

JAMES SPIEGEL

A Berkeleyan Approach to the Problem of Induction

The problem of induction has plagued scientists and philosophers of science ever since Hume's famous critique. Specifically, it seems that any attempt to reason from observed phenomena to future or otherwise unobserved events is destined to beg the question. Traditional attempts to solve the problem seem inadequate to avoid circularity. In this essay, I elucidate an approach to the problem of induction which might have been taken by one of Hume's immediate predecessors, George Berkeley. I show how a Berkeleyan model offers a theistic justification of inferences about unobserved events. First, the existence of a benevolent God is inferred from the numerous helpful regularities in nature. Second, based on the trustworthiness of God, it is concluded that nature is uniform (that the future will resemble the past). In addition to explaining the Berkeleyan model, a variety of implications about the nature and practice of science are noted. The paper concludes with a discussion of objections to a Berkeleyan approach.

Key words: Berkeley, Hume, induction, laws of nature, uniformity of nature

I. Introduction

The classical problem of induction, it is commonly held, was first articulated by Hume who, in his *Treatise of Human Nature*, argued from empiricist premises to the conclusion that we cannot justify our beliefs about events outside our experience on the basis of our knowledge of present experience. In the two centuries since Hume, his skeptical conclusion has prompted a wide array of attempted solutions from philosophers and scientists who sense the threat in Hume's thesis to the rationality of science (as well as to common sense).

Seldom mentioned among Hume's critics regarding the problem of induction is the Irish philosopher George Berkeley, probably due to the fact that he predates Hume by nearly a generation and that by the time Hume's *Treatise* hit the presses Berkeley's philosophical career was winding down. Thus, Berkeley never addressed Hume's critique per se. Nevertheless, as with so many philosophical questions, Berkeley may with much profit be consulted for his wisdom on an issue which did not really emerge until after his writing. It is my purpose in this paper to do exactly this, to determine just what Berkeley would have to say about the problem of induction. I shall also explore some of the broader implications of a Berkeleyan model, particularly as regards the interface of faith and the empirical sciences.

II. Hume's Problem of Induction and Some Attempted Solutions

In book one of the *Treatise* Hume makes the following shockingly bold claim:

there is nothing in any object considered in itself which can afford us a reason for drawing a conclusion beyond it; and, even after the observation of the frequent or constant conjunction of objects, we have no reason to draw any inference concerning any object beyond those of which we have had experience.¹

Hume's argument for this thesis, which is set in the context of a discussion of the relation of cause and effect, is two-pronged. If our belief in causal laws is to be justified, this must be done either via reason or experience. He attacks the first approach on the following grounds. Since I can conceive the occurrence of any cause without its being accompanied by its usual effect, it follows that it is not impossible that any effect of any cause should not follow from it. For 'whatever is intelligible, and can be distinctly conceived, implies no contradiction, and can never be proved false by any demonstrative argument or abstract reasoning *a priori*.'²

Hume's critique of the justification of our belief in causal laws via experience goes as follows. In appealing to experience to justify causal laws one can appeal to past and present experiences only. However, in doing so we inevitably beg the question, since it is our belief that the future will resemble the past that we are trying to justify. Hume concludes that 'It is impossible, therefore, that any arguments from experience can prove this resemblance of the past to the future; since all these arguments are founded on the supposition of that resemblance.'³

Thus, to rephrase Hume's argument, in order to justify our belief that the future will resemble the past (that nature is uniform), our only possible philosophical recourse is to appeal to the fact that in the past nature has been uniform, but in arguing this way we presuppose that nature is uniform, the very proposition our belief in which we are attempting to justify. Hence we are arguing in a circle. The upshot in Hume's view, as we see in the passage quoted above, is that our belief in the uniformity of nature is philosophically unjustified.

Hume's own response to this problem is to take a pragmatic tack. While acknowledging what he considers to be a lack of rational grounds for believing that the future resembles the past, he concedes that this belief is irresistible, and although entirely a product of instinct and custom, it is in fact very practical. If we are to get along in life, we must assume, if not in word at least in deed, that nature is uniform. It is a sort of 'animal faith' which abides with us for our own good.⁴ This strategy of dealing with Hume's critique of induction has

1 *A Treatise of Human Nature*, 2nd edition, L.A. Selby-Bigge, ed. (Oxford: Oxford University Press, 1978), p. 139.

2 *The Essential Works of David Hume*, David Cohen, ed. (New York: Bantam Books, 1965), p. 69.

3 *Ibid.*, p. 71.

4 See Hume's *Enquiry*, XII, 1. This notion, exploited by, among others, George Santayana in his *Skepticism and Animal Faith*, is not a pejorative one for Hume, as it is simply descriptive of the fact that despite our exalted status as rational animals, at the end of the day we actually have good reasons for very few of our beliefs.

A Berkeleyan Approach to the Problem of Induction

been judged deficient by many philosophers, and so a wide array of alternative tactics have been employed in the interest of offering a satisfactory solution.

A Kantian strategy is to appeal to certain truths of fact known independently of experience which when combined with particular facts known from experience can justify an inference from empirical data to unobserved phenomena. This is a sort of attempt to make a deductive reconstruction of inductive arguments. Examples of candidates for such synthetic *a priori* principles include the principle of sufficient reason, the principle of causality, and the *ex nihilo nihil fit* principle. The difficulty with this strategy lies in the controversial nature of synthetic *a priori* propositions. Efforts to demonstrate the claim that principles like those listed above qualify have been tenuous at best.

An alternative approach to giving a deductive reconstruction of induction is advanced by the nineteenth century philosopher William Whewell who, in the context of analysis of scientific theory, proposed that a scientific theory is not demonstrated by observable events but is only suggested by them.⁵ Further empirical data then serve to confirm the theory, though not to prove it, and from this general theory specific propositions about matters of fact may be deduced. Whewell's schema unfortunately represents no real advance from ordinary inductive arguments. That is, the initial generalization from empirical data to a scientific hypothesis involves precisely the sort of reasoning that Hume's critique undermines, inference from the observed to the unobserved.

Karl Popper rejects both the Kantian strategy and the hypothetico-deductive method.⁶ For him inductive reasoning, properly speaking, has no use in science. 'There is', he says, 'no need even to mention induction.'⁷ The *verification* of theories, he argues, is not the business of science. Rather, *falsification* is its purpose. Scientific theories are hypotheses dreamed up (rather than, say, demonstrated or suggested) to explain natural phenomena and which are then subjected to repeated tests aimed at impugning them. If an experiment succeeds in falsifying the theory, then it is rejected, but if it survives it is retained and tested again. An hypothesis is never verified or confirmed, though it does achieve what Popper calls 'corroboration' through successful testing. A well corroborated theory is one which is a bold conjecture which has endured numerous tests without falsification. The problem with the Popperian approach is that it is difficult to distinguish his notion of corroboration from the role of confirmation in the hypothetico-deductive method of Whewell. Moreover, his claim that science does not involve theory verification seems to fly in the face of the plain facts of the scientific enterprise. Most scientists, it seems, are interested in showing not only that some hypotheses are false but that others are at least likely to be true.

5 See *On the Philosophy of Discovery* (London: John W. Parker, 1860).

6 Popper's wholesale rejection of inductive reasoning perhaps stems in part from his dissatisfaction with the Kantian solution, as he remarks that 'every ... form of inductive logic ... leads either to an infinite regress or to the doctrine of *apriorism*'. *The Logic of Scientific Discovery* (New York: Harper and Row, 1959), p. 30.

7 *Ibid.*, p. 315.

Perhaps what is regarded today as the most viable response to the problem of induction is Reichenbach's pragmatic justification.⁸ He acknowledges the force of Hume's arguments and affirms the impossibility of giving a rational justification of induction. Still, he counsels against casting the method entirely out of hand, for vindication of induction is possible on the grounds that it will succeed if anything succeeds. If there is uniformity in nature, then induction is a viable method. And if nature is not uniform, induction will fail as will every alternative method. Even if nature is not uniform and induction does fail, while some method of predicting the future such as crystal gazing works, induction would also prove to be a success, because an inductive argument for the continued success of crystal gazing could be made from its prior efficacy. Therefore, as long as crystal gazing or any other method enjoyed success, so would the method of induction. Reichenbach's conclusion, then, is that there is nothing to lose and much to gain by employing the inductive method. The obvious limitation in this pragmatic justification of induction is that it is less a solution than a Pascalian wager, a variation of Hume's response to his own arguments, largely concessionary to them. Reichenbach's response provides us with no rational grounds to believe in the uniformity of nature.

These are some of the standard attempts at salvaging induction from Hume's critique. I have paused to provide this survey not with the motivation of ultimately showing the superiority of a Berkeleyan justification of induction, rather I have done so in the interest of illustrating the distinctiveness of his position.

III. Berkeley's Doctrine of Divine Visual Language

At the center of Berkeley's metaphysical system is God, the creator and sustainer of the physical universe. In fact, as Berkeley was so fond of quoting, 'In him we live and move and have our being.'⁹ Although Spinoza was given the dubious title of 'the god intoxicated philosopher', this is a description more aptly applied to Berkeley, whose aim it was in constructing his metaphysical system, to demonstrate the 'immediate providence of a Deity.'¹⁰ To understand this is to begin to understand Berkeley's philosophy of science integral to which is his conviction that nature consists of so many signs of God to his creatures, a kind of divine language. Let us look at how he arrives at this metaphor of nature as a divine language and the context in which for Berkeley the notion of what Colin Turbayne calls a 'metaphysical grammar' plays its most important role.¹¹

Berkeley's use of the language metaphor is most vividly illustrated in his apologetic polemic *Alciphron*.¹² In the fourth dialogue, Euphranor, Berkeley's

8 See *Experience and Prediction* (Chicago: University of Chicago Press, 1938), Chapter 5.

9 Acts 17:28.

10 Cf. the subtitle of the *Three Dialogues*.

11 See 'Berkeley's Metaphysical Grammar' in *Berkeley: Principles of Human Knowledge*, Colin Turbayne, ed. (New York: The Bobbs-Merrill Company, Inc., 1970).

12 The title as translated literally from the Greek is 'strong head', and was intended by Berkeley as a sarcastic jab at the growing community of deists in his day, among whom he included Collins, Mandeville, Shaftesbury, and Toland.

spokesman, is challenged by the formidable 'free thinker' after whom the work is named to offer some positive evidence for his claim that God exists. Euphranor's strategy is first to inquire of Alciphron how it is that we justify our belief in the existence of other minds. His reply is that minds are 'inferred from appearances which are perceived by sense'¹³ and he further grants that we may infer 'from reasonable motions (such as appear calculated for a reasonable end) a rational cause, soul, or spirit'¹⁴ Here Euphranor is using what has since become the traditional analogical argument for the existence of other minds. By comparing the observable behavior of others with that of our own and noting at the same time how such behavior in ourselves is accompanied by certain thoughts and emotions, we infer that these internal phenomena in our own experience must also have an analogue in the other person.

Now the unsuspecting Alciphron accepts this argument for other minds, thus providing Euphranor the necessary leverage to complete his theistic proof, as the latter asserts that just as in the case of other human beings we infer an 'invisible thinking principle or soul' from outward signs, we may reason likewise to God's existence from signs in the world.¹⁵ Euphranor explains,

Though I cannot with eyes of flesh behold the invisible God, yet I do in the strictest sense behold and perceive by all my senses such signs and tokens, such effects and operations, as suggest, indicate and demonstrate an invisible God, as certainly, and with the same evidence, at least, as any other signs perceived by sense do suggest to me the existence of your soul, spirit, or thinking principle ...¹⁶

Upon glimpsing the conclusion to which his concessions have led him, Alciphron at this point modifies his position by noting that it is more specifically a person's speaking which is the most convincing evidence for his having a mind. That is, the best philosophical argument for the existence of other souls consists in hearing them use a language. And by 'language' Alciphron intends

... sensible signs which have no similitude or necessary connexion with the things signified; so as by the apposite management of them to suggest and exhibit to my mind an endless variety of things, differing in nature, time, and place; thereby informing me, entertaining me, and directing me how to act, not only with regard to things near and present, but also with regard to things distant and future.¹⁷

It is here that Euphranor proceeds to show how, by Alciphron's definition of a

13 *The Works of George Berkeley*, vol. III, Luce and Jessop, eds. (London: Thomas Nelson and Sons, Ltd., 1955), p. 145.

14 *Ibid.*, p. 146.

15 Because of the use of analogy in this theistic proof to the argument for other minds, which is itself an analogical argument, Michael Hooker calls Berkeley's argument a 'second order analogy'. See his 'Berkeley's Argument from Design' in *Berkeley: Critical and Interpretive Essays*, Colin Turbayne, ed. (Manchester: Manchester University Press, 1982).

16 *Works*, vol. III, p. 147.

17 *Ibid.*, p. 149.

language, the sensible world qualifies as such and that therefore it must follow that a 'Universal Agent or God' speaks to us in the workings of nature.

Colin Turbayne has brilliantly elucidated what he calls Berkeley's 'metaphysical grammar', systematically capturing the implications of this notion of divine language in contemporary linguistic parlance, while carefully managing to avoid distortion of Berkeley's views. Readers may refer to Turbayne's article for a fuller discussion of this doctrine. For the present purpose of gleaning a Berkeleyan solution to the problem of induction it is only necessary that I give the contours of his view of nature as a divine language.¹⁸ In *Siris*, Berkeley writes,

The phenomena of nature, which strike on the senses and are understood by the mind, form not only a magnificent spectacle but also a most coherent, entertaining, and instructive ... language or discourse.¹⁹

Berkeley is speaking quite literally in this passage, as Turbayne illustrates, by drawing numerous analogies between the 'phenomena of nature' and human language. For example, the letters of the divine alphabet consist of 'sensible qualities,' e.g., 'red', 'smooth', 'sweet', etc. These 'letters' combine to form complexes which we refer to as 'particulars' or 'sensible objects,' e.g., 'apple'. Like human language, the language of nature also has a syntax, which we call the 'laws of nature'. These rules are both descriptive and prescriptive. Their descriptive function is to provide explanations, predictions, and retrodictions of particular phenomena. We employ the 'laws of nature' to interpret or 'read' the language of nature, to learn why nature behaves as it does and how it is likely to behave in the future. As Berkeley explains, the laws of nature

extend our prospect beyond what is present and near to us, and enable us to make very probable conjectures touching things that may have happened at very great distances of time and place, as well as to predict things to come; which sort of endeavor toward omniscience is much affected by the mind.²⁰

Of course, the analogy here to human language is that in English, for instance, there is a rule of syntax regarding subject-verb agreement which explains why I used the word 'is' rather than 'are' earlier in this sentence and provides grounds for predicting what tense of this same verb I shall use to complete the sentence "These apples ____ sweet." The prescriptive function of the laws of nature is to instruct us with regard to what ends can be achieved by certain kinds of actions. Berkeley writes, 'the laws of nature give ... us a sort of foresight which enables us to regulate our actions for the benefit of life. And without this we should be eternally at a loss ...'²¹ For, as in human language, these syntactical rules of the language of nature serve to guide and admonish us, to

18 For the remainder of this section, I draw considerably from the work of Turbayne in 'Berkeley's Metaphysical Grammar.'

19 *Works*, vol. V, p. 121.

20 *The Principles of Human Knowledge*, Colin Turbayne, ed. (Indianapolis: The Bobbs-Merrill Company, 1957), p. 74.

21 *Ibid.*, p. 37.

furnish us with hypothetical imperatives such as 'If you want to be nourished, then eat,' just as syntactical rules of human language serve as guidelines and admonitions for ensuring that we communicate effectively.

We are now in a position to understand what it is, on Berkeley's view, that the scientist actually does. Contrary to the popular conception in his own time (and which still flourishes in contemporary times), he held that it is not efficient causes which the scientist discovers in doing science, since for Berkeley the only efficient causes are spirits.²² What the scientist is actually engaged in is the enterprise of learning God's language, of interpreting divine utterances manifested in the workings of nature.²³

IV. The Berkeleyan Approach to the Problem of Induction

From what has been said we are now able to construct the Berkeleyan approach to Hume's problem of induction.²⁴ It begins by noting that we observe certain regularities in nature, for example that unsupported objects fall, fire burns, and that a day is twenty-four hours long. Now it is also the case that, as we observe that given certain qualifications these regularities are without exception and have in the past obtained universally, we are able to exploit this knowledge to our own benefit. We learn to get out of the way of falling objects, to keep a safe distance from hot objects, and to refrain from leaping from great heights. We also learn when to sow and when to reap and how to warm ourselves when the cold season comes. In short, regularities in nature help us to survive and even to prosper in the world. The above examples are perhaps mundane, but of course, as humankind through the sophistication of science and technology has discovered more subtle 'laws' of nature, we have been able to secure more substantial and impressive benefits. Discoveries of Boyle's law, the ideal gas law, the laws of thermodynamics, the laws of electricity, light and radio waves, etc. have brought us such goods as the air conditioner, electric heat, the telephone, television, radio, and the internal combustion engine. In these and countless other ways regularities in nature prove useful for the general welfare of humankind and thus, on a Berkeleyan account, testify to the existence of a purposeful, intelligent, and powerful mind at work behind the cosmic scene who seeks to benefit his creatures. That is, for Berkeley, the laws of nature display the deity's intelligence and benevolence, among other attributes.

Now since God is benevolent, we can trust that the regularities in nature

22 Berkeley's immaterialism denies that physical objects, which are entirely collections of ideas, have the power to cause anything. Only spirits, humans as well as God, can causally affect objects. Whether Berkeley's admission that human spirits are genuine causes is consistent with his theological commitments is an open question. Since on the Berkeleyan view God orchestrates every detail of nature, there seems to be no room for true human causal interaction with the physical world. Therefore, notwithstanding Berkeley's own claims, his principles seem to commit him to occasionalism.

23 See Jonathan Dancy, *Berkeley: An Introduction*, Chapter 8, 'The Language of God' (New York: Basil Blackwell, Inc., 1987), pp. 114–115.

24 The inspiration and germ of the account given here is to be found in Dancy's *Berkeley: An Introduction*, Chapter 8.

will indeed remain constant as they have in the past, that they are in fact lawful. That is, we can trust that the future will resemble the past. Why? Because if, after observing the constancy of nature and employing this knowledge for our own benefit, this uniformity ceased, the results would be catastrophic for us. We might cite as a simple example the chemistry of water. If the freezing point of water suddenly rose four degrees, the consequences for the human race, as well as upon the rest of the animal kingdom, would be devastating. Ice would sink instead of floating, so oceans and lakes would freeze from top to bottom thus killing all marine life and making human life as we know it virtually impossible. Briefly put, humankind would suffer terribly if there occurred deviations from the normal course of nature's basic operations, and this would be inconsistent with the benevolence of God and his love for his creatures. Therefore, on Berkeley's principles, we can and should believe that the future will resemble the past, since the world is ruled by a loving God. Providence assures us that there are indeed 'laws' of nature, so our belief that nature is uniform is not mere instinct or custom but is justified and hence rational.

The Berkeleyan account, then, may be represented by the following schema:

Regularity in Nature	→	The existence of a benevolent and trustworthy God	→	The uniformity of nature
-------------------------	---	--	---	-----------------------------

The arrows in the diagram indicate inferences and may be interpreted as meaning 'strongly suggests' or 'provides good reasons for believing'. From the regularities of nature and the benefits derived from exploiting them we conclude that a benevolent and trustworthy God exists. And given our knowledge of these two attributes of God we are justified in believing that nature is uniform. In a nutshell, this is Berkeley's anticipatory reply to Hume. Now there are some important objections to this general account which need to be addressed, but before doing so I want first to draw attention to some interesting corollaries.

First, let me note a significant implication of this view for Berkeley's philosophy of science generally. Since the laws of nature are some of the most basic tools of empirical science, it follows from Berkeley's model that the scientific enterprise as a whole is girded on the foundation of faith in the 'author of nature'.²⁵ Rational scientific investigation, it seems for Berkeley, critically presupposes reliance upon trust in God. And every empirical scientist who embarks on gaining insight about the natural world at least implicitly demonstrates this faith.

Faith might be defined as belief or trust beyond the evidence. So when it comes to the basic principle that nature is uniform, the scientist, whether or not she believes in the supernatural, exercises faith, precisely because no empirical evidence sufficient to justify this belief can be provided. This is why Dallas Willard asserts that 'faith is not restricted to religious people.'²⁶ And

25 As we have already seen Berkeley's use of the expression 'author' when referring to God amounts to no mere metaphor. Rather, he intends this appellation to be taken quite literally.

26 'The Three-Stage Argument for the Existence of God', *Contemporary Perspectives on Religious Epistemology*, R. Douglas Geivett and Brendan Sweetman, eds. (Oxford: Oxford University Press, 1992), p. 222.

William James writes, 'the only escape from faith is mental nullity.'²⁷ The question, then, is not *whether* the scientist exhibits faith, but *what kind* of faith she exhibits.

Secondly, Berkeley's account accommodates a reasonable explanation of miracles. He writes,

It may indeed on some occasions be necessary that the Author of Nature display overruling power in producing some appearance out of the ordinary series of things. Such exceptions from the general rules of nature are proper to surprise and awe men into an acknowledgment of the Divine Being ...²⁸

A miracle, then, differs from an ordinary event only insofar as it is 'out of the ordinary series of things.' Its cause and purpose, however, are the same as that of nature's usual operations. God is the cause, and his purpose is to convince humankind of his goodness and power and ultimately to draw people to himself. So strictly speaking, for Berkeley nature is not absolutely uniform. There do occur what appear to be exceptions to its general rules.

Now we may observe here, that this doctrine of miracles when combined with Berkeley's solution to the problem of induction is not without its problems. It seems here that he is wanting to have his cake and eat it too, for he uses both the regularity of nature as well as its occasional irregularities to imply the existence of the deity as well as certain facts about the attributes of this being. Now either there is regularity in nature or there is not, and depending upon which is actually the case the theist may conclude that the deity is benevolent or that miracles do occur, but he cannot have it both ways. Berkeley's likely reply here would be to insist that he can have it both ways, since the exceptions to the rules in nature are every bit as helpful to the creatures as the regularities. That is, these deviations like the rules themselves are always intended *for the sake of a creature's welfare*. Thus, the rational person is still justified in trusting God, despite his occasional divergences from cosmic routine.²⁹

I should note in passing that a belief in miracles might even serve to bolster Berkeley's analogy between human and divine visual language, for it is true that in any human language there are exceptions to many of the syntactical rules, though by and large a given rule is applicable.

Thirdly, this model has implications about scientific explanation, which Richard Swinburne sums up succinctly as follows:

[I]f a very powerful non-embodied rational agent is responsible for the operation of the laws of nature, then normal scientific explanation would

27 'The Sentiment of Rationality', *The Will to Believe and Other Essays*, (New York: Dover Publications, Inc., 1956), p. 93.

28 *Principles*, pp. 53-54.

29 Berkeley's doctrine of miracles is similar to, though not identical with, that of C.S. Lewis who maintains that 'A miracle is emphatically not an event without a cause or without results. Its cause is the activity of God. ... The great complex event called Nature, and the new particular event introduced into it by the miracle, are related by their common origin in God.' From *Miracles: A Preliminary Study* (New York: Macmillan Publishing Co., Inc., 1960), p. 60.

prove to be personal explanation. That is, explanation of some phenomenon in terms of the operation of a natural law would ultimately be an explanation in terms of the operation of an agent.³⁰

Such an understanding of scientific explanation is clearly distinct from traditional views. The 'covering law' model of Hempel and Nagel, for example, conceives of scientific explanation as the subsuming of particular events under general laws, and would resist references to causes. A Berkeleyan would critique this model for just this reason, maintaining that it serves merely to describe or categorize events rather than provide a relevant answer to the 'why' question about them. Nor should the Berkeleyan model be confused with the usual causal models, such as that defended by Wesley Salmon, as his approach appeals only to secondary causes rather than divine or primary causes of phenomena in explaining natural events.

V. Objections to the Berkeleyan Approach

The Berkeleyan approach to induction will be found unsatisfactory to some because in an essential respect his solution marks no genuine advance on Hume's response to his own criticisms, that our sole means of philosophical redress in the wake of such a critique is to appeal to faith. The only noteworthy difference in Berkeley's case, the critic might lament, is that the sort of faith he endorses is religious faith rather than Hume's 'animal faith', and this is hardly a desirable amendment for the agnostic or atheist.

What this objection suggests, that Berkeley's attempted solution to the problem of induction merely supplants animal faith with religious faith, just might be Berkeley's design. For he seeks to lead us to the sovereign deity behind the laws of nature that we might put our ultimate trust in the former rather than in his works or ourselves.³¹ It was, after all, Berkeley's first concern to 'inspire [his] readers with a pious sense of the presence of God.'³² And what better way to accomplish this end than by showing that the legitimacy of empirical science, one of the most secular of intellectual pursuits, depends fundamentally on a trust in God.

A related criticism regards a problem which emerges if we press Berkeley's analogy between human language and the divine visual language. It is well known that the syntax of any human language changes over time, albeit very slightly and only over long periods of time. Now one could argue that since in Berkeley's scheme the laws of nature are analogous to linguistic syntax, it would seem to follow that the laws of nature should be expected to change as well. And if this is the case, then the regularity of phenomena in nature that we seem to experience is really not absolute. And from this it follows that we really do not have the grounds to conclude that God is benevolent, as Berkeley thinks we do.

30 'The Argument from Design,' *Contemporary Perspectives on Religious Epistemology*, p. 206.

31 Thus, as we have seen, the faith Berkeley aims to impart is not fideistic but founded upon clear and sufficient evidences for the truth of theism.

32 *Principles*, p. 104.

In response to this objection an important clarification should be made with regard to the structure of Berkeley's reasoning. Specifically, we must keep in mind that Berkeley's is a two-step argument, the first of which essentially constitutes a theistic proof and the second which reasons from God's nature to our justified belief in the uniformity of nature. Now syntactical evolution and variation disrupt neither of these steps in the Berkeleyan model. It is plainly not relevant to the second step. And as for the first part of the argument, it poses no serious threat. This is because the essence of the analogy between human language and the visual phenomena is preserved so long as there are certain rules by which the 'signs' are (or must be) arranged and organized. It would not matter if such rules could evolve, however significantly, so long as there remain rules which serve to govern the 'meaning' of the discourse. Anyway, we cannot be certain that the laws of nature (thermodynamics, gravity, inertia, the gas laws, etc.) do not themselves mildly mutate over very long spans of time (say, trillions of years), in which case there would be a more exact analogy between human and divine visual language.

A third, more serious objection regards a questionable premise implicit in Berkeley's account. Even if we grant God's existence and furthermore that he is in sovereign control of all of nature's operations as Berkeley suggests, there still remains the dubious claim that God is unchanging, a crucial assumption in the Berkeleyan justification of induction. Aside from the theist's belief that God's actions are consistent, how do we know God's nature is itself constant? And how is the theist's belief in this claim any more rational than the non-theist's belief in the uniformity of nature itself?

This objection raises some serious and complex issues which could lead us into a discussion of numerous tangents, but here I will only address the query broadly.

To the first question raised in this objection one may argue that there are independent grounds for believing in God's unchanging nature which do not rely on the theistic proof employed by Berkeley.³³ For instance, one could appeal to some version of the ontological argument for God's existence or considerations in philosophical theology to justify one's belief that tomorrow he will not suddenly transmute into a malevolent deity. Thus, to address the second question, faith in God and that he will preserve nature's regular operations is at least as rational as faith in the laws of nature themselves because of who God is—a powerful, intelligent, benevolent, *immutable* person.

In brief, he is the sort of being who is more worthy of the trust of his creatures than are the laws of nature (which, as noted earlier, denote no objects in the world but only describe certain features of regularity discernable in the phenomena of nature).

33 For this response I am indebted to an anonymous referee of this journal.

VI. Conclusion

If Berkeley's 'reply' to Hume's critique of induction seems prophetic, it is not the only instance of his anticipation of Hume. At one juncture in the *Three Dialogues* Hylas advances a Humean view of mind.³⁴ Elsewhere, Hylas is the mouthpiece for skeptical arguments about knowledge of the external world strikingly similar to those offered by Hume in chapter VII of his *Enquiry*.³⁵ The theme to be found in Berkeley's rejoinders to Humean skepticism is that we, professional philosophers and lay persons alike, must in the end resort to faith in God in order to combat doubt and secure knowledge, whether its object be the external world or our belief that the future will resemble the past.

Dr James Spiegel is Assistant Professor of Philosophy at Taylor University in Upland, Indiana 46989, USA.

34 *Three Dialogues Between Hylas and Philonous*, second dialogue. See also *Philosophical Commentaries*, 577, 579, and 580.

35 *Ibid.*, third dialogue.

The Pascal Centre For Advanced Studies in Faith and Science

presents an international conference

Science in Theistic Contexts: Cognitive Dimensions

An analysis and evaluation of the internal role of theistic religious beliefs in the natural sciences and mathematics. Intended for those with an interest in the relationship between science and religious belief.

JULY 21-25, 1998,

Redeemer College, Ancaster, ON, Canada

INVITED SPEAKERS AND CHAIRS

Historiography of Science and Religion **Dr. J. H. Brooke** (Lancaster U., UK)
Religion and Neuroscience **Dr. G. Glas** (State U. of Utrecht & Leiden, NL)
Religion and Mathematics **Dr. I. Grattan-Guinness** (Middlesex U., Enfield, UK)
Religion and Physics **Dr. M. J. Osler** (U. of Calgary, CA) Religion and Geology
Dr. N. A. Rupke (U. of Gottingen, CE) Religion and Chemistry **Dr. C. A. Russell**
(Emeritus, Open U., UK) Evaluation **Rev. Dr. T. Settle** (Emeritus, U. of
Guelph, CA) Religion and Biology **Dr. P. Sloan** (U. of Notre Dame, USA) Religion
and Physics **Dr. S. Turner** (U. of New Brunswick, CA) Religion and Metaphysics
Dr. S. Wykstra (Calvin College, USA)

For information, contribution guidelines, and schedule, consult our website
<http://www.redeemer.on.ca/pascal> or contact: Dr. Jitse van der Meer,
Redeemer College, 777 Garner Rd., Ancaster, ON, Canada, L9K 1J4
Phone: (905) 648-2131 Fax: (905)-648-2134 email: pascalcentre@redeemer.on.ca