

C. S. PEIRCE, GOD, AND REALISM: THE NEGLECTED CROSSROADS OF SCIENCE AND RELIGION

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Abstract: This paper presents an integration of science, art, and religion according to lines suggested by Charles Sanders Peirce (1839-1914), the scientist, philosopher, and mathematician still considered by many to be America's leading native intellect, to date. Here, religion and art, following Peirce, are taken to be presuppositions of scientific inquiries. The logic of such inquiries, not limited solely to laboratory investigations but in fact universal in application, is also known as Pragmatism. This method of Pragmatism, as elaborated by Peirce, makes for America's only native philosophical doctrine.

In the course of discussing this interdisciplinary integration of science, art, and religion, we shall look into the subjects of abductive reasoning, Peirce's categories of reality and experience, the difference between Realism and Nominalism, and the distinction between argument and argumentation. Historically relevant figures including artists Titian and John Constable, scientists Alexander Fleming and Johannes Kepler, and philosophers Sir Karl Popper and Peirce himself, will be considered. The paper ends with close attention being given to Peirce's "Neglected Argument for the Reality of God" (The Hibbert Journal: October 1908), especially for its pragmatological logic and its subtle, suggestive, integrational power.

Labouring the difference between science and the humanities has long been a fashion, and has become a bore. The method of problem solving, the method of conjecture and refutation, is practised by both. It is practiced in reconstructing a damaged text as well as in constructing a theory of radioactivity.

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Sir Karl Popper, *On the Theory of the Objective Mind* (1968) in *Objective Knowledge: An Evolutionary Approach* (1972)

... if I were asked to nominate the two native Americans of greatest intellectual genius, I think they would both be 19th-century figures: Willard Gibbs and... C.S. Peirce. (C.P. Snow, *Saturday Review*, Dec. 13, 1975)

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I. INTRODUCTION

What I want to try to do, here, is introduce you, or, perhaps, reintroduce you from a different vantage point, to what I find to be the most compelling argument for the esthetical reality, not the existence, but the reality of God. This is not, I should caution, a purely academic exercise. This argument for the esthetical reality of God is by the eminent American philosopher Charles Sanders Peirce (1839-1914). This, Peirce's realistic conception of God, provides the crossroads of science and religion, or, in Professor Ibri's words, the "common matrix between mental and material universes" (see Ibri 1989). As with any crossroads, divergent paths may lead to and away from it, but a crossroads, a commonality, it remains. And a neglected crossroads it indeed is. I find Peirce, in this instance, to be not only academically right, but also, and I know I take a risk when I say this, personally right. Peirce's conception of God is an esthetical one, and in this argument he lays out the meditational steps to bring the esthetical apogee of reality, God, into our hearts as well as our minds. So, let us begin our investigation by asking:

II. WHO WAS CHARLES PEIRCE, AND WHO CARES?

Charles Sanders Peirce achieved a grand, powerful, and subtle re-recognition, via esthetics, of the proper relation, the crossroads, between religion and science, a relation where religion is a presupposition of science (see TOP, Ketner and Percy 1995: 251-52). Peirce, if you were only slightly or moderately well acquainted with him, would at a glance

seem the most unlikely of thinkers to attempt such a view of religion and science, for Peirce's main reputation, superficially, lies in the areas of experimental science, mathematics, and topological logic. His *vitae* would have to include at least the following items:

Member, National Academy of Sciences, 1877

Fellow, American Academy of Arts and Sciences, 1867

Member, London Mathematical Society

Member, New York Mathematical Society

A.B., Harvard, 1859

A.M., Harvard 1862

M.S., Lawrence Scientific School, Harvard, 1863

Assistant to the Superintendent,

U.S. Coast and Geodetic Survey, 1867-1891

Lecturer, Harvard, 1864-65, 1869-70

Lecturer, Johns Hopkins, 1880-1884

Lecturer, Lowell Institute, 1866, 1895

(RLT: 103)

Such an account would also need to include at least the facts that he singly or with others published over 1,200 works, contributed 182 definitions to J.M. Baldwin's *Dictionary of Philosophy and Psychology*, 6,000 (yes, six thousand) scientific and technical definitions to W.D. Whitney's *Century Dictionary*, almost 350 reviews for *The Nation* (see Ketner and Cook 1975-1987), authored the first known wiring diagram for an electrically driven computer (see Ketner and Stewart 1986; Stewart 1987), and devised a system of graphical logic now being explored by Correspondents of the Russian Academy of Science (and others) as a basis for a new sort of database search engine usable for their's, the largest database of scientific and technical information thusfar assembled. And yet Peirce left ca. 100,000 hand-inked sheets of manuscript at his death in 1914, a death which came, bitter irony you'll agree, in the midst of utter and complete destitution. Charles Peirce then would not, to the ordinary person, seem to be the sort of figure associated with any sort of considered, much less penetrating, insight into religion or esthetics. Even many of the experts in the burgeoning business of Peirce scholarship tend to ignore the religious dimension and esthetical character of his thought and system of explaining how reality works, the very two aspects I have come to see as the most fundamental one to understanding his work.

"What?" you hypothetically say to yourself, "This super-charged mathematico/scientific mind, Peirce, operates from a basis in religion and

esthetics?!? Impossible!!” But without qualification, I can tell you that that is exactly what he did. And, given the split between science and everything else in our culture and particularly in our Universities, the same split that Sir Karl Popper, that most eminent philosopher of science, decried above, perhaps it isn't surprising that we wouldn't expect to find a world-class scientist, mathematician, and logician like Peirce discoursing sincerely and effectively on religious and esthetical topics, much less treating religion and esthetics, in his system of thought, as axiomatic.

But discourse effectively he did. Let me give you a sample of this discourse. It is a letter Peirce wrote to his friend, albeit sometimes duplicitous friend, William James, the sometimes-called father of American psychology. The letter was written on March 13, 1897, when Peirce was fifty-six years of age, thus sixteen years before his death and six years after he lost his senior position with the U.S. Coast and Geodetic Survey, his last permanent employment. So here, one of C.P. Snow's two nominees for "...the two native Americans of greatest intellectual genius" is middle-aged, flat broke, trying to do something about his desperately ill second wife, and knows that his series of eight, potentially definitive papers just might be invited for the Cambridge Conferences Lectures series to be given the next year, with the customary and expertly camouflaged help of William James. Peirce, in the midst of all this turmoil and frenzy, writes pretty calmly to James:

[begin extract] I have learned a great deal about philosophy in the last few years, because they have been very miserable and unsuccessful years terrible beyond anything the man of ordinary experience can possibly understand or conceive. This, I have had a great deal of idleness & time that could not be employed in the duties of ordinary life, deprived of books, of laboratory, everything: and so there was nothing to prevent me elaborating my thoughts. Besides this, a new world of which I know nothing, and of which I cannot find that anybody who has written has really known much, has been disclosed to me, the world of misery. It is absurd to say that Hugo, who has written the least foolishly about it, really knew anything of it. I would like to write a physiology of it. How many days did Hugo ever go at a time without a morsel of food or any idea where food was coming from, my case at this moment for very nearly three days, and yet that is the most insignificant of the experiences which go to make up misery? Much have I learned of life and of the world, throwing strong light upon philosophy in these years. Undoubtedly its tendency is to make one value the spiritual more, but not an abstract

spirituality.... On the other hand, it increases the sense of awe with which one regards Gautama Booda (TOP: 225) [end of extract]

Quite a confession, you'll agree. Doesn't quite sound like the popular or usual image of a scientist, does it? The popular, misshapen image of the scientist, I should add. So here is what Peirce, the monumental interdisciplinarian, thought science, generalized by him into classical American pragmatism, to be, in the process introducing us to a new figure of importance in the history of pragmatism, Thomas Beddoes, M.D.:

[begin extract] The method of pragmatism is simply the experimental method, which, (taking the word "experiment" in its widest sense, so as to make it applicable to cases in which the fulfillment of the conditions has to be waited for instead of being artificially produced) is the invariable procedure of all successful science. Thomas Beddoes showed, as early as 1792, that it is the procedure even of mathematics. (Peirce 1907/MS 320: 29)[end of extract]

So Peirce saw science as a method, the method of conjecture and refutation, in Popper's language, and the method of identifying problems, guessing at solutions, and rigorously testing our guesses against our problems, in mine. This method for the acquisition and development of human knowledge can be shown to be universally applicable throughout human knowledge of whatever sort. And don't be taken in by the list of accomplishments with which I first introduced Peirce here: the method of science is a METHOD, not a list of accomplishments, or chits, or notches in a belt or on the grip of some egotistical pistol. Convinced of this, Peirce was not reluctant to take on anybody who violated the fundamental maxim, "Do not block the road of inquiry" (RLT: 178; Peirce 1898/MS 825). As an example, consider for a moment his relation with the French Academy of Science in the matter of the Repsold Pendulum (see Fisch 1986: 408, and pertinent Reports of the Superintendent of the United States Coast Survey for 1875 and 1877 at Ketner and Stewart 1986). He took the Academy to task over what he detected to be flexures in the support stand of the then-standard pendulum apparatus used world-wide for gravimetric research, which is to say measuring the force of gravity, world-wide. The Repsold Pendulum, by name. The inevitable consequences of the assumption that the Repsold was invariably accurate contradicted that very assumption, experimentally, in the end. Same story with Kepler trying to figure out the most accurate description of the orbit 'round the sun of the planet Mars. Assuming a perfectly circular orbit led to contradictory experimental results.

III. THE LOGIC OF ABDUCTION

Now you may think that all of this scientific business about pendulum experiments and Kepler is intolerably far from any possible point to be made about Charles Sanders Peirce, religion, and esthetics. Not so. They all, just like Peirce's Neglected Argument for the Reality of God (N.A.), which we shall take up, shortly, rely on the most fundamental kind of reasoning required for the acquisition and development of human knowledge, namely what Peirce called abduction. Abduction is the discovery move, the move that provides us with fresh guesses at solutions to problems. It's the move Alexander Fleming made when he noticed the penicillin mold, the same move Titian exercised in art when composing his martyring of St. Peter. It's the same move all of you are making at this moment, in trying to figure out what in the world it is that I am talking about.

Here, in abduction, we reason, however murkily, from effect, backwards, to cause. And so Peirce figured out, guessed, took a chance on the idea that those screwy pendulum consequences were due to the support stand flexing, every so slightly, each time the swinging pendulum reached either apogee in its arc of travel. And he was right!! Now here is the inescapable point: without abduction, without discovery and the guts of criticism to deal with it, you cannot do art, or science, or architecture, or poetry, or philosophy, or religion, or biology, or translate German, or be a concert pianist, or to get to the Reality of God, or, well, you will quickly surmise, and rightly, that abduction, the discovery move, is a universal component in human knowledge. This is no exaggeration. And as we shall shortly see, for Peirce and for us it really is just as fundamental to religion and esthetics as to science. Here is an illustration of abduction from Peirce's six-part Popular Science Monthly series for 1877 – 1878 titled "Illustrations of the Logic of Science" that will help clear up just what abduction is. Please kindly note the exact moment in the following when, in your imagination, you guess at the solution to the problem:

It is known that all the beans from Bag X are white.

These beans in my hand are white.

Where did these beans come from?

Guess: These beans are from this bag! (CP 2.623)

Easy to figure this one out, I think.

Peirce's pragmatism, what in developed forms comes to be a genuinely and truly universal logic of events for the acquisition and development of human knowledge, is the logic of abduction plus the tools of testing and

criticism that eliminate dud guesses or hypotheses. Works just about like evolution by natural selection: your guess, intellectual or genetic, will have its day, for better or worse. Think again, for example, of Titian's solution to his compositional problem in his martyring of St. Peter, or Constable's three experimental renderings of Dedham Vale (see Gombrich 1961: 36-37). Or just as directly, consider for a moment how you combined rationality and genetics in learning how to walk. The problem was obvious, of course, but now consider how many hundreds, if not thousands, of physiological guesses or hypotheses you ran through in the process of learning how to walk, constantly and nonrationally (without overt reasoning) discarding failed ones, constantly abducting new ones for testing, discarding, guessing again; retaining bits and pieces of various guesses that seemed at least partially successful. And it remains true even to this day that when you gracefully rise from your chair and absent-mindedly, without a care, saunter across the room, you are performing the problem – hypothesis – test logic of pragmatism yet again!

IV. THE NEGLECTED ARGUMENT

Peirce's "A Neglected Argument for the Reality of God" appeared in *The Hibbert Journal* for October 1908 (Peirce 1908: 190-212). Even though less than two dozen pages in length as published there, this piece contains the whole system of Peirce's thought, in a nutshell. A religious and esthetical nutshell. And it is in his *Neglected Argument* that Peirce, I find, lays out his roadmaps leading to the crossroads of science and religion. In his *Neglected Argument*, Peirce describes three general categories of experience and knowledge. The notion that we can exhaustively describe reality in terms of categories or coherent divisions of some sort will be familiar to historians of philosophy. Peirce says that reality falls out into three such divisions. First, and he calls them "Firsts," comes those parts of experience that are immediate. Griffin Trotter, M.D., in his *The Loyal Physician: Roycean Ethics and the Practice of Medicine*, published in 1997 in the *Vanderbilt Library of Philosophy Series*, gives an illustration based on the experience of stepping on one of his son's toys in the dead of night.

[begin extract] Suppose I wake up at 4 A.M. to go to the bathroom, and, as I traverse the dark hallway; I experience a searing sensation in my left foot [from stepping on the toy!]. This sensation, in the instant it occurs, is relatively unreflective: It occurs abruptly and was unanticipated, and it is intense, so that it pushes other aspects of thought beyond the periphery of consciousness. (Trotter 1997: 86-7) [end of extract]

An example from our first "Of the three Universes of Experience familiar to us all," as Peirce called them, Griffin's foot problem, the searing sensation itself, also shows us what Peirce meant by a "sign." That pain of Griffin's is a sign of something, isn't it? A transaction of some sort. Thus, a "sign" for Peirce is that "...which has its Being in its power of serving as intermediary between its Object and a Mind" (CP 6.455). Griffin's Object was his son's toy, the Sign transaction involved is that of the searing pain, and, well, I leave it to you to imagine what was going on in his Mind!

The second Universe of experience enters the picture when Griffin realizes that it's his son's toy that's the object of his attention, and not some form of combustion into which he has stepped, which is what, involuntarily, to begin with, he thought. So if our first Universe is populated by immediacy, our second Universe, our Universe of "Seconds" as Peirce terms them, comprises reactions to those immediacies. And they are rational reactions, that is, reactions with a universe which is, overall, evolutionary and rational (but not deterministic!). Postmodernistic readers will of course smirk at the suggestion that the universe, overall, is somehow rational. So let me give you a couple of observations that I think pretty clearly divulge the metaphysically pervasive nature of the universe's rationality. Nº 1): We, of course, can be as irrational in the face of a rational universe as we dare, I suppose. If I really believe that I can, later this week, board my return flight back to Texas and, in time, arrive there successfully, my rational belief and our rational universe will be congruent with each other. This, by the way, is what Peirce meant by the phrase "self-control" (CP 6.454). Now, if on the other hand I get it into my head that I may go to the top of the Central Park Hotel here in Sao Paulo, far up in the air and, by flapping my arms furiously and flinging myself headlong from the roof, fly unassisted back to Texas, well, our rational universe will quickly remind me, all the spectators, and the local Medical Examiner, too, of the irrationality of my stance. And, of course, over sufficient evolutionary time, genetic stocks represented by such attempts at aerostation will drop quickly from biological sight.

This implies that some sort of rationality is a genetic inheritance and an evolutionary advantage, an inborn instinct that can be supplemented by various acquired instincts, like my acquired instinctual ability to duck, and with exact precision, when ex-wives or combative colleagues or irate students throw things at me. I wasn't born with that innate ability, any more than was a dog that cowers when a hand is raised was born knowing to or how to flinch in just that specific way: this instinctual response was

acquired. Which leads me to remark as Nº 2) our ability, instinctively, right at the moment of the informed abduction (where did those beans come from, above?), to guess rightly with far more accuracy than any mere statistical analysis can possibly account for leads inexorably to the conclusion, or at least a sustainable hypothesis, that that against which we keep guessing, namely the universe overall, behaves in predictable, regular, rational, evolving sorts of ways (see Peirce MS 687, 1907: "Guessing"). And it is this metaphysically pervasive rationality, in all its esthetical beauty, to which Peirce's N.A. points, and which provides the occasion for our successes at guessing. Just think about Kepler again for a moment: of the literally infinite number of closed geometrical figures that Kepler could have employed as hypothetical explanations of the orbit of Mars, he actually made fewer than two-dozen moves, or guesses, or abductions, away from a mathematically perfect circle and along a series of conic sections before he got the orbit of Mars figured out, and right on the money. And, as you may have already guessed from this progression, the third Universe of experience, the Universe of "Thirds," is comprised of lawfulness. Not in some sense of being hidebound or mechanicalistic or a self-contradicted behaviorist, mind you, but in the sense of a kind of lawlike regularity. Karl Popper's description of the lawlike regularity in the movements of a cloud of gnats is an example of such lawfulness (see Popper 1972: 208-210)

Now, with a reasonably good understanding of abduction and the three Universes of experience, we are ready to make two final distinctions necessary for examining the heart of The Neglected Argument, the heart that is both metaphysically grand beyond any of my wildest dreams and completely practical for the conduct of life, the heart of which is the neglected crossroads of science and religion. One distinction is between what is an argument and what is an argumentation, and the other is the distinction between what exists, and what is real. "An Argument," Peirce tells us, "is any process of thought reasonably tending to produce a definite belief." Argumentations, on the other hand, are the technical interest of formal logic. Put simply, arguments convince; argumentations prove. Arguments, then, are more general vehicles of logical conveyance.

Our second distinction involves the recognition that there are a literal horde of Real objects in the universe overall, like love, hate, gravity, Boyle's Law, disease, or the dormitive virtue of opium that, while quite Real and having impacts on us constantly and in all three Universes, do not tangibly exist!! I cannot, after all, hand you some love, or hate, or

science, or religion, or any of the others. Artifacts of same, sure. But neither love nor hate nor gravity nor enlightenment, properly considered, can be bottled and sold; they are real but they do not exist in the sense of me being able to hand you some of them. Peirce gets this point across in, among other places, his 1903 Harvard Lectures on Pragmatism in an illustrative and hilarious use there of the dormitive virtue of opium, which while Real, does not exist. He says, and please be sure to abduct a mental image of this so the humor will come through, "You couldn't load a pistol with dormative virtue and shoot it into a breakfast roll" (Turrisi 1997: 134). Your mental image of this description is Real, although it doesn't, tangibly, exist.

V. WILLARD QUINE: SHOULD WE "PASS" ON THIS ONE?

Peirce then is making an Argument for the Reality of God in just the senses of Argument and Reality here reviewed. He wants us to take up and test the very Real hypothesis of a pervasive esthetical rationality to explain how reality is put together: science presupposing religion. His is not an argumentation for the existence of God, like William Paley's silly analogy between finding a watch, a timepiece, in the weeds, somewhere, then presuming a watchmaker, and finding some sort of order in the universe overall, and then presuming a master-planned universe built and incessantly maintained by somebody named God. None of these sorts of argumentations really work very well, easily enough seen by simply applying Paley's logic, in all its decrepitude, to something like the order and structure to be found in the anthrax bacillus instead of a pocket watch, and then presuming about an omniscient Designer... well... what? Remembering that Peirce's Neglected Argument is indeed a 20th-century affair, perhaps it was one of the many and pervasive modern-day versions of something like Paley's (not Peirce's) approach that Willard Van Orman Quine, the senior-most member of the philosophy department at Harvard University, had in mind when, as a member of a distinguished panel at the 1998 20th World Philosophy Congress, in Boston, Massachusetts, he and the panel were asked "What have we learned from philosophy in the 20th century?" Reporter Jim Holt continued in *The Wall Street Journal* for 21 August of that year, "One by one they fumbled the question. 'I'm going to have to pass,' said Willard Van Orman Quine, the dean of American philosophers. Others on the panel reportedly quibbled over the meaning of the words 'we' and 'learned'" (Holt 1998). This, friends, is a result of a

fixation with nit-picking argumentation at the expense of wholesale argument and attendant esthetical considerations, and divulges the internal contradiction with which a good deal of contemporary philosophy is, to my mind, poisoned.

Here then is the heart of Peirce's Neglected Argument, his meditational steps towards the summum bonum, towards his neglected crossroads of science and religion. Remember, this isn't a matter of proof, but a method to remind ourselves, according to Peirce, of what we all, instinctually, already know!! Viz.:

- 1) given our highly accurate ability at guessing, at abduction, and given our ability to engage in that much larger imaginative exercise Peirce terms "Musement,...a certain agreeable occupation of mind which...is Pure Play."
- 2) if we muse "...in scientific singleness of heart" on connections between any two or all three of our Universes of experience using
- 3) the hypothesis of God's Reality as our explanatory hypothesis for how reality is organized, the Neglected Argument "...will in time flower."

Think for a moment, as I do, about beauty as it occurs in all three universes of experience, and how it connects them, and you will begin to see that your natural religious sentiments are hurtling headlong towards the reality of God. The meditational move is clear: abductive musement on the esthetical reality of God – that's the core of the Neglected Argument – and its logic works successfully in both science and religion.

Clearly, this method is not a speciman of what I call "Coke-Machine Religion," where if you put in the right amount of money and press the right buttons, enlightenment or salvation rolls out the bottom of the dispensary. What Peirce suggests is something quite personal, let me assure you, yet completely universal, and something that can only be gotten to through the an argument, not an argumentation. So then, God's Reality is for Peirce axiomatic and, as with all other axioms, strictly considered, including the mathematical ones, we may use it to illustrate and organize indefinitely long strings of developing knowledge, including spiritual knowledge, but it, itself, remains undemonstrable in the sense of an argumentation.

C. S. Peirce, then, sees the Reality of God as innately instinctual, innately axiomatic. The Neglected Argument provides a hypothetical logic or form of meditation that clears the nit-picking argumentational obstacles

to actually seeing the matter and consequences, near and far, of this esthetical instinct in religious and scientific endeavors, alike. And see it you will, but you have to experiment with it, just as Peirce did with detecting the flaw in the support stand for the Repsold Pendulum, and just as Kepler did in determining the proper orbit of Mars, just as Titian and Constable did in painting, and just as my five-year-old son Marshall did in learning how to walk. Look for what Peirce called "homogeneities of connectedness," or continuities, or, again, what Professor Ibri calls the "common matrix between mental and material universes," in and between the three Universes of experience. There are, no doubt, an infinite number of such connections, but, again, I myself tend to keep returning to the issue of connectedness in a rational, evolving universe viewed esthetically. So let me close with Peirce's estimation of esthetics:

[begin extract] ...the question of esthetics is, What is the one quality that is, in its immediate presence, kalos [the good, the beautiful; the noble]? Upon this question ethics must depend, just as logic must depend upon ethics. Esthetics, therefore...appears to be possibly the first indispensable propedeutic to logic, and the logic of esthetics to be a distinct part of the science of logic that ought not to be omitted. CP 2.199 [end of extract]

To close, briefly, God then turns out to be the ultimate form of kalos, the sublime, in other words. And finally, I find that abductive musement on this conception does indeed, in time, lead to the Neglected Argument, which, with Peirce, "...will in time flower."

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ABBREVIATIONS

CP = Hartshorne, Weiss, and Burks, ed. 1931...1960
TOP = Ketner and Percy, 1995
RLT = Ketner and Putnam, 1992

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