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The No No-Miracles-Argument Argument

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The No Miracles Argument is commonly used as a defense of scientific realism. I claim that the No Miracles Argument is begging the question because of the way it uses the notion of ``best explanation.'' I show this by giving a fundamental account of explanation, describing how these explanations can be compared, and showing that, in the case of the No Miracles Argument, the use of the notion of ``best explanation'' will entail a correspondence theory of truth. I also show that the first premise of the No Miracles Argument and a correspondence theory of truth entail realism. Hence, the No Miracles Argument is begging the question.

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June 6, 2007

Abstract

The No Miracles Argument is commonly used as a defense of scientific realism. I claim that the No Miracles Argument is begging the question because of the way it uses the notion of "best explanation." I show this by giving a fundamental account of explanation, describing how these explanations can be compared, and showing that, in the case of the No Miracles Argument, the use of the notion of "best explanation" will entail a correspondence theory of truth. I also show that the first premise of the No Miracles Argument and a correspondence theory of truth entail realism. Hence, the No Miracles Argument is begging the question.

The No Miracles Argument claims that because any other theory would make the successes of science a miracle, realism must be true.[1] In the following discussion, I will show how the No Miracles Argument uses the concept of explanation. I will give a fundamental account of explanation, which I will show to be common to the major contemporary theories of explanation. I will give an account of how to compare explanations using my fundamental notion. I will then show that the use of "best explanation" in the No Miracles Argument entails that it is begging the question when used as a defense of realism.

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[1]See Smart J.J.C. (1963) Philosophy and Scientific realism, London: RKP, Boyd, R. (1984) "On the Current Status of Scientific Realism?", in Lepin J. ed. Scientific realism. p.60, Hacking I. (1983) Representing and Intervening, Cambridge University Press, New York, Nola R. (2002) "Realism through Manipulation, and by Hypothesis" in Clarke S. and Lyons D. ed. Recent Themes in the philosophy of science Boston kluwer, and Matheson C. (1998) "Why the no miracles argument fails", International studies in the philosophy of science, vol. 12, no. 3.

1 "Explanation" and the No Miracles Argument

Recently, one of the most often cited arguments in favor of scientific realism is the No Miracles Argument (NMA). I will take the following to be a canonical version of the NMA as formulated by Matheson[2]:

NMA1) Science has progressed.[3]

NMA2) Scientific realism provides us with a better explanation for this progress than any other philosophy of science.

NMA3) All other things being equal, we should believe the philosophy of science that best explains facts about scientific practice,

NMA4) Therefore, we should believe that scientific realism is true.[4]

We notice that in NMA2,3 there is an appeal to "explanation" that is not explicated anywhere in the arguments. In this and the next section, I will give an account of what is meant by "explanation" and what we are seeking when we seek the "best explanation." In order to avoid a complex discussion of the philosophy of explanation, I will attempt to provide an account of explanation that this general enough to serve as a foundation of the contemporary philosophies of explanation with the hopes that it will be amenable to all.

   At the heart of it, explanation is the answering of a why-question. For instance, the answer to the question "Why does the dog lick itself?" would be an explanation of the phenomenon of the dog licking itself. Now in order to determine what an explanation is, in the very abstract sense, we must analyze the properties that are essential to answer of a why-question. Clearly, any answer to a why-question must link the phenomenon in question with other knowledge. For example, an answer to the question of why the dog licks itself might connect our knowledge of the phenomenon with our knowledge of what it means to be a dog. Equally, an explanation of why

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[2]Matheson C. (1998) 'Why the no miracles argument fails', International studies in the philosophy of science, vol. 12, no. 3. p. 263

[3]This is generally understood as saying that science has advanced the sum of knowledge we have regarding the things around us and its ability to predict the phenomena that we witness. This is highly contested, but a discussion of this topic is beyond the scope of this article.

[4]Other formulations of the NMA may take the conclusion to be "Therefore, scientific realism is true." The difference between these formulations will be insignificant to the outcome of my argument. It will be clear in the conclusion of my argument how it can be applied to this alternate version.

Socrates was mortal may connect our knowledge of "Socrates is a man" and our knowledge of "All men are mortal." For the purpose of this article, I will use the words "prior knowledge" or "prior belief" to describe a piece of knowledge to which an explanation connects. We can take it as a necessary condition of any generic explanation E of phenomenon X that E draws a connection between X and a prior belief Q. It is a necessary condition on the notion of "explanation" then that it contains a set of these connections.

It's rather transparent how this model of explanation can serve as a foundation for the many contemporary models of explanation. In fact, each of the major positions simply adds criteria onto the model of explanation I have given: Firstly, the similarities between my model and Hempel's original DN and IS models[5] of explanation are clear as each of those characterizes an explanation as an argument from prior knowledge to the explanandum. The difference is that Hempel extends my model by stipulating that the prior knowledge "be required for the derivation of the explanandum," "must have empirical content," and must be true.[6] Likewise, Wesley Salmon's Causal Mechanical theory of explanation[7] (often cited as the realist response to Hempel's model) adds criteria to my model by stating that the prior knowledge must entail the explanandum (like Hempel's model) but also that the prior knowledge must show how the explanandum "fit[s] into a causal nexus."[8] While the formulation of Salmon's model is difficult to pin down, it is clear that, like in Hempel's case, Salmon's model is my fundamental model with conditions added to the prior knowledge. It is easy to see how van Fraassen's "constructive empiricism"[9] bases its model of explanation on my fundamental notion: In van Fraassen's view, an explanation is an answer to a why-question that differentiates the phenomenon from the possible alternatives. For instance, the explanation of why the robber robs banks would differentiate "the robber robs banks" from "the robber robs circuses" and from "the rob does not rob." The piece of information that differentiates the explanandum from the alternatives must be prior knowledge such as "the robber enjoys picking vaults." Hence, explanation for constructive empiricist is an expansion of my notion. Finally, consider Kitcher's unificationist

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[5]See Hempel, C.G. & Oppenheim, P. (1948). "Studies in the Logic of Explanation." Philosophy of Science, XV, pp.135-175.

[6]Hempel & Oppenheim, p. 153.

[7]See Salmon, Wesley (1984) *Scientific Explanation and the Causal Structure of the World.* Princeton: Princeton University Press.

[8]Salmon. p.9.

[9]See van Fraassen, Bas C. (1980) *The Scientific Image.* Oxford: Clarendon Press.

model of explanation,[10] in which Kitcher argues that we count something as an explanation if the prior knowledge used in the explanation adheres to one of the predefined patterns in our current set of explanatory practices. This theory can be viewed as a modification of my fundamental theory, like the others, because it simply limits the set of prior knowledge that can be used in an explanation to those bits of prior knowledge that adhere to one of the established explanatory practices. We see then that the current theories of explanation entail that my fundamental theory of explanation is a necessary (but not sufficient) criterion for explanation. For the sake of this article, I will use the word "explanation" to refer to a set of connections between beliefs or knowledge and the phenomenon to be explained. In the next sections of this paper, I will show that only using this necessary criterion for explanation the NMA can be shown to be begging the question.

2   Comparing Explanations

In this section, I will expound the idea of "better explanation" by considering how explanations, of the type described above, can be compared. Since it is my goal to show that the NMA's use of "better explanation" entails realism, I must show that the only possible methods of comparing explanations always yield that realism is the best explanation of NMA1. In this section, I will show that there are two ways to compare two abstract explanations, and show that the "qualitative" method of comparison is arbitrary and subjective.

Using my notion of an explanation as only a set of connections between prior knowledge and the explanandum, we see that one property of an explanation is the cardinality of its set of connections. From this we derive the first method of comparing explanations: quantitative comparison. The explanation above about why the dog licks itself is an explanation that draws only one connection; let's call this an atomic explanation. By combining multiple atomic explanations into a single explanation, we create what I will call a compound explanation. Naturally, we would say, all other things being equal, that an explanation that posits more connections is a quantitatively better explanation. I will show in the next section that this method of comparing abstract explanations is irrelevant to the discussion at hand, so I will put this method aside for a moment.

Since comparisons based on the number of connections are dealt with

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[10]See Kitcher, P., 1989, "Explanatory Unification and the Causal Structure of the World", in *Scientific Explanation*, P. Kitcher and W. Salmon, 410-505. Minneapolis: University of Minnesota Press.

by the prior method of comparison, the second method of comparison must be number-independent. Hence, it must be a property of single connections within explanations. I will call this difference between connections the *qualitative difference*. The qualitative difference between two atomic explanations is the difference in the abilities of the explanations to effectively explain the explanandum. For example, for the question of the dog licking himself, there could be two different atomic explanations: one explanation of the phenomenon could say that the dog has an itch and he relieves that itch by licking; the other explanation might posit that the reason why the dog licks himself is that God intends for him to do so. A non-religious person would judge the first to be a better explanation than the second. On the other hand, a person who believes in the ultimate will of the Lord might contend that the second is the better explanation. How do we distinguish which person is correct? The question comes down to a difference in what I will call *meta-explicative values*, which I will take to be the values we hold with respect to what makes an explanation qualitatively better than another.

Before I go on to show that one's choice of meta-explicative values (MEV) is arbitrary, I would like the draw the distinction between MEV and the restrictions put on the set of prior knowledge by a formal theory of explanation such as those mentioned above. One may think that, using my vocabulary, the distinction between explanation ρ, an explanation that meets Hempel's requirements, and explanation σ, one that meets Salmon's standards, is a difference in MEV. This is not what I mean by MEV. The qualitative method of comparing explanations is a method meant to describe two particular explanations (rather than abstract explanations in the sense I have been using them). MEV are what allows an actor to distinguish between ρ_1 and ρ_2, two of Hempel's explanations, or σ_1 and σ_2, two of Salmon's explanations. The role of distinguishing between ρ and σ is the on-going discussion of the philosophy of explanation. The important subtly to notice is that philosophies of explanation distinguish between what is and what is not an explanation, whereas my qualitative method distinguishes only between two bona fide explanations.

Now I will show that the choice of MEV is subjectively arbitrary: Given a formal theory of explanation η (such as Hempel's or Salmon's models), let Σ be the set of all explanations of phenomenon χ in η. Using my definition of MEV, we see that a MEV is an ordering principle on Σ, as it orders the explanations in Σ from best to worst. Now, let $\{a_1, a_2, \ldots, a_n\}$ be the set of ordering relations on Σ. Now assume that the choice of a_i is not arbitrary (i.e. the choice of MEV is not arbitrary). Then there must exist an ordering relation A that orders the a_i with respect to their ability to properly order

Σ. To see that this becomes a problem of infinite regress, consider the set $\{A_1, A_2, \ldots, A_m\}$ such that A_i orders $\{a_1, a_2, \ldots, a_n\}$. Notice that as long as Σ has cardinality greater than one, there will be no way of ordering Σ without choosing an arbitrary ordering principle. Surely many communities (such as scientists and mathematicians) solve this problem by choosing a reasonable stopping point, but there cannot be anything inherent in the stopping point itself (i.e. actor-independent) that makes the community choose such a point. Hence, I will describe MEV as subjectively arbitrary.

Consider the following objection: When we are deciding who is the fastest runner after marathon, we order the runners by the amount of time it took them to run the race. There is nothing arbitrary about this decision. Hence, by analogy, there may be an objectively correct way to order the explanations to determine the best explanation.

The objector is right is saying that there is this the correct way to determine the fastest runner. But the reason why this assertion is true is that our community agrees that "being the fastest runner" is equivalent to "running the race in the shortest amount of time." The later can be determined by an ordering relation as described by the objector. On the other hand, there is no universal community consensus on what ordering relation is entailed by "being the best explanation," for if there were, the subject of this discussion would already be determined. While it may be the case the some communities may have values that entail a specific ordering relation, I take it to be clear that this is not true across all communities.

Another objection may be inspired by the theory of explanation of van Fraassen. Van Fraassen argues that explanation is a ternary predicate between prior knowledge, the explanandum and the context of the explanation.[11] For example, two explanations of why the man died may be (1) that he experienced blunt trauma to the head, and (2) that he was the subject of the negligence of his driver. The first explanation is better than the second in a medical setting and the second is better than the first in the courtroom. Then, one non-arbitrary way to order a set of explanations is by how well they explain given a context.

The objector in this case has confused the role of a theory of explanation with the role of MEV. It is not the case that (1) is *better than* (2) in the medical setting; rather, in the medical setting (1) is explanatory while (2) is not. It is the role of the theory of explanation, not MEV, to determine whether a set of connections is or is not an explanation.

I have now shown that given my fundamental framework of explanation,

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[11]See van Fraassen. (1980).

there are two ways to compare explanations, quantitatively and qualitatively, and that qualitative comparisons of explanations rely on a choice of an subjectively arbitrary set of meta-explicative values. In the following sections, I intend to show that a correspondence theory of truth is entailed by the NMA's use of "best explanation," and through an explication of the concept of realism, it will be clear that a correspondence theory of truth along with NMA1 entails realism, which leaves the NMA begging the question.

3 Realism, Correspondence and the NMA

In this section, I will show that the acceptance of the first premise of the NMA and a correspondence theory of truth entail the acceptance of scientific realism. This is important to my argument since in the following sections, I will argue that the NMA's notion of "better explanation" will always be one with a correspondence theory of truth. I will also show that the NMA's "better explanation" must be one that is a qualitatively better explanation, rather than a quantitatively better explanation.

So, what is scientific realism? While scientific realism can take many forms, there are key tenets without which no picture would be realist. As Putnam puts it, the realist holds that "... the world consists of some fixed totality of mind-independent objects. There is exactly one true and complete description of 'the way the world is.' Truth involves some sort of correspondence relation between words or thought-signs and sets of things."[12] I will take this to be the staple realist contention. Kirkham characterizes a correspondence theory of truth as an isomorphic mapping between the truth and the facts of the (mind-independent) world.[13] The correspondence theorist holds that sentences such as "the dog licks itself" are truthful in so much as the concepts contained within them map onto the things, properties, relations, etcetera that compose the world. If the correspondence-truth theorist holds that P is true, then he believes that there is an isomorphic map between the objects described by P and objects in the world.

Consider the actor who accepts NMA1 and a correspondence theory of truth. It would be difficult to exactly delimit the claim made in NMA1, but we can at least accept that NMA1 grants that the theories we have now are closer to the truth than their predecessors. Kitcher would go as far as

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[12]Putnam, H. (1982) *Reason, Truth and History*. Cambridge: Cambridge University Press. 49.

[13]Kirkham, R. L. (1992) *Theories of Truth: A Critical Introduction*, Cambridge, Mass.: MIT Press. Ch. 4.

to say that this means that the contemporary theories are approximately true.[14] I think it suffices to consider that since every scientific theory posits or makes mention of some mind-independent object, it is fair to assume that the person who accepts NMA1 accepts that a true scientific theory, in so much as one could exist, posits relations between mind-independent objects. Then, since the actor accepts a correspondence theory of truth, he must concede that these objects posited by the true theory actually exist in the world, which makes the actor a realist. We can then conclude that an acceptance of NMA1 and a correspondence theory of truth entail an acceptance of realism.[15] [16]

Now it simply remains for me to show that the notion of explanation used by the NMA entails a correspondence theory of truth. Notice that the concept of "better explanation" as referenced in the NMA is actually an appeal to a *qualitatively* "better explanation," rather than quantitatively better or a combination of both. This is true by the following proof: By the definitions above, explanation X is better than explanation Y only if X is quantitatively better than Y, X is qualitatively better than Y, or both. If it were not the case that "better explanation" means "purely qualitatively better explanation," then we must either conclude that it refers to a quantitatively better explanation or a both quantitatively and qualitatively better explanation. Let the *explanation class* of theory T be the class of all explanations employed by T to explain the scope of T. Using this tool, we can see that "better explanation" as used by the NMA cannot mean purely quantitatively better: Let α be the cardinality of the explanation class of scientific realism and β be a larger cardinality. Notice that we can always create a explanation class of a (non-realist) theory such that the cardinality of the class is β. For example, we could create the theory GL that posits β many Gods and for every phenomenon that NMA claims that realism explains, GL explains it by saying that each of the β many Gods intend that phenomenon. If we assume there is a countable number of phenomena, then the cardinality of the explanation class of GL is β. If "better explanation" were meant in a purely quantitative sense, the supporter of the NMA would

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[14]See Kitcher, Philip. (2002). 'On the Explanatory Role of Correspondence Truth', PPR (66): 357-359.

[15]For a more detailed (and stronger) argument of this sort see Kitcher (2002).

[16]Two notable exceptions to this exist. McTaggart makes an argument in which he proclaims to be able to be an antirealist without a correspondence theory of truth. See McTaggart, J., (1921) *The Nature of Existence,* Cambridge: Cambridge Univesity Press. Secondly, the internal realist (See Putnam 1982) would hold NMA1 without assenting to the assertion that NMA1 entails the existence of mind-independent objects. For this purposes of this discussion, I will ignore these positions.

have to conclude that GL can provide a better explanation of NMA1 than realism, but clearly the arguer would reject that. This shows that the quantitative method of comparing explanations is essentially trivial in the case of the NMA. Consequently, we know that "better explanation" as understood in the context of the NMA refers to qualitative difference.

Since we now know that the notion of "better explanation" as used by the NMA is that of a qualitatively better explanation, we turn our attention to the set of meta-explicative values that define the NMA's qualitative notion of "better explanation." In the following sections, I will attempt to determine what set of meta-explicative values, V, is assumed by the NMA to determine that realism is the best explanation of NMA1. I will then show how this assumption of an assignment of V always entails a correspondence theory of truth.

4   The MEV assumed by the NMA

There are two ways we can figure out what V, the set of meta-explicative values used in the NMA, is: we can (1) deduce from the premises of the argument what V must be such that it makes the other premises and conclusion true, or (2) we can posit reasonable options for V based on the way the argument is used by contemporary philosophy and science. Obviously the first method is preferable as its results are deductively valid, but unfortunately it will not work as shown by the following argument: Assume there is a v_1 such that v_1 picks the realist explanation over any other explanation for the success of science and v_1 picks out W as the second best explanation. Now there can also be a v_2 such that v_2 picks out realism as the best explanation for the success of science, but v_2 always assigns explanation W as the worst explanation. Clearly, $v_1 \neq v_2$, but v_1 and v_2 would both make the other premises of the NMA true. Therefore, deduction to correct specific assignment of V is not possible.

One may propose that deduction to an equivalence class of possible assignments of V, rather than a single assignment of V, is possible, and this class, for the purposes of this discussion, can be treated as an assignment of V. In other words, one can deduce the set V' of all assignments of V such that $\forall v' \in V'$, v' treats realism as the best currently existing explanation for the success of science.

The proposition is right that this suggestion is a possible solution to the question of how to delimit V, but his assumption that this strategy will not affect the discussion is false by the following argument: Assume that there is

a v_r such that v_r is a meta-explicative value that entails that realism is the best possible explanation for anything. This possible assignment of V, if it is the one being employed by the arguer of the NMA (ANMA), is uniquely significant to this discussion in that it makes it clear that the ANMA is begging the question by using the NMA. On the other hand, there could be a $v_{\sim r}$ such that $v_{\sim r}$ gives an equal opportunity to all philosophies of science that attempt to explain the success of science, but $v_{\sim r}$ entails that realism is the best explanation of this success because it has the shortest name when written in Sanskrit. v_r and $v_{\sim r}$ would be in an equivalence class of the type defined by the objector, but clearly v_r begs the question of the NMA and $v_{\sim r}$, even though it's a strange value to hold, does not. So, treating an equivalence class of values as V is not sufficient for this discussion.

For determining V, we are now left with the second option, which determines V by appeal to the way contemporary philosophers of science intend for "better explanation" to be interpreted. Seemingly, there are two possible choices for V by the standard usage of explanation: (1) simplicity and clarity, and (2) a subjective measure of the likelihood the truth of an explanation, something I will call "truth probability."[17] By simplicity (1), I mean the ability of an explanation to delimit which pieces of information are being connected and clearly define the nature of the connections. By truth probability (2), I mean a subjective valuation proportional to the probability that the explanation could be true given the evaluator's previous knowledge base. This second criterion can be conceived of as comparative feasibility. I will take for granted that when philosophers judge the quality of an explanation they judge it with respect to one or both of those options.[18]

I have argued that the NMA's notion of "better explanation" must be one that uses a qualitative comparison, and I have provided two options for the MEV in use by the qualitative comparison. In the next section, I will argue that both of these MEVs, when used to compare explanations, will always prefer an explanation that employs a correspondence truth. Since I have argued above that correspondence truth together with the first premise of the NMA entail realism, it will be shown that the NMA begs the question.

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[17]Notice the similarity of these notions and the commonly accepted Ockham's Razor.

[18]I am not currently able to produce an argument that these are the only two standard assignments of V, but it seems clear to me that any choice of meta-explicative value here will be subject to similar arguments to those below.

5   How V Entails Correspondence Truth

In the previous section, I argued that the ANMA must be using either simplicity or truth probability as the MEV for comparing explanations. I will now show that both of these options for V leave the ANMA begging the question since he is using a definition of explanation that entails that realism is the best-suited philosophy of science under any circumstances: (1) Suppose that the ANMA intends the first possible assignment of V (simplicity and clarity), that "best explanation" is meant in the sense of simplest and clearest explanation. I contend that an explanation that uses a correspondence truth is the simplest and clearest possible explanation of NMA1. NMA1 says that science has progressed and has been successful. In doing so, science has produced theories that posit structures that act, in the scientific model, as the cause of the progression of science. So what is the simplest possible explanation of this success? Surely, the simplest explanation of why the models are predictively accurate is that the things and relations posited in the model directly map onto the things and relations in reality (I will call this the "identity map"). This must be the case; consider this argument by reductio ad absurdum: Assume there is a theory that is both simpler than the identity mapping and does not include the identity mapping (because doing so would make it the identity mapping or obviously more complicated than the identity mapping). This theory would have to say that at least one of the things posited by the models does not directly map onto reality or does not exist in reality (because if it didn't say such a thing, it would be the identity mapping). If the theory does not map everything to its real counterpart, then the theory must explain the lack of the existence of that thing in reality, which would entail either that it is not an explanation (in the case that it does not draw a connection to explain that part of the model) or it is more complicated than the identity mapping. This is a contradiction with the assumption; hence, the simplest explanation of the success of science is the identity mapping, which is an application of a correspondence theory of truth.

If it is the case that the ANMA intends to appeal to the second possible assignment of V, truth probability, then we will see that the best possible option for an explanation will also be one that employs a correspondence theory of truth: Using the same method used for the first option, let us consider the best possible explanation that could satisfy this criterion. In order to do so, we must decide what would be the best criteria for determining how likely something is to be true. Surely, when comparing one explanation that posits something that is commonly witnessed or accepted

with an explanation that posits something that rarely if every witnessed or accepted, we think that the former is better because of its higher likelihood to be true. In other words, if one explanation posits something that we perceive as commonplace, we believe it is more likely to be true than an explanation that posits something rare. We see then that our valuation of the truth probability of an explanation is proportional to the frequency with which we believe the things posited by the explanation are experienced. Now notice this peculiar property of experience: We say that we experience X when a concept of X is presented to us. After having an experience, we say that the object X *corresponds* to our concept of X that we gained in experience. We see that when we have any generic experience, we have experience of correspondence. Therefore, nothing is more experienced than correspondence, and hence, correspondence has the maximum value of truth probability. Likewise, an explanation that assumes correspondence between the entities of the phenomenon and the entities of the world would be qualitatively the best possible explanation when V is a measure of truth probability or feasibility.

6 Conclusion

Under either potential value that could be appealed to by the ANMA, the best possible explanation is one appeals to a correspondence theory of truth. In addition, as we saw above, if a actor using a correspondence theory of truth accepts NMA1, then he is a realist; hence, we see that the ANMA is begging the question in using the NMA. Admittedly, my argument has a weakness in Section 4 because it would not be feasible to account for all possible assignments of V, but I leave it the ANMA to show that there is some commonly accepted MEV that makes realism the best explanation of NMA1 without entailing a correspondence theory of truth.

The ANMA may claim that I have not shown that he is begging the question; I have only shown that his argument is valid: given that the premises are true, I have shown that the conclusion is true. However, in the fight over realism, a satisfactory argument would not be one that is trivially true. I have shown conversely that the NMA is true syntactically, and hence it is not a satisfactory argument for the defense of realism.

I have shown that "better explanation" as used by the ANMA is coextensional with "closer to scientific realism." It is now clear that the ANMA is begging the question if we use substitution of these concepts in the canonical of the NMA given above:

NMA*1)   Science has progressed.

NMA*2)   *Scientific realism provides us with a theory closer to scientific realism than any other philosophy of science.*

NMA*3)   *All other things being equal, we should believe the philosophy of science that is closest to scientific realism,*

NMA*4)   Therefore, we should believe that scientific realism is true.

Under this substitution, the NMA is a silly circular line of reasoning. It would take a miracle to conclude that this argument is not begging question.

Finally, I would like to address what I will call the naive NMA. The naive NMA claims that because any other theory would make the successes of science a miracle (and being a miracle is not an explanation), scientific realism is true. The naive NMA is different from Matheson's NMA because the naive argument implies that *the only explanation* of NMA1 is a realist theory. Notice that NMA2 implies that there are more than one explanations of NMA1, only one of which is scientific realism. The argument provided above cannot address the naive NMA because there only one way to order the one possible explanation posited in the naive argument, so my assertion that the choice of MEV is arbitrary no longer holds. By arguing the naive NMA, the discussion of the NMA has been moved to the realm of philosophy of explanation. The theory of explanation held by the arguer of the naive NMA would have to say that the only explanation of NMA1 is realism and that nothing else can serve as an explanation of NMA1, which is opposed to the NMA's implication that other theories explain NMA1, but not as well. This fact would have to be a byproduct of the arguer's theory of explanation, but it seems to me that most people who make this argument are forming their theory of explanation to guarantee this result without otherwise justifying it. This is the philosophical equivalent of sticking your fingers in your ears and screaming "No, No, No;" though, if the arguer of the naive NMA could provide a sound theory of explanation that entails this result, my argument would not be able to show that argument to be circular.