

Denis Alexander, *Creation or Evolution: Do We Have to Choose*. Monarch Books; Grand Rapids, Michigan, USA. 2008; 382 pages. Reviewed by Reginal M. Harrell.

Denis Alexander is the Emeritus Director and a Fellow of the Faraday Institute for Science and Religion at St. Edmund's College, Cambridge, England. Dr. Alexander is an internationally respected molecular immunologist and biochemist. He is a prolific writer on science and religion, a former journal editor, and is a member of the executive committee of the International Society for Science and Religion. In addition to this book, Dr. Alexander has written, edited, or co-authored/edited nine other books. Dr. Alexander is also an evangelical Christian. While not uniquely situated to write on the subject of this book, Dr. Alexander, as a professed molecular evolutionary biologist and neoDarwinian, as well as an evangelical Christian who has a strong belief in the inerrancy of God's Holy Word, he is more than qualified.

The thesis of the book is found in the last paragraph of the Preface wherein Alexander's goal is to encourage the readers to appreciate that "the 'Book of God's Word' and the 'Book of God's Works' can be held firmly together in harmony (13)" Therefore because the theme of the book is to help the reader "see how the Bible and science can live together very happily" (11) the book is a blend of critical scientific argumentation and its assumptions conjoined with philosophical and theological debate. This book is not a science text, but he uses science to support his central assumptions. It is not a philosophical text, but he uses normative and metaphysical suppositions to make his points. It is not a theological text, but he integrates Scripture in appropriate places to support his belief that God fully and completely is the Creator of all there is and all we see.

The book structure is divided among a preface, 16 chapters, a postscript, notes and an index. The notes section is a blend of endnotes and a bibliography and is well supported. Most of the chapters are of equal length with the exception of his chapters on "What do we mean by evolution. . ." and "Who were Adam and Eve", both of which are covered in four- and two-part logical flow chapters, respectively. The former is divided into "Dating, DNA, and Genes", "Natural Selection and Reproductive Success", "Speciation, Fossils, and the Question of Information", and "Objections to Evolution". These four chapters encompass 27% of the book. The latter is divided into "The Background" and "Genesis and Science in Conversation" and comprises 13% of the book. While there are other chapters that encompass "evolution" within

their title, they are actually sequential thoughts and not supporting argumentation for the respective chapter's central thought as mentioned in the two above.

Key to this book is Dr. Alexander's ability to critically, systematically, scientifically, and theologically weave an argument that an individual can believe in evolution without compromising one's faith in God as the Creator of all things. A crucial thread that frames his epistemological approach to this 160+ year-old conundrum is that it is essential to recognize that the Bible is not a science book (see pages 39-46 for focused comments on this statement), but a book about God and His desires for His people to come to know Him personally and intimately. As such one should openly consider how creation and evolution are complementary. He makes this latter point in the first paragraph of his first chapter "All Christians, are by definition, creationists. . . We cannot come to know God personally by faith without also believing that he (sic) is Creator of all that exists (15)."

As mentioned, the book systematically and intricately weaves science, philosophy, and theology to validate his assumption that you can believe in God and evolution at the same time. His systematic approach is evident as he starts the book with the question of "What do we mean by creation" and proceeds to address this question from a theological and philosophical discussion by addressing perspectives of young and old earth creationism, and his perspective on interpreting Scripture. Using original Hebrew language, other Middle Eastern textual language, and more modern approaches to textual criticism such as type of genre, perceived author's intent, extra-textual support (18) he addresses the significance of nuanced words and pericopes and what can be misinterpreted or lost in translation.

His second chapter concentrates on the "The Biblical Doctrine of Creation" and he makes an astute observation that "if we become too focused on origins then we can forget that the biblical understanding of creation is not primarily concerned with how things began, but why they exist (27)." He supports his point by using scriptural references and addressing the attributes of God such as his transcendence, immanence, Trinitarian nature, and the tense usage of the Hebrew term *bara'* (create) and how they are tied to this doctrine.

Chapters 3-6 are a series of strong-sense critical assessment expanding on the systematic consideration and arguments for and against evolution. Alexander goes from a cosmological and

molecular argumentation to geological, biological, and epistemological support of concepts. Again, woven throughout the chapters are framed discussions around philosophy, various subdisciplines of science, and theology. He clearly defines evolution as a long-process and how science corroborates that statement with issues (pro and con) about age and dating (49-54). Also, true to his own scientific training, he does an excellent job of integrating molecular aspects of evolution in the sense of how genes and DNA support the argument for a long process (55-72).

Coupled to the necessarily jargon-heavy discussion on genes and DNA Alexander nicely integrates analogies to help one understand the principles he is trying to link together. For instance, in describing how genes are regulated and are “switched on and off” he uses an analogy of a railroad control box to control how trains are switched from one track to another (71-72). In a metaphorical fashion, he illustrates how certain master switches (genes) impact smaller linked genes that, in turn, control genes (switches) even further downstream. In this way, genes, proteins, and pathways are controlled like trains by various regulatory processes (train switches that are turned on and/or off). He does an excellent job of integrating these concepts and principles throughout the rest of the text.

Using this foundational information, he then builds a case for how natural selection and reproduction are inexorably linked to genes and genetic diversity that evolve from DNA mutations and, where there is a selective advantage, are passed on to future generations. Thus “evolution is a two-step process: a device to generate diversity followed by a method for testing that diversity by natural selection (73)”. In other words, as he succinctly puts it, “genes mutate, individuals are selected, populations evolve (85).”

Chapter 5 looks at the question of speciation and fossils and how it links to “microevolution” (i.e., variation in species) and “macroevolution” (changes above the species level). An obvious key here is in defining what is meant by a species. He chooses to use the classic biological definition in which organisms interbreed with each other but not with other organisms (93). Here he discusses various mechanisms of speciation and how it is linked to extinctions, which provides us valuable insight through the fossil record. Building on these concepts he spends a considerable amount of time in this chapter explaining where genetic

information, especially new information, has its origins and how it is expressed in populations that leads to diversity.

From a balance perspective Chapter 6 is excellent because Alexander takes the objections to the science of evolution that one would rightly expect from creationists and fairly and openly addresses them point by point. As stated, his purpose in this chapter is to explain the difference between science and theology and, in a friendly manner, “air the scientific objections (131).” He starts by addressing the question of whether evolution is a “chance process” and that is incompatible with God’s purposeful plan of creation. He deftly addresses this question by a trio of perspectives of the meaning of the word “chance” and how that influences how one addresses the central question posed in this section (133-134). Strength of this chapter is how he explains convergent evolution and its emergence in gradual incremental steps. To accomplish this task he uses the example of the evolution of an eye by addressing the question “what use is half an eye (142).” Other leading discussion (speculation) in this “Objections” chapter is why God did not just reveal this was his mechanism for creating diversity on earth. Personally, I am immediately taken to Deut 29:29. He also addresses the ongoing discussion of gradualistic versus punctuated evolution.

Chapter 7 is about the perception that the first book of the Bible is incompatible with the evolutionary explanations he has provided thus far. True to his Christian belief, however, he unambiguously proclaims he personally takes “Scripture as my final authority in all matters of faith and conduct (151).” Likewise, he states that “modern science may shed light on a biblical passage, but I don’t think it should be used as a tool for interpreting the passage (151).” Within this chapter he discusses the type of genre that is found in Genesis, the debate of one day (*yom*) versus a period of time, the debate of Genesis 1 and Genesis 2 being two different accounts of creation, the meaning of “kind” (Hebrew word *min*), and Genesis 1 as a critique of pagan creation stories that are also brought into debate by non-Christian evolutionists. He makes a strong summary in these sections that the purpose of Genesis 2, like Genesis 1, is to

“teach theology. . . Unless we understand that there is only one God, who has brought a good creation into being by his divine Word, and who has created humankind in his image to care for the earth and walk in

obedience to him, then we will be unable to understand the rest of the biblical message (166).”

Chapters 9 and 10 are two thought-provoking chapters addressing the questions of if there was an Adam and Eve, who were they, and if they are the product of evolution or literal biblical creation. These two chapters require the reader to be thoughtful, critical, and open-minded to his arguments as he addresses the questions from both a biblical and an evolutionary perspective. A salient point he makes imploring the Christian to consider his arguments is that such questions are actually secondary and great for intellectual and faith debates but they are not essential for salvation (234). The strength of these chapters is the five models he posits that relate to theological teaching of Adam and Eve and how it relates to what we know about evolution. These models (235-243) cause one to ask critical, hard-hitting questions about his assumptions and supporting arguments. I will not detail them here as the reader must pause and reflect on each of the model suppositions, premises, and strengths and weaknesses. Suffice it to say he has a strong proclivity toward one model that he can give credible arguments as to why he puts stock into that stance.

The next three chapters, 11-13, discuss evolution and death, the Fall, and the theodicy question. I found it interesting how he interconnected the science, philosophy, and theology of these questions in a discussion about evolution and creationism. From a science perspective he did an outstanding job explaining how these tie together. From a philosophical perspective he continued the age old debate about death, afterlife, and the discussion on presence of evil but shed some interesting light on the debates from his perspective. Theologically he spelled out his beliefs and adequately supported his case with Scripture. I especially appreciated how he discussed the different perspectives on physical and spiritual death and how he theologically tied it to the “second death” (Rev 2:11). Going back to his model development in Chapter 10 he examines the issue of the biblical Fall from each point and interconnects the strengths and weaknesses of each model to both Old and New Testament Scripture as well as an evolutionary perspective.

Chapters 14 and 15 deal with the issue of Intelligent Design. Alexander has strong feelings against ID arguments and makes a solid case as why it does not fit within an evolutionary or

scriptural context. Here again he systematically and critically approaches the topic at hand and adroitly dispels many of the pillars of ID arguments. If one openly and thoughtfully reads these two chapters I would be surprised if they still came away with a credible sense of belief in the precepts of ID.

Alexander ends with Chapter 16 that I believe most readers will have difficulty following. In my opinion, this chapter demonstrates the real overall weakness of his book. Throughout the entire text he takes very complicated, highly specialized, scientific topics to make his argument that evolution and God's hand in creation are compatible. Yet, because of the technical nature and necessary jargon many non-scientist Christian readers will be lost and will turn away from the riches of what he is trying to convey. It result would be unfortunate because he makes very cogent arguments throughout the book. To his credit he tries to simplify the concepts as much as possible, but even the most gifted science writers have trouble bringing the technical components to an appropriate level for a layperson. This last chapter has a dual distinction of being the epitome of that concern, while at the same time, being an excellent "bring it home" chapter. I feel that if novice readers have waded through the technical jargon seen interspersed throughout the book they will just be overly frustrated here; and that is a shame.

His Postscript is a summary statement about his personal belief and an appeal to all who are concerned about the dichotomy between Scripture and evolution to

"let scientific theories do the job they were intended for in the context of scientific practice and not to seek to transform them into ideological purposes. . . Christians should let scientists get on with their work, without thinking that they are engaged in some sinister conspiracy. . . All scientists can do is investigate and seek to understand the works of God. What's wrong with that (351)?"

Did Alexander achieve his goal of presenting an argument that Scripture and science can be a "Book of God's Word" and a "Book of God's work" held in harmony? Yes! I think he made a compelling argument. The key is if the reader will be open-minded and critically astute to challenge their own assumptions (regardless of what perspective they are approaching the topic) to see if they are willing to honestly consider alternative perspectives that, in the end, does not challenge fundamental beliefs about God or science.

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