

## *Per posterius*: Hume and Peirce on miracles and the boundaries of the scientific game

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### ABSTRACT

This article provides a response to David Hume's argument against the plausibility of miracles as found in Section 10 of his *An enquiry concerning human understanding* by means of Charles Sanders Peirce's method of retrodution, hypothetic inference, and abduction, as it is explicated and applied in his article entitled *A Neglected Argument for the Reality of God*, rather than focusing primarily on Peirce's explicit reaction to Hume in regard to miracles, as found in *Hume on miracles*. The main focus will be on Peirce's neglected argument rather than his explicit confrontation with Hume on the issue of miracles, because his criticisms of Hume demands a methodological approach appropriate for scientifically analysing surprising phenomena or outliers, of which miracles or the reality of God would be but two examples amongst many. This article, then, consists of an attempt to construct this method as one that draws inferences neither *a priori* nor *a posteriori*, but *per posterius*, because such a method is capable of rigorously questioning rogue or surprising phenomena, *e.g.* miracles.

### KEYWORDS

methodology; abduction; Neglected Argument; God; play

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This article's more modest aim is to provide a response to David Hume's argument against the possibility of miracles as found in Section X of his *An enquiry concerning human understanding* by means of Charles Sanders Peirce's method of retrodution, hypothetic inference or abduction as it is explicated and applied in his article entitled *A Neglected Argument for the reality of God*.<sup>1</sup> Naturally, use will also be made of Peirce's most focused treatment of Hume's argument against the plausibility of miracles in *Hume on miracles*,<sup>2</sup> although in that essay Peirce's method is not treated in detail and, more importantly, not exemplified. This article, then, has the advantage of being able to limit itself to a close reading of only three articles. The implications, however, can be broadened so that one discovers the need for a general methodological approach appropriate for analyzing surprising phenomena or outliers, of which miracles or even the reality of God might be but two possible examples. In short, this article's more ambitious, even audacious, aim is to argue for a method that demands that the horizons of scientific knowledge itself be broadened. In this way science might avoid having to dismiss surprising phenomena out of hand as phantasmal. In other words, it might still be able to handle phenomena that seemingly threaten the idea of the law of nature and, therefore, also the modern scientific enterprise. Let miracles be defined as chance irruptions or events without precedent, which, given Peirce's tychism or his belief that things are not merely determined by their precedent, *i.e.* that indeterminacy plays a role in the world, Peirce cannot dismiss out of hand. Miracles therefore represent a limit case for an entire domain of unpredictable observations that would also include phenomena as relevant as human (or divine) freedom, or genial art and physical indeterminacy. Such phenomena always retain the possibility of catching the observer by surprise. In short, a method is required that adapts itself to the phenomenon itself as the ultimate criterion rather than discarding phenomena incompatible with a given method. This is the case if for no other reason than that science is, for Peirce, decidedly not determined by immutable laws throughout. Laws and methods must be adapted to phenomena and not vice versa.

## HUME AGAINST TESTIMONY, HUME AGAINST MIRACLES

This author's contention is that David Hume did not just argue against the plausibility of belief in miracles based on testimony in fact, but in principle. This is, at least, the result if one reads Hume literally and by the letter (which

<sup>1</sup> This can be found in Anderson, 1995.

<sup>2</sup> This can be found in Pierce, 1931–1935: 522–547. All quotations will be cited according to the following example, CP 6.525, where “CP” indicates *Collected Papers*, “6” the volume number and “525” the paragraph number.

Peirce himself does not do insofar as, in his essay, *Hume on miracles*, he rejects Hume's own definition of a miracle as an event that contravenes the laws of nature). Read according to the letter — which also means to read Hume against his own intentions — Hume argued, as shall be seen, not just that accounts of miracles are implausible in fact, but that they could never be plausible in principle, *i.e.* that they are not even possibly plausible. Although Hume proceeded in section II of his chapter against the credibility of the testimony of miracles to enumerate four reasons why evidence in favor of miracles is either insufficient or disingenuous, his definitive argument against testimonies of miracles is not really empiricist or evidentialist. At bottom, Hume did not so much argue that evidence for miracles was simply lacking, but he actually presented an *a priori* argument against their plausibility, *i.e.* even against the possibility that any amount of testimony ever could be enough. In short, should an account of a miracle ever be able to acquire enough evidence and testimony on its behalf to counterbalance or outweigh the evidence in favour of the uniformity of nature, *i.e.* the laws of nature, then it would be annexed by that same principle of uniformity, causing the accounts of the miracle to lose their surprising character and cease being an outlier to laws of nature. It would cease to be an account of a miracle, which according to Hume's definition is nothing other than "a violation of the laws of nature" (Hume, 1999: 116), and would instead be a mere observation of nature in its regularity, albeit witnessed by one apparently uneducated in nature's laws. Hume's argument, therefore, really rests upon the definition of a miracle and his rule, to be deductively applied, that eye-witness accounts, when in contradiction with known laws of nature, ought always and everywhere, *i.e.* universally, to be disbelieved. As Robert H. Ayers confirms, "Hume's formal definition was often taken as the basis for the argument that by definition miracles are impossible" (Ayers, 1980: 243). Despite Hume's infamous empiricism, his basic argument actually operates *a priori*, analytically and deductively. One need not have the slightest experience of evidence pro or con for any particular miraculous event. By definition, irrespective of any possible experience based on the testimony of others — and surely even one's own experience of a miracle, *i.e.* a violation of nature's laws, would have to be called into question for these reasons — one ought to recognise the incredulousness of believing in any and all accounts of miracles. If a phenomenon — or the testimony of a phenomenon — is surprising, because it does not occur within the uniformity of nature, then one ought always withhold (and even deny) one's assent to the phenomenon under question. For Hume, at least if we take him at his literal word, belief or disbelief in nature's outliers, whatever they may be, is not really an issue concerning a matter of fact, but rather a matter of principle. Hume, of course, does not fail to state as much insofar as his express intention is to provide a definitive argument against the credibility of any alleged religious miracle. He does not feel the need to

discredit stories of miracles individually as that was already a well-practiced custom of his time.<sup>3</sup>

One may retort that Hume remained empirical in his approach because the uniformity of nature itself is only arrived at by means of the principle of induction and his notion of constant conjunction. Concerning the former, Hume wrote that the wise man “regards his past experience as a full proof of the future existence of that event” (Hume, 1999: 113) and that “the maxim, by which we commonly conduct ourselves in our reasonings, is that the objects of which we have no experience resemble those of which we have; that what we have found to be most usual is always most probable” (Hume, 1999: 117). Even when certain appearances may appear to conflict with the otherwise uniform appearances, one should always side with the greater, *i.e.* one ought to appeal to probability. “Probability, then, supposes an opposition of experiments and observations, where the one side is found to overbalance the other” (Hume, 1999: 113). Moreover, an account of a miracle — were it but even possibly credible — would be a testimony about a matter of fact and all matters of fact can only be known through experience. These genuinely empirical elements must be admitted, but this does not preclude Hume from prescinding the possibility of certain matters of fact, or at least the possibility of their credibility, prior to the accumulation of present and repeatable empirical evidence. When constant conjunction is lacking in the least, *i.e.* when the conjunction is frequent but not constant or without variation, then certain outliers have raised their head, deviations from the norm. These deviants do not in fact have the weight of evidence on their side, but Hume wants to imply that they could... they just do not. The miracle-account, however — and this is the crux of the issue — is deviant by definition. Its plausibility is prescinded in advance of any experience that may subsequently corroborate it. If sufficient corroboration for the surprising and irregular event were found, then it would not be what it is, namely a witness of a miracle, a violation of nature’s laws, a violation of nature’s regularity. It would instead become just another testimony for a law of nature and its uniformity, only perhaps a law as of yet unknown.

The experience that established the laws of nature, says Hume, is “unalterable” (Hume, 1999: 116). The law is established or rather comes to be known *a posteriori* through the principle of induction and constant conjunction, but once it has been written by these “principles”, which by Hume’s own admission and as is well known are not apodictically founded but simply psychological explanations, it becomes set in stone, as if manna passed down from Heaven. The laws that arose simply by generalization from particulars, that have no *a priori* connection between them, have become utterly inviolable. These past

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<sup>3</sup> Note as examples of this writings by Thomas Woolston (2010) and Peter Annet (2010), first published in 1744, only four years prior to Hume’s *Enquiry*.

accounts of miracles have now, *i.e.* after the formulation of a law of nature, unalterably lost any possible credibility. Accordingly, given Hume's definition of a miracle as a violation of nature's uniformity, "nothing is esteemed a miracle, if it ever happen in the common course of nature" (Hume, 1999: 116). "Common" in "common course" obviously refers for Hume to the frequency of an event and not the qualitative aspect of its occurrence. Qualitatively the birth of a child, even one's fifth or sixth, is certainly more than common, what many in common parlance refer to as miraculous. Quantitatively, however, the event falls squarely within nature's "common" procreative occurrences. Hume himself suggests that despite a certain uncommonness or uncanny nature that a man in perfect health may suddenly die, this does not, apparently, constitute something uncommon. Part I of Hume's text actually shows that Part II is only a psychological support, as if an addendum attached to his text only in order to speak to the psychology of the "common" person who may yet still require other matters of fact. As for Hume himself, he is surely convinced prior to the presentation of the eye-witness testimonies. The case is clear prior to any examination of testimonial evidence that historians may or may not yield.

Before continuing, it is worthwhile to draw attention to one instance where Hume, while not necessarily believing himself, does seem to admit the possibility of justly believing in a miracle on the basis of testimony. He remarks, "There may possibly be miracles, or violations of the usual course of nature, of such a kind as to admit of proof from human testimony; though perhaps, it will be impossible to find any such in all the records of history" (Hume, 1999: 184). He then offers as an example the possibility that all authors from all cultures agree in their account that on the first of January in the year 1600 total darkness lasted over the whole earth for eight days. Given that there might be such consensus on the basis of historical testimony, he concludes, "It is evident, that our present philosophers, instead of doubting the fact, ought to receive it as certain, and ought to search for the causes whence it might be derived" (Hume, 1999: 184). It must be noted, however, that in response to this fact, which is not to be doubted, Hume suggests that philosophers, while not believing themselves but only not doubting and "receiving as certain", ought to search for the causes of this "miraculous" event. Hume does not in fact waver here. While he admits that nature might "have a tendency towards that catastrophe" (Hume, 1999: 184), he nevertheless remains convinced that philosophers (or perhaps scientists) can find the cause — and this means a cause of nature, *i.e.* a cause immanent to nature herself — of the "decay, corruption, and dissolution of nature" (Hume, 1999: 184) in this peculiar event. This, then, for Hume, would not constitute a suspension of or outlier from nature's laws, but only one of its possible extremities. The cause of this decay or corruption of nature would not actually fit Hume's definition of a miracle as a violation of the laws of nature. Perhaps there was a dark and noxious cloud

covering the entire earth that took eight days to dissipate. This is no miracle, not even according to the definition of a miracle accepted by Hume, but only an extreme instance of its uniform laws, the law of nature pushed to its boundary but not to its breaking point, *i.e.* not beyond the boundary or outside nature's laws. Hume does not admit here so much the possibility that a "miracle" might be corroborated through testimony than that testimony might serve as good cause for philosophy and science to consider a revision or reformulation of nature's laws.

Hume's argument against miracles and their credibility through testimony betrays a deductive rather than an exclusively inductive approach. The inference has been made and the conclusion drawn at the expense of testimonial experience, not just in fact but according to principle. This reading of Hume, however, while a bit unorthodox, perhaps does not constitute any real novelty as such. The more interesting thesis will follow upon the proceeding reading of Charles Sanders Peirce's Neglected Argument for the Reality of God.

As will be seen, the methodology of Charles Sanders Peirce encompasses both deductive and inductive moments, arguably with the advantage of being able to comprehend and legitimately take stock of certain phenomena that, for Hume, are to be dismissed as phantasmal outliers. Peirce's position should widen the scope of possible scientific research, proving less susceptible to the tendency to dismiss that which cannot be explained by conventional means alone. Peirce befittingly offers rogue explanations for surprising or rogue occurrences. Just such a methodology is exemplified, in this author's opinion, most poignantly in his Neglected Argument for the Reality of God.

## PEIRCE, ARGUMENTS AND THE REALITY OF GOD

In order to understand Peirce's Neglected Argument for the Reality of God, which is perhaps the prime exemplar of his method of abduction, one must first come to terms with his methodology, variously termed abduction, hypothetical inference or retroduction. The main point to be noted, insofar as this study is concerned, is the elucidation of his method, for which, again, the Argument for the Reality of God serves as an illustrative or paradigmatic example. In order to understand Peirce's methodology one must literally come to terms, *i.e.* understand and see the relation between a series of definitions. Only those necessary for the understanding of the argument here shall be explicated. God, for Peirce, is a definable proper name. This scientific methodology therefore concerns not the general but the individual, not the generic but the indexical. Science normally concerns the general, but Peirce's methodology already breaks the traditional mould by deigning to be a science of the individual — which Aristotle has long since deemed impossible. The individual in

this text, however, does not mean atomic individuals, not isolated individuals, but a science of individuals all the same.<sup>4</sup> Of course, that being said, a science of individuals cannot merely be a nominalist presentation of individuals as individuals but must explicate particulars by means of general laws and concepts. God is, therefore, something like a universal individual, the individual who coincides with his general understandability.

An Idea is anything whose Being may be fully represented, comparable to Plato's Idea (Anderson, 1995: 118). An Idea may or may not be instantiated in the actual world or, in Peirce's terms, it may or may not be Actual, but Ideas are Real or they are at least Real as Possible, *i.e.* possibly Actual.

A thing is Real if it has Properties that may identify the subject under question. These cannot be phantasmal Properties — nor are they necessarily Actual — but they are Properties that are true when predicated of the Real subject (Anderson, 1995: 118). The Actual is “that which is met with in the past, present, or future” (Anderson, 1995: 118). Accordingly, something may be Real and have true Properties, that is Properties which really would represent that thing and not some other, without having to be Actual at some time *t*.

Ideas correspond to Peirce's category of Firstness or qualitative immediacy, Actualities to his category of Secondness or instantiations of the possibility of Firstness, and the Real corresponds to his category of Thirdness or mediation, *i.e.* the general understandability among Actual particularities. These three categories of Peirce's formulate in general what is formulated more particularly in the following three Universes of Experience.

An Experience, generally defined, is a produced and habit-inducing conscious effect that, while under the ‘self-control’ of the agent (Anderson, 1995: 118), is nevertheless produced Brutally, meaning that the Experience “nowise consists in conformity to rule or reason” (Anderson, 1995: 119). One finds, then, in Peirce, neither facts in themselves (secondness) which would be given absolutely, *i.e.* apart from the habit-inducing consciousness (thirdness) of which it is an effect, nor a rigid adherence to the principle of sufficient reason. The Brutal aspect of Experience, that aspect which is absolute or which remains unconditioned by the consciousness of the agent, does not filter Experience through reasons or pre-given conceptions. Experiences are therefore possible, at least in principle, which occur without reason, which fall under no categories or pre-given rational structures under which the Experience must occur or be dismissed as phantasmal. One here sees Peirce's doctrine of tychism at play, namely, the conviction that not everything which happens occurs according to the regularity of law and that the formulation of law itself is the product of

<sup>4</sup> Peirce was a critic of Hume's atomism, who attempted to do things like reduce the soul to a merely atomic assemblage, *i.e.* bundle, of sensations and, in the *Treatise of human nature* at least, argue for the atomic point as a real indivisible. In this vein, one should note that atomism constitutes the basis of Hume's nominalism.

habit-inducing consciousness. Habit-inducing consciousness which conditions or produces Experience as an effect, is thus pragmatic rather than theoretical in nature. In other words, consciousness is pragmatic before it is epistemic. A law of nature is thus arguably nothing more than the habit of nature or, at least, the effect that nature renders upon habit-inducing consciousness. At any rate, there is nothing in Peirce that stipulates that Experience must occur according to pre-given rational structures, be they laws/categories of consciousness, laws of nature or the principle of sufficient reason. In the abstract terms of Peirce, secondness must precede thirdness as its condition; science is always of individual Actualities (secondness) even if it is to be explicated in terms of the universal (thirdness), a Real which cannot just be a nominal and abstract construction of the mind or habit-inducing consciousness. Consciousness does not conjure abstract realities out of thin air, but only as the law-like character (habit) that regulates secondness or particular Actualities. Law, as it were, is a formulation consequent upon and not antecedent to Actualities. Consequently, it cannot, therefore, be governing of Actualities.

There are then three Universes of Experience, the first comprises mere Ideas that are Real, *i.e.* Possible, insofar as they might find representation or be thought but are not necessarily Actual insofar as they do not have to be historically instantiated, though they could be. The second Universe is populated by the Brute Actuality of things, which presumably escapes, at least possibly, the first Universe as the domain of what can possibly find rational representation. In other words, this Universe, at least aspects of it, qua Brutal, surely escapes possible representation, minimally the fact that it is Actual rather than just Possible, that is not only something conceivable and representable but also Actual. In short, it is to be doubted that the first Universe necessarily circumscribes the second, that possibility necessarily leads to actuality. It could have been the case that there were never any Actualities, *i.e.* there could have been nothing instead of something. What is rational is indeed Real, but Bruteness or Actuality is not, in turn, reducible to rational representation, to what is Possible. There is, at least, no reason to assume this is the case for Peirce. The third Universe consists of those things that have the capability of establishing connections between different objects, especially those from different Universes of Experience. These are what one calls Signs, not the material signifier, *e.g.* the written statement or a concatenation of phonemes — which is but an instance of secondness or the Actual — but the signified or the Soul of the statement, *e.g.* the proposition expressed by means of a Brute statement (Anderson, 1995: 119). While the first and third Universe would presumably always admit of a reason and, by extension, a possible law, the second Universe, due to its Bruteness or in “nowise conforming to rule or reason”, escapes the principle of sufficient reason; it very well may be groundless or without reason. Presumably, if it finds representation in an Idea by means of a Sign — which



is far from necessary — it would find representation as the Idea of a fact, namely that which has no reason but just is as it is. A Brute facticity is to be accepted or not, corroborated or not, but certainly not to be derived by means of a pre-given law or rule of inference. Brutality points not just to the Actuality of things, but more importantly to their Facticity, that they are contingents and not necessary results from necessary forms of reasoning or necessary laws of nature. All of this, however, points to Peirce's doctrine of tychism, namely, that absolute chance, as well as law, has a role to play in the universe.<sup>5</sup>

An Argument differs from an Argumentation. The Argument informally tends toward the production of a determined belief, while Argumentation formally proceeds "upon definitely formulated premises" (Anderson, 1995: 119). Argumentation is syllogistic, deriving results from premises or rules of inference that precede and, accordingly, trump the facticity or Bruteness of Experience. An Argument, on the other hand, is more fitting for an Experience that flouts the accepted premises and rules of inference, for an Experience that does not find ready-made representation under an Idea by means of a Sign. In Argumentation premises and rules of procedure are the absolute criteria, whereas in an Argument the Bruteness of Experience operates as the uncircumventable criterion, upon which the rules and procedures of a subsequent Argumentation would have to be based and not vice versa.

An Argument for the Reality of God would hence not be a syllogism, but it would operate much less formally — even informally — although that by no means entails that there would not be specific methodological principles to follow. The difference is that these principles would follow according to the nature of the Brute Experience rather than precede as the conditions under which Experience must occur if the Experience is to be accepted as legitimate rather than phantasmal. This, of course, is precisely what Hume is not willing to admit. Said differently, Peirce rejects, if one will, the Uniformity of Nature without rejecting its regularity or, as he might instead say, continuity. Nature's uniformity is, again, but nature's continuity or habit of being, its habitual mode of being, its *modus operandi*, but nature is not uniform by means of a law precedent to the occurrences of nature itself. Douglass R. Anderson once stated that "Peirce's rejection of Nature's uniformity was not a rejection of its regularity" (Anderson, 2010: 234), but it does decidedly reject that nature's regularity is a result of a law that governs it in advance of its facticity, *i.e.* its Brutality. The regularity or continuity of nature can only be explicated after the fact, only after it has occurred in a continuous rather than discontinuous way, in a habitual rather than erratic way, but there is no uniformity that determines the occurrences of nature in advance.

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<sup>5</sup> That both chance and law play a role in the universe is why Peirce's Tychism must always be complemented with his Synechism, which draws connections between events.

To return to Peirce's Neglected Argument itself, God could be Real even if never Actually occurring at some point within history. God could be known through His Properties or rather through Experience, which is a conscious effect that leads to habit, *i.e.* to a certain conduct or way of life. As Real rather than Actual, however, the Experience of God is surely not sensible and thus not testable, not necessarily repeatable and thus not verifiable (or falsifiable). Here the science of the individual or the one-time occurrence is only able to be witnessed, that is testified to, but never repeatable under observable conditions. This one-time or, at least, sporadic Experience is, despite its infrequency, still able to be productive of a habit or way of life/habitude and is therefore far from trivial; it is not to be dismissed as insignificant. The corresponding Argument, not proof or Argumentation, would then not be academic merely, *e.g.* an inference to the God of the philosophers. Rather, it would make inference to a God commensurate with religious representation, one "adequate for the conduct of life" (Anderson, 1995: 119). This constitutes, *en brève*, the bare bones of the Neglected Argument.

Now, Peirce coyly questions "into what else than «origins» of phenomena (in some sense of that indefinite word) man can inquire" (Anderson, 1995: 121). Science must be able to move past the Humean Ockhamism of "direct observation" (Anderson, 1995: 121), *i.e.* past the nominalism at the root of Hume's atomism. All Experience, despite its Brutal character, is produced as a conscious effect relevant for the pragmatic side of life. Hume, on the other hand, given his notion of constant conjunction, seems to be equipped with a very limited methodology, namely, one that will only allow him to admit of isolated causes that can constantly occur in conjunction within certain sense experiences, that is as atomistic impressions or parts outside of parts. This constitutes Hume's Ockhamism (as well as his failure to overcome the problems of the associationism of ideas and continuity inherited from Locke). (Peirce, a prolific writer on the scientific method, repeatedly expressed his dissatisfaction with "Ockhamist" thinkers whose ontologies were dominated by discretely individual facts at the expense of hypothesis-formation, which would organically situate these facts into a whole.) In other words, for Hume, both cause and effect must be Actual impressions, *i.e.* an Experience like the one in Peirce's second Universe of Experience comprised of the Brute Actuality of things. However, as is well known, the relation between cause and effect never leaves an impression or is never an item of Experience. Furthermore, for Hume, in the case of God not only is the link between cause and effect never given as a sense-impression nor is the cause. All that is given as an impression is the effect and for constant conjunction to do its magic both cause and effect must be supplied by the senses in order that the mind might draw them into a causal relation. For Peirce, however, Experience is only the effect. There is no Experience of the Brute fact as such, only an effect, *i.e.* the Experience, which does

not necessarily conform to rule or reason. Hume, by contrast, cannot possibly admit of a cause that would be an origin beyond direct or Brutal observation. Already, one sees how Peirce's methodology, if feasible, would expand the borders of an otherwise overly limited Enlightenment science. Peirce's approach, on the one hand, allows for the explication of "partly experienced phenomena" (Anderson, 1995: 122), while Hume's approach, on the other hand, demands that both the cause and the effect fall within the Actual Experience, *i.e.* as an impression, in order even to qualify as something Real, let alone Actual.

By observing and ruminating on the connections within and between each of the Universes of Experience, says Peirce, one will be lead to postulate the Reality of God as the hypothesis that accounts for this unity. This hypothesis, however, has as its object a being that is thought as "infinitely incomprehensible" (Anderson, 1995: 124). Yet, given the origin of the hypothesis, something is also known, at least partly, about the nature of the hypothesised object. Peirce proposes that through further and further Experience the hypothesis would "tend" "to define itself more and more", and "without limit" (Anderson, 1995: 124). This hypothesis is, as it were, in Kantian terms, regulative rather than constitutive or, in Peircean terms, an instance of thirdness or general regularity and continuity rather than an instance of secondness or a particular law operating as a Brute fact that would determine the uniformity of nature. Peirce's asymptotic ideal would thus correspond to the infinitely incomprehensible object that signifies but the absolute limit of comprehensibility. Peirce's Argument is not a closed one, not a piece of Argumentation, but open-ended, tending toward a determinate but asymptotic limit. The hypothesis of the Reality of God, just as any hypothesis, will never be wholly determinate and true, having arrived at an impossible totality via the empirical road — to again make allusion to Immanuel Kant — but nor will it ever be "flatly false" (Anderson, 1995: 124). The aim is that the erection of the hypothesis would be "less false" (Anderson, 1995: 124) than its denial. No hypotheses are to be dismissed out of hand.

As mentioned above, Peirce's methodology employs both deductive and inductive modes of inference. Despite the deductive component, the Argument as a whole begins in Experience. As Peirce affirms, "All our knowledge may be said to rest upon *observed facts*" (CP: 6.522). Experience serves as the impetus for all inquiry, because one does not question and inquire about that which only confirms the status quo. Something only becomes a subject for question and debate with the experience of "some surprising phenomenon, some experience which either disappoints an expectation, or breaks in upon some habit of expectation of the *inquisiturus*" (Anderson, 1995: 125). Peirce states more poignantly, "Inquiry begins with pondering these phenomena in all their aspects, in the search of some point of view whence the wonder shall be resolved" (Anderson, 1995: 125). Shall one say with Plato that philosophy begins

in wonder or *thaumazein*? This runs entirely counter to Hume, who dismisses surprising deviants out of hand as lies or phantasms, who excludes their possibility in advance. Peirce, however, regards those surprising and unexpected anomalies — or rather irregularities/discontinuities — as something capable of provoking thought, as the very impetus to scientific inquiry. These are not excluded by the laws of science but are precisely the very phenomena that implore one to broaden the horizons of the same. Science, like philosophy, begins in wonder and finds its sustenance in wonder, not in the monotonous conformity of confirmation. Peirce is Platonic in this respect and like Plato he too implores that Explanation — an account that renders the posterior as a necessary consequent from a conjectured *prius*/antecedent — consists in telling “likely myths” stories or, to speak Peircean rather than in the language of Platonism, it consists in conjecturing to a “plausible” hypothesis. Only an Argument rather than Argumentation can lead to an Explanation, an account of the posterior that renders it a necessary consequence of the antecedent only *post factum*. The antecedent was not necessary beforehand, *i.e.* not in itself, but only afterwards, only as a conditional necessity, *i.e.* on condition that the consequent has been given as a Brute Experience. The Experience, qua Brutal, only leads to necessity posthumously, that is *post factum*. Brutal Experience is given not as anything necessary, but as a fact, as a contingency which certainly could have not been. The conjecture or rogue Explanation required to account for an anomalous or surprising occurrence — for example, why is there Experience at all or something at all instead of nothing?! — constitutes the beginning of science, both in terms of the impetus for inquisition as well as the “First Stage” (Anderson, 1995: 126) of its methodological procedure. This First Stage Peirce denominates, in his article outlining the Neglected Argument for the Reality of God, as Retroduction — “reasoning from consequent to antecedent” (Anderson, 1995: 126) — otherwise known by Peirce as Abduction or Hypothetic Inference, which this article hopes to explicate as a method *per posterius*. In any event, the First Stage is regressive but later Stages will exhibit a progressive direction.

The First Stage, which posits a hypothesis in an attempt to account for a surprising fact, *i.e.* a fact not to be explained in advance of its facticity, is followed by Deductive and Inductive Stages. Both the latter stages must be derivative because: “neither Deduction nor Induction contributes the smallest positive item to the final conclusion of the inquiry. They render the indefinite definite; Deduction Explicates; Induction evaluates: that is all” (Anderson, 1995: 128).

Deduction and Induction will elucidate what one has posited in one’s hypothesis and attempt to determine if these elucidated consequences do in fact cohere with Experience, be it Experience of what is Actually the case or, more generally, of the Real. In other words, they help one more clearly to formulate

what has been hypothesised on the basis of the Brutal Experience that precedes rule and reason, but they do not play any role prior to the setting of the hypothesis and so played no role in determining which hypothesis to postulate, in determining which conjecture to venture. Now, as is well known, nothing that is not contained already in the premises of an argument can validly appear anywhere in the conclusions. If Deduction and Induction, then, do not determine the hypothesis with which one begins, but only render it determinate, then they cannot add one iota to the conclusion of an argument. They only help to expose the conclusion's entailments and, hopefully, also to corroborate them. Of course, any hypothesis, in its incubatory state prior to the Deductive and Inductive stages, is always a vague one, that is a hypothesis not yet fully explicated in all its determinations; it is indefinite but must be rendered definite by these following two stages.

The First Stage of Hypothetic Inference is Retroductive, *i.e.* regressive, but the second stage, Deduction, is progressive. It moves from the *prius* — the newly and indefinitely defined hypothesis posited in accord with the Bruteness of Experience — forward to its consequents, *i.e.* the *posterius*. The Deductive operates *a priori* or, literally, from the *prius* forth. The Third Stage is then Induction, which tests the entailments of the hypothesis as procured by the stage of Deduction against the three Universes of Experience, the Bruteness of which always remains as the absolute criterion. All three stages, and none in isolation, should constitute the scientific method. This account of the scientific method would not preclude phenomena from the start that do not already fit neatly under a pre-existing Explanation, but it would be a method that is flexible and malleable, whose borders are fluid in just the same measure as the object of inquiry might require a simpler and so more concise or a more complex and so heftier Explanation. Ockham's Razor does not hold at the expense of the criterion of adequacy, though the inverse is quite probably true.

#### A METHOD OF PLAY

This author contends that Peirce's methodology lends credence to the object of study — as delivered through Brute Experience, even if only reported through testimony — as the absolute criterion, with the result that the object of study is never to be altered or rejected in order to find its place under established laws, even inductively inscribed laws. Induction is only the second moment and not the fact itself, not the criterion itself. One can only judge an Experience, however, by erecting it as a hypothesis to be studied and not by not dismissing it out of hand. Phenomena are not to be contorted in order to fit the Uniformity of Nature, but the Uniformity of Nature must be malleable

enough to expand its borders to regions that can encompass the so-called “outliers”. The proposal, then, is that the method that permits for itself this malleable open-endedness can only be one that employs a *per posterius*, yet progressive, mode of inference. On the one hand, traditional empiricism operates *a posteriori*, regressing from the posterior effect to its prior cause. An *a priori* method, on the other hand, employs reason alone, without the least aid of experience, operating deductively, beginning with some concept and analytically parsing from this *prius* its necessary entailments. It progresses from the *prius* to the *posterius*. The novelty of the method espoused by Peirce is that its mode of inference or, better, its directionality is neither regressive, that is *a posteriori* or from the posterior, nor progressive, *i.e.* *a priori* or from the prior forth. Stated more exactly, it is neither of these merely. It is indeed progressive, but it may only progress by means of the subsequent, *i.e.* through the posterior. It progresses from the *prius* to the *posterior*, but only via the vehicle of the *posterior* — namely, the surprising fact that is not to be dismissed out of hand! This is also what ensures that the retroductively postulated hypothesis is never *ad hoc*. This also ensures that what eventually finds explanation is not the *posterius* as such, but instead the *prius* finds explication; it is explicated in all of its entailments, which are thus corroborated by the inductive moment. One can thus question the meaning of the *prius* without it always having to appear as nothing but a ground or cause for the subsequent, the *posterius*. If one progressed from the *prius* forth merely, that is only deductively, then surprising phenomena would have to be disregarded as phantasmal instead of provoking a wonder in the observer that would cause her to broaden the boundaries of her own science. If one regressed from the *posterius* back to the hypothesised cause merely, then the antecedent causes that serve to explain the observed phenomena would never be permitted to radiate forth in their own wonder, but would be relegated to indispensable pre-conditions without which the posterior could not have been — an instance of Hegelism rather Peirceanism!

Note the following example. One’s deeds and words often shock, inciting wonder and perplexity. What is so astonishing, however, is not the other person’s deeds or words as such, but rather their will, the *prius* of their deed, the deed being but the *posterius* of their anterior will. What one wants to explain is not actually the deed. One does not simply wish to elucidate all the conditions necessary for the deed. No, what one really wishes to explain is the will of the person, the meaning of the *prius*, that is the meaning of the deed and not just the deed itself. One can only do this, however, by means of or through the consequent, that is by means of the deed itself, inclusive of its effects. Yet, the consequent deed is not really what is under question; it is not what is awe-inspiring. A miracle, for example, is not astonishing because of its irregularity, lest magic invoke the same awe as the miraculous, but that about which one really wonders is the power behind the miracle, which will help to

explicate what the miracle means. Miracles themselves are signs, as the Greek word itself — *semeion* — indicates.<sup>6</sup>

One may retort that Peirce's method, at least as employed in the Neglected Argument for the Reality of God, does not posit God as a power "behind" miracles or, in fact, behind any particular events as their direct cause. One might argue that Peirce's God is to human understanding what Kant's God is to morality. Just as Kant's God, rather than being the moral lawgiver or the power behind moral acts, is the postulate according to which one acts "as if" the *summum bonum* or human happiness were commensurable with the *supremum bonum*, which is not based in God but reason alone, likewise one might construe Peirce's God as that ideal or postulate of rationality which leads one to expect that her hypotheses will eventually be, albeit asymptotically, confirmed. This permits one to inquire into hypotheses "as if" nature were ultimately rational and uniform. Of course, given how the Bruteness of Experience obviates the principle of sufficient reason, nature clearly is not ultimately rational — it is rather subject to the principle of tychism! — but Peirce's God, according to this line of interpretation, would be the postulate of ultimate rationality or, rather, of ultimate regularity and continuity. Against this interpretation one can point to the fact that, although Peirce's God may not be Actual, it is more than an impossible, *i.e.* asymptotic, postulate as a merely fictitious ideal, but

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<sup>6</sup> J. M. Bocheński's book, *Die zeitgenössischen Denkmethode* (1993), which offers an astonishingly clear overview of various methodologies, would likely bring Peirce's abduction or retroduction under the heading of "reduction". Bocheński's account of the reductive method is offered in pp. 100–104 of this book. While reduction is "structurally" similar to, or even identical with, the method espoused here; nevertheless, a method that operates *per posterius* is not really to be thought along the lines of hypothesis formation — despite the fact that Peirce also sometimes refers to it as "hypothetic inference" — and the induction of the natural sciences. Rather, a method operative *per posterius* is to be thought more along the lines of what Bocheński terms the "historical method", although he numbers this as an extremely special kind of reduction. A miraculous event or a historical occurrence both share in common that they are a one-time occurrence that can never be identically repeated. As Bocheński writes, "Peculiarly, the historical sciences offer no general pronouncements" and "those hypotheses and laws" [— if the object of this method is even something lawful! —] "which are proposed with the help of such general statements are always singular. [Auffallenderweise stellt keine Geschichtswissenschaft allgemeine Aussagen auf [...] die mit ihrer Hilfe aufgestellten Hypothesen und Gesetze sind immer singular]" (130). Bocheński then rhetorically wonders, "Why does the historian not want to employ induction? [Warum will der Historiker keine Induktion anwenden?]" (132) and answers, "The object [...] is constituted in such a way that what is of interest in it is something individual, not the general. [Der Gegenstand [...] ist so beschaffen, daß an ihm gerade das Individuelle, nicht das Allgemeine von Interesse ist]" (133). The method under investigation in this article concerns the meaning of that which manifests itself historically, e.g. a person. If there, in fact, are miraculous events, then they are *semeioi*, *i.e.* signs, of the freedom of some individual, of a singular will that has enacted said event. Accordingly, it is a properly historical object, whereas science customarily limits its investigations to that which permits not signs pointing back to an individual, but instantiations of the general and universal.

something Real. This is not to deny that a postulate or a mere Idea cannot be of the order of Experience for Peirce. Clearly, this falls under the first Universe of Experience. Nevertheless, Peirce's God cannot be a mere postulate or ideal, but must be the power "regulating" Experience, because, as Peirce says in the first line of the Neglected Argument, God is "Really Creator of all three Universes of Experience". God is not the mere postulate of the ultimate rationality of experience in the sense that Kant's God was the postulate of morality. God, for Peirce, would be the very cause of Experience's givenness rather than that element produced through consciousness; God constitutes Experience's Bruteness as such. God would be the hypothesis for the surprising fact that there is Experience rather no Experience at all, that there is something rather than nothing. Perhaps, the Reality of God will be neither confirmed nor disconfirmed as an Actuality by the deductive and inductive moments, but it is a hypothesis that is not to be dismissed out of hand. As Peirce states, "Any proposition added to observed facts, tending to make them applicable in any way to other circumstances than those under which they were observed, may be called a hypothesis" (CP: 6.524). Abduction, Peirce then defines as "a preference for any one hypothesis over others which would equally explain the facts, so long as this preference is not based upon any previous knowledge bearing upon the truth of the hypotheses, nor on any testing of any of the hypotheses, after having admitted them on probation" (CP: 6.525). Even if it remains always only a hypothesis without any empirically repeatable consequences, that does not mean that it is without credibility or plausibility. A mere postulate could never be "adequate for the conduct of life" (Anderson, 1995: 119). Recall as well that Peirce suggests that "into what else than «origins» [emphasis added] of phenomena (in some sense of that indefinite word) man can inquire" (Anderson, 1995: 121). The Reality of God, just as the Actuality of a miracle, may be nothing empirically verifiable, but what requires Explanation is nothing empirical anyway, but that "behind" the empirical, the "origin" of Experience as such, the latter being but an effect for habit-inducing — and not belief-verifying — consciousness. Just as a witness' testimony for a miracle may be the sort of thing that escapes empirical testing, that does not *de facto* make it implausible or worthy of hasty dismissal.

There is no guarantee that rogue events — be they freedom, physical indeterminacy, the facticity of the world or miracles — will lead to satisfactory, albeit equally rogue, explanations. This is why there is little worth in pointing to a precedent where a strange phenomenon has come to be accepted as an event capable of formulation within the bounds of scientific law as already formulated. Not only would such a happening efface the miraculous quality of the event, annexing it into the laws of nature as Hume would have of would-be miracles, but it would also foster the fallacious opinion that all rogue experience or testimony of rogue experience is legitimate if and only if it came



to be confirmed rather than disconfirmed or counter-balanced. A hypothesis founded on a claim to Experience demands consideration as such, only to be discredited *post factum*, if at all, but never out of hand, never out of mere principle. As Peirce himself suggests of Hume's criticism of miracles, "The definition he virtually *uses* is that a miracle is something the like of which has never been known to happen. He has completely mistaken the true nature of the logic of abduction" (CP: 6.537). This is not to say that Peirce accepted these miracles himself as somehow founding the validity of a particular religion. He does, however, conclude that Hume, by defining a miracle as a violation of the law of nature, most certainly defined a miracle in a way that implied the idea of the Law of Nature, *i.e.* Hume added to the definition "a metaphysical turn that was quite uncalled for" (CP: 6.540). A miracle must not necessarily be restricted to a violation of nature, but it could be nothing more than a great wonder that serves to function as a sign-event, a *semeion*. A miracle would be but the beginning of wonder, that is *thaumazein*, which, since Plato, has served as the impetus to philosophy/science itself. None of this entails that wonder ends in corroboration or probability, only that it demands serious questioning and not immediate dismissal. Hume's position of neglecting unlikelihoods, in Peirce's estimation, may well have been sound even without the metaphysical notion of Natural Law, but, all the same, something can only appear as likely or unlikely after the fact and not in advance, not *a priori*.

Genuine philosophical wonder or the beginning of science must always stimulate, as Peirce suggests, open-ended and perhaps inconclusive Arguments and not definitively conclusive Argumentation. In other words, the wonder that marks the beginning of science invokes not at first a formal methodical procedure, but, in Peirce's terms, Musement or Pure Play. Science must play, abductively hypothesising accounts, before it tests and analyzes the likelihood of the proposed account. To play means to test in the sense of curious probing, to probe even the boundaries of the game played, adding and discarding rules as the need arises. Peirce explains, "Pure Play has no rules, except [the] very law of liberty" (Anderson, 1995: 120). Science must not only play, but it must play like children, not simply applying but first formulating the rules and boundaries as the situation requires. This ensures that nothing escapes its vision as matter of principle; it attempts, at least, to see infinitely far off places. To limit oneself to the laws of the game as already instituted severely minimises one's field of vision, *i.e.* the region of possible phenomena, simply to the parameters of the prevailing board of play. Pure Play, as suggested by Peirce, does not play some game or another — even the established game of the scientific community — but it invents games and closes itself off to nothing as the Bruteness of Experience demands. It remains open to all games and the concomitant varieties of rule or law. This does not mean that it is without rigor and so unscientific, but only that all methods have their own path, their

own *bodos*. The way of approaching surprising phenomena is constructed *post factum*, *per posterius* and not *a priori*. As an example of the method of play put to practice, this author would point one to Alfred North Whitehead's philosophy of organism, which is scientific insofar as it "speculates" upon a discourse or interpretive framework that would provide all areas of life, religion included, to speak to each other coherently without any discourses being excluded out of hand as non-scientific. He arguably does this for science in *Science and the modern world*, art and freedom in *Adventures of ideas*, mathematics in *Principia mathematica* and religion in *Religion in the making*. *Process and reality* demonstrates how all of these can co-exist within a consistent and adequate speculative framework that refuses to omit any of these domains out of hand. At any rate, only the game without any path whatsoever, without any methodology whatsoever is non-scientific. That game, however, is no game at all. That would be to cease to play at all, to cease to roll the dice, to close off chance and view the world according to necessitarianism, precluding even the possibility of rogue events or surprise phenomena, "tychic" happenings if one will. Scientists should no longer neglect to play. No more Neglected Arguments; let the boundaries of the game be broadened, perhaps even broken!

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