

Review by Jitse M. Van der Meer of: *Science's Blind Spot: The Unseen Reality of Scientific Naturalism*. By C. G. Hunter. Grand Rapids, MI. Brazos Press. 2007.

This book aims to show that science cannot stop offering natural explanations when it encounters nonnatural phenomena. When problems arise such as the discovery of complex design, the assumption is that a natural explanation will be found. What might be a nonnatural phenomenon will be explained as natural (44-45) even if the explanation is fictional and does not correspond to a reality (46-48). The assumption is that there is a problem with the research, not with what Hunter calls the naturalistic paradigm.

Hunter uses the term 'theological naturalism' for this naturalistic paradigm. He means that the historic reasons for believing that nature runs on its own and that natural phenomena must be explained accordingly, that is as a result of natural causes using human reason, were theological. God does not act in nature, for instance, because God is too great or cannot be too close to the evil one finds in nature. Thus the term 'theological naturalism' means that naturalism had a theological justification although the subtitle – the unseen religion of naturalism – suggests that the author also sees naturalism functioning as a religion or as a theology.

The strategy is to show that the history of science is littered with failed explanations. For most working scientists failure is a reason to find good natural explanations. But Hunter takes the failures as having reached the point at which the paradigm of explanation in terms of natural causes needs to be questioned. For him the fact that this path is not taken shows that 'the naturalistic paradigm' cannot be falsified. This allows him to level the playing field for the two explanatory alternatives. "[T]hose committed to naturalistic explanations, like those committed to supernaturalistic explanations, can always devise a theory to explain what we observe. Like supernaturalism, naturalism can never be judged a failure, for there is no test for failure." (68).

The parade of failures is a mixed bag. In cosmology (Ch. 4) he reviews explanations of the fact that the orbits of the then known planets were aligned roughly in one plane and that the planets including their known satellites orbited the sun in the same direction. The explanatory options considered at the time were divine design (Newton), one single cause (Laplace) and several independent causes (Bernoulli). Bernoulli calculated that the probability of independent causes resulting in the observed alignment was negligible. The requirement for natural causes ruled out Newton's explanation. Thus the rotating nebula was the only viable hypothesis left. But Hunter describes the situation as forcing "an either-or decision between independent causes (he calls this random chance) and a mechanistic process." (56). It escapes me why he does not see both as mechanical explanations. He then reviews new problems in the recent history of the nebular hypothesis. While most practicing planetary scientists would take unsolved problems as characteristic for a science that deals with the *history* of the planetary system, Hunter counts it as evidence against the naturalistic paradigm – a failure to grasp the historical nature of planetary science and the role of interpretation in it. A more effective example is the fine tuning of the universe. Hunter points out that while fine tuning could be explained in supernatural terms, only naturalistic explanation in terms of many worlds is acceptable. The many-world hypothesis is a good example of science's blind spot: it not only commits science to anti-realism, but it is untestable in principle.

In reviewing evolutionary biology the focus is on failed predictions rather than explanations. This issue arises because in Chapter 5 Hunter introduces Popper's falsification view of scientific progress as the gold standard for science, and then spends Chapters 5 and 6 listing failed predictions that should have led to falsification of the theory of evolution, but didn't. Sometimes Hunter is on target: "Evolution is supposed to have produced a fine-tuned [molecular] machine that is, in turn, supposed to be the engine for evolution itself. This is circular, for without variation, natural selection is powerless to work." (76). But he misses his target just as often. One prediction (Chapter 6) is that species without common ancestor cannot have similarities (no convergent evolution). Such species, however, do exist (84-85) and this is according to Hunter another falsification patched up with just so stories. But on closer examination the similarities show many differences in detail. The differences in detail between the vertebrate eye and the squid eye is what makes it possible to distinguish them from similarities due to common descent (homologies) in the first place. This applies to all convergencies such as those between marsupial and placental mammals as well as between African and American succulent plants. Thus common descent is not falsified and does not need to be patched up.

It is unfortunate that the evidence for the failures of naturalism is a mixed bag because he does not need them to show that science is unable to establish its own limits. The limits of science are not subject to scientific problem solving because these limits do not belong to the material world and are not subject to causation. They belong to the metaphysical context of science. Thus the boundaries of science depend on one's beliefs about the nature of reality. In the eyes of a theist, a metaphysical naturalist like E.O. Wilson will re-describe reality such that what others consider to be non-material (e.g., moral standards) or supernatural (e.g., God) is reduced to material reality and thus subject to explanation in terms of natural causes. But such boundaries do not exist for a materialist.

The book fails on two other important points. First, the failed explanations of science are not failures of explanation in terms of natural causes. Rather they are the inevitable result of a process of trial and error by which we learn. They originate in human limitation. By ignoring the successes of explanation in terms of natural causes works Hunter fails to see that it works better than explanation in terms of supernatural or non-natural causes. Take the history of twentieth-century embryology. Parts of many embryos can develop into complete and normal organisms. Initially this ability was seen as the effect of forces characterized variously as non-natural, psychic or non-material. These explanations were replaced by accounts in terms analogous to a physical force field, the so-called embryonic field. In the late twentieth-century the material causes underlying this ability were identified as ribonucleic acids and proteins that could regulate the expression of genetic information. A natural reality replaced a supernatural reality.

Hunter also neglects the historical dimension of cosmology and biology. While the role of interpretation in historical biology is larger than in experimental biology it can be tested. Take biogeography. The continents of Australia and South America were once connected via Antarctica. Pouched mammals are found alive in Australia as well as in South America. It was predicted that they had migrated from South America to Australia via the Antarctic continent. In 1981 a fossil pouched mammal was found on Seymour Island in the Antarctic (*Science* 218, no. 4569, pp. 284-86, 15 Oct. 1982). Thus historical biology is not all interpretation and no

prediction and testing. Moreover, in this example we have consistency between two very different collections of evidence: geophysical and biogeographical observations and explanations match. In addition, each discipline accounts for its own distinct range of phenomena from global patterns of earth quakes and volcanism to the geography of plants and animals. With such a wide empirical scope a theory has a large probability of being falsified. The fact that these two theories have not been falsified has turned them into strong accounts.

The conclusions of the book are confusing. Hunter praises as well as condemns what he calls naturalistic explanation. It seems he wants to introduce explanation in terms of supernatural causes into the natural sciences, a conclusion he supports with the observation that good science was possible without full-blown naturalism (103). But here he mixes two very different roles of religion in science. Ideas about how God may have created the world have been fruitful as footholds for research irrespective of whether they were justified theologically or correct. But explaining natural phenomena as the result of divine action is a science stopper. Not only do we not know why God made things the way they are so that predictions might be made, but it is also impossible to manipulate God as a variable in a scientific experiment. I leave aside that going in this direction would be spiritually inappropriate and also that it is theologically questionable to assume that God's action in the world can be conceived in terms of causal action.

The author is not familiar with common philosophical terminology: scientific deduction is said to be based on empirical observation (59, 111). There are category mistakes: panspermia is classified together with special creation as a supernatural alternative to naturalistic explanation (144). The science is not reliable: Altogether, this does not inspire confidence in the reliability of the book. Not recommended.