

In the nineteen chapters separating his first and last chapters, Dembski identifies, refines, and deploys the conceptual tools required to forge the theoretical underpinnings of his metaphysics of informational realism, taking the reader on a fast-paced, often high-altitude journey through a vast array of heady mathematical, scientific, and metaphysical passes, along with a few exhilarating detours to various theological precipices. In this short work, he manages to engage and develop a whole host of concepts and theories in terms of their bearing on his informational realism project. The reader will become familiar with various interpretations of quantum physics, information theory, and probability theory, along with a few recently developed mathematical postulates such as the “no free lunch” and “conservation of information” theorems, as well as topics in the biological sciences, such as neo-Darwinist and intelligent design accounts of biological complexity, natural selection, teleonomic vs. teleological laws, and genetic algorithms. In the light of his informational realism metaphysics, Dembski also illuminates for the reader a number of issues in metaphysics, such as determinism, contingency, necessity, causal closure, multiple realization of supervening properties, embodiment, immateriality, randomness, and panpsychism—and even a few momentous theological issues, such as divine concurrence, providence, free will, miracles, resurrection, and immortality.

Despite the occasional abstruse mathematical theorem and a steady flow of abstract conceptual notions, *Being as Communion* is a surprisingly enjoyable read, due largely to the many interesting issues covered, the plentiful use of examples, and the clarity of Dembski’s prose. And for those already familiar with the intelligent design movement, this book does much to clear away some long-standing misconceptions that have diminished its appeal. The book as a whole, however, can be somewhat frustrating. The internal logic of the progression of chapters and topics is not readily discernible. There were a number of better ways Dembski could have built his argument and organized his book to enhance its cogency, increasing significantly the ease of informational uptake of the book’s message.

Leaving aside issues of improving the book’s form, I will offer in closing a couple of comments on its content—one commendatory, two critical. I liked the book’s burden, which I took to be that of forging a metaphysics capable of grounding an informationally porous universe to recover, legitimate, and sustain creation’s enchantments: those meanings, values, and purposes uniquely given to human intelligences that have been progressively dispatched into the realm of epiphenomena ever since the rise of early modern science.

I struggled, however, with Dembski’s failure to clearly separate materialism from physicalism. Unlike materialism, physicalism has no essential connection to matter; physicalism is committed only to those entities the best physics of the day deems the most explanatorily basic. One can therefore be a nonmaterialist and a physicalist. In fact, I would say that most physicists are nonmaterialist physicalists (could a materialist coherently embrace quantum physics?). I think the real demon Dembski is out to slay is not materialism (whether metaphysical or merely methodological) but ateleological physicalism.

My second problem is not unrelated. Dembski could have done a better job of helping his reader understand how

his informational realism differs, if it does, from a flat-out metaphysics of idealism. Given that he contends reality is “information all the way down” (p. 198), understands God’s mind to be the original and ultimate impartor of information to reality (p. 187), and embraces a co-ontologizing relational ontology of information (p. 167), it seems to me that Dembski’s metaphysics is better construed as one of informational antirealism. Perhaps Dembski’s use of realism here is more rhetorical or strategic, allowing him to adopt the likes of naturalist-nonmaterialist-teleologist-realist Thomas Nagel into the intelligent design family.

If you are someone who is drawn to the latest meme of *information*, and you are a theist, then Dembski’s book is a must read. However, even if you are like me and not so taken with that meme (I find it too skeletal a notion to carry the semantic weight of “communion” in his title), and even if you are not a theist, you are nonetheless likely to find lots in this book to expand your mind.

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TECHNOLOGY

THE INNOVATORS: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution by Walter Isaacson. New York: Simon & Schuster, 2014. 488 pages, index. Hardcover; \$35.00. ISBN: 9781476708690.

Walter Isaacson, the former chairman of CNN and managing editor of *Time*, has previously written biographies of Steve Jobs and others. In this latest book, he presents a fascinating and very readable account of key people in the development of both computers and the Internet, from Ada Lovelace and Charles Babbage in the mid-1800s to the beginning of 2014. What makes the book especially enjoyable to read is his focus on the backgrounds of these people and how they collaborated to produce the digital world we know today.

A common belief is that innovation results from the creativity of great individuals. While acknowledging the role played by such individuals, Isaacson frequently points out that innovations are more often the result of collaboration involving people of diverse talents. In his Introduction, he asserts that “the tale of their teamwork is important because we do not often focus on how central that skill is to innovation” (p. 1), while in his final chapter, he summarizes the lessons learned from a study of the history of computing and the Internet. He notes, “First and foremost is that creativity is a collaborative process. Innovation comes from teams more often than from the lightbulb moments of lone geniuses” (p. 479).

Another central idea that permeates the book is the notion of human-machine symbiosis: human minds working with computers to excel at a task by combining the things that humans do especially well and computers do poorly if at all, and vice versa. As an illustration of this, he cites a chess tournament held in 2005:

Players could work in teams with computers of their choice...But neither the best grandmaster nor the most powerful computer won. Symbiosis did...The final winner was not a grandmaster nor a state-of-the-art computer, nor even a combination of both, but two

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American amateurs who used three computers at the same time and knew how to manage the process of collaborating with their machines. (p. 476)

A third notable observation that shows up repeatedly is that “the truest creativity of the digital age comes from those who are able to connect the arts and sciences” (p. 5). In the first chapter, Isaacson presents Ada Lovelace as such a person, and he comes back to her in the final chapter, entitled “Ada Forever.” He also credits her with being the first to conceive of the idea that computing machinery might one day do more than just calculate, citing from the notes she made concerning the Analytical Engine:

The Analytical Engine does not occupy common ground with mere “calculating machines” ... In enabling a mechanism to combine together *general* symbols... a uniting link is established between the operations of matter and the abstract mental processes... The Analytical Engine weaves algebraical patterns just as the Jacquard loom weaves flowers and leaves. (p. 26)

One other thing that this reviewer found interesting is the number of key individuals who were sons of ministers. While Isaacson does not make an explicit point of this in his introduction or conclusion, this observation often arises in his presentation of the backgrounds of individuals. In particular, he attributes the culture of Intel, “which would permeate the culture of Silicon Valley” (p. 192), to Robert Noyce’s background as a son and grandson of Congregationalist ministers, a denomination he describes as being characterized by “the rejection of hierarchy and all its trappings” (p. 189).

While the book covers a lot of ground, this reviewer found it surprising that one important innovation, the UNIX operating system, and one key individual, Ken Olsen, were not discussed at any length. But maybe that is just the prejudice of one reviewer! Nevertheless, the book is fascinating and very readable. While not explicitly dealing with issues of faith and science, it provides a very thorough overview of the origins and rise of personal computers and the Internet. The last chapter alone, “Ada Forever,” is well worth reading for its discussion of artificial intelligence and human-machine symbiosis, as well as its summary of key lessons from the history of digital innovation.

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Letter

Thinking Consistently and Coherently about Truth

I came to Caltech to study science in the 1950s, bringing with me an evangelical Christian faith. I knew I’d acquire knowledge there that would conflict with what many people in church believed, but decided that since scientific truth is about the universe God created, I should always hold Christian faith and the truths learned through scientific inquiry in a consistent, coherent way, treating each with the respect it deserves as valid knowledge. That decision has borne lifelong fruit in a long academic career in secular universities.

I know or have known many Christians trained in the sciences, who have professional careers based on scientific

knowledge, and who through life rely on such knowledge in their daily work. Some are engineers; some are medical doctors; some are secondary school science teachers; some are technical people whose skills employ scientific knowledge every day. But to my dismay I find that many of them are unable or unwilling to think consistently about truth in science and the truth they hold in Christian faith.

When scientifically literate Christians endorse recent-earth creationist propaganda themselves, or present it to others as a legitimate alternative to established scientific knowledge, they create a kind of chaos for rational discussion. I’m puzzled and troubled that time and effort must be taken listening to such propaganda (or trying to refute it). Currently an influential and popular source of creationist propaganda is the media empire run by a person named Ken Ham, and the “Answers in Genesis” media system Ham controls. As others have pointed out, Ham’s empire is lavishly funded—to the tune of millions of dollars per year. My own life experience has taught me that when money and truth collide, truth often suffers.

It should not surprise anyone if all devotees of Ken Ham or other recent-creationist propaganda sources were uneducated persons without any knowledge of science. The real shocker is that some Christian people who repeat such propaganda to others have received scientific training adequate for their professions and daily work. It’s reasonable to infer that they haven’t really examined their belief-set for consistency and coherence as an account of the world we all live in. When goaded to desperation by gadflies like myself, some of these Christians even suggest that God may have created the world to “look old”—fooling us scientists and other naïve persons to follow the “evidence” showing its age. But this suggestion is truly blasphemous, because it implies that God is a liar.

The origins of recent-earth creationism are well known, and they are both theologically and scientifically suspect. Being a Christian does not require a scientifically trained person to defend or endorse anti-scientific arguments about the universe’s age (and therefore ignore the scientific evidence for a 12–15-billion-year-old universe and an earth almost that old). This is especially relevant if such arguments contradict scientific knowledge on which we rely in daily life and work. In the first place, recent-earth creationist arguments have nothing to do with the gospel; in the second place, they are based on a naïvely literal interpretation of the Genesis creation accounts. So why, in spite of this, do some people with good scientific training and lifelong professional experience using it, still endorse or even believe propaganda that openly contradicts reliable scientific knowledge? So far, explanations I’ve come up with for this odd inconsistency have nothing to do with truth; they have far more to do with family relationships, smoothing over disagreements arising from different educational backgrounds, and so on. But carrying around worthless baggage cripples sound Christian apologetics, and with Elijah, I would ask the same harsh question: *how long will you go limping along with two conflicting opinions?* (1 Kings 18:21).

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