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**The Possibility of a Theology-Engaged Science:
A Response to Perry and Lane Ritchie**

There are many points that John Perry and Sarah Lane Ritchie make in their article, ‘Magnets, Magic, and Other Anomalies: In Defense of Methodological Naturalism’, with which I agree. Together, we share a commitment to a position that does not in any way impinge upon the essential elements of mainstream contemporary science. As such, many of the problems that they think emerge for science by rejecting methodological naturalism (MN) are problems that simply do not result from the position I advocate. Indeed, if I thought these same problems were an entailment of my specific rejection of MN, I would be the first to dismiss my position as the only coherent and cogent option. In this response, I shall try to show precisely why my account does not entail the problems they suggest.

To do so, I shall begin by addressing some of the confusion about my position. Suffice it to say, if their perception of my view were accurate, then it would indeed be highly problematic for scientific practice. However, their perception is far from accurate. Confusion has arisen because they insist on identifying my position with some of the very different positions that other critics of MN adopt. Unfortunately, the highly polarised nature of the debate about MN, and the imprecise way in which MN is interpreted, mean that it is hard to critique MN without being associated with many of the serious problems that arise, for example, from the form of “natural theology” that undergirds the Intelligent Design movement.

It is not simply my intention, however, to address confusions. There remain some fundamental differences between my position and Perry and Lane Ritchie’s. It is on these differences that I wish to focus—differences which enable me to maintain my critique of MN without falling prey to the problems they raise. Constructively, I shall advance a further argument that the Christian scientist should be open to the possibility of theology-engaged science, as well as the science-engaged theology that Perry and Lane Ritchie advocate.

ANOMALIES

The driving concern that Perry and Lane Ritchie have with my position is what they perceive to be a confusion in my understanding of how scientists deal with anomalies. Specifically, they suggest that if this “confusion is cleared up, [Torrance’s] objections fall away, proving to have been a red herring all along’ (15). It seems to me, however, that it is their misinterpretation of my argument that lies at the heart of their misunderstanding of my position.

Perry and Lane Ritchie argue that when a contemporary scientist views an extraordinary anomaly that may challenge our current understanding of the natural order, the appropriate response is to:

....record it as an anomaly, restate your preliminary conclusion in the form of a *testable* hypothesis, and await more data. If something seems anomalous right now nothing should compel the careful scientist to render a conclusion of sufficient data. Such a science will always *keep digging*. (8)

I agree that this is normally the right response and I agree with nearly all of what Perry and Lane Ritchie have to say about how scientists should respond to most anomalies. So, let me clarify where I think the confusion lies. My view is that the Christian recognises that there are a handful of exceptional anomalies that entail visible phenomena which require to be explained with recourse to special divine action—and where it is mistaken, therefore, not to do so. For the purposes of this paper, I shall refer to these as “The Miracles”.

The Miracles are characterised in the following ways: (1) they are an essential part of Christian knowledge—Christians interpret them as ‘facts’; (2) they generate directly observable phenomena (thereby placing them within the domain of science); (3) they need to be interpreted theologically (because the Christian does not believe a natural explanation is possible); (4) they are entirely *sui generis* to the extent that the Christian knows that it would be confused to try to interpret them in natural terms (in the way that scientists should try to explain all other phenomena), i.e. these events will not be repeated by virtue of purely natural causes. What I am referring to as The Miracles include such miracles as: creation *ex nihilo*, the incarnation, the resurrection,¹ and the ascension. Just to be clear, I am not including miracle candidates that could have a natural explanation that would be compatible with the Christian faith. When it comes to those kinds of events, I agree with Perry and Lane Ritchie that it is the duty of the scientist to keep digging for a possible natural explanation.

If a Christian scientist is consistently committed to MN, she will not be able to recognize that The Miracles are an exceptional kind of anomaly that she should not try to explain naturalistically. That is, she would be required either to deny the claims outright or “always keep digging” for a natural (or naturalistic) explanation as to how these things could have happened. Under these circumstances, it is hard to understand why it is more scientific to keep digging. Would it not be more scientific (would it not be truer to the empirically-accessible object of her study) to revise her scientific method to allow for theological

information? This information could lead the scientist to say that she should not investigate The Miracles in the same way that she would approach the regular phenomena of the natural world—she could say that they are a blind spot for an ‘empirical’ investigation that excludes that form of ‘experience’ or ‘recognition’ integral to the Christian faith. In this way, her theological knowledge of the unique nature of The Miracles would determine how she should approach them—rather than allowing an inappropriate method to determine how she must interpret them. In short, it is hard to see how, under such circumstances, MN would be the more scientific approach.

When I made this point in my original paper, Perry and Lane Ritchie responded by arguing that a scientist committed to MN can “absolutely” recognize a blind spot (9). However, they seem to be confused about what a blind spot is. A blind spot is not simply a spot that is currently unable to be explained naturalistically; it is a spot that *cannot* be explained naturalistically. I agree with Perry and Lane Ritchie that a MNist can say ‘I don’t know’, ‘I don’t know yet’, or even ‘we cannot explain this phenomenon.’ However, I do not know how the MNist can say ‘it is not possible to explain this naturalistically’—to say that would require theological or metaphysical assessment.

If a Christian scientist were to study The Miracles, I think she should have the freedom to say, ‘I believe this happened by a *sui generis* act of God.’ To try to search for a naturalistic explanation that conforms to a scientist’s normative engagement with the contingent order would suggest a failure on the part of that scientist to appreciate the *sui generis* nature of these events. Moreover, it is hard to know how a search for a naturalistic explanation of The Miracles would not, on some level, involve a person “pretend[ing] as though God has not acted.” (9) Furthermore, I see no reason why such a search would not risk inviting false hypotheses.

APPARENT MIRACLES

Drawing on Aquinas, Perry and Lane Ritchie suggest that the “right question” to ask is: “*What should the theistic scientist do when faced with something which looks like God “producing the effects of secondary causes without them?”*” (8). When they ask this question, they are concerned that my rejection of MN opens the door to a Newtonian approach in which the theistic scientist will be too quick to posit that a miracle has taken place when they encounter “seemingly miraculous anomalies” (9).

I find it difficult to understand why Perry and Lane Ritchie think my position would invite such haphazard reference to divine action. Throughout my article, I make it clear that I

do not think that special divine action can be identified by the specific kind of empirical investigation that characterises the natural sciences—in a way that would undermine the search for a possible natural explanation. That is, due to the hiddenness of God, I do not think a Christian scientist should identify a miracle—unless she is studying the exceptional cases of The Miracles. She could perhaps be open to the possibility that a miracle has taken place; I would not want to rule out that there are empirical conditions (experiences) that could be suggestive of miracles. However, I do not think that such openness should give her the confidence to say that a miracle is apparent in a way that could make any difference to her scientific study. As such, I cannot see how the specific position I advocate creates a problem for current scientific practice.

The problem here seems to be that the question that Perry and Lane Ritchie think is the “right question” in this context can actually be a misleading one. I do not think we should be asking scientists what they should do “when faced with something which looks like God “producing the effects of secondary causes without them”” because I do not think a miracle is discernible by the kind of empirical observation that we find in the natural sciences. Perry and Lane Ritchie also reject this when they assert that empirical observation “can never identify a miracle” (11).² Their rejection of this makes it hard to understand why they think the above question is the right question to ask, especially when they suggest that seemingly miraculous anomalies create a problem for my position.

There is, however, a difference between our two approaches here. Perry and Lane Ritchie think that the Christian scientist should reject the positing of a miracle because it goes against MN. By contrast, I reject this because of a theological commitment to the view that special divine action cannot be known by the kind of empirical observation that takes place in the natural sciences. Here it seems that a theologically-engaged science can achieve the very same end as MN, albeit in a way that (for the Christian scientist at least) is more theologically informed, consistent, and, indeed, scientific.

COMPATIBILISM OR INCOMPATIBILISM?

In their article, Perry and Lane Ritchie note that I am committed to “an incompatibilist view of divine agency, in which affirming an event as divine action implies that there is no natural explanation for that event” (7). This could lead my position to be misinterpreted, so it is worth clarifying my view on this matter. I do not think that divine agency is incompatible with the forms of agency we find within creation; that is, I do not think there is a competitive

relationship between God and the dynamics within the created order. Also, I believe that there are regulative ways in which God's action positively preserves the natural order: bringing about and maintaining an order that is observable to the natural sciences and can be interpreted with natural explanations. Indeed, I would affirm that there is a sense in which "all things" (*ta panta*) in the created order hold together in Jesus Christ (Colossians 1:16-17).

At the same time, I reject theological compatibilism: the view that all observable activity is determined by a specific corresponding divine activity—as though God's causal activity and creation's causal activity are two sides of the same coin. So, for example, I do not think that God directly causes, ordains, or preserves those activities that are associated with the evil, sin, and disorder that are an observable part of this world (but which I would associate with causal activity internal to creation). Instead, I hold to a skeptical theistic view, namely, that, for some reason, unbeknownst to us, God permits these things to happen. I recognize that there are some ways in which MN would be less problematic if I were a theological compatibilist. However, insofar as I do not think that God's causal activity is determinative of everything that happens in this world (I do not think God caused or ordained the Holocaust, sexual abuse and the like), I do not see this as "a live option" (23 n. 8).

Also, as I have already suggested, I think there are some visible phenomena in this world, such as The Miracles, that require a theological explanation that does not have a corresponding naturalistic explanation, i.e. which cannot take the place of the theological explanation.

ARE SCIENTIFIC EXPLANATIONS LIMITED TO EMPIRICAL EXPLANATIONS?

In my original article, I note that a commitment to MN entails that all scientific explanations are limited to naturalistic explanations. In response to this point, Perry and Lane Ritchie suggest that this could be reframed into the following dogmatic statement: "*all scientific explanations are limited to empirical explanations.*" They then add that "[t]his is unremarkable to the point of being trivial" (7). Throughout their article, Perry and Lane Ritchie suggest that science is purely empirical. We see things very differently here. It is not at all clear to me that this dogma is straightforward, for a number of reasons.

First, this dogma would deny the scientific nature of much of the explanatory work that theoretical scientists undertake.

Second, it is hard to understand what precisely constitutes a purely empirical explanation given that, as Michael Huemer and many others have argued, there is no such thing

as pure empirical reasoning. Huemer writes, '[a]ll empirical reasoning requires background cognitive attitudes that cannot be justified on the basis of observations, logic, or the analysis of concepts' (2017, 593).

Third, as I have been arguing, the Christian knows that some visible phenomena in this world are better understood if the scientist is able to interpret them theologically, rather than simply "empirically." A Christian's knowledge of The Miracles should, therefore, call into question the validity of Perry and Lane Ritchie's dogma. Why? Because, normally, if a scientist discovers that a part of scientific dogma impedes her attempt to offer the best explanation for a visible part of the natural world, they will recognize that it is better to revise the dogma than attempt to interpret that phenomenon incorrectly.

Fourth, in Perry and Lane Ritchie's critique of Rodney Stark and Hermann Simon, they suggest that the kind of problems we see in Stark's work are due to 'the fact that scientists tend not to be as philosophically careful writers as Alvin Plantinga is' (5). This begs the question as to how a scientist, who is limited to empirical reasoning, could be philosophically careful (or think she should be philosophically careful). Moreover, how is a scientist, who is limited in the way Perry and Lane Ritchie argue, supposed to judge what it means to be a "good", "bad", or "real" scientist—a value judgement that Perry and Lane Ritchie suggest is important to the scientific task?

Fifth, what counts as an "empirical explanation" depends on what counts as experience. Still further, what counts as an explanation depends on philosophical accounts of such concepts as causation. Clearly, there are empirical explanations that are not likely to be recognized as scientific. For example, personal explanations of individual behaviour are certainly empirical but not scientific in any meaningful sense. Why did I go climbing today? Because I love the Scottish Hills, and this was a good way to spend time with my family. The explanation is empirical but, presumably, would not be recognised as scientific.

There is obviously much more that needs to be said here. In summary, Perry and Lane Ritchie's statement is not as straightforward as they suggest. Indeed, one could say that, for philosophers of science, the suggestion that the issue here is complex "is unremarkable to the point of being trivial."

CAN "THE MIRACLES" COUNT AS KNOWLEDGE FOR THE CHRISTIAN QUASI-SCIENTIST?

Before concluding, I would like to turn to consider one of the main ways in which Perry, Lane Ritchie and I might part ways. Perry and Lane Ritchie cite Brightman as saying “[t]here is more than one kind of verification. Each science has its own concept of verification, which may differ from that used in another science” (6). Drawing on Brightman, Perry and Lane Ritchie note that there is a contrast between “what we can know with our senses, that is empiricism, and other ways of knowing.” I concur with both of these points. Perry and Lane Ritchie, however, then go beyond Brightman’s statements to argue: “standards of verification differ among disciplines, which is another way of saying that epistemology (what counts as knowledge?) is discipline-specific” (7).

Perry and Lane Ritchie’s position here is ambiguous and could be interpreted in various ways. There are ways to interpret them that would mean that the three of us agreed—if, for example, they are simply saying that the facticity of miracles cannot be verified by the empirical methods of the natural sciences. However, if this were the case, their statement would not constitute a problem for my position. That said, there is one way to interpret them that would mean that their position did run counter to mine. So, I shall respond to this interpretation.

The statement that “standards of verification differ among disciplines,” to the extent that “what counts as knowledge” “is discipline specific,” could be taken to suggest that something can count as a fact in relation to one discipline but may not count as a fact in relation to another discipline. So, whether or not something counts as knowledge will alternate depending on a person’s immediate disciplinary commitments. This point is relevant to Perry and Lane Ritchie’s critique of my position because it would entail that while The Miracles may be a fact for the Christian *qua* theologian, they would not be a fact for the Christian *qua* scientist. Why? Because “scientific method (and thus MN) can never say that an observable event has or has not been caused by God” (7). If this is the case, Perry and Lane Ritchie risk making a case for alternative facts, which I strongly reject.

If this is what Perry and Lane Ritchie are arguing, how might one respond? It is widely assumed that the facticity of a statement does not depend on its ability to stand up to methods of verification that are not appropriate to verifying it. For example, just because I cannot develop a knowledge of distant stars with the kind of verification that characterises cell biology does not mean that the cell biologist *qua* cell biologist should deny that the existence of such stars is a fact—that it counts as knowledge. This is because what counts as knowledge for most persons is independent of their specific disciplinary commitments. There are of course different ways of verifying whether or not something is a fact. But, again, a person’s commitment to a

fact will not alternate depending on whether she is inhabiting a discipline that can verify that fact.

In short, a fact remains a fact whether or not it can be verified by the particular methods of the discipline which verifies it. It may be that such a fact is not relevant to that particular discipline. So, for example, I am happy to say that The Miracles are not relevant to contemporary work being done in chemistry, physics, biology etc. However, just because they cannot be verified by the methods of these disciplines does not mean, for example, that the Christian chemist *qua* chemist cannot know that The Miracles took place. It simply means that such knowledge is not relevant to her particular research and cannot be verified by the methods of her particular research activities (and so would not be accepted as a fact by her secular colleagues in that discipline).

In my view, it would be better for Perry and Lane Ritchie to say that what counts as an object of study is discipline-specific. So, they could say that stars are not the object of study for the cell biologist; therefore, the existence of remote galaxies is not relevant to cell biology. Or, in relation to my argument, they might try to argue that The Miracles are not the object of study for the scientist; therefore, the existence of The Miracles is not relevant to science. Again, however, I do not think the Christian can straightforwardly say this because they know that The Miracles are a historical fact of the empirically-accessible world. As such, I am not sure how the MNist could go about discounting these from the field of science. One good way to discount them would be to say that they are utterly unique (i.e. not repeatable by natural causes) and, therefore, should not make a difference to regular scientific study. Obviously, however, such a conclusion is not possible for the scientist who is committed to MN.

Later in their article, Perry and Lane Ritchie refer to Aquinas and Albert the Great as drawing ‘a distinction between what we know with our senses and sacred doctrine, referring to what is divinely revealed including things held by authority’ (11). Generally speaking, I too would want to maintain this distinction. However, I also want to recognize the possibility of overlap. I am aware that the natural sciences can be relevant for the task of theology and I also recognize that theology can be relevant for the natural sciences—even if such overlap is unusual. It is on this point that I shall conclude.

CONCLUSION

In their conclusion, Perry and Lane Ritchie argue that the tools of science can serve the task of theology in what they refer to as science-engaged theology. On this matter we are fully in

agreement. However, I also think the Christian can go a step further and recognize the possibility of theology-engaged science—that is, where we recognize that the tools of theology can serve the task of science. This is because the Christian scientist recognizes that theological information makes a decisive difference to how we interpret the empirically-accessible history of the natural order. This is the case even if such information leads her to recognize no more than: (1) that certain unique facts (i.e. The Miracles) cannot be subjected to scientific investigation of the kind to which other events are subjected; and (2) that the recognition that attends this has implications for how we think about the intelligibility and rationality of the contingent order (the conditions under which science exists), the obligation to be ethically responsible in scientific research, and so on. By contrast, Perry and Lane Ritchie’s commitment to MN means that they do not think that the tools of theology can serve the task of science. Clearly, a methodology that is systematised or directed by naturalism is closed to the possibility of theological engagement. If we close this door, we fail to appreciate that some of the central tenets of the Christian faith (The Miracles) testify to events that, perhaps inconveniently, are empirically-accessible events that also require theological explanation. It is hard to see how this simple fact does not open the doors to the possibility of theologically-engaged science.

APPENDICES

Appendix One: Immediate Perception

In the opening section of their article, Perry and Lane Ritchie cite Martin Uman as saying: “The world is full of things that aren’t understood. Almost nothing is understood” (1). They then suggest that I do not think that “real scientists” talk like that. This is simply not true. I am completely aware not only that most scientists are happy to talk in this way but that they are *obliged* to do so, and I witnessed this personally when I was studying astrophysics. I would be incredibly naïve were I to think otherwise.

It appears that the confusion here lies in my suggestion that natural scientists seek to study “the behaviour and structure of the universe as it is *immediately* apparent to us” (Torrance 2017, 692, emphasis added). Citing this passage, they interpret me as suggesting that “real scientists” believe most of the observable order can be understood according to our current perception of the universe. However, I do not even think “real scientists” believe we will ever be able to understand most things in this way. In the offending sentence, I am using the term ‘immediately’ in the technical way that it is used in the philosophy of perception to suggest

that scientists study the world as it appears to them. That is, science engages realities that present themselves to scientists both focally and tacitly, as Michael Polanyi articulates it (1967).

Appendix Two: Defining MN

Perry and Lane Ritchie remark: ‘Given that so much of Torrance’s article rides on how MN is defined, it is odd that he does not spend more time on the background of the term’ (2). It was not the purpose of my essay to explore the wide variety of ways in which the term is defined. Having read through much of the literature on MN, it became apparent that MN is defined in a wide variety of ways. So, in order to focus my essay, I tried to come up with a charitable definition that aligned with the primary aims and concerns of MN—and I referenced a wide range of scholars in support of my definition. I defined MN as affirming “that the reality of the universe, as it can be accessed by empirical enquiry, is to be explained solely with recourse to natural phenomena” (692). I am happy to acknowledge that not every element in my critique of MN will apply to every version of MN out there. Quite simply, my critique seeks to engage the central suppositions and concerns shared by advocates of MN.

Appendix Three: Is Natural a Synonym for Secular?

Perry and Lane Ritchie suggest that I think the term ‘natural’ is a synonym for ‘secular’ (7). While it is often the case that the word ‘natural,’ as associated with ‘naturalism,’ has secular connotations,³ I am unwilling to concede that this is the best way to understand nature. I remain committed to a Christian theology of nature for which ‘what is natural’ refers to the created order as it corresponds to God’s creative purposes and intentions. So, far from the quasi-empiricist account of ‘the natural’ that Perry and Lane Ritchie seem to have in mind, I am committed to an account of the natural that refers to much more. If we are to use such an ambiguous term as ‘nature,’ then it cannot be used exclusively to refer to the physical order as it is directly accessible to the observational activity of the natural sciences; it should also refer, as it has throughout history, to the normative dimensions of moral order and aesthetic order.

Appendix Four: Cognitive Dissonance?

Perry and Lane Ritchie draw on Elaine Howard Ecklund's research to argue that I am mistaken in thinking that cognitive dissonance is common amongst religious scientists—a dissonance that results from a perceived tension between their religious and scientific understanding. However, I do not think that such dissonance is a common experience. I hold this view for two reasons: (1) precisely because of the influence that Ecklund's work has had on my thinking (indeed, I have had long conversations with her about this very topic); and (2) because I have yet to meet a Christian scientist who consciously experiences such dissonance.

The confusion here seems to lie with my argument that there are occasions in the history of the natural order in which a theological interpretation of observable phenomena will be in tension with a MNistic interpretation of those very same phenomena. As I argued in my original paper, this tension implies that there is good reason for the Christian to believe that it is problematic to associate MN with science (as science is generally construed). At the same time, as I also argued, the difference between these two interpretations is likely to go unnoticed by almost all Christian scientists working in their specific subdisciplines. Perry, Lane Ritchie, and I agree that MN is not consciously on the radar for the vast majority of scientists. Even if it were, my criticism of MN would make little if any practical difference to the specific methods of those subdisciplines. However, it is equally hard to see how a commitment to MN would make a practical difference to their specific methods.

It is of course possible that a Christian scientist could decide to refer to God as an explanation for why an observed phenomenon took place in the way that it did. If this happened, however, I would be at least as quick as the MNist to say that it is inappropriate to refer to special divine action in this manner—unless we are dealing with exceptional cases that I refer to as The Miracles. Yet, unlike the advocate of MN, I would not deny *a priori* the relevance of divine action. Rather, I would argue that a scientist is confused to think divine action is a directly observable phenomenon.

So, one reason for my repudiation of MN is that the Christian scientist *qua* scientist should be free to offer theological reasons why she thinks it is inappropriate to refer to special divine action. Indeed, I would argue it is more scientific for the Christian scientist to be informed by her theological understanding of the empirically-accessible world, rather than simply being forbidden from referring to God because that would go against the rules of the game (Perry and Lane Ritchie 2018, 7-8). In this respect, as I have argued, a strong case can be made that it should be possible for the Christian scientist to be engaged theologically with her task.⁴

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¹ To be clear, as Paul makes plain in 1 Corinthians 15, the Christian confession of Christ's resurrection is that God raised Jesus from the dead. This act goes against the reign of death that characterizes this world in its current form. It also entails Jesus coming back to life with a resurrection body that can walk through walls (John 20:29). In these respects, and in many others, the resurrection is to be distinguished from resuscitation. (See Wright 2003). On a related note, Markus Bockmuehl writes: "The New Testament writers affirm of the resurrection of Jesus both (1) that it is an event in historical time and space, and (2) that it cannot be straightforwardly understood as an event in historical time and space." (2001, 109).

² I should acknowledge here that The Miracles were identified by a kind of empirical observation (it was not known *a priori* that a miracle happened). Such observation, however, is very different from the kind of observational activity that is normative to the natural sciences. On this note, it would helpful to see more careful work being done to clarify how precisely the term 'empirical' is used in these discussions.

³ Edgar Brightman, for example, refers to philosophers as being either "naturalist or theist" in a passage that PR quote in support of their argument (Brightman was the original advocate of MN) (5).

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