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Book Review

The Man Who Found Time: James Hutton and the Discovery of Earth's Antiquity

by Jock Repcheck

Perseus Books, Cambridge, MA, 2003, 256 pages, \$28.00.

I recently picked up a copy of this biography of James Hutton by Jack Repcheck. I expected an erudite discussion that reflected modern historical scholarship. What I found was a combination of a smug anti-Christian bias combined with what Stephen Jay Gould (1997) referred to as the “cardboard empiricist myth,” and that was before I got past the prologue. Having read several recent (and far superior) sources, I found this author completely out of touch with modern research. So, for the first time in my writing career, I find myself reviewing only the prologue of a book. Anyone in-

terested in the rest of the content should see the review by Walker (2004).

Ordinarily, I would not consider it worth the effort to bother with such a review, but I think it is helpful on occasion to remember that our opponents are, all too often, the very things of which they accuse us: biased and uninformed. Repcheck begins with the usual drivel about the victory of “science” over the repressive forces of “religion.”

Yet the reverence accorded to biblical answers caused problems, the most serious being that it prevented rigorous and systematic examination

of the very world that God had created. Scholars who investigated fields that did not touch on church doctrine were relatively unaffected, but those who explored the natural world were playing with fire—the figurative fire of controversy, the real fire of the heretic’s pyre, and the eternal fire of damnation if the church felt they had stepped too far (p. 2).

These two sentences reflect a profound ignorance of the history and nature of science, and the history and nature of the Christian church. First, he claims that the Bible precludes

knowledge of nature, when the truth is exactly the opposite. Starting with Adam naming animals and tending God's garden, believers have always been keenly interested in God's creation. Science would not be possible apart from the same medieval Christianity that Repcheck apparently detests.

Moreover, the so-called Scientific Revolution of the sixteenth century was the normal result of development begun by Scholastic scholars starting in the eleventh century. Thus my attention shifts to why the Scholastics were interested in science at all. Why did real science develop in Europe at this time? Why did it not develop anywhere else? I find answers to those questions in unique features of Christian theology (Stark, 2003, p. 123).

Not only did the axioms of science arise from Christian theology, the methods and early investigations of science came out of European universities founded and supported by the Roman Catholic (and later by the Protestant) churches. Finally, one's eternal destiny has nothing to do with any particular view of science but with the gospel clearly preached in the same Bible.

Repcheck argues for the "heroic" view of science: a few noble individuals created science while standing against the forces of evil represented by the church.

A surprising number of individuals had this unique form of intellectual courage, but it was largely the work of just four men who shattered the biblically rooted picture of Earth and separated science from theology (p. 2).

He chose Copernicus, Galileo, Hutton, and Darwin. If Mr. Repcheck wants examples of intellectual courage, he should read biographies of Wycliffe, Luther, or many early Christians. It takes a few paragraphs, but Mr. Repcheck later admits that Copernicus and Galileo were Christians. How then did

they deliver us from their own faith? It was not the heliocentric universe, as Mr. Repcheck believes; that concept had been floating around scholastic academia for some time. As Stark (2003, p. 139) noted,

Thus the "Scientific Revolution" does not begin with Copernicus. As the distinguished I. Bernard Cohen put it, "In short, the idea that a Copernican revolution in science occurred goes counter to the evidence...and is an invention of later historians."

Regarding Galileo, the anti-Biblical hero, Stark (2003, p. 163–164) notes,

But there is far more to the story than this, and these overlooked or ignored facts put things in a somewhat different light: that Galileo's troubles stemmed as much from his arrogance as from his scientific views.

There is no doubt that Hutton indirectly influenced culture away from the Christian worldview, as did Darwin, but Gould (1997, p. 66) points out that Hutton did so as Lyell's cardboard myth, not as a real man.

Charles Lyell's self-serving rewrite of geological history...demanded a certain type of hero, and Hutton best fitted the requirements. Simple chauvinism decreed a British character, and Hutton prevailed.

Repcheck, following secular propaganda, conflates the Bible's clear teaching of man's significance in God's eyes with the location of the planet Earth.

If the earth was no longer the center of things, was it still special? Why would God choose a place other than the center of the universe as the home for a creation made in His own image? (pp. 2–3).

What he misses is the clear teaching that the cosmos was special because it was created by a special God. Man is even more special because he is created in that God's image, not because his home is located at a particular point in

the universe. Given Mr. Repcheck's worship of empirical science, one wonders if he has seen the ends of the universe, thus confirming that Earth is not located at its center.

The Copernicus myth continues:

Because of the cryptic introduction and the technical nature of the work, Copernicus' book did not have a profound impact immediately. It took Galileo, the first celebrity scientist, to publicize the true meaning of what Copernicus had written (p. 3).

In the university system of the time, Copernicus's work was probably widely read. The real reason that it was widely ignored for some time was that its insistence on circular orbits prevented it from being better at predicting planetary motions than Ptolemy.

If one does not want to acknowledge that the rise of scientific astronomy was begun by Scholastics, then the beginnings of the field must be moved forward in time to the work of Johannes Kepler...whose elegant model got everything right that Copernicus had gotten wrong (Stark, 2003, pp. 139–140).

In Repcheck's mythology, there is an odd 150-year gap between the persecuted Galileo and the next liberator from religious bondage, James Hutton.

James Hutton, a Scottish natural philosopher, boldly confronted this centuries-old wisdom. Writing in 1788, he formally presented proof that the earth was significantly older than 6,000 years. In fact, its age was incalculable—it could be hundreds of millions of years old, it could be billions. Hutton reached his conclusions about the age of the planet through his revolutionary theory of the earth (p. 4).

It's hard to know where to begin with a quote like this. Hutton was not bold; he wrote for like-minded elites. His "deep time" was hardly original, as

Hutton's concept of time was in fact a commonplace among Enlighten-

ment savants. Like Buffon with his “eternal road of time,” Hutton treated time as a dimension that necessarily stretched without limit into past and future (Rudwick, 2005, p. 169).

He never presented “proof” in 1788 (actually, he presented the paper in 1785; it was first published in the Transactions of the Royal Society of Edinburgh in 1788); he merely presented a theory, and one that had no empirical proof in the sense we know it today.

Far from inferring a vast timescale from observation, Hutton deduced it from first principles and then explained away the awkward fact that its effects were unobservable (Rudwick, 2005, p. 169).

He never defined “deep time” as history, because he rejected history in his cyclical world machine.

However, he did not infer a vast scale of time by extrapolating from a very slow observable rate of erosion. On the contrary, he flatly denied the validity of anything like de Luc’s natural measures of time; he claimed that no clear evidence of the rate of erosion of the continents could be detected, even within the whole of recorded human history back to the ancient Greeks: “It is vain to attempt to measure a quantity which escapes our notice, and which [human] history cannot ascertain; and we might just as well attempt to measure the distance of the stars without a parallax, as to calculate the destruction of the solid land without a measure corresponding to the whole” (Rudwick, 2005, p. 169).

However vast—indeed infinite—its putative timescale, nothing could have been more profoundly ahistorical. Hutton showed no interest in plotting the particularities of geohistory; indeed, he explicitly rejected that kind of project (Rudwick, 2005, p. 172).

Unconstrained, Repcheck soldiers

through the factual difficulties to retell the heroic myth.

Most previous scholars who had developed hypotheses about the earth had never questioned the church’s teachings. They saw Noah’s Flood or the waters of the unformed earth as the explanation for all odd geologic formations, thus allowing the age of the earth to fit within six millennia.... Hutton completely ignored the Bible and the Deluge, and as a result he was able to clearly see what rock formations told him (p. 4).

As before, it’s hard to know where to start. Most scholars of the eighteenth century had rejected the Biblical account of the Flood and Earth’s recent origin. In fact, Rudwick (2005) notes that the savant Jean-Jacques de Luc was in an extreme minority in his attempt to defend the Flood! The rejection of the Flood had been a *fait accompli* for much of the eighteenth century among the intellectual elite; hand in glove with their more general rejection of Biblical authority. Hutton’s rejection of the Bible—and his deism—was merely mainstream at the time. Finally, it was not just the Bible Hutton ignored; it was also the rocks—he did his fieldwork *after* he had derived his theory.

When Christians present their worldview, they are “religious fanatics,” “intolerant,” “superstitious,” etc. When secularists present theirs...

Still, these men [Hutton and Darwin] were not bent on battling with their respective churches; they were simply seeking the truth unconstrained by past biases (p. 5).

I’m sure that Darwin and Hutton helped little old ladies across the street, too.

Then we get to the heart of the matter: Religion and science are like oil and water. As the heroic myth comes to its dramatic conclusion, we see that

Copernicus, Galileo, and Darwin are regarded as the key figures in the freeing of science from the

straightjacket of religious orthodoxy (p. 5).

Repcheck says that religious orthodoxy is a straightjacket; Jesus of Nazareth says that the truth will set you free. Pick one. The history of science has demonstrated beyond any doubt that the discoverers of science required the comforting confines of Biblical philosophy to justify the foundations of science. Once again, Repcheck’s personal religious bias blinds him to historical reality.

Having demonstrated his lack of knowledge of the history of science, Repcheck now demonstrates his ignorance of the history of Christianity.

In fact, biblical chronology, as the discipline of precise biblical dating was called, was one of the most rigorous “sciences” of the pre-Renaissance era. Beyond scholars, many of the holiest figures from church history, including the prophet Elijah, St. Augustine, St. Bede, St. Thomas Aquinas, and even Martin Luther had commented on the age of the earth and all had reached the same conclusion: the earth was nearly 6,000 years old (pp. 5–6).

Most people for most of church history did not concern themselves with Biblical chronology. That is because most accepted without a second thought that the earth was young, and because the esoteric modes of hermeneutics during much of that time made it irrelevant. Chronology grew in popularity after the Reformation, thanks to a new emphasis on Biblical authority, a more restrictive hermeneutic, and the growth of textual studies in the original languages. Repcheck does not cite anything in support of his mischaracterization. It would be interesting to know exactly what chronology Elijah derived, and even more interesting to know how it was preserved and passed down. The rigorous sciences prior to the Renaissance included linguistic and textual studies, engineering, mechanics, astronomy, etc. Repcheck could not be citing the curriculum guide

of any major medieval university—the incubators of science. Furthermore, what's wrong with Biblical chronology as an area of investigation? It has a better internal coherency and external consistency than modern methods of dating prehistory (Reed, 2008).

Now we come to Repcheck's explanation of the "missing link"—why was Hutton virtually ignored between 1788 and 1830?

Lyell had rediscovered Hutton's work a generation after it had been forgotten (p. 6).

Oops! Wrong again! It is odd that such a great scholar would be forgotten, especially given Repcheck's enthusiasm for the vigor of the Scottish Enlightenment. The other typical excuse is that he was too hard to read until Lyell and Playfair "translated" his great theory. But again, Repcheck has it all wrong.

It is not surprising then, that one of the two points on which Hutton was criticized most vigorously by his contemporaries was his eternalism. It was not his concept of the vastness of time that they rejected, but his scarcely concealed claim that the earth—and by implication the cosmos as a whole—had had no origin and would have no end (Rudwick, 2005, p. 170).

Hutton, I will argue, did not draw his fundamental inferences from more astute observations in the field, but by imposing upon the earth, a priori, the most pure and rigid concept of time's cycle ever presented in geology—so rigid, in fact, that it required Playfair's recasting to gain acceptability. Playfair aided Hutton's victory by soft-pedaling the uncompromising and ultimately ahistorical view of his late and dear friend (Gould, 1997, p. 63).

The hoary legend of Hutton's unreadable prose has served various ideological purposes during the past two centuries. Soon after Hutton's death, Playfair, *Illustrations* (1802), used it as a reason for bowdlerizing the work by detaching it from its teleological framework and suppressing its teleology. He has been followed by countless other scientific commentators ever since (Rudwick, 2005, p. 161).

In other words, Hutton derived a theory that no self-respecting geohistorian of his time would touch. They liked his rock cycle but not his view of history, nor his lazy empirical approach. It fell to Lyell to dig up the body and dress it in an entirely new suit. Hutton ended up as a pawn for Lyell, a hero of the new science only to the extent that he was misinterpreted.

Repcheck gets to St. Darwin, who was evidently a staunchly orthodox Christian until he learned otherwise.

The ancient age of the earth came as a revelation to Darwin (p. 6).

He must not have been paying any attention to his grandfather, Lamarck, Cuvier, Buffon, Buckland, Sedgwick, Murchison, Lyell, etc. Darwin may have become convinced of geological uniformitarianism by Lyell but almost certainly knew that most intellectuals, including many in the church, accepted an extended prehistory.

Finally, another series of misstatements about Hutton grace the pages,

Hutton devised the first rigorous and unified theory of the earth.... It was a completely original story.... Unlike all previous hypotheses of Earth's workings, there was no call for catastrophes, such as Noah's Flood (p. 8).

Strike one: it was not the first rigorous and unified geothory of earth's past. It was not even close. Strike two: it was original only in some aspects, such as the igneous formation of sediments, which was universally rejected. Hutton rejected history in favor of an eternal, cyclical earth—that was not unique, either, but was also rejected (which explains why Hutton needed Lyell to revive him). Strike three: many current hypotheses, in fact most, had shed any pretense of deriving accurate history from the Biblical account of the Flood.

In summary, Repcheck's prologue contains numerous errors of fact and bias. Keep that in mind if you are of a mind to bother with the rest of the book. If you want to learn about James Hutton's work, try Gould's *Time's Arrow, Time's Cycle* (1997) or Martin J. S. Rudwick's *Bursting the Limits of Time* (2005).

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