relationship, or process, Paley draws again and again the same conclusion, that only an omniscient and omnipotent Deity could account for these marvels of mechanical perfection, purpose, and functionality, and for the enormous diversity of inventions that they entail.[484]

Again, while it is an accurate summary, it remains vague. Ayala writes that God could "account" for the design-like features in nature. Account, yes, but how? Soon, we learn from Ayala that Paley's explanation supposedly entailed excluding natural processes. He goes on to support his position by quoting from Chapter 23 of Paley's *Natural Theology*, on God's personality:

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[483] Ruse, *Darwin and Design: Does Evolution Have a Purpose?* (Harvard: Harvard University Press, 2003), 44.

[484] Francisco J. Ayala, *Darwin's Gift to Science and Religion* (Washington, D.C.: Joseph Henry Press, 2007), 16.

> Paley wants, first, to establish that "contrivances," such as the eye or the kidney, *cannot come about by natural principles or processes*, such as Newton's laws of mechanics, which explain, for example, the motions of the planets."[485]

Yet, could Ayala point to any Paleyan feature where Paley *rejects* that natural processes (with God as their originator) can explain the various complex organs? Of course, the PDA requires that there is an intelligent designer at the very beginning of the causal sequence, but this does not exclude His use of natural causes in creating the contrivances, as Paley seems to indicate (P3–5, P13–14).

We learn another insight in Ayala's following statement that implies that he saw the PDA as interventionist – a type of DA that people like Chambers or Darwin rejected. In a passage where he contrasted Darwin to Paley, Ayala comments as follows:

> Darwin completed the Copernican Revolution by drawing out for biology the notion of nature as a lawful system of matter in motion that human reason can explain without recourse to supernatural agencies. … The seemingly purposeful aspects of living beings could now be explained, like the phenomena of the inanimate world, by the methods of science, as the result of natural laws manifested in natural processes.[486]

What a statement like this shows, is that Ayala's sees the PDA as incompatibilist – it is either God or laws of nature, but it cannot be both. Indeed, toward the end of his book, Ayala's claim about Darwin's achievement supports this point:

> Darwin brought the world of life, with all its diversity and splendid contrivances, to the domain of science, making unnecessary the awkward recourse to a

[485] Ibid., 21. The emphasis is mine.

[486] Ayala, *Darwin's Gift to Science and Religion*, 42.

> *designer who would again and again intervene* in the natural world with designs that are often imperfect and occasionally dysfunctional.[487]

Ayala's comment above misses the point made by Paley that contrivances need not be perfect and that these imperfections do not negate the need for the Designer.[488] But, more importantly for us, Ayala's quote shows that, in addition to PDA being incompatibilist, he saw it also as a rather frequently interventionist.

One of the most important recent historical treatments of the notion of Providence was provided by **David Fergusson** (b. 1956) in his *The Providence of God* (2018). Paley is referred to on numerous occasions here but how is his PDA depicted? In discussing his theodicy, Ferguson focuses on the importance of Paley's view of laws of nature and their role in the noninterventionist course of providence:

> In contemplating divine providence, Paley argues that its appearance is often hidden. We cannot live well on the assumption that God will persistently interfere to remedy the troubles we face each day, as if we were protected by a divine safety net. This may be our condition hereafter but it does not serve us well now. There is an intentional reserve in God's interception of our lives which itself is part of a providential plan. By permitting natural laws to run their course, God fulfils the work of creation. In this respect, there is an imperceptible providence constantly in our midst. This does not directly impact our conduct since we must look to nature rather than to the expectation of divine miracles in order to live well.[489]

Here, Fergusson seems to have in mind our epistemic limitations in detecting special providences, as noted by Paley (P19). On such a scheme, God's "imperceptible providence" is present everywhere in nature but is unfolded in very subtle ways. But, as Fergusson says, we certainly should not be expecting miraculous interventions as God

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[487] Ibid., 182. The emphasis is mine.

[488] "It is not necessary that a machine be perfect, in order to shew with what design it was made: still less necessary, where the only question is, whether it were made with any design at all." NT, 8.

[489] Fergusson, *The Providence of God*, 203.

relies on a nomological mode in the execution of his plan. However, for Fergusson, this is apparently not so when it comes to explaining the complex contrivances in nature. How did then God work in forming his creation if not by laws of nature?

First, let us mention that in his account of the history of providence, Fergusson frequently employs the term "meticulous theology of providence" or simply "meticulous providence." Put simply, it is an influential tradition developed during the Reformation which, while enabling human freedom, sees everything as willed by God.[490] This is, of course, not surprising, but it raises further questions: How exactly should such providence be manifested in nature and its myriads of intricate structures? What exact type of DA was used in fashioning all these contrivances? And does "meticulous providence" entail incompatibilist and interventionist DA? While Fergusson does not answer these questions directly, he connects his notion of "meticulous providence" with the operation of Paley's watchmaker:

> Although Paley's argument was rhetorically effective, it proved inadequate to the changing scientific and philosophical mood of the nineteenth century. [26] In proposing a God who meticulously organised parts to whole throughout nature, Paley likened the world to a machine that was designed and manufactured through a *succession of divine actions*.[491]

Fergusson's words imply that the PDA had in mind more than just an initial divine creation. But an attentive reader of Paley's *Natural Theology* might wonder what textual

[490] Ibid., 76, 109, 121. A fuller summary of such position is as follows: "With a careful distinction between primary and secondary causation, the leading challenges to divine providence could be met. Although sovereign, God was not the author of evil. While willing everything that happens, God guarantees our freedom and responsibility. Though not dependent upon us, God can use our prayers as instruments of the divine will. In all these ways, a maximalist and meticulous theology of divine providence emerged." Ibid, 108–9.

[491] Ibid., 182. The emphasis is mine.

support is there for "a succession of divine actions" in producing the iconic watches. Notice, however, the reference "[26]" which I kept in the text above. Fergusson here refers to the text we will examine below – Alister McGrath's *Darwinism and the Divine*. That is, Fergusson's view of the PDA appears to have been influenced by MacGrath's own view of the PDA. At this point, it is enough to say that McGrath sees the PDA as interventionist, and we will examine his reasoning below.

Among the recent modern authors, I have found the most explicit reading of the PDA as compatibilist and potentially also noninterventionist in the historian **Keith Thomson** (1938–2025). Thomson offered his perspective on Paley's design argument in his *The Watch on the Heath* (2005). In this book, Thomson is well aware that Paley does not finish his watch argument in chapter one, but then just moves on to overwhelm his readers with examples of alleged design in nature. Indeed, Paley went further than the previous natural theologians he was building on:

> Paley, however, was prepared to reach far beyond the sort of evidence that John Ray had adduced for natural theology; he attempted a rather more difficult argument involving the properties of life itself.[492]

This "rather more difficult argument" involved, of course, Paley's thought experiment in which during the so-called "second examination" (as Paley calls it) one surprisingly discovers that the watch is capable of self-replication (P4, P7–8). This is then Paley's novel approach, one which might have caused him philosophical and theological troubles. As Thomson puts it: "Paley launched the lathes-and-files metaphor knowing that it might have just the wrong effect and might instead intrigue his readers to the

[492] Keith S Thomson, *The Watch on the Heath: Science and Religion before Darwin* (London: HarperCollins, 2005), 96–97.

contrary view."[493] Why was this such a dangerous step? Because, Thomson continues, "Having envisaged a watch that could make a watch, he opened up the possibility that there is no longer a need for a watchmaker."[494] Undoubtedly, if the PDA is rendered this way, it would look worlds apart from a reading of the PDA that requires an intervening Designer – indeed very different from the PDA readings we found in Dawkins, Bowler, Ruse, Ayala, as well as Fergusson.

Indeed, Thomson is aware that explanations in terms of miracles are not a part of the PDA: "Miracles are not mentioned in Paley 's book."[495] Thus, as Thomson sees it, the PDA must have operated differently. He then goes on to connect Paley's extended argument (with self-replicating watches) to the sentiment expressed by Kingsley more than half a century later:

> Sixty years later, the Reverend Charles Kingsley would echo this exactly: '[it is a] noble conception of deity to believe that he created primal forms capable of self development.'[496]

So, while it is true that Paley did not accept any version of evolution, at least from those he had on offer around 1800, he did something else. In extending his argument by watches that can self-replicate as well as his remarks on causation, he enabled new readings of his *Natural Theology* that would otherwise lack such textual support. And while many commentators on Paley do not deal with his *extended* argument, Thomson points to its dual consequence: On the one hand, it brought about a potentially

[493] Ibid., 103.
[494] Ibid., 103–4.
[495] Ibid., 10.
[496] Ibid., 104.

dangerous theological minefield, but on the other hand, also new theological interpretations.

## 7.3 Mixed Views

From among scholars, **Alister McGrath** (b. 1953) is surely one whose writings on Paley deserve serious attention. McGrath is a prolific author who has produced many books about natural theology. The one book which treats Paley and his context in a detailed way is his *Darwinism and the Divine* (2011). As I will point out, McGrath ultimately sees the PDA in nature as interventionist. (If also as incompatibilist, I am not sure.) There are several steps that lead him to such a conclusion.

First, he considers the key concept in natural theology, and one used frequently by Paley, namely "contrivance". McGrath remarks that "This important and heavily freighted word implies both the ideas of *design* and *construction*", or, in slightly different phrasing, that its signs are "purposeful design and fabrication."[497] There is nothing to object to here. The key question at this point, however, should be: How does McGrath understand the *mode* of construction (or fabrication) on the PDA? Here, I think, are some clues that will lead us to the answer. McGrath contrasts the meaning of "production" and "design":

> Hume appears to misunderstand the meaning of "contrivance" ..., apparently understanding it simply as a "production." Paley's 'watchmaker' is not simply the one who produces or assembles the watch, but the one who designed it in the first place."[498]

[497] Ibid., 94. The emphases are original.

[498] McGrath. *Darwinism and the Divine*, 97.

Producing a watch, then, is a different process than designing it. The passage implies that "design" has the meaning of "plan" and that "production" is a hands-on process. But of course – one could remark – these are not disjunctive terms. For example, a watchmaker might both create a blueprint for a watch and construct it with his own hands. The crucial question now is: in the meaning just described, does the PDA only design (plan) the watch, or construct it directly as well? McGrath realizes this is a key question in interpreting the PDA and that is why he continues to unpack this point:

> So does the divine watchmaker cause or contrive everything *directly*? Or can some things within the natural world be attributed to intermediate causes? Paley concedes the existence of what he terms "second causes," but insists that they are to be regarded as part of the overall mechanism through which God, as creator and governor of the world, regulates the creation.[499]

Here, McGrath seems to say that the PDA does not have God acting directly. However, McGrath remains cautious: he alerts us that these "second causes" do not have merely their own causality, but that they are also divine tools employed to fulfil God's purposes in nature. At this stage, it appears clear that McGrath has admitted that the PDA is noninterventionist and, possibly, compatibilist. For McGrath, the PDA admits a significant role that is played by the secondary causes, mediating between God and the creation.

Moreover, this reasoning continues and is reinforced by what follows. McGrath goes on to quote two important passages on causality from Paley. The first one mentions the potential existence of "many second causes, and many courses of second causes, one behind another" (P15). The other one deals with the causal relationship between a

[499] Ibid., 98. The emphasis is original; two references omitted.

parent and its offspring. Here, the claim is that the parent is not the contriver of its offspring and that children cannot be causally explained by a mere long chain of parents (P11). Many generations of parents will not suffice, and another cause is needed. After these observations, McGrath astutely notes:

> There is no developed theory of intermediary causality in Paley's natural theology, the logical rigor of which would have been enhanced considerably through the use of, for example, Aquinas's theory of secondary causality.[500]

This is yet another reminder that Paley was not clear about his causal details of the PDA, which could easily lead to ambiguities. But then, in the following chapter, McGrath surprisingly changes his views about the PDA. He proceeds to contrast it with the approaches of Baden Powell and William Whewell, writing that

> Where Paley's concept of "contrivance" emphasized the teleological aspects of nature and their potential theological implications, Whewell preferred to focus on the regularities of the natural order. … Where Paley's doctrine of special creation presupposed *direct divine intervention*, Whewell's clear preference is for an indirect conception of divine action, mediated through laws.[501]

But where did this assertion that Paley accepted "direct divine intervention" come from? This seems a strange turn, especially given that McGrath appeared to reject it only a couple of pages before. While he points out that Whewell used laws of nature as intermediaries, what happened to the "second causes" in Paley he so previously emphasized? Perhaps what McGrath had in mind was Paley's only interventionist feature (PIF), but if this was so, he did not bring it into the discussion. There is also a curious irony in this, since McGrath warned his readers that Whewell had been

[500] Ibid., 99.
[501] Ibid., 125.

interpreted by some as accepting an interventionist view of DA, but that they have done so without supporting evidence:

> Although some nineteenth-century writers represent Whewell as adopting an interventionist approach to divine action, especially in relation to the biological realm, there is nothing in Whewell's writings that lends firm support to such a thesis.[502]

If there is some textual basis McGrath based it on (such as PIF), he at least did not make it explicit. Moreover, as we have seen, he seems to be contradicting himself, given that he stressed the role of intermediate causality in the PDA. The fact that Paley did not elaborate on his theory of causality to a better philosophical satisfaction should not take away from this point.

This interventionist reading of the PDA continues also later in his book. In his discussion of Darwin, McGrath even speaks of "the doctrine of independent acts of special creation, as set out in the writings of William Paley."[503] Yet again, he does not point to any place in Paley's text where such creative acts should be found, much less a "doctrine."[504]

McGrath reads the PDA as interventionist also in his other works. A slightly more extended mention of such special creation in Paley is found in *The Oxford Handbook of Religion and Science* (2006), in his chapter on "Darwinism." Here, McGrath expresses the view that, for Paley, God created all the organisms directly and in their finished

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[502] Ibid. One reference omitted.

[503] Ibid., 149.

[504] Ibid., 149. Paley himself expressly rejected that he was offering any "doctrine" in his discussion of causality: "Nay, there may be many such agents, and many ranks of these. We do not advance this as a *doctrine* either of philosophy or of religion; but we say that the subject may safely be represented under this view, because the Deity, acting himself by general laws, will have the same consequences upon our reasoning, as if he had prescribed these laws to another." NT, 27. The emphasis is mine.

state.[505] But while it is true that we can find in many contemporaries of Paley the claim that God created organisms in their mature state, we do not find such remarks in his *Natural Theology* (or his other works). Despite this, McGrath goes on to say that, in this, Paley embodied the paradigmatic positions dominant at the time:

> The traditional Christian understandings of the notion of 'creation' prevalent within popular religious culture attributed the creation of the world, including humanity, to *direct, special divine action*. This notion of the special creation of each and every species underlies William Paley's celebrated *Natural Theology* (1802).[506]

This statement might well be true, of course. The question is to what extent is such an understanding also part of the PDA itself. As McGrath sees it, such direct special creation was not just Paley's view, but it "underlies" his whole *Natural Theology*.

In sum, given that McGrath made many shrewd observations about Paley, his *Natural Theology*, and his context, it is to me a bit puzzling why – with such an attentive reading as he displayed – he ultimately sided with an interventionist PDA. Given that McGrath acknowledged (yet seemingly downplayed) the role of secondary causes in Paley, to whom the Creator delegated the task of creation, one could expect that McGrath's reasoning would lead him to a more nuanced position regarding the PDA.[507] Interestingly, the next scholar, equally well familiar with Paley, has come to quite an opposite conclusion.

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[505] McGrath, "Darwinism", in *The Oxford Handbook of Religion and Science*, edited by Philip Clayton, Zachary Simpson (Oxford: Oxford University Press, 2006), 683. The emphasis is mine.

[506] Ibid., 689. The emphasis is mine.

[507] Perhaps a Thomistic position regarding the PDA would fit McGrath's reasoning much better as described in his McGrath, *Christian Theology: An Introduction* (Chichester, West Sussex: Wiley Blackwell, 2017), 192–3.

**Erkki Kojonen** (b. 1982) has recently entered the debate on the design argument, especially in his *The Compatibility of Evolution and Design* (2021).[508] In this book, Kojonen's aim was to update the argument of Asa Gray (Darwin's friend and fellow naturalist), who famously remarked that even under Darwin's evolution, there is no conflict between accepting both evolution and design.[509] In doing so, Kojonen has elaborated on Gray's comments and has put the potential compatibility of evolution and design to a thorough philosophical examination. Kojonen laid out his initial exploration of such a project in his 2016 article "Salvaging the Biological Design Argument in Light of Darwinism."[510] As could be expected, in the process he commented also on the character of the PDA or causality in general. What vision of Paley do we, then, find in Kojonen's project? In my view, there appears to be a shift in his position with respect to the PDA. That is, it seems that Kojonen shifted his stance on the PDA from a potentially interventionist to a noninterventionist reading of the PDA. This is why I think such a change took place: First, in his 2016 article, he started out by being cautious in terms of reading the watch analogy too literalistically:

> To be fair, Paley himself also would not have thought that God created the organisms in precisely the same way as humans design things. For all his faults, it is clear from his *Natural Theology* that Paley also believed in God's transcendence.[511]

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[508] Erkki V. R. Kojonen, *The Compatibility of Evolution and Design* (Basingstoke: Palgrave Macmillan, 2021).

[509] As Kojonen sums up his aim: "I essentially take Gray's side in this debate, and attempt to update his case utilizing developments in evolutionary biology, philosophy of science, and philosophy of religion. 'Asa Gray 2.0' has been a convenient short way several friends have summarized the argument." Kojonen, "Response: The Compatibility of Evoution and Design", *Zygon* 57, no. 4 (2022): 1108–1123 (1109).

[510] Kojonen, "Salvaging the Biological Design Argument in Light of Darwinism?", *Theology and Science* 14, no. 3 (2016): 361–381.

[511] Ibid., 362.

Thus, while humans create their creations manually (or through industrial machinery), this cannot show an exact correspondence as to how God creates His creation. Notice also that while Kojonen sees God as transcendent, Pales writes that God is, at least virtually, present in all His creation (P18). Right after this, however, Kojonen put Paley and naturalistic explanations in tension, although not in strict contradiction:

> But there does seem to be a tension between Paleyan design arguments and evolutionary biology, because Paley formulated his argument in competition with natural explanations. In his *Natural Theology*, Paley seems to regard the lack of natural explanations for biological complexity as an important merit of his design argument.[512]

In other words, Kojonen here writes that the PDA was incompatibilist. What about Kojonen's textual evidence for thinking that there was such a tension? The footnote at the end of the relevant paragraph refers to Paley's *Natural Theology* only generally to "chapters 1–6." If Kojonen saw these chapters as offering such a tensive account of the PDA with respect to DA and natural explanations, it would have been highly informative to have it better elaborated. (The first six chapters of *Natural Theology* contain P1–14.) Consistent with his tensive (incompatibilist) reading of Paley, he stated in the conclusion that if theistic evolutionists want to "salvage something of a Paleyan vision of design … [t]hey will have to reject an overly literalistic understanding of design."[513]

Thus, while Kojonen does not claim here outright that Paley's vision was interventionist (certainly not violationist), he puts the PDA and naturalistic explanations in tension. But the only reason for a tension appears to be when the PDA is read as

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[512] Kojonen, "Salvaging the Biological Design Argument in Light of Darwinism?", 362. One reference omitted.
[513] Ibid., 376.

interventionist. We should not be worried, however, as the remedy is at hand: just remove the literal (interventionist) reading of the PDA, the tension disappears, and the design argument can be saved. But did Kojonen himself see the PDA as interventionist? I am not sure, but this seems to be implied in the following way.

Interestingly, five years later, Kojonen changed his position on such a tensive relationship. That is, in his later *The Compatibility of Evolution and Design* (2021), this tension has more than disappeared. While he identifies many points of tension when it comes to design arguments, the kind of friction we pointed to above was now gone.[514] In this work, there seems to be no confusion about this issue, and he presents a noninterventionist version of the PDA. Using for support Paley's second chapter of *Natural Theology*, which talks about the self-replicating watches (P4), he states:

> Nor did Paley think that the order of biological organisms must be *directly* created by God in order for design to be evident. Supposing that his "watch on a heath" had the ability to reproduce, to give birth to another watch, this would, in Paley's opinion, only increase our admiration for the watchmaker. At this point it would "now no longer [be] probable, that the individual watch, which our observer had found, was made immediately by the hand of an artificer, yet doth not this alteration in anywise affect the inference, that an artificer had been originally employed and concerned in the production. [...] All these properties, therefore, are as much unaccounted for, as they were before." For Paley, the natural explanation only moves the problem back rather than solving it. The process of reproduction is about the transmission of teleological properties rather than the ultimate origin of these properties.[515]

So according to Kojonen in this later work, it is not true that the PDA entailed that "organisms must be directly created by God." This has, of course, big consequences for

[514] Cf. Kojonen, "Tensions in Intelligent Design's Critique of Theistic Evolutionism," *Zygon* 48, no. 2 (2013): 251–273.

[515] Kojonen, *Compatibility*, 147. The emphasis is mine; I omitted the reference to Paley (2006 [1802]), 11–12.

its compatibility with naturalistic explanations. Such an admission of noninterventionist PDA immediately deflates the tension we saw present in his earlier paper. As Kojonen puts it succinctly: The example of "Paley's watch already [makes] it clear that there are cases in which design and natural explanations are indeed complementary."[516]

Such a change is interesting in that he seemingly used the same textual evidence to come to rather different conclusions: chapters 1–6 (2016 article), and at least chapter 2 (2021 book). Kojonen then links the reasoning in the paragraph quoted above to some of the ID proponents (Behe and Dembski) who claim that that it is also ID that argues only based on natural causes. Kojonen sums it up with a statement that, in his view, applies both to Paley as well as ID: "It is not an interventionist theory at all."[517] In this way, Kojonen seemed to have switched from viewing the PDA in an interventionist to a non-interventionist way.

Even if Kojonen did not, strictly speaking, change his mind on this issue of compatibility of the PDA and naturalistic explanations, there definitely appears to be a shift in his emphasis. Thus, Kojonen's reading of the text of *Natural Theology* – and specifically, its first six chapters – is a great example of how even a single scholar with an expertise in the field could either come to different readings of Paley, or, at least, emphasize different textual strands that could be indeed in some tension.

[516] Ibid., 149.
[517] Ibid., 147.

## 7.4 Themes in Paley's Recent Readers

In this chapter, we were again reminded of the ambiguities and tensions in Paley's text. This chapter has provided us with several important insights. First, it was the lonely voice in the wilderness that belonged to LeMahieu who raised a crucial cautionary flag. In his view, whether the PDA speaks of a transcendent or immanent God remains an "open question." Consequently, the resulting God-world relationship (theism, deism, etc.) would also be shaped by pinpointing the precise nature of God's transcendence versus immanence (or an interplay of both). More to the point, LeMahieu's contribution consists in identifying the underlying reason for such interpretative uncertainty. His key point was that it matters tremendously whether our choice (conscious or otherwise) is to read Paley's watch analogy univocally or equivocally. I agree with LeMahieu that this must be one of the key contributing factors in how we end up reading the PDA (or even the CDA). We will come back to this point in Chapter 9 and elaborate on this point some more.

In contrast to LeMahieu's cautious approach, we then met several authors – all specializing in evolutionary biology or its history – who were rather confident about the character of the PDA. Notably, Dawkins, Bowler, Ruse, and Ayala all shared several characteristics. All of them agreed on taking the PDA as incompatibilist and interventionist. We may recall that, for Dawkins, the PDA saw contrivances as "literally designed" and that Paley, unlike today's theologians, was "straightforward" about this. Dawkins further assumed that before Paley, thinkers, including of course natural theologians, "couldn't imagine the alternative" to life having been "designed." If by this Dawkins means that one could not have imagined noninterventionist thinking and

evolutionary hypotheses, this is certainly not true.[518] Similarly, in connection with the PDA, Bowler spoke of "supernatural design," "miraculous creation," and "supernaturalism." Bowler further stated that Paley "argued that no natural process could explain the creation of complex organic structures." According to Ayala, Darwin reacted to those whose "designer who would again and again intervene." Yet, none of these thinkers engages with the Paleyan features that might go against or at least complicate their rather confident positions.

Surely, one of the points of confusion here must be the ambiguity of the terms related to DA. For example, Ruse appears to have used "design" in different senses. At one point, he seems to mean by it that "the world was created and sustained by God in an intelligent, planned fashion" (noninterventionist sense). Yet, he then goes on to talk about the PDA as having a "miracle-intervening designer" (interventionist).

There is also the issue of projecting assumptions onto Paley and his text. Just like Dawkins, Ruse averred that before Darwin, "everyone else was ignorant of an adequate alternative to direct divine intervention." Since Ruse himself wrote about several noninterventionist alternatives before Darwin,[519] he probably had to have in mind Paley and his generation. Even if that was true, the relevant question for us is whether this alleged lack of noninterventionist alternative is evident in the features of Paley's *Natural Theology*. And this point – to use Dawkins' word – does not seem as "straightforward."

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[518] See, for example, Pietro Corsi, "Myth 2: That Most European Naturalists Before Darwin Did Not Think That Species Change Was Possible," in *Darwin Mythology: Debunking Myths, Correcting Falsehoods*, edited by Kostas Kampourakis (Cambridge: Cambridge University Press, 2024), 24–35; and Curtis N. Johnson, *Darwin's Historical Sketch: An Examination of the 'Preface' to the Origin of Species* (New York: Oxford University Press, 2019).

[519] For example, Ruse, *Monad to Man: The Concept of Progress in Evolutionary Biology* (Cambridge, MA: Harvard University Press, 2009), 84–135.

In his discussion of Paley, Fergusson talked about PDA as one where the various contrivances were "manufactured through a succession of divine actions." But likewise, we could ask: what are the foundations for such a claim in Paley's work? Or instead, do we see here again a projection of historic-theological assumptions on the PDA? Fergusson also employed the term "meticulous providence" in connection with the PDA. I am not denying that Paley saw providence acting with attention to minute details (although the phrase is absent from Paley), but it would be Fergusson's eisegesis to link such care with "a succession of divine actions" mentioned above. Such a connection would be even less believable if these were to be imagined as divine interventions tinkering with laws of nature. We can recall that while Paley's admits interventions in nature (PIF) he is agnostic about us being able to identify them in time and space (P1, P19).

Overall, one key commonality of the authors summarized so far, is that they did not engage with the potentially complicating features of the PDA. We have illustrated this case most clearly with Dawkins. In his case, he missed or skipped over some important nomological and noninterventionist passages from the very chapters that he was quoting from. We have already noted (Chapter 3) that the first fourteen features (P1–14) appear in the first three chapters of *Natural Theology*, so Dawkins is far from the only author exhibiting such selective reading bias. This contrasts with how the PDA was read by the following three thinkers we examined: Thomson, McGrath, and Kojonen.

In this whole chapter, Keith Thomson stands out as a significant exception to those who read the PDA as noninterventionist. Apparently, what led him to such a conclusion was his awareness of Paley's nomological features, including Paley's thought experiment with self-replicating watches (P4, P7–8). We saw him connect such

noninterventionist PDA to the later pronouncement by Kingsley that God made the watches make themselves.[520]

We devoted more space to McGrath and Kojonen. Along with Thomson, both exemplify a much more rigorous reading of Paley's text as they strive to make sense of the PDA. I put them in the "mixed" category as, in my view, they showed signs of reading the PDA in both ways – interventionist and noninterventionist. What is quite fascinating is that even with their rigour and attention to Paley's text, they eventually embraced contrary positions: interventionist (McGrath) and noninterventionist (Kojonen). Under the reasonable assumption that both McGrath and Kojonen were familiar with the same Paleyan features, it would then follow that Paley's *Natural Theology* by itself does not force on the reader any one concrete interpretation. Incidentally, Paley's so-called extended augment involving these self-replicating watches (especially P4) was also the key cited reason why both Thomson and Kojonen saw the PDA as noninterventionist. Apparently, however, it was not enough to sway McGrath to think the same. Still, I have one parting question for the Paleyan noninterventionists such as Thomson and Kojonen: if it is, after all, clear and unambiguous that the PDA is noninterventionist, what should we do about PIF? Is it not perhaps more precise to see the Paleyan features in some kind of tension that could lead to many different readings, some of which we saw also in this chapter? We will revisit the (possible) tensions in both the PDA and CDA in Chapter 9. But before we do so, we still have to look at some recent readings of the CDA.

[520] Cf. Charles Kingsley, *The Water-Babies* (New York: Dodd, Mead & Company, 1916), 225.

# 8. Recent Readings of Chambersian Divine Action

We now move to a survey of the various readings of the CDA in the works of recent authors. My sample will consist primarily of those authors whose writings on *Vestiges* have proven to be influential within the field of history of science. The reason is quite simple: it is rare to encounter treatments of Chambers and his *Vestiges* in more popular accounts.[521] To identify such relevant authors, I have made use of James Secord's comment in one of the footnotes in his seminal *Victorian Sensation* (2000).[522] In it, he highlights the following 20th-century authors who have contributed most to the study of *Vestiges*: Charles Gillispie, Arthur Lovejoy, Milton Millhauser, Peter Bowler, Michael Ruse, Richard R. Yeo, Pietro Corsi, Adrian Desmond, as well as Secord's own work. There are just a few amendments to this list that I have decided to make. First, I will not deal with Corsi and Yeo, as I did not find enough material in them regarding the CDA specifically. On the other hand, I have added Reijer Hooykaas, John Brooke, and John Gascoigne to Secord's list. I believe that their readings of the CDA will also carry some important insights. Altogether, this adds up to ten different authors, not all of whom – as we shall see – view the CDA in the same way.

The chapter is structured in the now familiar way. We will, then, begin by examining the admitted ambiguities: explicitly by Brooke and, at least, implicitly by Bowler.

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[521] One recent exception is in Rebecca Stott, *Darwin's Ghosts: In Search of the First Evolutionists* (New York: Spiegel & Grau, 2012), 214–35.

[522] Secord, *Victorian Sensation*, 3, n. 5. Secord also lists their concrete publications with relevant pagination, but I will leave such details for the individual sections dealing with these authors. Also, at the end of his list, he does not forget to add that "Many other works analyze specific topics relevant to the debate."

## 8.1 Admitting Ambiguities

In his highly acclaimed *Science and Religion* (1991), **John Hedley Brooke** (b. 1944) notes that *Vestiges* was put forth as a contribution to natural theology, reflecting on the DA in the universe:

> Yet, for all its subversive implications (a "foul book" Sedgwick called it), Chambers presented it as a treatise on natural theology. If Newton's law of gravitation could be a reflection of divine activity in the physical domain, why could not the same be said of a law of organic development?[523]

Despite these noble aims, however, Brooke notes that *Vestiges* "was read by many critics as an atheistic tract masquerading as natural theology."[524] By this point, we have seen this very point in the many readings explored here. So, the question we want to pursue here is whether we can learn something about Brooke's own position given such a wide spectrum of the readings of *Vestiges*. In this sense, it is fortunate that, from among recent historians of science and religion, Brooke provides a fresh perspective on Chambers and theological reflection on laws of nature in general.

Here is what I think is one of his key points in discussing historical questions related to DA: Brooke alerts historians of science and religion about the multiplicity of metaphysical meanings that laws of nature could assume. On the most basic level, they can be seen either as being autonomous and non-teleological or as God's instruments through which He is (in some sense) working. These attitudes, Brooke writes, could be illustrated in the beliefs of Charles Darwin and William Whewell, respectively. But these

[523] John H. Brooke, *Science and Religion: Some Historical Perspectives* (Cambridge: Cambridge University Press, 2014), 302.
[524] Ibid., 305.

are not the only options on the metaphysical smorgasbord. It is at this point that the CDA offers another alternative to understanding laws of nature:

> [I]t turns out that to speak of double-meanings is inadequate. The polarity between Darwin and Whewell by no means exhausts the possibilities. There is in fact a duality within Darwin himself. This can be introduced by noting that between the positions of Whewell and Darwin was staked out a third. It appeared in an anonymous work published in 1844: *Vestiges of the Natural History of Creation*. … The engaging point, however, concerns Chambers' recourse to the concept of natural law. He had dared to provide a theological justification for what to his critics was a bestialising of humanity. … The phrase 'creation by law' recurs throughout his work. … By appealing to divinely instituted laws, he thought he could soften the blow. It is also worth noting that the opportunity for double meanings arose again even for his sympathisers. Was the 'law' to be understood as an expression of divine transcendence, or of divine immanence?[525]

Brooke, then, does not jump to a conclusion about the metaphysics behind the *Vestiges'* notion of "creation by law." We may recall Brooke's insight from earlier that what matters, theologically speaking, is not the mere reign of laws of nature, but what is "behind the veil." Thus, in the passage above, we again have various options as to how one could understand the use of "law" by *Vestiges*. Brooke alerts us here to the same dilemma that we saw was brought to attention by LeMahieu in the case of the PDA (Chapter 7). That is, should we understand *Vestiges* as operating with a God that is transcendent or immanent?

But at the same time, what I think Brooke is saying here is that we should not be tricked by false dilemmas. For this purpose, Brooke used the examples of Darwin and Whewell to show that they did not exhaust all the options with respect to the views of DA. That is, as Brooke remarked above, Chambers offered another, third way how to conceptualize laws of nature with respect to DA. If that is so, how should we understand

[525] Brooke, "Natural Law in the Natural Sciences," 89–90.

it? How does Brooke answer his own query related to the CDA: “Was the 'law' to be understood as an expression of divine transcendence, or of divine immanence?” Interestingly, he leaves the question unanswered, implying that it is a clear textual gap. While this is certainly true and understandable – as well as consistent with the variety of readings of the CDA we have looked at – it would have been enlightening to learn why Brooke exactly saw the CDA as the *via media* between Whewell and Darwin.

It seems, however, that, for Brooke, a part of the answer is that it is not clear how exactly the reader should understand the CDA. We can find one brief, yet telling, comment by Brooke in his textbook *Crisis of Evolution* (1974) that testifies to this ambiguity. In the section on Chambers, Brooke posed a set of simple questions for students to reflect on. For our purposes, the most intriguing one was the following: “State whether the following propositions are true or false: … Chambers’ theology of nature was deistic.”[526] His own answer to this question is terse but very instructive:

> This is difficult to answer. It would (and did) appear so. At the same time he did see the “Eternal One … present in all things.”[527]

As a part of his answer, Brooke is here directly quoting from one of two Chambers’ places in which he mentions God’s omnipresence (CV8). What Brooke’s succinct and poignant statement says is that the textual evidence is too ambiguous to decide the issue. He alerts us here that while there are passages in *Vestiges* that could be rather easily construed as deistic, we should not ignore others which might complicate the overall picture. Still, as we have already indicated, even positing God’s omnipresence

[526] Brooke, *The Crisis of Evolution* (Milton Keynes: Open University Press, 1974), 39.
[527] Ibid. One reference omitted.

certainly raises further questions, such as, "In what sense exactly is God present?" among others. Brooke's point, however, remains clear: There are sometimes simply more plausible readings, and that is surely the case with the CDA. Perhaps to many questions about the CDA (or PDA) we will need to answer honestly just like Brooke: "This is difficult to answer."

Unlike some other authors – be it in the 19th century or more recent authors – **Peter Bowler** (b. 1944) is much more careful in pinpointing the details of the CDA. In his *Evolution: The History of an Idea* (1st ed. 1983), he points out that the CDA was far from clear: "Chambers stressed progress rather than adaptation and invoked only the vague notion of 'creation by law.'"[528] For this reason, it makes sense why Bowler is cautious about the details of Chambers' scheme. Thus, he comments that for the author of *Vestiges*,

> [the evolutionary changes in organisms] were not adaptive, and his assumption seems to have been that the overall pattern of development was somehow preordained.[529]

Notice Bowler's careful wording: "his assumption seems to have been" that the CDA involved an evolutionary unfolding that was "somehow preordained." In other words, Chambers does not disclose the details of the CDA, so some interpretative guesswork on our part will be necessary. Bowler then goes on to link the CDA to the argument from design, and thus presumably also to the Paley, as its most famous proponent:

> Extending the period of development merely progressed the species one step farther up a hierarchy which was somehow built into the very constitution of

[528] Peter J. Bowler, *Evolution: The History of an Idea*, 25th anniversary edition (Berkeley, CA: University of California Press, 2020 [1983]), 135.
[529] Ibid., 136.

> nature. In this sense, his theory could be taken as a contribution to the argument from design: evolution was the gradual unfolding of the divine plan of creation.[530]

Bowler, then, calls the CDA "a contribution to the argument from design." In Bowler's case, however, this should not be seen as an extension of Paley's argument, but rather his significant modification. This is because, as we have seen, Bowler took the PDA to be interventionist, whereas the CDA is clearly not. Understood this way, Paley and Chambers would represent two significantly different modes of DA. Bowler repeats the essence of his comment above in his *Monkey Trials and Gorilla Sermons* (2009), but this time with a new twist at the end:

> His book thus appeared, ostensibly at least, as a contribution to the argument from design: new species appeared in accordance with divinely instituted laws in a sequence determined by the Creator—but the sequence was built in from the beginning and did not need His guiding hand at each step in the advance.

This is an interesting addition, but one which indicates how Bowler imagines the character of the CDA. While Chambers expressed openly that he rejected any divine *interventions*, he did not, strictly speaking, reject a guidance (or a "guiding hand"), if by that we mean some kind of noninterventionist providence (CV8). Nor did he dismiss a divine concurrence with laws of nature, a notion that Bowler does not seem to entertain. However, Bowler himself was not very helpful with his description here since describing any type of DA with phrases such as "His guiding hand" does not add to clarity.

We have already noted that Bowler saw the "creation by law" in *Vestiges* as a vaguely expressed notion. Bowler remarks also on another ambiguity in *Vestiges*, this time regarding the way how its laws of nature operate.

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[530] Ibid., 136.

> Chambers sometimes implied that these laws operated within the normal course of events. He cited a popular superstition that oats, if plowed into a field and left to overwinter, would grow the following year as rye. But other discussions imply that the laws of creation were not normally observable. During the acts of transmutation, a "higher" law stepped in and overrode the normal forces of nature. Such rare interruptions could be seen as little more than predesigned miracles, but Chambers had a good authority to quote in favor of the idea that God had built such higher laws into the hidden structure of nature. In his unofficial *Ninth Bridgewater Treatise* (second edition 1838), Charles Babbage had argued that apparent miracles could be the product of such higher level laws.[531]

Thus, Bowler suggests, one could understand its laws of nature in the formation of new species as either operating naturalistically or almost as "predesigned miracles." Taking his cue from Babbage, what could seem like miracles, might turn out to be just a preordained sequence of natural laws that might get modified with time. Despite appearances, all would unfold without any divine intervention. Still, Bowler's point seems to be that Chambers' usage of laws of nature in *Vestiges* could be understood in different parts of the text differently.

What I suggest is notable in Bowler's comments is his noticing of these textual ambiguities in Chambers' work. We have already remarked on his more cautious pronouncements about the character of the CDA. These two previous statements are, of course, directly connected. That is, the more the reader is aware of such ambiguities, the more careful she is (or should be) about making definitive pronouncements about their meaning or about the overall argument of which they form a part. Having said this, we still get the indication of Bowler's leanings in his interpretation of the CDA: its cosmic scheme operates with a God akin to Babbage's divine programmer who only set up the

[531] Ibid., 136–7.

relevant software that, in turn, built everything including the universe's hardware. The programmer, having completed his programming, stepped away from his code and let it run ever since, without stepping in to fix any bugs.

The historian of science **James Secord** (b. 1953) is one of the most prominent authorities on natural history, natural philosophy, and the emergence of modern science in the 19th century. Secord has also written what is justifiably considered to be a magnum opus on *Vestiges*, the aptly named *Victorian Sensation* (2000). Already prior to this work, he published a volume that included *Vestiges*, *Explanations*, as well as some of Chambers' other writings,[532] accompanied by "a stimulating introductory essay … that places Chambers's work in social and intellectual context."[533] But apart from situating *Vestiges* in its historical milieu, does Secord reveal how he imagines the character of the CDA?

There are a few hints, although they are not easy to come by. This is because Secord is careful in attributing concrete interpretations of *Vestiges* to the particular historical actors in the 19th century. At some points, however, Secord's voice comes to the surface, and we hear him give us his perception of Chambers and the CDA. Thus, we see him describe the author of *Vestiges* as "a moderate deist" or as accepting "deistic religion."[534] What such a moderate deism consists of is not, however, elaborated any further. What is certain is that, according to Secord, Chambers used rhetorical strategies to make sure that the Vestiges-God is not depicted as a remote deity. After

[532] Robert Chambers, James A. Secord, *Vestiges of the Natural History of Creation and Other Evolutionary Writings* (Chicago: University of Chicago Press, 1994).
[533] Sandra Herbert, "Robert Chambers, James A. Secord: Vestiges of the Natural History of Creation: And Other Evolutionary Writings (Book Review)", *Isis* 1995: 336.
[534] Secord, *Victorian Sensation*, 85, 22.

quoting a passage from Chambers reflecting on the ultimate origin of laws of nature, Secord comments as follows:

> Here the language echoes the ecstatic prose of *Architecture of the Heavens* [by John Pringle Nichol], to defuse critics who might condemn *Vestiges* as an attempt to distance God from the creation. Yet this and other passages open up the possibility that the scientific study of nature's laws says nothing about a First Cause, which must be inferred "from other grounds," and their fervent tone contrasts with the rest of the argument. Readers of *Vestiges* were thus effectively given a choice of devotional languages.[535]

To make the CDA more theologically acceptable, Chambers attempted to "avoid accusations of undermining faith, nature's story is presented as unthreatening, uncoercive, and implicitly narrated within a domestic scene."[536] But while Chambers might have wanted to distance himself from such a distant deity, Secord also cautions us that this might have been just a rhetorical device to placate the religious critics.[537] As Secord writes – and as we have seen in Chapter 6 – this was not always successful and some argued "that thrusting law between God and Nature was not only unphilosophical, but led to atheism."[538] In Secord's own view, *Vestiges* should not be seen as atheistic, but there could be some doubts about the author's devotional fervour:

> *Vestiges* was not the product of an atheist's pen, but critics recognized that the book's religious language lacked the enthusiasm of a strong personal faith.[539]

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[535] Ibid., 101.

[536] Ibid., 101.

[537] "In his secret correspondence Chambers stressed the strategic character of his invocations of the deity. "I am happy to say," Chambers wrote to Ireland in sending a final batch of manuscript, 'that I have been able at the end to introduce some views about religion which will help greatly.'" Ibid., 101. And elsewhere he writes: "Chambers was acutely conscious of the need to placate the evangelicals. As he stressed in a secret letter to Aleander Ireland, the forthcoming work made "every effort ... that reason and common sense would at all admit of to keep smooth with the sticklers." Secord, "Introduction", in *Vestiges of the Natural History of Creation and Other Evolutionary Writings*, Robert Chambers, and James A. Secord (Chicago: University of Chicago Press, 1994), xxiii.

[538] Secord, *Victorian Sensation*, 206.

[539] Secord, "Introduction," xxiii.

This seems to be in most cases true. Still, we have also seen that some explicitly disagreed that Chambers' reverent expressions should be seen as a mere dishonest disguise (Luxford, Powell, even Ruse, as we will see below). Undoubtedly, however, Chambers did not offer his vision of the CDA packed with orthodox-sounding theology. Instead, he took up the elements from several theologically troublesome traditions:

> With its polite exterior, devout language, and decorous prose, *Vestiges* defused the threat by incorporating it. The book made what had been the province of atheists, deists, and Frenchmen a suitable matter for discussion in the domestic sphere.[540]

Such a strategy has perhaps almost a necessary consequence. Since *Vestiges* incorporated these various strands while trying to pose as a pious work, it is reasonable to suppose that the possibility of its readers coming up with multiple interpretations of the CDA only increased. Can we, however, discern whether Secord prefers to read the CDA in a particular way? In my estimation, the answer is not obvious. Notice, for example, his following passage:

> [In its writing style,] *Vestiges* had the advantage of making an orthodox subject into something just dangerous enough to be attractive. The book could be read as elaborating the conventional belief that *God sustained creation through law*; but it drew on naughty new ideas about reproductive physiology and the status of the soul. This gave divine creation a topical frisson for the first time in years.[541]

Based on this passage, Secord sees one of the more plausible readings of the CDA as one in which God's role is to *sustain* His creation through laws of nature. One can be,

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[540] Ibid., xxiv.

[541] Ibid, 164. The emphasis is mine.

however, intrigued by his phrasing that *Vestiges* "could be read" in this way. Could the CDA be read also quite differently than suggested by Secord – that is, as mere conservationism? Of course, we have seen in our exploration of the 19th century readings of the CDA that this was indeed the case, and so the CDA could also be seen to be more robust than just sustaining the existence of creation. Regarding this point, let me offer two remarks.

First, Secord writes in the passage above that this was a "conventional belief." But perhaps a slight correction could be offered. Secord's statement would be true if he took the CDA to represent concurrentism, as opposed to mere conservationism. This is because it was the former position that was dominant throughout Christian history. As Freddoso writes:

> Although mere conservationism has enjoyed the status of an unspoken and unsupported assumption among some recent Christian thinkers, almost all the important figures in the history of philosophical theology have rejected it as philosophically deficient and theologically "unsafe."[542]

It was, then, concurrentism that appears be, historically, conventional. Second, there is no doubt that Secord is very well aware of the "ambiguities in *Vestiges*" to which he alludes.[543] In his *Victorian Sensation*, he provides some examples of how the CDA was read by different readers quite differently. For example, Secord quotes a short passage from *Principles of Physiology* (1839), written by the Unitarian physiologist William B. Carpenter. In it, Carpenter emphasized that a law of nature is "a simple expression of the *mode* in which the Creator is *constantly* operating."[544] This view held by Carpenter

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[542] Alfred J. Freddoso, "God's General Concurrence with Secondary Causes," 555.

[543] Secord, *Victorian Sensation*, 167; cf. 206, 475.

[544] Quoted in Ibid., 66. The emphases are original. Cf. Corsi, *Science and Religion*, 252.

expresses rather clearly a concurrentist DA. On the other hand, Secord mentions an anonymous review in the London-based Unitarian monthly *Christian Reformer* that saw the *Vestiges'* laws of nature as "something which is separate from the Deity himself,- some positive and tangible existence which he employs as the medium of his operations."[545] Thus, in contrast, this view of the CDA, which severs God from His natural laws, is decidedly not concurrentist and, instead, an instance of mere conservationism.

This is all to say that Secord is very much aware of all the textual ambiguities present in *Vestiges*, and, as a result the CDA specifically could be (and was) read in many ways. Yet, Secord does not seem to say so explicitly. Still, to summarize Secord's view of the CDA as I see it, while "*Vestiges* could be read as the latest in a long tradition of natural-theological conversation books,"[546] it is perhaps still far from clear which type of DA it employs. Ultimately, it might be up to the reader's imagination. This would be also in line with Secord's parting message on the last page of his *Victorian Sensation*:

> The texts of science have no meaning apart from what readers make out of them, yet – ironically – they aspire to be a transcript of the truth of nature, needing no interpretation. Any attempt to recover their history is bound to project a very different image.[547]

There is certainly something important about this statement, even if one does not endorse any postmodern skepticism about the meaning of texts. We should perhaps add that if we took such advice seriously and consistently, then the CDA might be construed differently than in the deistic terms suggested by Secord – which, indeed, many readers have done. In my view, while the interpretive processes can surely

[545] Quoted in Secord, *Victorian Sensation*, 206.
[546] Ibid., 162.
[547] Ibid., 532.

become extremely complex, perhaps we should not hold that any interpretation is equally plausible. Somehow, I have no doubt that Secord would agree.

## 8.2 Unambiguous Views

The historian of science **Charles C. Gillispie** (1918–2015), wrote his pioneering study *Genesis and Geology* back in 1951. It covers the period before Darwin's *Origin*, focusing on the period between 1790–1800. Originally written as his doctoral thesis in 1949, its 1996 edition now contains a preface by Nicolaas A. Rupke, assessing its innovations and impact. Among other things, Rupke mentions that "Gillispie's interpretation marked a radical departure from the popular warfare model of the development of science," exemplified by the works of John W. Draper and Andrew D. White.[548] But, "the most innovative and meritorious" aspect of the book was that

> in one fell swoop it placed the study of early nineteenth-century geology on a properly historical footing, setting a standard of historical scholarship in the history of science and defining, by example, what it meant to write about the scientific past as history.[549]

Unsurprisingly, the following decades of further scholarship uncovered its imperfections.[550] But because of its merits as a seminal work in its field, and because it devotes a whole chapter to *Vestiges*, it is worth examining what it says about the CDA.

Gillispie notes the potential troubles that the emerging field of geology was presenting to theology. Now that the Earth was seen as a dynamic planet with

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[548] Quoted in Charles C. Gillispie, *Genesis and Geology: A Study in the Relations of Scientific Thought, Natural Theology, and Social Opinions in Great Britain, 1790-1850* (Cambridge, [Mass.]: Harvard University Press, 1996 [1951]), vi–vii.

[549] Ibid., vii.

[550] Ibid., viii–ix.

innumerable geological processes in the past, the principal challenge was to show how God continued to act in such a newly conceived nature since its creation:

> When the universe was thought of as having been much the same since its creation, the question of the Creator's control of events, though it occasionally arose, was not a very pressing one. When, however, the course of nature had to be considered as both a process and a blueprint, and when, therefore, the subject of science was the history of nature together with its structure, the issue of providential supervision became correspondingly more difficult for scientists who wished their work to bear continuing witness to the Deity's role. Elucidation of the divine plan now required a demonstration of how nature was governed and not simply of how it was balanced.[551]

Here, Gillispie's remarks describe the threat that science posed as long as one espoused incompatibilism. That is, we again see here the notion that the increase of scientific knowledge about nature was seen by many as endangering the role of providence. Indeed, as he goes on to note, the key theological question in the early 19th century became aligning the role of the Providence with the increasing advancements of science.[552] Thus, the challenge, still present around the time of *Vestiges* (and beyond), was to show how exactly God could continue to act while respecting both the best science and orthodox theology. In Gillispie's words:

> The trouble really lay in the difficulty of relying primarily on the material evidence for the existence and *continuing activity of the Deity* without accepting materialism—a dilemma which pious and goodhearted men of limited imagination could dodge only by denying self-sufficiency to the cosmic order.[553]

[551] Ibid., 40.

[552] Ibid., 220.

[553] Ibid., 168.

It was these questions and debates that "prepared the ground for Chambers' fanciful answer followed by Darwin's definitive one."[554] In this way, Gillispie laid out the early and mid-19th-century concern about creating such a theological-scientific scheme that would preserve a *continuing* DA.[555] But what about Gillispie? How did he see the character of the CDA? Before we come to his answer, let us proceed with his discussion related to DA and early 19th-century geology.

Connected to the geological debates outlined above, Gillispie mentions a group that he calls "providentialists."[556] According to Gillispie, these were thinkers who included people like Miller or Sedgwick, but also others such as Playfair, Lyell, Townsend, Greenough, Buckland – as well as Chambers. Gillispie, then, understands the CDA to be providentialist. Still, do we learn how specifically we should imagine the CDA as providentialist? Indeed, Gillispie writes that there could be vast differences among this group of providentialists regarding their particular views of DA. This is evident when Gillispie characterizes Chambers' view of providence by contrasting it to that of Sedgwick:

> Even Chambers wrote ostensibly to demonstrate the immanence and unity of divinely promulgated natural law. His view of Providence, however – and this was always the difference in emphasis between progressive and conservative theorists – envisioned an original fiat; while Sedgwick required a creation resembling an unruly grammar school with a divine director who ordered its affairs as would a hard-pressed headmaster. According to this interpretation, supervision – though immediate – never quite brought order out of chaos; and even when temporary order (the present course of nature) seemed to be achieved, it was never an order sufficient unto itself.[557]

[554] Ibid., 221.

[555] Cf. Ibid., 106, 169, 196, 219–20.

[556] Ibid., 221; cf. 227–8.

[557] Ibid., 221–2.

In this headmaster metaphor used by Gillispie, Sedgwick required a divine director who would be continually active in such an "unruly grammar school." On the other hand, Gillispie seems to reduce here the CDA only to "an original fiat." The picture that emerges from Gillispie is that while his historical overview stresses the 19th-century need for some kind of updated version of continuing DA, he seems not to attribute such a vision to Chambers. In fact, he reminds us of the reactions that saw both *Origin* and *Vestiges* to have a passive notion of God at best:

> In retrospect it is apparent: that, although on the surface the problems raised by Vulcanism, uniformitarianism, the *Vestiges*, and Darwinism were not the same, actually the pattern of reaction was a constant one throughout. Behind the discussion, therefore, was something more than always met the eye: the common tendency of all these theories to remove the hand of God from the course of events in the material world.[558]

While such a comment does not mean that Gillispie necessarily saw it in the same way, he never indicates that he thinks differently. Instead, he writes that *Vestiges* contributed to this "shrinking scope of supernatural causation," rather than offering a new vision of rethinking God's *continuing* activity. What *Vestiges* certainly did, according to Gillispie, is that it proposed a new way of understanding Providence:

> And, on the popularizing level, Combe and Chambers were attacked, not because they impugned the divine character of the physical universe, which, in fact, they were attempting to illustrate, but because they held that God's Providence, in the social and moral as well as in the organic and inorganic spheres, was a system of unvarying law, and that God never interfered in its working.[559]

[558] Ibid., 222.

[559] Ibid., 226.

Chambers, then, did indeed offer something new – a new way to conceptualize Providence. However, nowhere did Gillispie say that this new understanding of Providence could be seen as God's continuing operation in the world's affairs. Based on all these textual hints above, the picture of *Vestiges* that he envisions is more of a God who created the universe by fiat, let it run by its laws, and stepped back without being involved anymore. As should be clear by now from his comments, Gillispie adopted a zero-sum-game approach to the relationship between DA and laws of nature – the more of one, the less of the other: Here is how he described this incompatibilist theology:

> [T]he empirical proof that God was also an active force as a moral agent in the universe was derived from the supposed necessity of assuming that divine interventions accounted for the physical phenomena which were inexplicable on purely scientific grounds. The proof of the existence of God, therefore, was based on what science had accomplished, and the proof of His continued activity on what it had not. Inevitably this meant that as the sphere of science expanded, that of theology receded; that as more and more events in physical history were explained naturally, there were fewer episodes to be explained supernaturally and fewer empirical illustrations of God's immediate control over the material world.[560]

Again, this seems to be not only Gillispie's description of the Victorian pre-*Origin* milieu. Instead, it is most likely his view of the CDA as well. It is notable that in his *Genesis and Geology*, any mention of God's continuing activity is correlated with those who accept at least some interventionist DA. That is, there is no suggestion of a possible middle way that could entertain a compatibilist, concurrentist mode of DA. Admittedly, at one point with regard to the debates on Providence, Gillispie writes that "it was never a black-and-white picture."[561] But, unfortunately, he never expands on such a more complex (or

[560] Ibid., 220.

[561] Ibid., 221.

mediating) understanding and does not attribute it to his historical characters, including Chambers.

Another prominent author writing around the mid-20th century and who wrote about *Vestiges*, is the Dutch historian of science **Reijer Hooykaas** (1906–1994). Hooykaas' treatment of Chambers can be found in his seminal *Natural Law and Divine Miracle* (1959).[562] While his discussion of Chambers is not as extensive as that of Gillispie, it offers what might be a very influential portrait of the CDA.

In *Natural Law and Divine Miracle*, Hooykaas employed four main categories for classifying worldviews: atheism (and related views, such as materialism and naturalism), deism, semi-deism, and biblical view.[563] I will have to confine his discussion of these worldviews to a few following remarks, as related to the CDA.

To begin with, it is quite clear how Hooykaas classifies the CDA. In his view, Chambers was not only "a rigorous uniformitarian in biology and geology" but also "a typical deist."[564] Fortunately, we can get more sense of what Hooykaas means by this term since he elaborated on his definition of deism as follows:

> Deism supposes that God created matter and endowed it with laws from which the world and all its inhabitants ensued according to the plan originally contrived in order to be realized in the future. This realization is sometimes conceived as effectuated according to mechanical laws (mechanical determinism), but it may also be conceived in a teleological way, so that nature has an innate tendency to strive after the perfection to which it has been destined. Some deists hold that matter is coeternal with the deity, others that it has been created ex nihilo; some of them do believe in God's continual sustenance of the universe, others think this idea superfluous, but this does not make much difference, as in either case the course of nature remains unaltered.[565]

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[562] I will be using the second impression version of 1963: Reijer Hooykaas, *Natural Law and Divine Miracle: The Principle of Uniformity in Geology, Biology and Theology* (Leiden: Brill, 1963).
[563] Although he seems to have also a fifth category in mind, which he calls "supranaturalistic view." This view features a God who "acts in a rather capricious way." Ibid., 170–1.
[564] Ibid., 189.
[565] Ibid., 170.

With respect to Chambers, Hooykaas further notes that he "rejected atheism and pantheism and proclaimed his belief in a personal God, the Creator of the inanimate and the animate beings." Hooykaas also rightly captures the *Vestiges'* repudiation of divine interventions and its perception of natural laws as the expression of divine will.[566] We also learn about the CDA's distinction between sustaining and originating power,[567] and that Chambers "recognized a metaphysical, religious explanation by final causes, for which God predestined all things in harmony in order to effectuate His plan."[568] However, as Hooykaas sees it, the CDA's caring plan is not aimed at individuals but at the species.[569] From these characteristics provided by Hooykaas, we can now see why he saw Chambers as "a typical deist."

On the other hand, it might be instructive to note what features Hooykaas left out. What about the CDA's notion that God can act through humans (CV5), that this world is cosmic drama with "Mercy and Grace," involving some kind of eschatological relief (CV6–7)? Perhaps most importantly, Hooykaas' view of deism seems to imply a substantial separation between God and His creation. This is seen in his contrast of deism to both "semi-deism" (according to which God occasionally intervenes) and "biblical view" (where God's activity is behind every event in nature). In fact, as I read Hooykaas, I am left wondering if he could legitimately (that is, based on his definitions) list the CDA under "biblical view" instead. Let me explain.

[566] Ibid., 189.
[567] Ibid., 190.
[568] Ibid., 192.
[569] Ibid., 192.

According to Hooykaas, there seem to be three key components to what he calls "biblical view": (1) rejection of interventionist language since God is behind every event, (2) God who "sustains the world in its minutest detail," and (3) "a most intimate contact between God and His creation."[570] But, arguably, all these are features of the CDA too: it also rejects interventionism (CV4), its God pays attention to the smallest details (CE5) and is omnipresent (CV8). There seems to be one difference, however: Hooykaas' biblical view admits exceptions to the course of nature (that could be even called miracles), but still, these are not to be viewed as *interventions*. But even with this caveat, should these considerations not complicate Hooykaas' view of Chambers as "a typical deist"? If so, they might also point to the closeness of the CDA to what at least one prominent author regards as the biblical notion of DA. Also, as I have tried to show here, a more holistic reading of the CDA features might substantially change how the CDA is classified or can at least lead to blurring the boundaries of the various God-world relationship typologies.

In the same year as Hooykaas' discussed work was published (and thus, on the centenary of Darwin's *Origin*), another significant book came out. This time, it was a very influential study of *Vestiges* and its context. Written by **Milton Millhauser** (1910–1985) and based on his 1952 thesis, it was eventually published in 1959 as *Just Before Darwin: Robert Chambers and Vestiges*. In fact, it was the first book-length treatment focused on this subject and is still a very valuable introduction to Chambers, *Vestiges* as well as the historical milieu from which it emerged. So, what is Millhauser's take on the CDA? If

[570] Cf. Ibid., 170, 206.

one thing can be said about the work, it is that the world on the pages of *Vestiges* feels quite different than that of Paley. As Millhauser puts it, Chambers

> contemplates the bleakly mechanistic universe he has been driven to accept, a universe in which ultimate justice is no more than a statistical accident – "The system has the fairness of a lottery.[571]

But, of course, the CDA has a God who oversees the whole universe, including our local spectacle on Earth. And this God does in a very special way – one which might bear some very close resemblances to deism:

> It is far more reverent, Chambers holds, to imagine God creating at one moment and by one act the whole inchoate universe and all its laws; and then watching, with absolute foreknowledge, the inevitable unfolding of His plan.[572]

From a grand creator to a mere spectator – is this the conclusion that the reader should eventually reach? To assess this better, one would do better to be more specific about how such a God acts. Millhauser does this, and in his discussion of *Vestiges*, he elaborates on what the CDA implied:

> [I]ts thesis is the high probability of evolution—"creation by law"—as against the orthodox creation by fiat. But this, in the Victorian age, immediately resolves itself into a theological question. "Development"' reduces the Creator almost (or completely) to a *passive spectator* of His own automatic universe; it abolishes miracle and special intervention, approximates the Deity to an *impersonal principle* like gravitation, and hovers perilously on the brink of atoms and the void. Or (to rephrase the philosophical objection in practical terms) it presents an entirely unfamiliar conception of the Godhead, to which mere intellectual inertia, supported by profound emotions, is bound to offer vehement resistance.[573]

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[571] Millhauser, *Just Before Darwin*, 9.

[572] Ibid., 92.

[573] Ibid., 91. The emphases are mine.

In this statement, we can see all the key reasons why *Vestiges* was for many so theologically threatening. According to Millhauser, such a deity is indeed akin to a "passive spectator" or an "impersonal principle", conceptually not very far removed from the forces in physics. There is little wonder, then, that if this was how some perceived Chambers' God, there was good a reason to dispose of such speculation into the garbage bin with other deistic fantasies. It seems that Millhauser takes deism to be the best category to describe the type of DA one finds in *Vestiges*. This is seen also in another passage where he speaks of Chambers' effort as one that tries to establish, at minimum, a kind of "deistic piety":

> Chambers' strategy, of course (dictated by his sense of his audience) is to anticipate the inevitable a priori objections to his theory before he presents it in detail. With or without geology and comparative anatomy, it is essential for him to establish that his view of things is consistent at least with a general *deistic piety*, and preferably with revealed religion, before he goes on.[574]

Could this kind of deism suggested here be compatible not only with revealed religion but also with at least some sense of ongoing DA in the world? Or is this a God that has withdrawn since His first fertile fiat? Millhauser then goes on to expound on the deistic position he imagines for Chambers:

> [Chambers' challenge was to meet] the most basic or general scientific objection to "development": that it appears to require spontaneous generation to provide an origin for the first forms of life. The easy evasion of this difficulty—a single fiat bringing life into existence, whereafter it might advance according to its own laws—he does not consider; he has already insisted on the continuity of inorganic with biological phenomena, and on the *withdrawal of God from active participation in the universe* after the first tremendous summoning-into-being of the primal nebula. The only choice he can recognize is one between

[574] Ibid., 92. The emphasis is mine.

> spontaneous generation and the then conventional notion (the compromise of fiat with geology) of successive individual creations of species.[575]

Here, Millhauser laid all his cards on the table: In the end, he imagines Chambers as working with a God who withdrew right after he brought the universe into being and has not been active ever since. As Millhauser sees it, Chambers was confronted with only two choices at his disposal – life arising naturalistically or a succession of divine creations.

But do we have a reason to be skeptical and doubt whether Chambers was indeed facing such a dilemma? Indeed, Millhauser does not provide any textual evidence for his claim that Chambers was aware only of the two options stated above. Might it be the case that Chambers was attempting to express a kind of middle-way concurrentist DA?

Millhauser is, in the end, quite clear about how he imagined the CDA – at the beginning, God created the incipient universe with all its laws. That is where the cosmic show started, but its director was never to be seen again. After this initial creation, He withdrew and never actively participated in His script. From this perspective, God is almost literally reduced to nothing, at least when it comes to any personally meaningful theology.

**Michael Ruse** (1940–2024) offers several interesting points when it comes to his discussion of the CDA. In *The Darwinian Revolution* (1979), he reduces the role of Chambers' God to a deity who created the laws of nature and then merely sustains them:

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[575] Ibid., 92–3.

> Indeed, throughout *Vestiges* Chambers extolled his system as giving the highest conception of God—a God who does not need to work through creative interference but who has foreseen all contingencies. Having set his laws in motion, he need do *nothing but sustain*. There is no reason to suspect that Chambers was not sincere or to doubt that this concept of God was a major motive in his setting pen to paper.[576]

On this interpretation, such a God would not be causally contributing to laws of nature. He merely created them and now keeps them in place. On such a reading, then, the CDA would correspond to the *mere conservation* model. Still, Ruse tells us more. He suggests an interesting source as a possible metaphor for the view of God on the pages of *Vestiges*. This would be none other than the industrial working world, full of cutting-edge technology:

> The Chamberses reaped the benefit of this advance, for after some difficulties in putting out their *Journal* (started in 1832) they too went over to steam, having some two hundred employees and twelve presses. As one personally involved in the coming of the machine age, Chambers would certainly have been receptive to the notion of God as engineer.[577]

Would Chambers be satisfied with attributing to him such a notion of an engineer-like God? It would all seem to make sense, with the qualification that it would have to be an engineer who constructs his machines not by toiling with hands, but through laws of nature (which could correspond to the employees in Ruse's metaphor). So, it appears reasonable that Chambers would be receptive to this metaphor, but since there are no humans who construct machines *only* through laws of nature, one should be careful about stretching this metaphor too far. If elaborated further, the details of the metaphor might even seem strange. That is, such an engineer-God would seem to require that he

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[576] Ruse, *The Darwinian Revolution*, 112.

[577] Ibid. One reference omitted.

create only laws of nature and these would, in turn, create the desired machines. If read this way, the deity depicted here would be (after the creation of the laws) inactive and merely sustaining these laws. The laws of nature would do here all the causal work in the production of the technological wonders. Moreover, it could be argued that a good manager of a publishing company does not only passively observe the production process but is also actively involved in it to make sure the desired goals are reached.

I suggest, however, that there is a different possible look at this engineering metaphor in Ruse: God could be seen here as an engineer who constructs machines using his tools, in this case, laws of nature. The key difference is this: Unlike in the scenario above, where the laws of nature created the machines by their autonomous operations, God would be here an actively working engineer using his nomological toolkit. The tools (laws of nature) would not be able to construct the machines by themselves. Thus, given this reading, both the engineer and his tools causally contribute to the process of machine construction.

Unsurprisingly, then, just like with the watch metaphor in Paley, there seem to be also multiple ways how to read the engineering metaphor in Ruse, when pressed for details. If this is the case, which reading would be preferred by Chambers? This is obviously a point on which many readers differ. It seems that Ruse would prefer the first reading (with autonomous laws) since, as we saw, he stated that on CDA "God need do nothing sustain."

In his *The Politics of Evolution* (1992), a distinguished Darwin scholar **Adrian Desmond** (b. 1947) contributed to our understanding of the pre-*Origin*'s intellectual world. He did so by exploring the British scientific views beyond the confines of Oxford and Cambridge. Not surprisingly, *Vestiges* found its way in Desmond's presentation as

well. But how did Desmond view the CDA? Compared to his other works, it is in his *The Politics of Evolution*, where Desmond gives us his best – although limited – hints about his view of the CDA. As he puts it, Chambers

> sold evolution—"development" he called it—as a case of Creation by lawful means. The introduction of new species and the ascent of life were controlled by a natural law preordained by God.[578]

To this lawful system, Chambers "cunningly gave it a providential veneer" or "disarming Providential gloss."[579] But, of course, perhaps the most notable feature of the CDA was its noninterventionism – a view that was in tune with the times:

> In an age rejecting aristocratic intervention and whim and looking for constitutional means of change, Chambers deliberately remade God in the image of a benign Legislator. He dressed up the issue to appeal to the middle classes-those who looked to the law, not noble patronage, for their advancement (and the sort who were now buying educational magazines and novels hot off the press).[580]

Still, could one say, in Desmond's view, that the CDA had God in some way acting in the world? This does not seem to be the case:

> All of this had been achieved by natural law, which Chambers carefully couched in terms of a Divine edict. Law, he argued, was the means by which God foreordained events. He did not need to step in personally each time a new mollusk or monad was needed; it would be demeaning to imagine that He did.[581]

Focusing only on the feature of the CDA that emphasizes God's foreordaining of these laws, Desmond presents the Vestiges-God merely as a divine Legislator at the very start

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[578] Desmond, *The Politics of Evolution*, 7.

[579] Ibid., 7, 176.

[580] Ibid., 7.

[581] Ibid., 176.

of this cosmic legislation. As a result, such a view of the CDA had the tendency to be theologically dangerous as it removed God from the affairs of this world:

> This kind of developmental zoology was anathema to the divines because it evoked natural self-sufficiency, subverted orthodox creationist tenets, and put Paley's Deity out of reach.[582]

Notice, however, how, in the quote above, Desmond creates a contrast between the CDA and PDA. But why, we can ask, did he opt for such a contrast? This is because of his reading of the PDA which he took to be interventionist:

> Charles Gillispie once noted that Sedgwick acted as if the Anglican state would collapse if Paley's natural theology were rejected, that is, if one could no longer infer Creative interference from the adaptations of animals.[583]

In making such a contrast with interventionism, Desmond jumps to the opposite end of the DA spectrum – claiming that laws of nature were self-sufficient and not in any ways in collaboration with an ongoing DA. The theological consequence is the same as we have seen in many cases before: such a God easily became seen as "out of reach."

The historian of science **John Gascoigne** (b. 1951) has written on many topics related to the Scientific Revolution and the Enlightenment. For our purposes, I will look at, what I believe to be, his peculiar interpretive strategy of the CDA. This is found in his article "From Bentley to the Victorians: The Rise and Fall of British Newtonian Natural Theology" (1988). When Gascoigne comes to discussing *Vestiges*, he described the CDA as employing a divine watchmaker who was active only during His initial creation and retired afterward:

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[582] Ibid., 178.

[583] Ibid., 178.

> Chambers did allow for some divine agency in this process but the role of God was reduced to something like the watchmaker God who simply creates the system and then leaves it to operate by its own laws.[584]

*Deus creavit, vidit, reliquit* – God created, saw, and left. The passage, then, talks of laws of nature as causally autonomous which is why God could have let them operate by themselves, presumably fulfilling his will. But why did Gascoigne opt for such a reading of *Vestiges*? The only reason he seems to adduce for his support is the negative review offered by Chambers' contemporary David Brewster (see Chapter 6). Gascoigne quotes from Brewster's review in the following excerpt:

> The Divinity which they recognise is little more than the electric spark which disappears for ever, when it has lighted the train of causes and effects by which the planetary systems are to be framed, and all the living beings fashioned and perpetuated.[585]

Thus, Gascoigne appears to have based his interpretation of the CDA on a previous, 19th-century interpretation, in this case, by Brewster's scathing critique. According to it, God "disappears for ever" after He was done with His initial creation – exactly as we read in Gascoigne's evaluation of the CDA. What is curious about this is that just a few lines after mentioning Brewster, Gascoigne quotes from John Tulloch's work *Theism* (1855). We have also already encountered Tulloch's assessment of the CDA and, in contrast to Brewster's, Tulloch's was theologically positive. In this case, however, Gascoigne quotes Tulloch not for his view on the CDA but his nebular hypothesis.[586] As

[584] John Gascoigne, "From Bentley to the Victorians: The Rise and Fall of British Newtonian Natural Theology," *Science in Context* 2.2 (1988): 239.
[585] Ibid. I omitted his reference to Brewster.
[586] Ibid.

we have seen, Tulloch's position concerning the CDA was quite different than that of Brewster:

> However [the] conclusions [in *Vestiges*] may seem, as they certainly seem to us, to obscure and pervert, in its highest meaning, the doctrine of Theism, they are yet by no means essentially, still less expressly, atheistic. On the contrary, the author strongly recognizes a Supreme Mind, as necessarily implied in all the order of the universe; and, in the most recent [tenth] edition of his work, he has added the special confession, that he "believes" in a *personal and intelligent God, and can not* [*sic*] *conceive of dead matter receiving life otherwise than through Him*.[587]

Unlike Brewster, Tulloch, then, saw Chambers' God as a personal and intelligent deity, one that is possibly still active in giving life to "dead matter." I bring up this juxtaposition because I suggest that it shows that (and how) intertextuality matters. Had Gascoigne made use of Tulloch's view of the CDA, rather than that of Brewster, the chances are he might have portrayed the CDA quite differently. These were two rather different views of the CDA: incompatibilist and theologically negative (Brewster), as opposed to compatibilist and theologically positive (Tulloch). Of course, Brewster and Tulloch are just two options among the many voices that are intertextually available to the past as well as present readers. What they have in common is that they both point a more complex picture of how the CDA was read.

## 8.3 Mixed Views

**Arthur O. Lovejoy** (1873–1962) was an American philosopher, widely known as the pioneering figure of the field of history of ideas.[588] Groundbreaking in this regard was his

[587] Ibid., 83–4. The emphasis is original.

[588] Cf. Nico Mouton, "An Apologia for Arthur Lovejoy's Long-Range Approach to the History of Ideas," *History and Theory* 62, n. 2 (2023), 272–295.

*The Great Chain of Being* (1936) as well as his founding of the *Journal of the History of Ideas* after his retirement in 1938. Lovejoy was also one of the contributors to the volume *Forerunners of Darwin, 1745–1859* (1959), with his chapter titled "The Argument for Organic Evolution before the Origin of Species, 1830–1858". While his exploration of the stated period had a broader aim, he devoted a good deal of attention to Chambers' *Vestiges* as well. It is therefore from this chapter that we will look into some of the comments provided by Lovejoy. We begin by learning that

> [*Vestiges*] was written in a somewhat exuberant and rhetorical style; with all its religious heterodoxy, it was characterized by a certain pious and edifying tone. and was given to abrupt transitions from scientific reasoning to religious sentiment;[589]

Lovejoy goes on to remark on one feature of *Vestiges* that (apart from other reasons) was supposed to bring Thomas Huxley into exasperation:

> Chambers, namely, was prone to speak of "laws" as if they were causes and, more particularly, as if they were secondary causes to which the " Divine "Will" delegated its agency and control.[590]

There are two things of note here. First, the passage above seems to show how Lovejoy understood the CDA – as having a God who *delegated* his agency to laws of nature. Since these laws would possess autonomy, this would then be another example where laws of nature would be seen as incompatible with DA. The other thing worth remarking on is that the quote above quite clearly misrepresents Huxley's objection regarding the CDA.

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[589] Arthur O. Lovejoy, "The Argument for Organic Evolution before the Origin of Species, 1830–1858", in *Forerunners of Darwin: 1745–1859*, eds. Bentley Glass, Owsei Temkin, and William L. Straus (Baltimore: Johns Hopkins Press, 1968 [1959]), 360.
[590] Ibid., 361.

As we have seen (Chapter 6), Huxley's rejection was not based on this alleged delegation but instead stemmed from his reading the CDA as occasionalist. In this case, the reason for such a misconception on Lovejoy's part is clear. In a footnote, he admitted that "I have not had access to this article, published in the *Medical and Chirurgical Review*; but its character is sufficiently indicated in the correspondence of Huxley and Darwin."[591] Given that Lovejoy misjudged Huxley's objection against the CDA, its character might not have been sufficiently indicated after all.

Nevertheless, I suggest that there is a felt tension in how Lovejoy writes about the CDA. We have just seen how he used the language of delegation in talking about the divine creative process, that is, a delegation of agency from God to laws of nature. However, in the following passage, Lovejoy does not portray the Vestiges-God as a passive deity who stepped back from His creative participation after delegating His causal powers to nature's laws. Rather, God is depicted as continually working through secondary causes. We find this reading of Lovejoy expressed in a section where he comments on Chambers' view of rudimentary organs:

> Since Chambers liked to give an edifying turn to his presentation of scientific facts, rudimentary organs seem to have been a little troublesome for him, for there was nothing especially edifying in the existence of perfectly useless organs. The best that he could say for them, in that vein, was that they "appear but as harmless peculiarities of development, and as interesting evidences of the *manner in which the Divine Author has been pleased to work*." But it must be borne in mind that, as Chambers constantly insisted, the Author of Creation was pleased to *work always through secondary causes acting in accordance with invariable laws*.[592]

[591] Ibid., 361, n. 6.

[592] Ibid., 401. The emphases are mine. Lovejoy quotes from *Vestiges*, 1857, 116.

Lovejoy's version of the CDA, then, involves both a divine delegation of causal powers and His continuing creative process through secondary means. Does this mean that we could square Lovejoy's view under the rubric of compatibilist concurrentism? This could be a possible solution. But since he does not speak anywhere explicitly in a concurrentist way and seems to speak of God's *full* delegation of causal powers to laws of nature, I remain skeptical of such a proposal. At best, Lovejoy's account leaves us with a tension (apparent or real) and does not offer an attempt to square the two different strands that appear to pull in different directions.

## 8.4 Themes in Chambers' Recent Readers

We began our survey with Brooke who stood out as the important lone voice pointing to the ambiguous character of the CDA. Arguably, his key insight is that we should be voicing the questions about what is "behind the veil" when speaking of laws of nature. Brooke does well to remind us that this is also the case for the CDA. If there was a maxim that could summarize Brooke's insights related to *Vestiges*, it might go like this: If it is difficult to give simple answers about the DA in the works of Darwin and Whewell, perhaps we should not rush to conclusions in the case of Chambers either. We have seen that Brooke is skeptical about applying the label of deism to the CDA. His reason was the CDA's feature of divine omnipresence markedly complicates the CDA as straightforwardly deistic. I suggest that, a fortiori, the other features of the PDA we have explored might (and should) complicate such deistic portrayals perhaps even more.

Some ambiguities regarding the CDA were also noticed by Bowler. Unlike many other commentators, some of his remarks exhibited caution about the exact nature of

the CDA. Moreover, instead of seeing the CDA as radically discontinuous with the PDA, he saw the former as a contribution to the latter. On Bowler's reading, Chambers modified the design argument by positing both evolution and clear noninterventionism. Similarly, in his *Victorian Sensation*, Secord has reminded us of the ambiguities present in *Vestiges* that were also manifested in the different readings of the CDA. Yet, Secord exhibited more confidence than is seen, for example, in Brooke, and was seemingly content on several occasions to label the CDA as deistic.

Beginning with Gillispie, we explored several modern authors who were more sympathetic to the deistic nature of the CDA. They all agreed (explicitly or implicitly) that this was a deism that rejected God's continued active participation in His creation. Gillispie reminded us that the group of "providentialists" involves gradations of various beliefs about providence. Yet, for Gillispie, while the CDA had a providentialist character, he interpreted it as incompatible with the laws of nature. While Gillispie's treatment of *Vestiges* provided an extended background on the pre-*Origin* debates on DA, he never seemed to have entertained a concurrentist, middle position between noninterventionism and interventionism.

In 1959, both Hooykaas and Millhauser published a key work related to the history of science. Hooykaas clothed the CDA in traditional deistic garb and portrayed its God as a passive spectator. There was no sense that this God had an intimate presence in His creation. In this way, Hooykaas presented the CDA as a classical version of deism, unrelated to the God of the Bible.

Similarly, Millhauser presented a God that was distant and watching His creation only passively from afar. He also equated the CDA with deism, while specifically stating that God withdrew from any active role in His creation. We found Ruse reasoning along

similar lines. For him, the God of the CDA had no other job description but to sustain the universe. In Desmond's view, Chambers' "creation by law" was reducible to God's preordaining of the universe. No wonder, then, that such a Deity was seen to be removed from the affairs of this world and thus theologically hardly acceptable. We saw how Gascoigne read the CDA through the eyes of a particular 19th century review (by Brewster) – a review that seemed to sway him toward reading the CDA in specific and theologically unsympathetic way. This selective textual support on part of Gascoigne is for us yet another reminder that reading texts in light of one another can be a frequent and significant way of filling in the gaps.

In the “mixed” category, we encountered Lovejoy whose reading of the CDA led to two following takeaway points. First, the importance of reading original texts, not just their summaries, was seen in his misreading of Huxley's review article, to which he did not have access. In doing so, he misconstrued Huxley’s criticism and, in turn, also the nature of the CDA. Second, Lovejoy offered a tensive view of the CDA. On the one hand, Chambers' God supposedly delegated a causal autonomy to laws of nature, but on the other hand, He was still acting through them. In the next chapter, I will bring the insights from all the previous chapters together and will offer my reflections about the various readings of both the PDA and CDA.

# 9. Gods of the Gaps

## 9.1 Variety but Why?

After surveying the various readings of both the PDA and CDA, we can draw one inevitable conclusion – there has been indeed a plurality of ways in which they could be (and have been) interpreted. In this sense, the readers of Paley and Chambers have created many different conceptions of gods. Sometimes, they constructed a god they condemned, while at other times, it was a god whom they happily endorsed. Some of these gods were seen as theologically dangerous, some as theologically safe. For some, such god occasionally intervened, for others, not at all. Yet, for some, while this god was a noninterventionist, he still somehow continued to act in this world. Some readers encountered a god whose activity was compatible with laws of nature, whereas others did not engage with such a notion. Some found a god who was absent from this world, yet for others, it was a god who was immanent in the creation. Many used different labels to describe the God-world relationship they found in the same book. Surely, it is an interesting observation that the readers of Paley and Chambers came to such different conclusions even when they shared the same text. But perhaps the more compelling question is: why?

In Chapter 1, I proposed to look at this question through the lens of various interpretive gaps. It was these gaps that were crucial in construing all the various conceptions of gods I have just briefly summarized. Depending on how readers filled these gaps present in the PDA and CDA, they could construct quite different images of these possible deities. In a sense, their various gods lived in these gaps within texts of

*Natural Theology*, *Vestiges*, and *Explanations*. Before we move forward, let me distinguish between two kinds of gaps.

On the one hand, I see one group as *textual gaps*: the various terminological ambiguities and internal tensions in the texts. But there are also, what I will call, *extratextual gaps*: gaps not present in the texts themselves, but instead ones that were filled in and brought from outside into these texts. This happened either through selectively reading the texts or by projecting various assumptions either on these texts or on the author himself.

Let us then turn to these *gods of the gaps* – the textual and extratextual blank spaces through which the readers imagined how to interpret the PDA and CDA. All the following categories of gaps have their basis on the various readings of the PDA and CDA we have encountered, but I will also supplement them with further insights from the texts from the 19th century and beyond. In this way, I will embed these gaps in wider and fuller historical reflections on DA.

## 9.2 Textual Gaps

### 9.2.1 Ambiguities of Language Related to Divine Action

First, we have met a set of authors who pointed out the ambiguities related to the PDA and CDA. In this sense, the confusion of language related to DA we discussed in Chapter 2, was brought to the fore also regarding the texts of Paley and Chambers. Of course, there are numerous underdetermined terms related to DA, and it would be impossible to elaborate on the ambiguities of more than a few examples. Thus, I will briefly look at the ambiguities of the terms *design*, *creation*, and *creation by law*, as these feature

prominently as key terms in the PDA and CDA (but, of course, also in many other DA proposals). However, as we will see, even a cursory examination of these terms will reveal that they represent a true semantic jungle.

#### *9.2.1.1 Ambiguities of* Design

For instance, The *Oxford English Dictionary* (OED) shows the wide range of meanings that "design" can have. The OED provides as many as 11 different meanings for the noun "design" and 16 for the verb "design."[593] Some of these definitions include the following senses:

1. "Design" (noun)
    a. A plan or scheme conceived in the mind and intended for subsequent execution; the preliminary conception of an idea that is to be carried into effect by action; a project.
    b. In weakened sense: a purpose, an aim, an intention.
    c. That which is aimed at; an end in view; an ultimate goal or purpose.
    d. Fulfilment of a prearranged plan; adaptation of means to an end. Chiefly in theological contexts, with reference to the belief that the universe manifests divine forethought and testifies to an intelligent creator, usually identified as God.
    e. The completed product or result of this process; the arrangement of features in something planned or produced according to aesthetic or functional criteria; a particular shape, style, or model.

2. "To design" (verb)
    a. To intend (a thing) to be or do something; to mean to serve some purpose or fulfil some plan.
    b. To form a plan or scheme of; to conceive and arrange in the mind; to plan out mentally, contrive. Now *rare*.
    c. In weakened use. To purpose, intend; (in passive) to be determined, resolved, minded. Now *archaic* and *rare*."
    d. To have in view, contemplate. *Obsolete*.

[593] *Oxford English Dictionary*, "design (n.)," September 2025; "design (v.)" July 2025.

e. To plan and execute (a structure, work of art, etc.); to fashion with artistic skill; to furnish or adorn with a design. In later use merging with [the next] sense […] (from which this sense is now often indistinguishable).
f. To produce (a design).
g. To conceive and make drawings and plans for a building, device, product, etc.; to act as or be a designer.

Exactly these various meanings of "design" were pointed out by Hicks (Chapter 5). Notice that most of them are completely consistent with noninterventionism. In fact, only two of them (2e, 2f) imply DA that is interventionist. While other meanings are *compatible* with interventionism, they in no way necessitate it. Similarly, OED shows no obvious connection between "design" and violationism (God breaking, modifying, or suspending laws of nature). Without further qualifications, it is simply impossible to determine how "design" should be understood regarding interventionism. Similarly, the term "design" in no way discloses other philosophical-theological aspects, such as the question of compatibilism and incompatibilism, or how God is related to the world and laws of nature. Instead – and especially without further specification – these gaps will be supplied by the reader's interpretation.

We have already mentioned the ambiguities noted by several 19th-century authors (Jackson, Combe, Hicks, Temple) who pointed out the ambiguous meaning of the term "design" as used in the PDA. How should such process of divine designing be understood? Without further qualifications, this leaves us with many gaps. The options supplied by the OED above show that there are indeed plenty of options of how this gap can be filled.

### *9.2.1.2 Ambiguities of Creation*

The same ambiguity seen in "design" holds also for the meanings of "creation" and its semantic family. That "creation" is very closely linked to the debates on DA is evidenced also by the Christian notion that DA is not limited to the *ex nihilo* beginning, but should be seen instead as continuous creation (*creatio continua*).[594] Since, as Ian McFarland writes, "the doctrine of creation is primarily a claim about God's relation to the world," it should not be surprising that it is intimately related to the whole debate on DA.[595] However, there is ample diversity in the ways "creation" can be understood. This can be seen both in the examples from the 19th century as well as in modern literature on science and religion.

For example, *A Theological Dictionary* (1821) by Charles Buck distinguished two meanings of "creation" – one related to the *ex nihilo* creation, and the other for the subsequent DA:

> Creation, in its primary import, signifies the bringing into being something which did not before exist. The term is therefore most generally applied to the original production of the materials whereof the visible world is composed. It is also used in a secondary or subordinate sense to denote those subsequent operations of the Deity upon the matters so produced, by which the whole system of Nature, and all the primitive genera of things, receive their form, qualities, and laws.[596]

Perhaps only with some exaggeration, Buck goes on to comment that "There is no subject concerning which learned men have differed in their conjectures more than in

[594] Cf. Buchanan, *Modern Atheism*, 57–8.
[595] Ian A. McFarland, "Creation," in *St Andrews Encyclopaedia of Theology*, edited by Brendan N. Wolfe et al. University of St Andrews, 2022, article published November 17, 2022, https://www.saet.ac.uk/Christianity/Creation.
[596] Charles Buck, *A Theological Dictionary, Containing Definitions of All Religious Terms* (Philadelphia: W. W. Woodward, 1821), 123.

this of creation."[597] The meaning of creation, then, was not fixed in the pre-*Origin* debates on DA or even after. This is seen also in the distinctions made by the well-known Catholic evolutionist St. George Jackson Mivart who added a third option – creation that proceeds from free or voluntary agents.[598] The term "creation," then, can also have many meanings. That is why, Mivart commented also on Darwin's ambiguous language and its "looseness of expression."[599] Because of Darwin's ambiguity, Mivart was unclear about what Darwin meant by the theological term "Creator" used in his *Origin* and Darwin himself seemed inconsistent.[600]

Still, Darwin was far from the only prominent thinker who used unclear language related to DA.[601] Has this diversity in the meaning of "creation" been recognized also in the recent literature on the subject? Indeed, recent scholarly publications have seen plenty of books exploring this Christian concept of creation, along with its rich and varied history.[602] But while, in exploring this history, most of them touch on Darwin and evolution, they do not deal with the various meanings of "creation" in the broader 19th-century debates. There are, however, two scholarly exceptions that I am aware of.

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[597] Ibid., 123.
[598] St. George Mivart, *On the Genesis of Species*, 2nd ed. (London and New York: Macmillan and Co., 1871), 290–1.
[599] Ibid., 17.
[600] Ibid., 17.
[601] For instance, Dmitri Levitin pointed to several passages from Newton's General Scholium and concluded they are "notoriously ambiguous." Dmitri Levitin, *Ancient Wisdom in the Age of the New Science: Histories of Philosophy in England, c. 1640–1700* (Cambridge: Cambridge University Press, 2015). Robert Mullin wrote of the influential, 19th-century American theologian Horace Bushnell: "Part of [his] ambiguity stems from his writing style, which was always more evocative than precise, but it also lies in his reliance on a number of ambiguous concepts in his defense of the supernatural." Mullin, *Miracles and the Modern Religious Imagination*, 73. Mullin's comment can be equally applied to many other works, including, of course, those by Paley and Chambers.
[602] Three recent important publications on the doctrine of creation are David Fergusson, *Creation* (Grand Rapids, MI: Eerdmans, 2014); Ian McFarland, *From Nothing: A Theology of Creation* (Louisville, KY: Westminster John Knox Press, 2014); and David Burrell, Carlo Cogliati, Janet M. Soskice, and William R. Stoeger, eds. *Creation and the God of Abraham* (Cambridge: Cambridge University Press, 2010).

To find some order in such a variety of opinions, both Neal Gillespie and Jon Roberts have proposed somewhat similar divisions for the various meanings of "creation" as used in the 19th century discussions on DA.[603] In what follows, I offer their brief descriptions (the descriptive terms are mine).

In the following short overview, notice that all the distinctions imply a certain relationship between God and laws of nature with respect to interventionism. That is, the key question in the background in creating these typologies appears to be: "How is creation related to laws of nature and divine interventions?" First, according to Gillespie, there were four possible understandings of "creation": special or miraculous, nomothetic, Darwinian, and Chambersian.

*Typology of "creation" according to Gillespie:*

1. *Special* or *miraculous* – "meant literally, i.e., that God miraculously made a species." Examples given: Hugh Miller, Edward Hitchcock, Louis Agassiz, Joseph LeConte.[604]

2. *Nomothetic mystery* – "[a] conventional sense, which was that favoured by nomothetic creationists: as symbolic of an unknown mode of divine action that stayed within the confines of the laws of nature and, while involving a continuing divine initiative, did not require disruptions of that order." Examples given: Charles Lyell, possibly young Darwin, Richard Owen.

3. *Darwinian* – "simply a conventional term meaning the origin of species, the world, matter, or whatever, and had no theological referent." Example given: mature Darwin, Joseph D. Hooker.

4. *Chambersian* – "confined to transmutationists and hence relatively rare until after 1859, was employed by Robert Chambers in his *Vestiges of the Natural History of Creation* (1844). Here creation referred to the body of laws established by God in the beginning through the operations of which new species were evolved. For Chambers, each species was a divine creation, but did not involve divine intervention or initiative on God's part as was the case for the nomothetic creationist." Example given: Robert Chambers.

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[603] In Chapter 8, we encountered Hooykaas' fourfold typology. But since it was a typology of worldviews, and not of "creation," I am not including it here.

[604] All his definitions are from Gillespie, *Darwin and the Problem of Creation*, 22–25.

Almost a decade after Gillespie, Roberts offered his brief three-fold division of the meaning of "creation" in the 19th-century debates.[605] Commenting on the various views that emerged by the 1860s, he divided the meanings of "creation" as follows.

*Typology of "creation" according to Roberts:*

1. *Miraculous* – "For some naturalists the term [creation] continued to denote a series of miraculous events."
2. *Divinely governed natural law* – "Many scientists adopting this position believed that this law had been initiated and governed by God."
3. *Natural law without divine reference* – "a minority of scientists avoided references to the divine and views 'creation' simply as the work of an unknown natural agency responsible for the appearance of new species."

While we could discuss the similarities and differences between these two typologies, my point lies elsewhere – the meaning of "creation" is another polysemantic term and thus forms another crucial gap in the texts of natural theology. Among other things, it can also determine whether or to what extent a given model of DA coheres or conflicts with scientific knowledge.[606]

### *9.2.1.3 Ambiguities of Creation by Law*

Let us mention briefly one more term – Chambers' "creation by law". Does it fare any better in restricting the senses the term "creation" can take? With respect to interventionism – it surely does. We saw that Chambers made it clear that God works in a fixed manner and does not interfere (CV4). But what "creation by law" could mean in

[605] All his following definitions are from Jon H. Roberts, *Darwinism and the Divine in America: Protestant Intellectuals and Organic Evolution, 1859–1900* (Notre Dame: University of Notre Dame Press, 2001), 81.
[606] Cf. William E. Carroll, "Creation in the Age of Modern Science," *Tópicos (Mexico City, Mexico)* 42.1 (2013), 117–8.

terms of God-world relationship was still, it seems, left open. That is why, as we saw earlier, John Wallis remarked that "The ambiguity and vagueness of this system, have rendered it acceptable to sceptics and atheists."[607] Even with Chambers' restriction on interventionism, his creation by law was still compatible with multiple competing worldviews. Moreover, in case one left "creation by law" unqualified, the interpretive possibilities could be even bigger. For example, in 1872, one theologian wrote about three possible meanings of "creation by law," and seemingly only one was noninterventionist.[608]

This is all to say that the mere phrase "creation by law" does not give us the full picture of the underlying metaphysics. For example, we saw William Urquhart remark that some of the passages in *Vestiges* might imply a lack of God's providential care. In his view, however, this was not a necessary reading and not one that he himself adopted. Similar worries were expressed by Edward Hitchcock who saw it compatible both with theism and atheism. While Hitchcock was suspicious of the theological merit of the CDA, he at least acknowledged its ambiguity. In contrast to him, there were many others who equated the CDA with Epicureanism, without at least noting other possible readings. In short, despite Chambers' insistence on noninterventionism, the fact remained that the CDA's "creation by law" was compatible with multiple, and even competing, worldviews.

At this point, we can also recall that the very term "interventionism" is silent on whether it should entail violation of laws of nature or not. That is, there can be both violationist as well as nonviolationist interventionism (Chapter 2). This also means that

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[607] Wallis, *A Brief Examination of the Nebulous Hypothesis*, 27.
[608] Thomas Rawson Birks, *The Scripture Doctrine of Creation, with Reference to Religious Nihilism and Modern Theories of Development* (London: Society for Promoting Christian Knowledge, 1872), 244– 5.

when the CDA rejected divine interventions, it did not necessarily reject nomological violations per se. Instead, the CDA could be seen also in general terms as rejecting a strict separation between God's presence in the world (immanence) and His otherness (transcendence). This might be especially true since the CDA claimed God's presence in every created particle (CV8).[609]

Of course, in reading other authors, other terms related to DA might come to the fore as well, such as miracle, natural, and supernatural. But, perhaps interestingly, Paley's *Natural Theology* and Chambers' *Vestiges* and *Explanations* do not rely on these particular terms at all. The key terms that seem to characterize the PDA are "design" and "Designer," while the central notion related to the CDA appears to be "creation by law." With such a plethora of meanings of terms related to DA, James McCosh proposed the only reasonable solution to such a conundrum as follows:

> This can only be reformed by a careful analysis of the widest of all generalizations, disentangling from one another the innumerable shades of meaning which have got confounded together in its progress, and establishing among them a rational classification and nomenclature.[610]

While written in the mid-19th century, it seems questionable whether significant progress has been made in the direction suggested by McCosh, especially when exploring historical actors and their works related to natural theology. In the next section, we will see that, apart from the ambiguities present in the key terms related to DA, another space for ambiguities was provided by internal tensions in the texts themselves.

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[609] Thus, while I am not aware of such a reading of the CDA, one tempting reading of "creation by law" could see it as compatible with one of the versions of panentheism. Cf. Ritchie, *Divine Action and the Human Mind*, 261–97.

[610] McCosh, *The Method of the Divine Government*, 87.

### 9.2.2 Internal Tensions

The second type of interpretive gaps present in the texts of Paley and Chambers is made up of internal tensions. That the texts of important authors in the history of science and religion exhibit internal tensions is something that scholars have recently begun to recognize. For example, Brian Mooney and Anthony Imbrosciano point out that "serious tensions exist in Locke's position regarding miracles."[611] Robert M. Burns wrote about Hume that "the solution [to the apparent divergences in Hume's "Of Miracles"] lies in the recognition that ... incompatible strains of argument lie in the text side by side."[612] The philosopher John Earman, also vexed by the ambiguities, challenged Hume's readers to provide a succinct and accurate summary of Hume's "Of Miracles":

> I defy the reader to give a short, simple, and accurate summary of the argumentation in 'Of Miracles.' What on first reading appears to be a seamless argument is actually a collection of considerations that sometimes mesh and sometimes don't.[613]

Not everything seems to be seamless with Newton either. The alleged ambiguities in Newton regarding his view on miracles are best seen in the comments of his greatest twentieth-century biographer, Richard Westfall. Westfall's assessment of Newton's take on miracles is that of paradoxical inconsistency:

> In short, Newton both believed in and did not believe in miracles. As a Christian he accepted them, and he did not openly attack them in any context. On the other hand, as a scientist he introduced qualifications which amounted to repudiation. ... Repeating his ultimate conclusion on providence as a whole, he

[611] T. Brian Mooney, and Anthony Imbrosciano, "The Curious Case of Mr. Locke's Miracles," *International Journal for Philosophy of Religion* 57.3 (2005):147.
[612] Burns, *The Great Debate on Miracles*, 143.
[613] John Earman, *Hume's Abject Failure: The Argument Against Miracles* (Oxford, 2000), 20.

> abandoned himself to ambiguities and inconsistencies, which gave the appearance of divine participation in nature, but not the substance.[614]

Whether Newton exhibited such inconsistencies is still an open question.[615] Another highly prominent figure discussed with regard to similar inconsistencies is none other than Charles Darwin. Specifically, with regard to Darwin's use and meaning of the word "Creator," John H. Brooke notes: "There was a duality, an ambivalence within Darwin himself."[616] This duality was the tension between Darwin's preference for purely lawlike explanations and his decision to keep the word "Creator" in all editions of his *Origin*, beginning with the second edition in 1860. Gillespie observed a similar kind of tension in Darwin's work:

> The argument of [Darwin's *Origin*], in its full integrity, did not take that form for Darwin himself. During the twenty years or so in which he worked on his theory and even during the agnostic period of his later life made so familiar by his autobiography, elements of the creationist and positivistic epistemes coexisted in Darwin's mind in a loose, paradoxical, and curiously unantagonistic way.[617]

This was paradoxical because although Darwin's natural selection should, in theory, provide an explanation without any divine involvement, he could not get rid of God, even in his scientific work:

> Darwin was not able to jettison the idea of God. He needed it to underwrite the possibility of science, to guarantee its rationality, that is, the correspondence of

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[614] Richard S. Westfall, *Science and Religion in Seventeenth Century England* (New Haven: Yale University Press, 1958), 204.
[615] For opposing views, see the articles by Peter Harrison, "Was Newton a Voluntarist?" and by James E. Force, "Providence and Newton's *Pantokrator*: Natural Law, Miracles, and Newtonian Science," in *Newton and Newtonianism: New Studies*, eds. James E. Force, and Sarah Hutton (Dordrecht: Kluwer Academic Publishers, 2004), 39–64 and 65–92, respectively. Harrison argues that, ultimately, there are no inconsistencies in Newton regarding miracles.
[616] Brooke, "Natural Law in the Natural Sciences," 90.
[617] Gillespie, *Darwin and the Problem of Creation*, 124–5.

> the scientist's activity with truth, and to preserve his optimistic view of the evolutionary process.[618]

As Gillespie neatly put it: "Darwin was a man, with all the contradictions of a man, and not a system. Consistency we should expect of philosophies, but perhaps not of philosophers."[619]

Now, we can bridge all these comments to our exploration of the PDA and CDA. A simple, yet, in my view, novel question is this: since scholars have revealed many textual tensions in various key historical figures, why – especially after our exploration – should we not be more than open to the same possibility in the texts of Paley and Chambers? As we have seen, multiple thinkers have noted textual ambiguities in these two authors, but, as far as I know, none has suggested at least the possibility of internal tensions present in their visions of the PDA and CDA. I have already elaborated on these possible tensions in Chapters 3 and 4 by noting how several of the PDA's and CDA's features do not seem entirely consistent. The bottom line can be expressed this way: both the PDA and CDA show signs of wanting to have a Deity who works through laws of nature, but, at the same time, they include features that make this God providentially care for His creation (although, they do it, of course, in different ways). It is not hard to see why such a double desideratum might lead to theological tensions.

We have seen some of these tensions noticed by some of the authors surveyed here. For example, we met Francis Bowen, who did not see consistency within the CDA. More specifically, it seemed inconsistent to him to believe in a providential God who could also intervene. To remove this perceived inconsistency, Bowen suggested

[618] Ibid., 124.
[619] Ibid., 124.

removing Chambers' God altogether. There were several authors who were aware of the following characteristics of the CDA: it appeared to exclude God, but at the same time, it included other passages that were instead inclusive of God's presence and activity. This tension within the CDA was acknowledged also by Asa Gray. In the end, he simply dismissed the pious language as mere "rags of religious sentiment" that should render the CDA "more becoming."[620] The same strategy of dismissal was employed by Thomas Pearson: while the CDA clearly shows instances of providential language, he merely asserted that it banishes God, nonetheless. These foregoing authors were incompatibilists and could not have it both ways. On the other hand, compatibilists did not see these worries as philosophically or theologically disturbing.

Thus, whether the statement "God can providentially (caringly, lovingly) work through laws of nature," is seen as tension (if not contradiction) depends largely on whether one adopts compatibilism or incompatibilism. That is, some compatibilists did not see even a more robust DA and laws of nature in tension and could happily square these two elements together. We have seen that Buchanan reminded us that many theologians in his day did indeed assume incompatibilism that, in turn, caused theological frictions. Compatibilists, however, did not have such a problem and were thus open to concurrentist views of DA (which could involve, in turn, other conceptual challenges). As we will see in a later section, this compatibility is directly tied to whether one interpreted the PDA or CDA in univocal or analogical terms.[621]

In fact, we should not be surprised to see such tensions generated by reflections on how to reconcile laws of nature with a more direct DA since the rise of early modern

[620] [Gray], "Explanations," 502.
[621] I elaborate on this in section 9.3.4.3 Projecting Equivocal versus Univocal Use of Analogy.

science. That is, it is not immediately obvious how these two can go neatly together, without any scientific or theological complications. It is exactly this tension that is exemplified already in Francis Bacon's (1561–1626) unpublished statement of private belief "Confession of Faith." Gregory Foran notes that while "Hume enlists Francis Bacon to support his case against miracles, Bacon's attitude toward them is ambivalent."[622] This ambivalence of Bacon seems to stem from his being conflicted about the role of miracles in the natural world.[623]

While Bacon was trying to reconcile both God's absolute power and his ordained power (expressed through laws of nature), this distinction "continues to inform and trouble Bacon's thought. Though he cannot absolutely deny that miracles happen, he prefers a God who restricts himself to his *potentia ordinata*."[624] Since then, it seems, Bacon's predicament became an inherited conundrum for every next generation of natural philosophers and theologians.

I suggest that such "Baconian struggle" – as we may call it – was reflected also in the texts and in the many readings of Paley and Chambers. Supporting the notion of such a struggle, O'Flaherty recognized that Paley's *Natural Theology* exhibited this kind of "tension."[625] Indeed, as he observed, Paley sought to "reconcile this model of a law-governed, mechanical universe, with the belief in a personal God who was active in

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[622] Gregory Foran, "The Miracle in Francis Bacon's Natural Philosophy," in *Immortality and the Body in the Age of Milton* (New York: Cambridge University Press, 2018), 129. Cf. 135.
[623] Ibid., 130.
[624] Ibid., 131. Foran has in mind the medieval distinction between *potentia ordinata* and *potentia absoluta*. Cf. Francis Oakley, "Adamantine Fetters of Destiny:" The Absolute and Ordained Power of God and King in the Sixteenth and Seventeenth Centuries," in *Politics and Eternity: Studies in the History of Medieval and Early-Modern Political Thought* (Leiden, Boston, and Köln: Brill, 1999), 279-91; Oakley, *Omnipotence, Covenant and Order: An Excursion in the History of Ideas from Abelard to Leibniz* (Ithaca, N.Y.: Cornell University Press, 1984).
[625] O'Flaherty, "The Rhetorical Strategy of William Paley's *Natural Theology* (1802): Part 2, William Paley's *Natural Theology* and the Challenge of Atheism," 135.

worldly affairs."[626] This struggle, then, was not original, but it was Chambers' *Vestiges* that gave these debates in the 19th century a new wind. The challenge was to find a scientifically and theologically respectable reconciliation in how to talk about DA. For the thinkers involved in these discussions, it was important to adhere to the uniformity of nature (perhaps allowing for a few exceptions) but also retain God's providence, presence, and ongoing activity. These were the almost-nonnegotiable desiderata – retaining a strong causal role to both natural laws and supernatural Lawgiver. The question, then, was how to mint a scientific-theological coin that would depict both sides. Thus, Bacon's quest continued into the 19th century, but this time, in a world where modern science was on the rise.

We might recall that it was precisely these struggles that were behind Buchanan's desire to offer a reconciling middle way between these extremes. Buchanan's reflections on this were published in 1857 so such a recognition precedes the impact of the Darwinian-debates and is more widely seen in the reactions to Chambers' *Vestiges* after 1844. The same struggle and the same desire to resolve it is seen also in the late 19th century, in the American geologist Joseph LeConte (1823–1901). In his *Evolution and Its Relation to Religious Thought* (1889), he recounts the still ongoing dilemma as follows:

> It is the frank return to the old idea of direct divine agency, but in a new, more rational, less anthropomorphic form. It is the bringing together and complete reconciliation of the two apparently antagonistic and mutually excluding views of *direct agency* and *natural law*. Such reconciliation, we have already seen, is the true test of a rational philosophy. It is the belief in a God not far away beyond our reach, who once long ago enacted laws and created forces which continue of themselves to run the machine we call Nature, but a God *immanent*, a God resident *in* Nature, at all times and in all places directing every event and

[626] Ibid., 128.

> determining every phenomena—a God in whom in the most literal sense not only we but all things have their being, in whom all things consist, through whom all things exist, and without whom there would be and could be nothing.[627]

LeConte, then, speaks here of "two apparently antagonistic and mutually excluding views." Perhaps, as reviewed in Chapters 3 and 4, such tensions are also evident within the CDA and PDA? My answer to this question is a confident yes – and it could be seen by Paley's and Chambers' readers when they consider the respective features of the PDA and CDA as a whole.

Of course, this mediating position has been available ever since medieval concurrentism. However, its most famous medieval proponent, Thomas Aquinas, lived before the Western world's modern concept of the laws of nature, before the shaping of modern science, before Newton's unification of the laws of earthly and celestial motion, before the critiques of David Hume, and before all the scientific advances that started to cause a theological stir in the world of the Victorians. Thomistic natural theology – Aquinas' Five Ways – did not deal with the empirical content we find in Paley and Chambers. However, to many in the 19th century, this did not matter. Aquinas' concurrentist view of DA started to be seen by many (although without acknowledging Aquinas) as an ideal approach to DA, with one caveat: concurrentism had to be fleshed out by incorporating the potential challenges of modern science into theology. As LeConte put it, it has to be done "in a new, more rational, less anthropomorphic form." Thus, in the 19th century, we might speak of *neo-concurrentism* as opposed to its

[627] Joseph LeConte, *Evolution and Its Relation to Religious Thought* (New York: D. Appleton and Company, 1889), 282–3.

medieval Thomistic predecessor. In Buchanan's assessment (Chapter 2), this was the most popular option of his day.

In sum, as Hooykaas pointed out, we may find that "many scientists will hold inconsistent views" and hold "many kinds of intermediate positions." [628] Perhaps, then, we could expect these tensions (if not contradictions) also in various other thinkers, including the texts of Paley and Chambers. Yet, there is a possible reason why such tension in the PDA and CDA has not been commented on up to this point. It is also embarrassingly simple – many readers have not considered the totality of the features displayed by the PDA and CDA. To put the point differently, I suggest that there is a strong selection bias at work when readers try to reconstruct the PDA and CDA. It is to this claim that we will now turn.

## 9.3 Extratextual Gaps

Now, we come to the extratextual gaps. Here, I distinguish between two types: (1) selective reading bias; and (2) projecting assumptions. The latter category will come with several subdivisions: projecting philosophical-theological assumptions, projecting the intentions of the author, and projecting a specific type of analogical reading. All these variations of extratextual gaps will be explained below. First, let us start with selective reading bias of the PDA and CDA.

[628] Hooykaas, *Natural Law and Divine Miracle*, 171.

### 9.3.1 Selective Reading Bias

What must be one of the biggest contributors to one's reading of the PDA and CDA is a selective reading strategy. What I mean is that in reading Paley and Chambers, many readers tend to focus only on some passages when summarizing both Paley and Chambers. Let me offer some remarks on such a selective reading, first of the PDA and then of the CDA.

In the case of Paley, a vast majority of commentators focus only on Paley's famous "heath passage." This tendency can be summarized by a comment by the prominent historian of science David Knight (1936–2018), according to whom "Paley's famous beginning summarizes the whole argument."[629] Thus, in summarizing Paley's argument in his *Natural Theology*, the heath passage has become the almost exclusive focus. At the same time, there is very rarely any mention of the Paleyan features we have covered (Chapter 3) which would enrich the reader's understanding of the PDA. Only exceptionally do we see authors mention, for example, Paley's confession of ignorance of the details of DA (P1), his thought experiment about self-replicating watches (P4), or even his heavy explanatory reliance on laws of nature (P2–3, P5–16). Crucially, we almost never see anyone mentioning Paley's statements about comparing DA to gravity (P17), about God's omnipresence through natural laws (P18), his epistemically limited interventionism (P19), and nonmiraculous providentialism (P20) as part of the PDA.

When it comes to Chambers, there is no single popular excerpt equivalent to Paley's "heath passage." Despite this, I suggest that there is another traditional topos that has been made almost identical with the CDA. Namely, this is the oft-repeated

[629] David M. Knight, *The Age of Science: Scientific World-view in the Nineteenth Century* (Oxford: Basil Blackwell, 1986), 36.

claim that *Vestiges* allegedly banished God. We saw that this was a recurring theme among the 19th-century detractors of *Vestiges*. My guess is that this assessment was primarily derived from the CDA's feature stressing the noninterventionist "creation by law" (CV4). Interestingly, after the mid-20th century, this supposed exclusion of God morphed into seeing the CDA as deistic. The Victorian century, however, tended to describe the CDA in different terms, even by those who denounced the CDA.

For example, these are some of the descriptors that we have encountered: Sedgwick described Chambers as a "philosophical and rational Theist" or a "Materialist from first to last" (while not denying he might be a Christian). For Miller, Bowen, Dod, and Gray, Chambers was an Epicurean and, at least, potentially an atheist. The 19th century American biblical scholar Tayler Lewis (who did not appear in our survey) called the CDA explicitly as "atheism—blank atheism, cold, cheerless, heartless, atheism."[630] Pearson saw the author of *Vestiges* as an adherent of naturalism; Flint as materialism; and Dana took the CDA to be pantheistic. On the other hand, those who perceived the PDA more positively did not use such descriptors but also were not generally explicit in characterizing the CDA with a simple label. More typically, they tended to imply it is a version of theism, as could be seen in Tulloch or Hitchcock. Notice how "deism" is completely absent from these designations.

However, when we come to the 20th century and beyond, the situation becomes rather different. In contrast to the 19th century, the historians of science in this period almost unanimously describe Chambers's ideas in *Vestiges* as deistic. For example, we can recall that Reijer Hooykaas saw Chambers as "a typical deist" and that Milton

[630] [Tayler Lewis], "Vestiges of the Natural History of Creation", *American Review: A Whig Journal of Politics, Literature, Art, and Science 1* (1845), 527.

Millhauser described Chambers as accepting "traditional deism" or "discreet deism."[631] Janet Oppenheim seems to have approvingly quoted Millhauser's deistic portrayal.[632] Michael Crowe sees *Vestiges* as "deism" with "deistic doctrines."[633] James Moore put Chambers among "deists or practical deists."[634] Frederick Gregory classified *Vestiges* as a work of "classic deism."[635] According to Michael Taylor, Chambers embraced "evolutionary deism."[636] Similarly, Bernard Lightman calls him an "evolutionary deist."[637] James Secord called him a "moderate deist"[638] and having "deistic religion."[639] In William Astore's words, "the deistic, if not atheistic, tendency of Vestiges was clear."[640] For Michael Ruse, Chambers was a "deist" who espoused "unadorned deism,[641] and was "always a believer in a deistic way."[642] In the words of John Henry, Chambers's *Vestiges* can be seen as "a book which set the seal on the tradition of deistic natural theology"[643] And while John Brooke agrees when he writes that Chambers followed a "deistic

[631] Hooykaas, *Natural Law and Divine Miracle*, 189; Millhauser, *Just Before Darwin*, 103.
[632] Janet Oppenheim, *The Other World: Spiritualism and Psychical Research in England, 1850–1914* (New York: Cambridge University Press, 1988). 277.
[633] Michael J. Crowe, *The Extraterrestrial Life Debate, 1750–1900: The Idea of a Plurality of Worlds from Kant to Lowell* (New York: Cambridge, 1988), 224–5.
[634] James R. Moore, *The Post-Darwinian Controversies: A Study of the Protestant Struggle to Come to Terms with Darwin in Great Britain and America, 1870-1900* (Cambridge: Cambridge University Press, 1981), 328.
[635] Frederick Gregory, *Natural Science in Western History* (Boston: Houghton Mifflin Company, 2008), 382.
[636] Michael W. Taylor, *The Philosophy of Herbert Spencer* (London: Continuum, 2007), 40; and Taylor, "Herbert Spencer and the Metaphysical Roots of Evolutionary Naturalism," in *The Age of Scientific Naturalism: Tyndall and His Contemporaries*, edited by Bernard Lightman and Michael S. Reidy (London: Pickering & Chatto, 2014), 72.
[637] Mark Bevir (ed.), *Historicism and the Human Sciences in Victorian Britain* (Cambridge University Press, 2017), 29.
[638] Secord, "Behind the Veil: Robert Chambers and Vestiges," in *History, Humanity and Evolution: Essays for John C. Greene*, edited by James R. Moore (Cambridge: Cambridge University Press, 2002), 171.
[639] Secord, *Victorian Sensation*, 22.
[640] Astore, *Observing God*, 90.
[641] Ruse, *The Evolution-Creation Struggle*, 50.
[642] Ruse, Joseph Travis (eds.), *Evolution: The First Four Billion Years* (Cambridge, MA: Harvard University Press, 2009), 474.
[643] Henry, *A Short History of Scientific Thought* (New York: Palgrave Macmillan, 2012), 228.

formula,"[644] we need to note that we saw Brooke as the only modern author doubting if *Vestiges* could be truly described as deistic (Chapter 8). Overall, then, this is an interesting shift compared to the multiplicity of labels the CDA received in the 19th century. One might wonder if, following Hooykaas' and Millhauser's influential works of 1959, the historians who commented on the CDA afterward were not just frequently repeating their deistic designation, one that got reinforced as if in an echo chamber.

However, what is the connection with the selective reading bias I have proposed here? I am not claiming that it is only selective reading bias that is responsible for reading the CDA as banishing God or for perceiving it as deistic. But what I am claiming is that the only historian of science and religion who questioned whether the CDA is deistic was Brooke, whose doubt was generated precisely by pointing to other, possibly non-deistic features of the CDA (Chapter 8). Curiously, none of the 19th-century or modern historians (apart from Brooke) have referred, for example, to either of these four features of the CDA: that there is a kind of DA taking place through humans (CV5–6); that we are a part of an eschatological cosmic story that includes "a system of Mercy and Grace" (CV7); or that God is present in all particles (CV8). Similarly, there are at least two other features in Chambers's *Explanations* which might render deism more problematic: that laws of nature are a mode of DA and are not independent of God (CE1); and that God works in nature with "minute attention to specialties" (CE5).

[644] Brooke, "Samuel Wilberforce, Thomas Huxley, and Genesis," in Michael Lieb, Emma Mason, Jonathan Roberts, eds., *The Oxford Handbook of the Reception History* (Oxford: Oxford University Press, 2011), 407.

Naturally, it is inevitable that every summary of the PDA or CDA requires a heavily selective reading in its presentation.[645] However, it is a completely different matter when all such selection focuses only on one (or a few) features of the PDA or CDA while ignoring the rest. If that is the case, we should rightly speak of a selection bias, and perhaps in this case, of a Paleyan and Chambersian selection bias. Thus, even before readers start filling in the *textual* gaps, they shape the meaning of the PDA and CDA by selecting the Paleyan and Chambersian features they will take into consideration in the first place.

## 9.3.2 Projecting Assumptions

### *9.3.2.1 Projecting Philosophical-Theological Assumptions*

One type of background assumption is projecting one's philosophical-theological beliefs about the past. Whether these assumptions turn out to be true or false, they inevitably shape one's reading of a given DA. For example, you may recall that we met Dawkins and Ruse who admitted their assumptions about Paley and his contemporaries. Dawkins' quote is followed by that of Ruse:

> Before Darwin, philosophers such as Hume understood that the improbability of life did not mean it had to be designed, but they couldn't imagine the alternative.[646]
>
> Obviously, looking at things with hindsight, Paley's was something of a stopgap position. Because he and everyone else was ignorant of an adequate alternative to *direct divine intervention*, this does not mean that Hume's arguments were bad.[647]

[645] This statement partially applies to me too; no one is an exception. However, unlike other treatments, I attempted to offer a much richer picture of the PDA and CDA (chapters 3–4) and give voice to the readers (and interpreters) of Paley and Chambers (chapters 5–8).
[646] Dawkins, *The God Delusion*, 114.
[647] Ruse, *Darwin and Design*, 44.

We also saw before (Chapter 7) that Dawkins spoke of God "literally designing" things. Thus, he and Ruse both seem to be talking about divine interventionism here. Admittedly, they might be right about Paley's intellectual milieu. Still, are they not projecting something onto Paley that is not in his *Natural Theology*? And what about the potentially complicating instances? Take, for example, the Paleyan feature P10: "Probably, watches are not made immediately by God. However, even if the watch was not made immediately by God, such chain of instrumental causes still implies His presence at the beginning of the entire series of watches" (my summary). This point is expressed similarly in features P12–3 which stress the need for God at the beginning of the causal process, as opposed to in specific points within the long series of causes.

On top of that, two more modern examples projecting these theological assumptions could be added: Peter Bowler who thought that the PDA acted through miracles in creating new species, and Alister McGrath's interventionist PDA that supposedly created all species in their finished forms (Chapter 7). Perhaps, then, at least some of the Paleyan features might make the assumptions of these authors historically suspect.

Moreover, to show that not all historians of science would agree with the above quartet of famous names on this point, let us look at a peculiar comment by John Henry. In it, he expressed quite an opposite view to these four thinkers:

> Earlier historians of science have shown an unfortunate *tendency to assume* that catastrophist geologists and other contemporary thinkers believed that the new species of creatures appeared on Earth at the appropriate times in its history because God directly created them. In all my reading of nineteenth-century writers, I have never seen such a claim unequivocally expressed. … It was acceptable to say that there was a divine purpose behind all natural change; but it

> was never considered acceptable to say that God brought about any given change by direct intervention.[648]

For Henry, then, we have no clear evidence that the 19th-century writers were – at least unambiguously – interventionist. Consequently, Henry is warning us against projecting any possible assumptions of interventionism onto these thinkers. However, in my view, Henry's claim is quite demonstrably mistaken. That is, his claim is plausibly countered even by the PIF (P17) in Paley. I say only "plausibly" because while the PIF admits (violationist) interventionism, it does not tie it directly to the creation of species. But even if this example was rejected, there are many other 19th-century writers admitting to direct (interventionist) creation.[649] Still, Henry's advice about being careful when projecting our assumptions onto the past should be taken seriously. Surely, what he said elsewhere about Newton, is something that historians should apply to other historical actors too: "It is crucially important, of course, … to avoid imposing on the texts an interpretation of them based on preconceived assumptions about what Newton must have thought."[650]

In contrast to Henry's advice, however, I suspect that there might be many implicit assumptions which project, for example, interventionist creation of species onto the PDA (e.g., Darwin, Romanes, Dawkins, Bowler) or absentee/deistic God onto

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[648] Henry, *A Short History of Scientific Thought*, 207. The emphasis is mine.

[649] There are more examples, but five could be mentioned here: Sedgwick, *Discourse*, 29; William Whewell; *Of Plurality of Worlds: An Essay* (London: John W. Parker and Son, 1854), 258; Thomas Dick, *The Christian Philosopher: Or, The Connection of Science and Philosophy with Religion; Illustrated with Engravings*, 8th ed. (Philadelphia: E. C. & J. Biddle, 1847), 2:193. Hitchcock, *The Religion of Geology and Its Connected Sciences* (Boston: Philips, Sampson, and Company, 1851), 83–4, 127; Asa Gray (cf. Chapter 8).

[650] John Henry, "Reassessing the Wider Aspects of Newton's Thought – A Symposium," *Early Science and Medicine*, vol. 26, no. 2, Brill, 2021, 117–23.

the CDA (e.g., Brewster, Sedgwick, Millhauser, Gillispie). Of course, these assumptions might be supplied on different levels, such as by assuming the meaning of terms, beliefs about the intellectual context, or, say, about the intentions of the author. Before moving on, let me offer a few comments on the last of these categories – assuming authorial intent. I take it as a separate category as it is not connected to philosophical-theological assumptions.

#### *9.3.2.2 Projecting Authorial Intent*

As we have noted several times, there is one glaring difference between the authorship of Paley and Chambers. The author of *Vestiges* remained completely anonymous, causing a widespread sensation, whereas everyone knew that it was Paley who wrote *Natural Theology*. But it was not only that Paley's readers knew his name; they knew who he was, they knew his other works (including sermons), and they knew him as a reputable Anglican clergyman While everyone was free to disagree with Paley, they could at least be sure of his pious life, academic credentials, and, notably, his theological beliefs and well-meaning, Christian intentions. Once again, we can be reminded of LeMahieu's observation (Chapter 7) that it was Paley's other works that could provide a lens for how to read his *Natural Theology*:

> Without the *Evidences*, his philosophy could easily be construed as deistic or even unitarian; without the *Natural Theology*, his biblical criticism would be robbed of the theoretical foundations of its central arguments.[651]

[651] LeMahieu, *The Mind of William Paley*, 91. Italics added.

The relevance of such hermeneutical influence between Paley's works is also supported by Aileen Fyfe's similar observation that "it is significant that *Natural Theology* considered on its own could be taken as close to deism."[652]

Thus, in the case of Paley, this gap regarding the authorial intent could be filled in through *intertextuality*. That is, people could imagine what Paley's intents were based on his other works. On the other hand, no one could know about the intents of the author of *Vestiges*. Understandably, it could be difficult for many to trust one of the proclaimed intent of *Vestiges* whose author's "sincere desire in the composition of the book was to give the true view of the history of nature, with as little disturbance as possible to existing beliefs, whether philosophical or religious."[653] Perhaps more believable was that he wanted to provide – as *Vestiges* stated – "a liberal interpretation" to the biblical text which could then be easier to reconcile with the latest knowledge in natural science.[654]

The only intertextuality available for the readers of *Vestiges*, was to read it in light of the explanatory sequel, *Explanations*. The extent to which *Explanations* succeeded to clarify the CDA remains doubtful. That is, we saw that several 19th-century authors engaged with Chambers' comments in *Explanations*, but potentially only two (Urquhart, Francis Newman) for whom the work clarified Chambers' intentions (Chapter 6). More significantly, the text of *Explanations* could in no way substitute the publicly unavailable reputation about its anonymous author.

Crucially, this difference between reasonably knowing one's authorial intent (in the case of Paley) and only guessing it (Chambers) must have shaped many of the fears

[652] Fyfe, "The Reception of William Paley's Natural Theology in the University of Cambridge," 324.
[653] V1, 388.
[654] V1, 389.

and suspicions that readers had about *Vestiges*. As the historian of science M. J. S. Hodge put it, when commenting on Chambers:

> But why make such an uncharitable fuss about ... Chambers' intentions? Because, of course, nothing is more important than intentions ... [as they] make people's actions intelligible, their behavior explicable. Analysis of an author's intentions is, then, something we need to undertake with the greatest care.[655]

As we saw with several of the 19th-century critics of the CDA, this issue of authorial intent was intimately connected to accepting Christian revelation. Again, it was well known that Paley not only fully accepted but wrote several works in its defence. But what about Chambers and revelation? While, at the end of *Vestiges*, he expressed his hope that his evolutionary proposal will one day be aligned with revelation, just like it was in the case with geological discoveries,[656] there were no other (textual or reputational) background checks one could make.

All these various extratextual assumptions are, of course no trivial contribution to the interpretive mosaic construed by the reader. They are significant gap-fillers, ones that have the power to construe a given thinker's worldview in quite different ways. As historian Brad Gregory puts it:

> Depending on interpreters' ... assumptions and beliefs, Newton's achievement could and did lead in the direction of natural theology (Clarke, Derham, Paley), Deism (Toland, Voltaire, Jefferson), or atheism (Diderot, d'Holbach, La Mettrie).[657]

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[655] M. J. S. Hodge, "The Universal Gestation of Nature: Chambers' *Vestiges* and *Explanations*," *Journal of the History of Biology* 5, no. 1 (1972): 129.
[656] V1, 389.
[657] Brad S. Gregory, "The Reformation Origins of the Enlightenment's God," in *God in the Enlightenment*, ed. William J. Bulman, and Robert G. Ingram (New York: Oxford University Press, 2016), 210.

In the quote above, Gregory's statement was preceded by his elaboration on one other type of interpretive gaps to which we will devote the following section. This was the choice between equivocal or univocal use of analogy in talking about God.

#### *9.3.2.3 Projecting Equivocal versus Univocal Use of Analogy*

So far, we have been talking about the ambiguities residing in the pervasive terms related to DA and how they open room for the reader's interpretation. We have also seen that the polysemantic nature of these terms has been underscored by many authors since at least the 19th century. In contrast, the next gap-filling factor that I want to highlight has been mentioned so far only by one author. Namely, this writer was Paley's biographer Dan LeMahieu (Chapter 7), who drew our attention to the possible two-fold use of analogy. At the same time, the importance of the analogical language has been recently noted also by several other theologians.[658] Since this is a crucial conceptual crossroads that can significantly direct one's interpretation, I suggest that we revisit LeMahieu's point.

We can recall that LeMahieu reminded us (Chapter 7) that we can choose to interpret an analogy either equivocally or univocally. Even if done subconsciously, such a decision has profound implications for attributing the immanent or transcendent traits to such a deity. A univocal use will tend to lead us to a watchmaker who is close, immanent, at least partially knowable through nature, and even acting in a human-like manner. On the other hand, an equivocal use of analogy might guide us to a watchmaker who is more remote, transcendent, totally unknowable, and wholly other. It appears,

[658] Cf. Kojonen, *Compatibility*, 25.

then, that these differences will also reflect different ways as to how such a Deity should act. Prima facie, we should find potentially substantial differences in the forms a DA would take based on our approach to analogy. That is, a thinker who emphasizes God's transcendence will most probably have a different conception of DA than if he emphasized divine immanence.

Importantly, it was the intellectual historian, Amos Funkenstein (1937–1995), who, in *Theology and the Scientific Imagination* (1986) pointed out the significant implications of univocal as opposed to equivocal use of analogy in our talking about God. According to Funkenstein, a radical shift took place in the 17th century – the century which saw the rise of the Scientific Revolution. Crucially, this novel and emerging conception of scientific exploration came with a "quest for a precise and univocal language of science."[659] This shift happened because natural philosophers "since the seventeenth century wanted their scientific language to be as unambiguous as possible."[660] As a result, the equivocal character of the language that was typical of the Middle Ages, was being replaced for a much clearer univocity. In Funkenstein's words:

> Not only More or Spinoza were guilty; to all of them, including Descartes, Malebranche, and Leibniz, God shared with his creation some genuine predicates literally and unequivocally.[661]

With such a shift in perspective, then, the way one understands God's qualities changes – including the themes we have surveyed in the present thesis. Funkenstein's work

[659] Amos Funkenstein, *Theology and the Scientific Imagination from the Middle Ages to the Seventeenth Century*, 2nd ed. (Princeton: Princeton University Press, 2014), 28.
[660] Ibid., 28.
[661] Ibid., 25.

explores how three divine attributes – omnipresence, omnipotence, and providence – were reconceived in the 17th century by being understood more and more in a univocal sense. This change had a major impact on the perception of God's multifaceted relationship with the world. In short, for Funkenstein, these changes resulted in emphasizing God's transcendence, attributing homogeneity and necessity to laws of nature, and secularization of providence in human history.

This relevance of univocal and equivocal use of analogy for God for historical conceptions of DA has been recently picked up also by Brad Gregory. Gregory elaborated on this importance in several of his recent works. In his 2016 article, Gregory highlighted the implications we have discussed here as follows:

> A corollary of a view of God as radically transcendent and "other" is a view of supernatural causality as utterly different from natural causality, as the expression of a noncompetitive relationship between God and creation. On this view, however incomprehensibly, it is because God is not part of creation that He can be present to and active in and through all of it. His radical otherness is a condition of His omnipresence and influence. But if God and creation are seen both to belong as parts *within* a whole of a more encompassing reality defined by a univocal understanding of being, then natural and supernatural causality belong to the same framework and stand in an either–or relationship to one another. Then whatever happens in the world has *either* a natural cause *or* a supernatural cause.[662]

If God is, then, understood univocally, He would be competing for causal space with natural causes. As a further consequence, such a causally redundant God would often be very easily taken to be absent, banished, and idle. In short, such a conception of the divine Creator would naturally lead us to the God of Laplace.[663] Put differently, the reader's choice of analogy bears heavily on all four themes we identified in Buchanan

[662] Cf. Gregory, "The Reformation Origins of the Enlightenment's God," 210.
[663] Ibid., 210.

(Chapter 2). That is, it influences the perspective on (in)compatibility, nature of causation, (non)interventionism, and the resulting God-world relationship.[664]

This importance of univocal vis-a-vis equivocal language has been recently noted also by philosopher and theologian Michael Dodds in his *Unlocking Divine Action* (2012). Dodds would agree with LeMahieu, Funkenstein, and Gregory in their assessment of the importance of the type of analogy the reader employs. The general shift during the Scientific Revolution to perceiving God's properties univocally, had major implications for the nature of DA:

> As our understanding of causality narrowed with the advent of modern science, so did our capacity to speak of divine action. … If God's action is conceived univocally as physical force, it cannot but interfere with other physical forces. It must therefore be excluded from the world lest it encroach on other causes and so disrupt the determined patterns of scientific law. There is simply no "room" for it.[665]

Thus, seen from this perspective, all the readers of Paley and Chambers (in the 19th century and beyond) who were compatibilists about the PDA or CDA, were implicitly protesting the established dominance of univocality. That is, if God was still active in the world but was not causally competing with laws of nature (or secondary causes), He could not be the same type of cause as the causes revealed by science. In other words, God's causality, then, had to be seen equivocally. It is this shift in thinking that could enable one to become compatibilist. However, in reading the PDA and CDA, the reader is free to fill this big interpretive gap as she is philosophically and theologically inclined. For this reason, the adoption of equivocal or univocal reading of some textual gaps, can have a significant impact across many of the themes we have been exploring here. On

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[664] Gregory recognizes Funkenstein's huge contribution to these debates; Gregory, *The Unintended Reformation: How a Religious Revolution Secularized Society* (Cambridge, MA: Belknap Press, 2012), 5.
[665] Dodds, *Unlocking Divine* Action, 105, 107.

the other hand, if one reads the PDA or CDA univocally, this could preclude any competition between divine and creaturely activity.[666]

It seems, then, that reading the PDA and CDA either univocally or equivocally is another interpretive gap since it is at least explicitly not qualified by Paley or Chambers. This does not mean that Paley and Chambers did not provide their readers with some features (of the PDA and CDA) that could invite them – in one way or another – to interpret this specific gap. Take, for example, Paley's comparison of the PDA to gravity (P17), the remarks of both authors that God is acting through laws of nature (e.g. P13, CV1–2), or that He is omnipresent (P17–18, CV8). At least in these instances, it is hard to see any causal competition and could thus be inviting the reader to see the PDA and CDA in terms of equivocal causation. On the other hand, both Paley's and Chambers' talk of interventionism (P19, CV4), might suggest univocal – and thus causally competitive – readings of their visions of DA. In this sense, the features of the PDA and CDA did not necessitate either univocal or equivocal readings. This gap was also blank and inviting interpretation.

In this chapter, I have suggested several types of textual and extratextual gaps which had the potential to create, so to speak, many *gods of the gaps*. I have enriched my remarks on these individual subtypes of these gaps with several historical-philosophical insights from the past and present discussions on DA. What remains, I believe, is to wrap up this exploratory journey with a concluding reflection based on the insights in this as well as previous chapters. I will do so in the next and final chapter.

[666] Cf. Michael J. Dodds, "Science, Causality, and God: Divine Action and Thomas Aquinas," *Angelicum*, vol. 91, no. 1, 2014, 13–36.

### 9.3.3 Observations on Extratextual Gaps

While most readers are more familiar with the presence and significance of textual gaps, the science-and-religion literature has given little attention to the category of extratextual gaps. It may therefore be useful to offer a few brief observations concerning their significance. What, then, is the analytical value of attending to such extratextual gaps? In my view, several partial answers may be proposed.

First, the detection of selective reading bias can be instructive for historians. If a historian aims to represent an author's views accurately, the text should be read in its entirety, thereby enabling a fuller account of what the author sought to convey. A related research question concerns whether multiple forms of selective reading bias operate across different periods and contexts, influencing how particular accounts of DA have been interpreted. Moreover, if a historian observes a recurring selective reading bias among readers – for example, an almost exclusive focus on Paley's "heath passage" – this may prompt further investigation into the origins of that bias. Such a pattern raises the question of whether it can be traced to a common source or interpretive tradition.[667]

It should not be surprising that the views of many important thinkers on DA have been underexplored.[668] However, it is also in the interest of theologians and philosophers to remedy this situation by engaging more fully with the texts of these thinkers, as I have attempted to do with Paley and Chambers. In doing so, they may recover important nuances that are obscured by selective reading bias.

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[667] While my thesis does not aim to explore this in any depth, I have tentatively offered one such suggestion: namely, that reading the CDA in consistently deistic terms may be traceable to several influential books published around 1959, the centenary of Darwin's *Origin* (see 8.4).

[668] One recent example is Descartes' view on miracles; see Emma Fieser, "Descartes on Miracles," *Journal of Modern Philosophy* 7 (2025): 1–22.

Second, I explored the projection of various assumptions. The first of these concerns the projection of philosophical and theological assumptions onto a given author or, more generally, onto a historical period. Often, however, such assumptions remain unstated, implicit, and complex, and are often supplied by the reader. As historians, however, I contend that we should explore whether these assumptions are correct or mistaken. In doing so, we may discover that even historians disagree among themselves on what the prevailing theological and philosophical assumptions in a given period were.[669] I suggest that this assumption-checking step is crucial when historians engage not just with the PDA and CDA, but also with other past visions of DA.

Next, we mentioned readers' assumptions regarding authorial intention.[670] In my view, our exploration has strongly indicated that, in interpreting the PDA and CDA, readers were frequently influenced by what they took to be Paley's and Chambers' intentions. Regarding *Vestiges*, Secord reminds us of the extent to which these intentions mattered:

> The act of reading involved a tacit agreement to respect the author's intentions. In normal circumstances, these could be judged through a whole range of clues, both in the text and outside it. Such information was of course missing in the case of *Vestiges*, which thus carried an unusual interpretative burden. It is not surprising, then, that Chambers soon complained of being misread and misunderstood: his literary property was being violated. *Vestiges* had been an

[669] By way of example, Peter Jordan would disagree with John Henry's statement that "it was never considered acceptable to say that God brought about any given change by direct intervention" (see 9.3.2.1). In contrast, Jordan proposes a spectrum category that he calls "providential naturalism." One of its varieties, held by "providential partial naturalists," was, on Jordan's view, compatible with at least some divine interventions. See Peter N. Jordan, *Naturalism in the Christian Imagination: Providence and Causality in Early Modern England* (Cambridge: Cambridge University Press, 2022), 3–17.

[670] The modern debate about the role that the authorial intention has in shaping the reader's interpretation can be traced to the mid-20th century. A seminal article in this regard was W. K. Wimsatt and Monroe C. Beardsley, "The Intentional Fallacy," in *The Verbal Icon: Studies in the Meaning of Poetry* (Lexington: University of Kentucky Press, 1954), 468-88. As can be expected, various aspects regarding the authorial intent remain discussed until the present day. See, for example, John Farrell, *The Varieties of Authorial Intentions: Literary Theory Beyond the Intentional Fallacy* (Cham: Palgrave Macmillan, 2017).

> experiment in the ability of an anonymous work to carry Chambers's intentions, but almost no one read it as expected.[671]

Judging these intentions matters for whether the reader sees them as theologically safe or theologically dangerous. As one scholar observed about Darwin's readers: "Some leaped to the conclusion that Darwin's aim was to secularise the universe by denying God his most impressive work, but nothing could be further from the truth."[672] In this sense, the relevance of this point goes beyond interpreting only the PDA and CDA, and also relates to current scholars trying to make sense of other past visions of DA.

We have seen that one of the crucial projections that influences how one might read a thinker's vision of DA is the assumption of univocal or equivocal readings of that view. This type of projection can take place on several levels: at the level of individual words (such as *create*, *design*, *designer*, and so on), or at the level of larger textual units (such as Paley's "heath passage"). Do the textual features associated with a given DA indicate, invite, or force the reader to adopt a particular mode of interpretation – either univocal, equivocal or analogical? Perhaps we may endorse LeMahieu's caution about such assumptions not only with respect to Paley (Chapter 7), but also extend it to other proponents of DA.

With respect to historical accounts of DA, I am not aware of any scholarship that touches on the relevance of analogical readings for understanding these DA proposals. While there has been some discussion of "univocality", even in relation to Paley's design

[671] Secord, *Victorian Sensation*, 383.
[672] Cedric I. Davern, "Evolution and Creation: Two World Views," *Dialogue: A Journal of Mormon Thought* 17, no. 1 (1984): 44–50.

argument,[673] this discussion seems underdeveloped. As Silva has noted regarding modern discussions of DA, univocality is often simply assumed:

> it is the univocal notion of causality which is assumed in the whole debate about divine action that prevents any metaphysical elasticity to distinguish God's causality from natural, created causality.[674]

Similarly, univocality also appears to be assumed in interpretations of historical views of DA, at least those that emerged alongside and after the rise of early modern science. This is understandable, since this period did see a shift towards a more univocal understanding of God's causality. But this assumption raises a number of questions. For example: are there any features in a given DA account that justify the reader in interpreting it only univocally? What if such features appear to be in tension? What, for example, should one do if they involve the idea of a God who is in some respects both transcendent and immanent? For any reader, these questions may not be easy to answer.

In sum, therefore, when it comes to projecting our assumptions, the following remark made by one scholar regarding Giordano Bruno may also apply to other thinkers, including in our examination of their DA visions:

> Given that in his writings [Giordano Bruno] was obscure and ambiguous, it was almost inevitable that later generations would understand his books in a variety of ways, or worse, project modern attitudes on the past.[675]

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[673] See, for example, Kojonen, *The Compatibility of Evolution and Design*, 24–5.
[674] Silva, "A Cause Among Causes? God Acting in the Natural World," 107.
[675] Giuseppe Candela, "An Overview of the Cosmology, Religion and Philosophical Universe of Giordano Bruno," *Italica* 75, no. 3 (1998): 348.

What I am suggesting, then, is that historians, philosophers, and theologians can and should counter these “inevitable” projections. Admittedly, many science-and-religion scholars have reflected on this methodological danger for many decades, as is evident, for example, in repeated cautions against writing Whig histories. Yet similar dangers arise for those who may wish to investigate accounts of DA proposed in past centuries, insofar as these may be distorted by our own projections. Scholars should nonetheless resist these tendencies, I suggest, while engaging with such historical views.

# 10. Conclusion: There and Back Again

Just like Bilbo in Tolkien's *The Hobbit: There and Back Again* (1937), we have come full circle. After reading the preceding nine chapters, we may be a bit older, but are we also wiser? We have met dozens of authors who, in one way or another, expressed their views about the PDA or CDA. While doing so, many offered their own take on what a respectable version of DA should look like. How can we summarize the takeaways of our exploration? I will offer three.

First, my plan was to offer a new and useful perspective on the PDA and CDA. We have listed their features in Chapters 3–4. In Chapters 5–8, we have seen that many theologically interesting Paleyan and Chambersian features were largely overlooked by commentators and reviewers. This suggests that the PDA and CDA themselves are richer and more subtle than has been typically presented by their many past or present readers. In Chapter 1, I suggested that I see my thesis also as a corrective to the many prevailing misconceptions about the PDA and CDA. My hope is that I have offered an efficacious antidote against the many simplistic accounts of Paley and Chambers. Once one is aware of the fuller extent of the Paleyan and Chambersian features, any simple summaries of the PDA and CDA will be, in my view, less than adequate (a euphemism for "impossible"). At least the way I see it, the resulting picture is more complexity. However, it is a complexity which (hopefully) sheds some useful light on the PDA and CDA.

Second, we learned that reading the PDA and CDA takes us on a bumpy road filled with interpretive gaps. These are both textual and extratextual, and – just like Paley said about God – virtually omnipresent. What should we do with these gaps? For

reflective readers, there is perhaps no better advice than this: we should start by simply being aware of them. Thus, in our future engagements as historians or theologians with Paley's *Natural Theology* or Chambers' *Vestiges* (and *Explanations*), we can be more aware of the many gaps and complexities that the historical actors in this thesis have mentioned. Next time, we can also be more vigilant when, for example, evolutionary biologists talk about Paley, or when, say, historians of science mention Chambers' allegedly deistic views. Perhaps there is more subtlety in these texts after all – a subtlety underscored both by the fuller array of DA features as well as the textual and extratextual gaps.

And thirdly, this awareness could be (and should be) surely extended beyond our readings of Paley and Chambers (and our readings of their readers). The insights provided here can allow us to read the views of other historical figures on DA with more care. I think that these days, the revisiting and rethinking of the DA views in various historical actors is exciting, because it seems we have been reading many thinkers with less than fitting attention.

One example of this lack of careful attention to historical figures and their texts might be seen thanks to Joseph Waligore and his recent series of articles on French and English deists.[676] Building on work of other scholars of deism, Waligore has rather completely rethought (or, one might say, corrected) the beliefs and practices we typically associate with deists and deism – especially having a belief in an inactive God

[676] Here, I am thinking, for example, of the way Joseph Waligore is dramatically recasting the beliefs and practices of the many typically labelled as deists. Cf. Joseph Waligore, "'Let's Bless Our Father, Let's Adore God': The Nature of God in the Prayers and Hymns to God of the French Revolutionary Deists," *International Journal of Philosophy and Theology* 84, no. 3–4 (2023): 216–234; Waligore, "The Prayers of the Enlightenment Deists and the Religious Enlightenment," *Heythrop Journal* 65, no. 6 (2024): 681–694; Waligore, "The Religious Enlightenment and the English Jesus-Centered Deists," *Religions* (Basel, Switzerland) 16, no. 2 (2025): 124.

or absence of any personal relationship with God. As Waligore summarizes one of his recent articles:

> The Enlightenment deists have traditionally been seen as secular-minded thinkers who took a half step to atheism because they supposedly believed in an inactive and impersonal God. This article has challenged this view of deism by discussing a group of ten English deists who were not secular-minded thinkers but cared deeply about God. This group of English deists were like other deists in maintaining that natural religion was superior to revealed religion and people that should use it to judge the truth of any alleged revelation. This group of deists claimed to be Christian, they revered Jesus, and their religious books and pamphlets were focused on explaining Jesus' true teachings.
>
> These Jesus-centered deists (as I call them) believed that God was a kind and loving parent who actively intervened in the world by performing miracles and making revelations. They thought that God took such good care of people that people had a duty to worship him and follow his will by being benevolent to other people. Furthermore, they encouraged people to pray because prayer helped people have a closer relationship with God.[677]

I mention this as but one example of just how we might have to reconfigure even some of the basic categories that historians and theologians have been traditionally using. Whether and how much this thesis will contribute to a shift among scholars in their views of the PDA and CDA, only time (and reviews) will tell.

At least to this author, it would not be surprising if we found we have been filling in many of the DA gaps in historical actors without much reflection and awareness of these gaps. If so, a similar close reading of the DA features in other authors, and the ways they were read by others, should not be limited just to Paley and Chambers. Perhaps this work will also inspire others to undertake further historical investigations, employing their own useful methodologies.

[677] Waligore, "The Religious Enlightenment and the English Jesus-Centered Deists," 124.

Before parting, I will mention the obvious: the search for a proper DA that would steer the middle way is still ongoing. While the attempts at such conscious reconciliation were intensified in the 19th century, this reconciling project, it seems, is far from coming to an end. We have seen that Bacon's desire for such a middle way was, a few centuries later, expressed again by Buchanan and LeConte (Chapter 9). This search, it appears, is far from over. We can also see it in contemporary theological-scientific attempts such as in DAP and elsewhere. As Nicholas Saunders described the situation in 2002: "We need to seek a middle ground between [mere conservationism and occasionalism]: one in which GDA is the continuous background to specific instances of SDA in which God may act in a personal manner."[678] Similarly, Koperski sees this struggle as between the two extremes of the mythological Scylla and Charybdis: "Scylla is deism, the ultimate hands-off theology. Charybdis is theological determinism, in which God directly causes all events."[679]

The DAP has certainly not put a stop to such a search. Many novel proposals will surely be coming in the upcoming years and decades. Perhaps many of them will also want to be informed by the insights and DA visions of some of the past thinkers on DA – be it Paley, Chambers, or others. It would be good if, in their search, they could realize the historical and textual complexities stemming from the many interpretive gaps in the texts related to DA. The same is true for a theologian, philosopher, historian, or even evolutionary biologist.

In my view, the ideas in this thesis might further clarify some other historical claims. Let me illustrate how such historical calibration might work. Paley, for example,

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[678] Saunders, *Divine Action and Modern Science*, 31.

[679] Koperski, *Divine Action*, 26. Although I find his description of deism as "the ultimate hands-off theology" to be very inaccurate; cf. n. 640.

has been frequently linked to the so-called Intelligent Design movement. As historian Adam Shapiro shrewdly noted:

> while both the movement's supporters and detractors agree that Paley is an intellectual forefather of the present-day movement, this agreement is forged at the expense of historical accuracy.[680]

While I agree with Shapiro about Paley's historical distortion, I disagree about Shapiro's underlying reason: "[Paley's] empirically-argued theology leads him to a God who operates through natural law, not in its contravention."[681] According to Shapiro:

> Paley ruled out the possibility that God acts in suspension of natural law. Indeed, it is vital to his theology that God does not do this. ... Paley's Christianity, his natural theology relies upon the fixity of natural law. Thus, natural laws are fixed at the moment of initial creation and are not subject to revision.[682]

In other words, Shapiro completely passed over Paley's explicit interventionism in PIF. Thus. the putative disconnection between Paley and the Intelligent Design movement would need to be put in a more subtle way, without ignoring the presence of PIF.

More generally, it seems to me that also some aspects of the Darwinian debates (both in the 19th century and beyond) might be reappraised. For example, we have mentioned Darwin's reading of "Paley & Co" as interventionist (Chapter 6). But how much more of the evolution debates have been influenced by reading the PDA as interventionist? Or alternatively, did it make any difference to these debates that some have read the PDA as noninterventionist? Perhaps similar questions could be asked about the impact on the evolution debates by the various readings of the CDA. Or one

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[680] Adam R. Shapiro, "William Paley's Lost 'Intelligent Design,'" *History and Philosophy of the Life Sciences*, vol. 31, no. 1, 2009, 55.
[681] Ibid., 55.
[682] Ibid., 68.

could ask – in my view an intriguing question – about the fate of Chambers: Why was Chambers and his CDA, unlike Paley and his PDA, almost completely forgotten among academic philosophers and theologians? These and similar questions may indeed invite others to dig deeper for more historical investigation.

Most probably, even the exploration undertaken in this thesis is far from over. Some might come with more and better insights about how the PDA and CDA were read. Others might question my very selection of these features or the sampled authors. The list can go on. But, of course, all of these are a natural part of productive academic discourse. My aim was not to conclude a conversation, but perhaps merely to offer some novel and neglected insights to enrich the historical discussions of DA.

There is one final question toward the end, perhaps lurking in the background of many reading these lines and who got so far: "But how did Paley and Chambers *really* imagine their visions of PDA and CDA, respectively?" For those interested in this question (like me), I do not think there is a simple solution, given all the textual and extratextual gaps related to their DA visions. While I think we can always find a way to reconcile their seemingly tensive features, we should be careful of such an approach. After all, there is a good reason why Christian churches have kept the four canonical gospels, as opposed to creating a single harmonized gospel. These gospel harmonies began to appear in the second century, starting with Tatian's *Diatessaron*, a harmony that was followed by many others. Of course, harmonizations are possible, but the question is whether that is always the right approach, be it for the gospels, *Natural Theology*, *Vestiges*, and other texts too. And for those who think that harmonization is indeed the right approach, perhaps we need to warn them, along with historian of

Utopian literature J. C. Davis, who, perplexed at the literary paradoxes in Thomas More's *Utopia,* remarked: "Dear Reader, you have work to do."[683]

[683] Miguel A. Ramiro Avilés and J. C. Davis, eds., *Utopian Moments: Reading Utopian Texts* (London: Bloomsbury Publishing, 2012), 20.

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