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A Neglected Additament: Peirce on Logic, Cosmology, and the Reality of God

Abstract

Two different versions of the ending of the first additament to C. S. Peirce's 1908 article, "A Neglected Argument for the Reality of God," appear in the *Collected Papers* but were omitted from *The Essential Peirce*. In one, he linked the hypothesis of God's Reality to his entire theory of logic as semeiotic, claiming that proving the latter would also prove the former. In the other, he offered a final outline of his cosmology, in which the Reality of God as *Ens necessarium* is indispensable to both the origin and order of our existing universe of Signs. Exploring these passages, as well as the unpublished manuscript drafts of the article, provides important insights into the key concepts of instinct and continuity within Peirce's comprehensive system of thought.

Keywords: Peirce, God, logic, instinct, cosmology, continuity, semeiotic

1. Introduction

Charles Sanders Peirce's article in the October 1908 issue of *The Hibbert Journal*, "A Neglected Argument for the Reality of God" (hereinafter "A Neglected Argument"), has long been controversial among scholars of his thought. Some consider it to be one of his most significant writings, while others find it problematic for one reason or another. Unfortunately, its presentation in volume 6 of the *Collected Papers* has occasionally caused confusion in the secondary literature. It includes the text as it originally appeared in print as CP¹ 6.452-485, followed by an "Additament" as CP 6.486-491, and then a section on "Knowledge of God" as CP 6.492-493. Accompanying footnotes date CP 6.486-491 "c. 1910," state that CP 6.491 "is from an alternate draft," and reveal that CP 6.492-493 is actually "From an unpaginated fragment, c. 1896."

The Peirce Edition Project (PEP) included "A Neglected Argument" in volume 2 of *The Essential Peirce* (EP² 2:434-450) and provided an endnote with helpful background information:

At the end of July 1908, the Hibbert editor, L. P. Jacks, let Peirce know ... that he found Peirce's contribution to be of "permanent value," but that, because of the paper's complexity, he wanted Peirce "to summarize the article in a concluding page or two, to be added to the article" ... Peirce wrote two versions of his addendum, which he called "Additament." Jacks published the second one without title, a mere blank line serving to separate it from the end of the article. (EP 2:551n14)

It turns out that CP 6.452-480 is the article proper, CP 6.481-485 is the second additament, CP 6.486-490 is the first additament—composed in 1908, not 1910—and CP 6.491 is part of a different ending for the latter. Consequently, the PEP editors chose another arrangement:

The "Additament" published in the present edition combines the first five paragraphs of Peirce's first version of the text ... with the full text of the second version. The reason for this amalgamation is that only in the first version did Peirce clearly identify "a nest of three arguments" that is then referred to in the second version. (EP 2:551n14)

As a result of this decision, except for the first two sentences—one in the main text, the other in an endnote—CP 6.490-491 is omitted entirely. The PEP editors explained their rationale for this:

The bracketed ellipsis at the end of the previous paragraph indicates that the text of the first "Additament" continues beyond that sentence (for three pages and a half) but has not been included here to avoid both a rough transition and an overlap. (EP 2:551n15)

However, both versions of the missing content contain a fair amount of material that is *not* duplicated in the second additament, and hence is absent from EP altogether. That is the basis for the title of this essay, which explores the key ideas that Peirce discussed in those passages, as well as the unpublished manuscript drafts of "A Neglected Argument" (R³ 841-844; 1908).

We will begin with Peirce's bold claim that merely recognizing the soundness of his theory of logic as semeiotic would, at least to some degree, also warrant adopting the hypothesis of God's Reality. This leads to his arguments for humanity's surprising efficiency at making accurate conjectures about nature, which prompted him to acknowledge an objection that can only be addressed after delving into the details of his cosmological account of the origin and order of our existing universe of Signs. This in turn hinges on Peirce's phenomenological Categories of Firstness, Secondness, and Thirdness—hereinafter 1ns, 2ns, and 3ns for convenience⁴—and their proper arrangement in the hierarchy of Being, which he helpfully illustrated using iconic diagrams embodying the significant relations among the parts of what they represent. The resulting summary is Peirce's description of creation as God's great symbol, argument, and poem, emphasizing the underlying continuity of all things—i.e., of Reality itself.

2. Peirce's Theory of Thinking

Although it comes last, it is likely that CP 6.491 was in the initial draft ending of the first additament, and that this was later replaced by CP 6.489-490. There are only minor discrepancies through the citation of a 1904 article by William James, but what follow are very different characterizations of the third "peculiarity of the hypothesis" of God's Reality. CP 6.490 affirms "its commanding influence over the whole conduct of life of its believers," while CP 6.491—restored to how Peirce originally wrote it—states the following:

On the other hand, among the many pertinent considerations which have been crowded out of this article, I may just mention, in the third place, that it could have been shown that the hypothesis of God's Reality is logically not so isolated a conclusion as it may seem. On the contrary, it is so connected with a theory of the nature of thinking, that if this be proved, so is that. Now there is no such difficulty in tracing experiential consequences of this theory of thinking as there are in attempting directly to trace out other consequences of God's reality. (R 844:13[4])

Here Peirce acknowledged an important way in which the retroductive conjecture of the Reality of God is unlike a typical scientific hypothesis: It does not readily lend itself to deductive explication and inductive evaluation.⁵ He proposed instead undertaking those steps with his "theory of the nature of thinking," claiming that the link between the two is such that proving the latter—which he evidently viewed as a much easier task—would suffice to prove the former. This raises several interesting questions: (1) To what was Peirce referring here as "a theory of the nature of thinking"? (2) How is it connected logically with "the hypothesis of God's Reality"? (3) What "experiential consequences of this theory of thinking" could we, with comparatively little difficulty, deductively trace and inductively test in order to prove it? (4) Would that really also prove "the hypothesis of God's Reality"?

Both "theory of the nature of thinking" and "theory of thinking" were unusual expressions for Peirce to employ; neither appears elsewhere in CP or EP. He did state that "Logic, regarded from one instructive, though partial and narrow, point of view, is the theory of deliberate thinking" (CP 1.573, EP 2.376; 1906). In the draft preface for a book whose working title was *Meaning*, Peirce also wrote that "logic is the theory of thinking so far as thinking conduces to the attainment of truth" (R 634:11; 1909), and added that "in the present state of our knowledge logic should be regarded as coextensive with General Semeiotic, the *a priori* theory of signs" (R 634:15). Hence he presumably had in mind his entire broad notion of "Logic considered as Semeiotic" (CP 8.377; 1908) when he wrote "A Neglected Argument."

There are other clues in the related manuscripts. The published article—also found in R 841, with minor differences—contains a somewhat lengthy rendition of what Peirce named the "humble argument" in both additaments, followed by a relatively brief discussion of the three Stages of Inquiry and their logical validity. However, what appears to be the very first draft has it the other way around, as these introductory comments anticipate:

Yet this argument has seldom been much insisted upon by theologians for the reason that, persuasive as it is, it has not seemed to them to be logical. This I conceive has been due to a false theory of logic; and consequently the main substance of the present paper must be a brief abstract of a defence of a theory of logic according to which the theological argument in question is as logically sound as it certainly is persuasive.

Thus, I am to outline two arguments, one supporting the other. The latter, which I will designate as the humble argument, although every mind can feel its force, rests on far too many premisses to be stated in full. Taking the general description of it as a minor premiss, and a certain theory of logic as a major premiss, it will follow by a simple syllogism that the humble argument is logical and that consequently whoever acknowledges its premisses need have no scruple in accepting its conclusion. (R 842:10-11)

What Peirce here called "a certain theory of logic" is presumably the same thing as "a theory of the nature of thinking" and "this theory of thinking" in CP 6.491. It is the major premiss, and "a general description of" the humble argument is the minor premiss, of "a simple syllogism" whose conclusion is "that the humble argument is logical." Notice the modesty of this assertion; rather than *demonstrating* the Reality of God, Peirce sought merely to show that anyone who

embraces his theory of logic, and recognizes that the humble argument is consistent with it, "need have no scruple in accepting its conclusion."⁶ He continued:

Only, of course, it becomes necessary to establish the major premise, which is the theory of logic; and it is sufficiently clear that to do this in a thoroughly satisfactory manner would involve going over the whole of the critical branch of logic and showing that the theory in question satisfactorily explains every variety of argument. Now I cannot, within reasonable limits, consider more than the main *genera* of arguments. So much, I will do. The subsidiary arguments of a mixed character, although highly important in actual reasonings, cannot, within my limits, be considered. Moreover, the critical branch of logic really, even more than apparently, depends upon the very difficult and still vexed analytical branch, whose problems could not easily be brought to the apprehension of ordinary readers, to say nothing of the task of laying the foundations for their scientific solutions. (R 842:11-13)

This confirms the wide scope of Peirce's "theory of logic," encompassing not only the "critical branch," but also the "analytical branch" on which it depends, which he elsewhere called "speculative grammar" (e.g., CP 2.93; 1902 and CP 1.191, EP 2:260; 1903). The difficulty of the problems posed by the latter, to which Peirce here alluded, is familiar to anyone who has wrestled with his various attempts to classify Signs during the first decade of the twentieth century. What he emphasized next, to make up for his inability to lay everything out "in a thoroughly satisfactory manner," is telling:

But fortunately, we have an instinct for that which is rational, and upon that ordinary readers ought to rely. Accordingly, while I cannot here present a thoroughly scientific defence of my theory of logic, I shall hope to make it appear reasonable. (R 842:13-14)

Despite this stated misgiving, after a single paragraph outlining the "humble argument," Peirce proceeded to write dozens of pages expounding on the three stages of a complete inquiry—retroduction, deduction, and (especially) induction—in considerable detail. Some of this text appears as CP 2.755-772 under the heading, "The Varieties and Validity of Induction," but with no indication that it is connected with "A Neglected Argument"; in fact, it is incorrectly dated "c. 1905."

Two different versions of the last several paragraphs terminate with equal abruptness. Perhaps Peirce realized that he had far exceeded the allotted length and would have to start over, almost from scratch. In any case, a later fragment includes this summary:

My main concern is to show that that line of reflexion which I call the Neglected Argument is an argument, and a particularly strong one, of the kind with which every positive scientific inquiry must begin. The lowliest minds will rest content with this without any fault in their conclusion or their logic; while the more critical, may still their lingering doubts, by completing the line of inquiry which the Neglected Argument opens; while on its concomitants they may base another Argument supporting the former, and so be led on to further reflections, remarks, and experiences which attain all the force of sound induction, the highest grade of certainty to which the human mind can attain on any Real subject. (R 843:36-37[6-7])

Peirce here implied that for many—perhaps most—the humble argument is sufficient by itself to ground belief in the Reality of God; and for those not fully satisfied by it, it serves instead as the initial step of a more rigorous investigation. Both outcomes are consistent with his "theory of the nature of thinking," as captured in this imaginative metaphor from the published article:

Over the chasm that yawns between the ultimate goal of science and such ideas of Man's environment as, coming over him during his primeval wanderings in the forest, while yet his very notion of error was of the vaguest, he managed to communicate to some fellow, we are building a cantilever bridge of induction, held together by scientific struts and ties. Yet every plank of its advance is first laid by Retroduction alone, that is to say, by the spontaneous conjectures of instinctive reason; and neither Deduction nor Induction contributes a single new concept to the structure. Nor is this less true or less important for those inquiries that self-interest prompts. (CP 6.475, EP 2:443, R 841:50-51)

We may now formulate Peirce's "simple syllogism" accordingly.

Major premiss ("theory of logic"): Every process of thought that produces a spontaneous conjecture of instinctive reason is logical.

Minor premiss ("general description"): The humble argument is a process of thought that produces a spontaneous conjecture of instinctive reason.

Conclusion: "[T]he humble argument is logical."⁷

3. Peirce's Pragmaticistic Proofs

Peirce indicated in "A Neglected Argument" that the primary experiential consequence of his theory of thinking is that humans should exhibit a remarkable tendency to generate retroductive conjectures that successfully withstand subsequent deductive and inductive scrutiny. He then contended that this is exactly what we find to be the case, attributing it to what Galileo called "*il lume naturale*" and advocating "that it is the simpler Hypothesis in the sense of the more facile and natural, the one that instinct suggests, that must be preferred" (CP 6.477, EP 2:444-445, R 841:58).⁸ He also explicitly rejected the alternative explanation:

But may they not have come fortuitously, or by some such modification of chance as the Darwinian supposes? I answer that three or four independent methods of computation show that it would be ridiculous to suppose our science to have so come to pass ... There is a reason, an interpretation, a logic, in the course of scientific advance; and this indisputably proves to him who has perceptions of rational, or significant, relations, that man's mind must have been attuned to the truth of things in order to discover what he has discovered. It is the very bed-rock of logical truth. (CP 6.476, EP 2:444, R 841:54-56)

Peirce included specific calculations in the manuscripts to substantiate this claim. In one draft, he invoked "the game of twenty questions" (R 842:21), in which even the best players usually require the full allotment of "yes" or "no" answers:

This shows that the class of objects from which the answerer will have made [h]is selection is composed of nearly 2^{20} single objects, or about a million. Therefore, it is pretty clear that the number of facts with any one of which a conjecture might conceivably connect a surprising fact is, at the very least, a million. Consequently, if the conjecturer were completely in the dark ... he would, on the average have to make some half million of utterly wrong conjectures before he lit on the right one ... The darkest mysteries of nature, instead of half a million false conjectures, have not called for a score. (R 842:22-24)

Peirce then gave as examples the orbit of Mars (18 false hypotheses by Kepler before the true one), the acceleration of a falling body (only one by Galileo), and the nature of light (seven by various people over the centuries). He also cited "Bernoulli's kinetical theory of gases" and "Dalton's atomic theory" as instances when "the very first definite theories were right" (R 842:25-26). In a later draft, he took another approach:

It is evident ... that there must be as many *independent* characters as there are of *possible* single things ... and evidently there must be as many *logically simple* hypotheses that might be proposed to explain any given hypothesis. Now well known facts enable us to assert that of corpuscles alone there are more than 10^{64} in the visible universe. But 10^{14} being the number of seconds in three million years exceeds the number of hypotheses mankind would ever yet have lit upon since our appearance on earth; so that the odds would be 10^{50} to 1,—which means "utterly overwhelming,"—against the right explanation of any given fact having ever yet entered into the mind of man by chance; to say nothing of the labor of testing each hypothesis. (R 843:62&64[60-61])

Nevertheless, in the published article, Peirce was careful not to overstate the prowess of this human instinct:

But is it a fact that man possesses this magical faculty? Not, I reply, to the extent of guessing right the first time, nor perhaps the second; but that the well-prepared mind has wonderfully soon guessed each secret of nature is historical truth. All the theories of science have been so obtained. (CP 6.476, EP 4:444, R 841:54)

Spontaneous conjectures that qualify as genuine insights are only likely to arise "wonderfully soon" in a mind that is "well-prepared." Through deliberate training, we can become more and more "attuned to the truth of things," especially when we concentrate on a particular field of inquiry.

Even if these "proofs" of Peirce's theory of thinking are convincing, there is still the matter of whether this is adequate to "prove" the hypothesis of God's Reality. In CP 6.491, Peirce admitted an "obvious" and "redoubtable" objection:

For example, it may be said that since I compare man's power of guessing at the truth with the instincts of animals, I ought to have noticed that these are entirely explained by the action of natural selection in endowing animals with such powers as contribute to the preservation of their different stocks; and that there is evidence that man's power

of penetrating the secrets of nature depends upon this, in the fact that all the successful sciences have been either mechanical in respect to their theories or psychological ... Metaphysics, however, cannot adapt the human race to maintaining itself, and therefore the presumption is that man has no such genius for discoveries about God, Freedom, and Immortality, as he has for physical and psychical science; and the history of science supports this view. (R 844:14-15[5-6])

Hartshorne and Weiss inserted CP 6.492-493 at this point, presumably to serve as Peirce's response, even though he wrote it more than a decade earlier. However, the manuscript includes additional remarks that serve precisely that purpose:

This opens an interesting question of logic to which I have devoted much study, with the result of fully satisfying myself that man's power of divining the truth is not so circumscribed.

My reply to this objection could not be given here nor in any piece to be read at one sitting. My reply would show that whatever general conduct of a race would fit or disfit its individuals to the life to come, may be expected also to adapt or maladapt the race itself to maintaining its footing in this world; and further to show, through its pragmaticistic interpretation, that the belief in the *Ens necessarium* would according as it were true or false, fit or disfit individuals to eternal life hereafter. And consequently, natural selection naturally will act here on earth to the cultivation of this belief, if it be true, and to its suppression if it be false, just as it acts in respect to ordinary morality. (R 844:15[6])

Since Peirce mentioned the "pragmaticistic interpretation" of "the belief in *Ens necessarium*" here, and offered "hints" regarding "the pragmaticistic definition of *Ens necessarium*" in CP 6.490, unpacking this additional "neglected argument" requires first conducting a careful analysis of that other version of the ending of the first additament.

4. Peirce's Considered Cosmology

The published article begins by stating, "The word 'God' ... is the definable proper name, signifying *Ens necessarium*; in my belief Really creator of all three Universes of Experience" (CP 6.452, EP 2:434, R 841:1). Although some have interpreted Peirce's views as amenable to pantheism or panentheism, in several manuscript fragments Peirce appended an emphatic denial that God is immanent in Nature or the three Universes:

... Who, out of Nothing, less than a blank, is creating all three Universes of experience. I do *not* mean, then, a "soul of the World" or an intelligence is "immanent" in Nature, but is the Creator of the three Universes of minds, of matter, and of ideal possibilities, and of everything in them. (R 843:11[1])

Indeed, meaning by "God," as throughout this paper will be meant, the Being whose Attributes are, in the main, those usually ascribed to Him, Omniscience, Omnipotence, Infinite Benignity, a Being *not* "immanent in" the Universes of Matter, Mind, and Ideas, but the Sole Creator of every content of them without exception ... (R 843:18&20[1-2])

But I had better add that I do *not* mean by God a being merely "immanent in Nature," but I mean that Being who has created every content of the world of ideal possibilities, of the world of physical facts, and the world of all minds, without any exception whatever. (R 843:25[4])

These passages shed valuable light on not only Peirce's concept of God, but also the three Universes, which are metaphysical counterparts of the phenomenological Categories that pervaded his philosophical thought: 1ns, 2ns, and 3ns.⁹ "A Neglected Argument" identifies them as consisting of (1) Ideas, (2) Brute Actuality, and (3) Signs; they evidently also include (1) ideal possibilities, (2) Matter and physical facts, and (3) Mind and minds. A few months later, Peirce gave similar descriptions of "three Universes, which are distinguished by three Modalities of Being"—but with habits, laws, and (especially) continua as constituents of the third one—in a draft letter to Lady Victoria Welby (EP 2:478-479; 1908), where they served as the basis for dividing his ten semeiotic trichotomies into (1) Possibles, (2) Existents, and (3) Necessitants. The second additament characterizes the humble argument as "that course of meditation upon the three Universes which gives birth to the hypothesis and ultimately to the belief that they, or at any rate two of the three, have a Creator independent of them" (CP 6.483, EP 2:448). Which one might not? Peirce provided the answer in one of the drafts, and also clarified why he was arguing for the *Reality* of God, rather than the *existence* of God:

Thus, He is so much like a mind, and so little like a singular Existent (meaning by an Existent, or object that Exists, a thing subject to brute constraints, and reacting with all other Existents,) and so opposed in His Nature to an ideal possibility, that we may loosely say that He is a Spirit, or Mind. (R 843:26[5])

This brings us to CP 6.490:

A full exposition of the pragmaticistic definition of *Ens necessarium* would require many pages; but some hints toward it may be given. A disembodied spirit, or pure mind, has its being out of time, since all that it is destined to think is fully in its being at any and every previous time. But in endless time it is destined to think all that it is capable of thinking. Order is simply thought embodied in arrangement; and thought embodied in any other way appears objectively as a character that is a generalization of order, and that, in the lack of any word for it, we may call for the nonce, 'Super-order.' It is something like uniformity. The idea may be caught if it is described as that of which order and uniformity are particular varieties. Pure mind, as creative of thought, must, so far as it is manifested in time, appear as having a character related to the habit-taking capacity, just as super-order is related to uniformity. (R 844:6)

God is "pure mind," and hence may not be *completely* independent of the (third) Universe of Mind, while nevertheless being the Creator of everything *else* in that Universe, as well as the other two Universes in their entirety. Pure mind is "out of time" and creates thought, which when "embodied ... appears objectively" as "super-order," of which order and uniformity are familiar exemplifications. The thought-creating character of pure mind is to the habit-taking capacity as super-order is to uniformity. Since uniformity is a particular variety of super-order, the habit-taking capacity must be a particular variety of the thought-creating character of pure

mind. Note that all of these concepts—mind, thought, order, uniformity, habit-taking—are paradigmatic examples of 3ns.

At first glance, this might seem to contradict Peirce's earlier cosmological writings, such as an oft-cited narrative in "A Guess at the Riddle":

Out of the womb of indeterminacy we must say that there would have come something, by the principle of Firstness, which we may call a flash. Then by the principle of habit there would have been a second flash. Though time would not yet have been, this second flash was in some sense after the first, because resulting from it. Then there would have come other successions ever more and more closely connected, the habits and the tendency to take them ever strengthening themselves, until the events would have been bound together into something like a continuous flow. (CP 1.412, EP 1:278; 1887-1888)

Most commentators have interpreted these and similar remarks as indicating that 1ns came first, so to speak, followed by 2ns and then 3ns—all as chance events.¹⁰ Peirce acknowledged as much in one manuscript draft of "A Neglected Argument," calling it his "original hypothesis" as defended in six articles in *The Monist* of 1891-1893.¹¹ However, he then added:

But during the long years which have elapsed since the hypothesis first suggested itself to me, it may naturally be supposed that faulty features of the original hypothesis have been brought [to] my attention by others and have struck me in my own meditations ... Professor Ogden Rood pointed out that there must have been some original tendency to take habits which did not arise according to my hypothesis ... (R 842:113-114[127-128])

If the tendency to take habits was truly "original," then 3ns must have *preceded* 1ns and 2ns in some sense.¹² Furthermore, if God *created* all Ideas (1ns) and Matter (2ns), while God Himself *is* Mind (3ns), then the latter must be primordial relative to the other two. As we will see, this resolution comes from recognizing that Peirce associated "the womb of indeterminacy" with 3ns, rather than 1ns as one might initially assume.

Returning to CP 6.490, a difficult passage comes next. In context, it is best understood as a *reductio ad absurdum* for any claim that our existing universe came about on its own, out of absolutely nothing:

Now imagine, in such vague way as such a thing can be imagined, a perfect cosmology of the three universes. It would prove all in relation to that subject that reason could desiderate; and of course all that it would prove must, in actual fact, now be true. But reason would desiderate that that should be proved from which would follow all that is in fact true of the three universes; and the postulate from which all this would follow must not state any matter of fact, since such fact would thereby be left unexplained. (R 844:6-7)

The "postulate" underlying a "perfect cosmology" cannot rely on "any matter of fact," which would then have to be accepted as inexplicable. Peirce could never countenance this, because it blocks the way of inquiry (CP 1.139, EP 2:49, RLT¹³ 179-180; 1898). Instead:

That perfect cosmology must therefore show that the whole history of the three universes, as it has been and is to be, would follow from a premise which would not suppose them to exist at all. Moreover, such premise must in actual fact be true. But that premise must represent a state of things in which the three universes were completely nil. Consequently, whether in time or not, the three universes must actually be absolutely necessary results of a state of utter nothingness. (R 844:7)

But how can anything *possibly*—let alone *actually*, much less *necessarily*—result from "a state of utter nothingness"? On the contrary, in that state there can be no super-order at all:

We cannot ourselves conceive of such a state of nility; but we can easily conceive that there should be a mind that could conceive it, since, after all, no contradiction can be involved in mere nonexistence. A state in which there should be absolutely no super-order whatsoever would be such a state of nility. For all Being involves some kind of super-order ... Any such super-order would be a super-habit. Any general state of things whatsoever would be a super-order and a super-habit. (R 844:7)

No order, no uniformity, no habits, no generality, and thus no 3ns—in short, there is no *Being* within "such a state of nility," because "all Being involves some kind of super-order." Consequently, the Reality of God—*necessary* Being, *transcendent* 3ns—is the only postulate or premise that can account for the reality of all three Universes, *without already assuming it*. God as eternal mind *conceived* the state of nility, and then *created* everything else:

In that state of absolute nility, in or out of time, that is, before or after the evolution of time, there must then have been a *tohu-bohu* of which nothing whatever affirmative or negative was true universally. There must have been, therefore, a little of everything conceivable. (R 844:7-8)

This is an allusion to Genesis 1:2; the Hebrew phrase *tohu wa bohu* is translated as "formless and void," and Peirce elsewhere identified it with "the indeterminate germinal Nothing" (R 942:19; c. 1898). He also once described the initial situation in semeiotic terms reminiscent of the opening statement of the Gospel of John, "In the beginning was the Word [*logos*]" :

If we are to explain the universe, we must assume that there was in the beginning a state of things in which there was nothing, no reaction and no quality, no matter, no consciousness, no space and no time, but just nothing at all. Not determinately nothing. For that which is determinately not *A* supposes the being of *A* in some mode. Utter indetermination. But a symbol alone is indeterminate. Therefore, Nothing, the indeterminate of the absolute beginning, is a symbol. That is the way in which the beginning of things can alone be understood. (EP 2:322; c. 1904)

Rather than "utter nothingness," it was "utter indetermination," and thus "a little of everything conceivable"—an infinite spectrum of genuine possibilities, but still no actualities or necessities:

We start, then, with nothing, pure zero ... It is the germinal nothing, in which the whole universe is involved or foreshadowed. As such, it is absolutely undefined and unlimited

possibility—boundless possibility. There is no compulsion and no law. It is boundless freedom.

So of *potential* being there was in that initial state no lack.

Now the question arises, what necessarily resulted from that state of things? But the only sane answer is that where freedom was boundless nothing in particular necessarily resulted. (CP 6.217-218; 1898)

This conforms to Peirce's definition of a *continuum*—which, like a symbol, is another paradigmatic example of 3ns. It does not consist of any multitude of *discrete* individuals, as Georg Cantor and others held, but of *potential* individuals exceeding all multitude that are welded together, and hence indistinct (CP 6.185, RLT 247; 1898). Even this description is misleading, because the contiguous individuals do not *comprise* the continuum; the latter is the more fundamental concept (CP 6.191, RLT 258; 1898). Continuity is generality, and generality is *impossible* in the absence of super-order and super-habit. Finally, from CP 6.490:

There must have been here and there a little undifferentiated tendency to take super-habits. But such a state must tend to *increase itself*. For a tendency to act in any way combined with a tendency to take habits must increase the tendency to act in that way. Now substitute in this general statement for "tendency to act in any way" a tendency to take habits, and we see that that tendency would grow. It would also become differentiated in various ways. (R 844:8)

This says much the same thing as the last sentence quoted above from "A Guess at the Riddle." Clearly Peirce did not *change* his basic cosmology over the intervening two decades; he simply *clarified* that the Reality of God is indispensable to it.¹⁴

5. Peirce's Diagrammatic Discourse

Such an understanding is compatible with Peirce's extensive remarks on the subject in his eighth and final Cambridge Conferences lecture (CP 6.192-208, RLT 258-263; 1898). According to that detailed account, "the existing universe, with all its arbitrary secondness, is an offshoot from, or an arbitrary determination of, a world of ideas, a Platonic world [1ns]" (CP 6.192). However, "the process of derivation" began "in the utter vagueness of completely undetermined and dimensionless potentiality [3ns]" (CP 6.193); it was "a contraction of the vagueness of that potentiality of everything in general, but of nothing in particular" (CP 6.196). As a result, "The general indefinite potentiality became limited and heterogeneous" (CP 6.199); specifically:

The very first and most fundamental element that we have to assume is a Freedom, or Chance, or Spontaneity [1ns], by virtue of which the general vague nothing-in-particularness [3ns] that preceded the chaos took a thousand definite qualities. The *second* element we have to assume is that there could be accidental reactions [2ns] between those qualities. The qualities themselves are mere eternal possibilities. But these reactions we must think of as *events*. (CP 6.200)

Within space and time, "all that there is, is First, Feelings; Second, Efforts; Third, Habits"; and ultimately, "dead matter would be merely the final result of the complete induration of habit reducing the free play of feeling and the brute irrationality of effort to complete death" (CP 6.201).

Peirce's goal throughout this discussion was "to secure to thirdness its really commanding function," while recognizing "that Firstness, or chance, and Secondness, or Brute reaction, are other elements, without the independence of which Thirdness would not have anything upon which to operate" (CP 6.202). As "the clue ... to guide us through the maze," he proposed that "the clean blackboard" can serve as "a sort of Diagram of the original vague potentiality," differing from it by having only two dimensions rather than "some indefinite multitude of dimensions." A chalk line drawn on the blackboard represents the spontaneous introduction of a brute discontinuity. However, the mark itself it is not *really* a line; it is a *surface* with its own continuity, which is entirely derived from and dependent on that of the underlying blackboard. The only *true* line is the *limit* of the white and black areas, and this is the *discontinuity*—"the reaction between two continuous surfaces into which it is separated" (CP 6.203).

Peirce thus acknowledged that all three Categories—whiteness or blackness (1ns), their boundary (2ns), and the continuity of each (3ns)—are necessary for the reality of the chalk mark (CP 6.205). However, the continuity of the blackboard (3ns) is primordial, in the sense that its reality precedes and sustains that of anything drawn upon it; this is "its really commanding function." A chalk mark that persists, rather than being erased, represents the establishment of a habit—which is also entirely derived from and dependent on the continuity of the underlying blackboard:

This habit is a generalizing tendency, and as such a generalization, and as such a general, and as such a continuum or continuity. It must have its origin in the original continuity which is inherent in potentiality. Continuity, as generality, is inherent in potentiality, which is essentially general. (CP 6.204)

As additional marks are drawn and persist, they join together due to other developing habits and become "reacting systems," which aggregate and merge into larger such systems (CP 6.206-207). Eventually, "out of one of these Platonic worlds is differentiated the particular actual universe of existence in which we happen to be" (CP 6.208).

This was not the first time that Peirce had employed such an illustration during the Cambridge Conferences series. In the third lecture, he stated:

The whole universe of true and real possibilities forms a continuum, upon which this Universe of Actual Existence is, by virtue of the essential Secondness of Existence, a discontinuous mark—like a line figure drawn on the area of the blackboard. (RLT 162; 1898)

We can harmonize the two passages by invoking an aspect of Peirce's concept of a continuum that he attributed to Immanuel Kant: It is "that of which every part has parts of the same kind" (CP 6.168; 1903). Each "Platonic world" is represented on the continuous blackboard by a melded group of white marks, so these must also be conceived collectively as a continuous blackboard in some sense. For the sake of clarity, let us differentiate the latter by calling it a

"whiteboard" instead, noting again that its own continuity is entirely derived from and dependent on that of the underlying blackboard. It is then "a discontinuous mark" on one particular *whiteboard* that represents "this Universe of Actual Existence."

Peirce declared plainly the pedagogical approach that he was utilizing by describing his cosmology in such terms: "Now the clue that I mentioned consists in making our thought diagrammatic and mathematical, by treating generality from the point of view of geometrical continuity, and by experimenting upon the diagram" (CP 6.204).¹⁵ As he had explained years earlier:

[Diagrammatic reasoning] consists of constructing an icon or diagram the relations of whose parts shall present a complete analogy with those of the parts of the object of reasoning, of experimenting upon this image in the imagination, and of observing the result so as to discover unnoticed and hidden relations among the parts. (CP 3.363, EP 1:227; 1885)

Furthermore, "The skeletonization or diagrammatization of the problem serves more purposes than one; but its principal purpose is to strip the significant relations of all disguise" (CP 3.559; 1898). Two questions now arise: What are the *relevant* parts of the blackboard diagram, and what *significant* relations does it embody and expose? Initially it seems that the only parts are the blackboard itself and the chalk marks upon it; and the only relations are the discontinuity of the boundary between black and white, and how the continuity of the marks depends on that of the underlying blackboard. The aggregation of persistent marks entails additional relations. With further consideration comes the recognition that chalk marks do not just randomly *appear* on a blackboard, especially not in intelligible patterns such as the "new curve" that emerges when they "multiply themselves under the habit of being tangent to the envelope" (CP 6.206). Instead, *someone has to draw them*; and this person's relation to them is that of creator to creation:

Those who express the idea to themselves by saying that the Divine Creator determined so and so may be incautiously clothing the idea in a *garb* that is open to criticism, but it is, after all, substantially the only philosophical answer to the problem. (CP 6.199, RLT 259; 1898)

As Peirce later wrote:

A chaos of reactions utterly without any approach to law is absolutely nothing; and therefore pure nothing was such a chaos. Then pure indeterminacy having developed determinate possibilities, creation consisted in mediating between the lawless reactions and the general possibilities by the influx of a symbol. This symbol was the purpose of creation. Its object was the entelechy of being which is the ultimate representation. (EP 2:324; c. 1904)

God as *Ens necessarium*, eternal pure mind, creative of thought (third Universe), imagines an inexhaustible continuum of real possibilities and their combinations (first Universe), and exercises perfect freedom in choosing which of these to actualize (second Universe). This is the

hierarchy of Being in terms of Peirce's three Categories (3ns→1ns→2ns). The *sequence of events* in each case consists of spontaneity followed by reaction and then habit-taking (1ns→2ns→3ns). The *evolution of states* within our existing universe (CP 1.409, EP 1.277; 1887-1888) is from complete chaos in the infinite past, through this ongoing process at any assignable date, to complete regularity in the infinite future (1ns→3ns→2ns).¹⁶

6. Peirce's Semeiotic Synechism

In other words, cosmology is not reducible to cosmogony; it concerns not only what occurred in the distant past, but also what is happening *right now*:

This development of Reason consists, you will observe, in embodiment, that is, in manifestation. The creation of the universe, which did not take place during a certain busy week, in the year 4004 B.C., but is going on today and never will be done, is this very development of Reason ... Under this conception, the ideal of conduct will be to execute our little function in the operation of the creation by giving a hand toward rendering the world more reasonable whenever, as the slang is, it is "up to us" to do so. In logic, it will be observed that knowledge is reasonableness; and the ideal of reasoning will be to follow such methods as must develop knowledge the most speedily. (CP 1.615, EP 2:255; 1903)

We have the opportunity to participate voluntarily in God's still-unfolding creative activity by "rendering the world more reasonable." In semeiotic terms:

... the universe is a vast representamen, a great symbol of God's purpose, working out its conclusions in living realities. Now every symbol must have, organically attached to it, its Indices of Reactions and its Icons of Qualities; and such part as these reactions and these qualities play in an argument that, they of course, play in the universe—that Universe being precisely an argument ... The Universe as an argument is necessarily a great work of art, a great poem—for every fine argument is a poem and a symphony—just as every true poem is a sound argument. (CP 5.119, EP 2:193-194; 1903)

According to Peirce, "Reality, therefore, can only be regarded as the limit of the endless series of symbols. A symbol is essentially a purpose, that is to say, is a representation that seeks to make itself definite, or seeks to produce an interpretant more definite than itself" (EP 2:323; c. 1904). Moreover, "An Argument is a sign which distinctly represents the Interpretant, called its Conclusion, which it is intended to determine" (CP 2.95; 1902). In the published article, he stated, "An 'Argument' is any process of thought reasonably tending to produce a definite belief" (CP 6.456, EP 2:435, R 841:6), and later added:

The hypothesis of God is a peculiar one, in that it supposes an infinitely incomprehensible object, although every hypothesis, as such, supposes its object to be truly conceived in the hypothesis. This leaves the hypothesis but one way of understanding itself; namely, as vague but as true so far as it is definite, and as continually tending to define itself more and more, and without limit ... Thus, the hypothesis will lead to our thinking of features of each Universe as purposed; and this will stand or fall with the hypothesis. Yet a purpose essentially involves growth, and so

cannot be attributed to God. Still it will, according to the hypothesis, be less false to speak so, than to represent God as purposeless. (CP 6.466, EP 2:439-440, R 841:29-31)

In summary, our existing universe is a Representamen—specifically, an Argument, and therefore a Symbol; a manifestation primarily of 3ns, but necessarily involving elements of 1ns (Icons of Qualities) and 2ns (Indices of Reactions). The Dynamic Object is God Himself, infinitely incomprehensible to us; and the Immediate Object is God's purpose, which is the development of Reason—including the growth of our knowledge of God, and of all three Universes of Experience that He has created and is still creating. The Interpretant is the Conclusion, living realities that our existing universe is constantly working out—the Immediate Interpretant serving as the range of possibilities from which individual Dynamic Interpretants are actualized, and the habit-taking tendency developing some of these into Final Interpretants. This Argument produces a belief that is initially vague, but continually becomes more and more definite, without limit.¹⁷

We are at last in a position to understand Peirce's reply to the objection that the competence of humanity's instinctive reason is limited to "the secrets of nature." If the cosmology detailed above is correct, then there is no such *discontinuity* in Reality itself, our experience thereof, or the knowledge that it provides.¹⁸ Given the success of our spontaneous conjectures in mathematics, phenomenology, and the special sciences, why would metaphysics be any different? Moreover, God is not completely independent of the third Universe, which includes our minds and continuity itself; and our disposition to generate true hypotheses is especially well-suited to that Category:

It appears to me that the clearest statement we can make of the logical situation—the freest from all questionable admixture—is to say that man has a certain Insight, not strong enough to be oftener right than wrong, but strong enough not to be overwhelmingly more often wrong than right, into the Thirdnesses, the general elements, of Nature. (CP 5.173, EP 2:217; 1903)

Peirce's favorite name for his comprehensive system of thought was "Synechism, because it rests on the study of continuity" (CP 6.202, RLT 261; 1898) and "insists upon the idea of continuity as of prime importance in philosophy" (CP 6.169; 1902). The hypothesis of God as *Ens necessarium* explains not only the origin of the three Universes of Experience, but also their order (*cosmos*)—what "A Neglected Argument" calls the "homogeneities of connectedness" within each of them, as well as the "homogeneities and connections between two different Universes, or all three" (CP 6.464-465, EP 2:438-439, R 841:24&26).¹⁹ Peirce went on to describe the *natural* results of observing and contemplating these with no particular agenda:

... in the Pure Play of Musement the idea of God's Reality will be sure sooner or later to be found an attractive fancy, which the Muser will develop in various ways. The more he ponders it, the more it will find response in every part of his mind, for its beauty, for its supplying an ideal of life, and for its thoroughly satisfactory explanation of his whole threefold environment. (CP 6.465, EP 2:439, R 841:29)

... any normal man who considers the three Universes in the light of the hypothesis of God's Reality, and pursues that line of reflexion in scientific singleness of heart, will come to be stirred to the depths of his nature by the beauty of the idea and by its august practicality, even to the point of earnestly loving and adoring his strictly hypothetical God, and to that of desiring above all things to shape the whole conduct of life and all the springs of action into conformity with that hypothesis. Now to be deliberately and thoroughly prepared to shape one's conduct into conformity with a proposition is neither more nor less than the state of mind called Believing that proposition, however long the conscious classification of it under that head be postponed. (CP 6.467, EP 2:440, R 841:32-34)

The same outcomes presumably await each one of us who engages in good faith in such meditations as Peirce recommended.²⁰

Notes

¹ Citations given as CP with volume and paragraph number(s) and year(s) originally written are from (Peirce 1931-1958).

² Citations given as EP with volume and page number(s) and year(s) originally written are from (Peirce 1992-1998).

³ Citations of Peirce given as R with manuscript number(s) and year originally written are per (Robin 1967). The manuscripts are maintained by Houghton Library at Harvard University. Page numbers correspond to the microfilm sequence as reproduced in the digital images made available online (http://fromthepage.com/collection/show?collection_id=16) by the Scalable Peirce Interpretation Network (SPIN), followed by Peirce's handwritten page numbers [in square brackets] where he provided ones that differ.

⁴ Richmond (2005) introduced these handy abbreviations (also <http://www.iupui.edu/~arisbe/menu/library/aboutcsp/richmond/trikonic.htm>). They are especially useful when diagramming relations in terms of Peirce's Categories; in particular, the six possible "vectors" for moving through them (see note 16).

⁵ Clarke (1977) highlighted this difficulty and derived "the outline of a scientific methodology for theology" (p. 286) from Peirce's solutions in CP 6.490-491. Daniel-Hughes (2015) similarly distilled "a Peircean program for theology" (p. 121) from the article as a whole.

⁶ Reuter (1994) was highly critical of the published article because it "fails to accomplish what it sets out to do: compel belief in the reality of God" (p. 290); but Peirce's actual objective was clearly much less ambitious. In fact, Canteñs (2004) recognized that, "if one finds Peirce's argument persuasive, then the classical and contemporary evidentialist's criteria for determining what is to be considered a rationally justified belief in the reality of God is undermined" (p. 771).

⁷ Atkins (2016) offered a comparable formalization, using Peirce's alternative term for retrodution: "(1) Abduction is a valid inference form under the conditions noted earlier. (2) Certain lines of thought that lead to belief in God's reality are abductive inferences that satisfy those conditions. So, (3) belief in God's reality is rationally acceptable" (p. 112). The conditions are: "(1) one has no significant countervailing reasons to deny it, (2) it explains some phenomenon, (3) it has experimental consequences such that it can be put to the test, and (4) it is natural in the sense that it is the one instinct suggests" (p. 110).

⁸ Nubiola (2004) focused on this aspect of "A Neglected Argument" and presented it as a properly formulated abduction (CP 5.189, EP 2:231):

The efficiency of the scientist (guessing right between innumerable hypotheses) is a really surprising fact.

If God were the creator of human cognitive abilities and of nature this efficiency would be a matter of course.

Hence, there is reason to suspect that God is the creator of human minds and nature.

However, as Gary Fuhrman pointed out in e-mail correspondence, "human minds and nature come from the same source" and "human minds are part of nature" are equally plausible explanations that do not require the Reality of God.

⁹ It is impossible to provide an adequate explanation of Peirce's Categories in a few sentences. Very briefly, they are the only three types of indecomposable elements that together comprise "the collective total of all that is in any way or in any sense present to the mind, quite regardless of whether it corresponds to any real thing or not" (CP 1.284; 1905). 1ns is quality, feeling, spontaneity, vagueness, possibility; 2ns is reaction, effort, bruteness, determinacy, actuality; and 3ns is mediation, thought, purpose, generality, regularity. All three Categories are always there in every phenomenon, but one of them may be predominant from a particular point of view. For example, in Peirce's semeiotic, an *icon*, such as a painting, primarily relates to its object through some kind of resemblance (1ns); an *index*, such as a fingerprint, due to a physical or other direct connection (2ns); and a *symbol*, such as a word, by means of a convention or rule (3ns). For one of Peirce's most extensive expositions of his Categories, see CP 1.417-520 (c. 1896).

¹⁰ Nathan Houser's introductory retelling of "Peirce's cosmological story" (EP 1:xxxii-xxxiii) is typical in this regard. His statement that, "Somehow, the possibility or potentiality of the chaos is self-actualizing" reflects what is problematic about such an interpretation—it leaves the emergence of something from nothing, or at least the crucial transition from 1ns (possibility) to 2ns (actuality), unexplained. Examples of other relevant passages include CP 6.585 (1890), CP 8.317 (1891), CP 6.33 (EP 1:297; 1891), CP 6.262 (EP 1:347; 1892), and CP 6.606&612 (1893). Some of them begin to anticipate the later developments that are emphasized in this essay.

¹¹ The six articles appear as CP 6.7-34, CP 6.35-65, CP 6.102-163, CP 6.238-271, CP 6.287-317, and CP 6.588-618; the first five also appear as EP 1:285-371. They include the last four of the six passages referenced in note 10.

¹² Peirce supposedly had intended to author a seventh installment that would have clarified this very point:

Had a purposed article concerning the principle of continuity and synthetising the ideas of the other articles of a series in the early volumes of *The Monist* ever been written, it would have appeared how, with thorough consistency, that theory involved the recognition that continuity is an indispensable element of reality ... Yet even in its truncated condition, an extra-intelligent reader might discern that the theory of those cosmological articles made reality to consist in something more than feeling [1ns] and action [2ns] could supply, inasmuch as the primeval chaos, where those two elements were present, was explicitly shown to be pure nothing ... the third category—the category of thought, representation, triadic relation, mediation, genuine thirdness, thirdness as such—is an essential ingredient of reality, yet does not by itself constitute reality, since this category (which in that cosmology appears as the element of habit) can

have no concrete being without action, as a separate object on which to work its government, just as action cannot exist without the immediate being of feeling on which to act. (CP 5.436, EP 2:345; 1905)

¹³ Citations given as RLT with page number(s) are from (Peirce 1992).

¹⁴ Short (2011) curiously denied that Peirce ultimately had a cosmology at all, claiming that he abandoned any such notion after 1898, only briefly mentioning the passage quoted in note 12, and saying nothing about CP 6.490. By contrast, Rohatyn (1982) described the latter as "an interesting and worthwhile argument for the existence [*sic*] of God" (p. 68). He rearranged it into an Argumentation in Peirce's sense (CP 6.456, EP 2:435, R 841:6), with nine distinct steps, and then raised five objections. In a delightful twist, Rohatyn proceeded to answer them on Peirce's behalf, concluding that CP 6.490 "is a defensible piece of tightly controlled cosmological speculation, worthy of our philosophical attention" (p. 73).

¹⁵ Hull (2005) suggested that "the method for arriving at the God-hypothesis is fundamentally tied to a general theory about the use of diagrams in our reasoning" (p. 494), and that *this* is what Peirce meant by "a theory of the nature of thinking" in CP 6.491.

¹⁶ Guardiano (2015) also discerned three distinct but complementary interpretations of Peirce's cosmological writings by adopting each individual Category's point of view when analyzing them. As arranged in this paragraph of the essay, they align with the perspectives that Guardiano associated with 1ns, 2ns, and 3ns, respectively. Because of such "trichotomic logic" and other "unique theoretical merits," he argued that "Peirce's theory amounts to a reasonable abduction" (p. 313). Richmond (2005) labeled the corresponding vectors as "representation," "order," and "process," respectively (p. 460).

¹⁷ A semeiotic cosmology is to be expected, if indeed the hierarchy of Being follows the vector of representation (see note 16). Raposa (1989) understood Peirce's approach as a "theosemiotic" in which "the problem of religious knowledge is to be conceived primarily as a problem of sign-interpretation" (p. 148). Atkins (2016) called the sharing of a true belief by multiple persons "cognitive welding" (p. 154) and added, "When all of our external cognitions [3ns], wills [2ns], and sentiments [1ns] overlap with God's, then we will all be welded into the universal continuum. This unity is not yet understood in our sciences but can be comprehended in poetry and in religion" (p. 163).

¹⁸ Raposa (1989) made much the same point: "If all of reality is continuous, then everything is potentially a sign of God's presence" (p. 146). Daniel-Hughes (2015) commented that what is often named "the scientific argument" in the secondary literature—"the third argument of the nest" (CP 6.488, EP 2:446, R 844:2)—would be better designated as "the continuity argument" (p. 122, note 4).

¹⁹ Hull (2005) posited that the published article "may be read as Peirce's offering toward a method of reasoning about true continua" (p. 498). In her view, this involves treating the three Universes of Experience as mathematical sets or collections, and then using diagrams to explore their relations. The blackboard illustration was her primary example.

²⁰ This essay was prompted by a series of discussions that took place via the Peirce-L e-mail list (<http://www.iupui.edu/~arisbe/peirce-l/peirce-l.htm>) in the late summer and early autumn of 2016. I appreciate the helpful feedback that I received from the diverse community of inquirers who participate in that forum. I am especially grateful to the moderator, Gary Richmond, who (among other things) introduced me to the notion that the blackboard in Peirce's diagram represents a kind of "ur-continuity" or primordial 3ns, which served as a theater for the

emergence of all three Categories as we experience them in our existing universe; Edwina Taborsky, who disagreed with me forcefully on multiple occasions, thereby repeatedly challenging me to sharpen my thinking and argumentation; and Jeffrey Downard, who founded SPIN and directed me to its website (see note 3), which will surely be an invaluable resource to Peirce scholars for many years to come. I also owe thanks to the anonymous reviewers who provided helpful suggestions that improved the final version of the text.

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