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# RESISTING THE LURE OF CERTAINTY, SEEKING THE UNITY OF TRUTH: A NINETEENTH-CENTURY VOICE WITH TWENTY-FIRST-CENTURY RESONANCE

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*In her essay, the author seeks to bring the vision of nineteenth-century American philosopher Charles Sanders Peirce to the attention of those involved in the contemporary debate over the relationship between religion and science. Peirce's conception of a "scientific religion" and the openness of a scientific integrated with the human experience of the divine as a way of overcoming the equating of truth with rigid certainty is of particular relevance today, when the dangers of fundamentalist biblical interpretation are especially evident.*

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## Introduction

A recent article in the *Financial Times*, a major international newspaper, carried the headline "Religious repression—western style." In describing the debate over embryonic stem-cell research, the author Thomas Barlow lamented the tendency of many in the "secular" west "to impede the use of embryos for research into regenerative medicine," based "largely on parochial religious grounds."<sup>1</sup> One can imagine the nineteenth-century American philosopher Charles Sanders Peirce (1839-1914) shaking his head. Such an article suggests that opposing conceptions of what constitutes truth continue to drive a wedge between religion and science, nearly one hundred years after he passionately argued for a unified religion and science to overcome the human tendency to define truth in terms of narrow certainties. Peirce saw the method of science as enabling the pursuit of truth in its broadest and fullest sense, by emphasizing the openness to new ideas that was its leading characteristic.

Although he is a nineteenth-century thinker, Peirce's ideas on the relationship between science and religion and the danger posed by the lure of certainty to the search for knowledge are strikingly relevant today,

whereas the work of many of his contemporaries retains only historical interest. In contrast to Andrew Dickson White, who lauded the triumph of science over theology, which he considered to be backward and conservative, and to William James, whose psychological approach relegated religion wholly to the sphere of individual experience, Peirce approached the problem of the relation of science and religion from a philosophical and logical standpoint. Peirce concluded that a specific type of fundamentalism, that which is characterized by the prioritizing of certainty over all other measures of truth, was the cause of all intellectual stagnation. In seeking to understand why the rigid conservatism of this kind of fundamentalism was attractive, and what it was that made religion particularly prone to it, Peirce devoted considerable time and thought to the examination of the basic nature of belief and doubt and why individuals preferred certainty of belief to all other considerations. Using this basic philosophic examination as a foundation, he drew also on his experience as an experimental scientist to find a way by which the subjective nature of religious conviction might be integrated with the rational thought processes of science.

In this essay I will analyze Peirce's writings on the relationship between religion and science to draw out the major elements of his vision for the integration of the two. In doing so, I will mainly focus on Peirce's own work, but will also make occasional reference to White's and James's ideas as a way of contrasting Peirce with other contemporary thinkers who were also working on the problem. I begin with a brief overview of Peirce's background, and then move on to an analysis of how he drew on his essays on belief and doubt as the foundation for his later work on the relationship between religion and science and his arguments for the reality of God. In providing an in-depth look at Peirce's vision of "scientific religion," I hope to show that his ideas, although a century old,

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provide a valuable and relevant intellectual approach to today's discussions about how religion and science might join together in the pursuit of truth.

### **Charles Sanders Peirce in Context**

Charles Sanders Peirce was born in Cambridge, Massachusetts, on 10 September 1839 and was exposed to an intellectually stimulating environment from his birth. His father was Benjamin Peirce, professor of mathematics at Harvard and well known in America and Europe for his mathematical work; Boston's leading intellectuals frequented the Peirce home in Cambridge.<sup>2</sup> Peirce was a precocious child, a trait no doubt enhanced by his father's specially devised program of studies designed to cultivate his natural "genius;" but his formal academic career was undistin-

guished with the exception of his chemistry degree, which was the first *summa cum laude* degree ever awarded by the newly established Lawrence Scientific School at Harvard University. His scientific work at the United States Coastal and Geodetic Survey provided his most steady employment throughout his life; unlike many other American thinkers with whom he was contemporary, Peirce seemed unable to hold down a university position.<sup>3</sup> The reasons for this inability are not entirely clear, although the unconventionality of his ideas and his indiscreet social behavior were probably factors.<sup>4</sup> The non-conformity of his personality was compounded by his well-documented erratic temperament and behavior, largely the result of the periodically disabling condition of facial neural-

gia, the excruciating pain of which he relied on opium and later morphine and cocaine to relieve.<sup>5</sup> Yet Peirce's lack of professional success did not stop him from becoming well versed in, and writing extensively on, a wide variety of subjects including logic, mathematics, the

physical sciences, metaphysics, and religion and philosophy.

Peirce's early interest in how belief came to be established is evident in his essays on logic of science published in *Popular Science Monthly* in 1878; but he gave new prominence to his understanding of the relationship of religion to science somewhat later, beginning in 1893 with his essay, "The Marriage of Religion and Science," and his vision for the integration of subjective religious experience and rational analysis in the 1908 piece, "A Neglected Argument for the Reality of God." The links between the early logical work and his later writing on "scientific religion" are unmistakable, as Peirce's own annotations and revisions demonstrate. Yet this side of Peirce's work could be called his own "neglected ar-

gument.” Rarely, it seems, are his ideas on religion and science taken as a serious component of his philosophical vision. It is not uncommon in scholarship about Peirce to see his writings on science and religion described as being the work of a “second Peirce,” a seemingly different thinker than the one who wrote extensively on logic, mathematics, and philosophy.<sup>6</sup> Even the editors of his collected papers, philosophers Charles Hartshorne and Paul Weiss, in their introduction to volume 6 of the series, remark:

The second book of the volume, devoted to religion or “psychical metaphysics,” has rather tenuous connections with the rest of the system, offering, apart from scattered flashes of insight, views which have a sociological or biographical, rather than a fundamental systemic interest.<sup>7</sup>

These views of Peirce’s writings on science and religion obscure or sever entirely the connections that Peirce himself saw between this topic and his other writings. Peirce envisioned his philosophical system as describing the unity of *all* truth, including that of science and religion.

### The Marriage of Religion and Science

According to Peirce’s generalizations in his essay, “The Marriage of Religion and Science,” science and religion had evolved in ways that made them naturally antagonistic. Science is essentially open and forward-looking, while religion remains cautious and conservative. In the presentation of his argument for a “scientific religion,” Peirce first examined science as the source of religion’s reinvigoration. The essence of science is “the scientific spirit, which is determined not to rest satisfied with existing opinions but to press on to the real truth of nature.” The spirit of science for Peirce is not primarily tied up with the production of what might be called scientific results or knowledge. Knowledge might be no more than “a dead memory; while by science we all habitually mean a living and growing body of truth.”<sup>8</sup> Science is, rather, an openness, even a desire to have one’s ideas

and beliefs continually disproved in the hope that such reforming of belief was little by little bringing humanity closer to true knowledge. Peirce’s vision of the spirit of science was an optimistic one. He thought that this unified truth toward which science was continually approaching but never fully reaching *was* accessible, if investigation could be carried to its fullest extent, something that conceivably could take an unlimited amount of time. In an annotation made in 1893 to his 1878 essay, “How to Make Our Ideas Clear,” he wrote:

[W]e are all putting our shoulders to the wheel for an end that none of us can catch more than a glimpse at—that which the generations are working out. But we can see that the development of embodied ideas is what it will consist in.<sup>9</sup>

New truths are not just theoretical—they are ideas that are embodied, entailing new ways of behaving. On the subject of progress in religion, however, he wrote:

Religion, from the nature of things, refuses to go through her successive transformations with sufficient celerity to keep always in accord with the convictions of scientific philosophy.<sup>10</sup>

The Christian religion is often inherently conservative, he observed, afraid to accept new innovations in science or other fields. Peirce thought that religion’s greatest flaw is that it puts security and certainty before the desire for seeking true belief. In embracing its inherent conservatism, Christianity had become preoccupied with constructing defensive structures of creeds and dogmas against not only external threats from science and philosophy but also internal divisions between groups with differing viewpoints. But this view was not Peirce’s only conception of religion. Unlike his contemporary Andrew Dickson White, author of *A History of the Warfare of Science with Theology in Christendom* and a founder and first president of non-sectarian Cornell University, Peirce did not believe that the entrenched conservatism of religion necessitates its complete subordination to scientific systems of knowledge.

White saw the "conquest" of religion by science reducing religion to a mere evolutionary step in the upward ascent to truth of which science was the leading edge.

Modern science, in substituting a new heaven and a new earth for the old—the reign of law for the reign of caprice, and the idea of evolution for that of creation—has added and is steadily adding a new revelation divinely inspired.<sup>11</sup>

In contrast, Peirce recognized that religion is not just an outmoded form of philosophical belief that had given way to the intellectual progress of science. Religion is something for which no purely rational system, not even the most spirited science, can serve as a substitute or replacement. He wrote:

Religion is a life [and] can be identified with a belief only provided that belief be a living belief—a thing to be lived rather than said or thought.<sup>12</sup>

Religion is a thing to be lived rather than said or thought, because unlike philosophy or science it was predicated on a direct intuition of God's reality.

[W]hen a man has that experience with which religion sets out, he has as good reason—putting aside metaphysical subtilities [*sic*—to believe in the living personality of God as he has to believe in his own. Indeed, *belief* is a word inappropriate to such direct perception.<sup>13</sup>

Religion had not only fallen behind the progress of science, but it had also become divorced from its own source: experience. Peirce, like his contemporaries John Draper and White, saw the theological side of religion as the greatest restriction on its vitality.<sup>14</sup> Yet, unlike the others, he did not see the solution in condemning the Church as a whole. The key problem Peirce saw for religion was the influence of those who made certainty and precision the hallmark of religious truth. Here Peirce's "commonsensism" as he called it, came to the fore. The truth found by applying the spirit of science to religion would not necessarily be precise truth, Peirce thought; a less precise understanding is often superior.

No concept, not even those of mathematics, is absolutely precise; and some of the most important for everyday use are extremely vague. Nevertheless, our instinctive beliefs involving such concepts are far more trustworthy than the best established results of science, if these be precisely understood.<sup>15</sup>

A belief more open to metaphor and imprecision resonates as genuinely true to experience far more often than does rigid dogma, Peirce argued.

He sought to renew religion through an infusion of the open and truth-seeking spirit of science, which would restore the importance of religious experiences, rather than requiring religion continually to reduce its claims to authority in the face of skeptical and rationalist critiques. He detailed his vision in terms of the "man whom religious experience most devoutly moves":

While adhering to the essence of religion, and so far as possible to the church, which is all but essential, say, penessential, to it, he will cast aside that religious timidity that is forever prompting the church to recoil from the paths into which the Governor of history is leading the minds of men, a cowardice that has stood through the ages as the landmark and limit of her little faith, and will gladly go forward, sure that truth is not split into two warring doctrines, and that any change that knowledge can work in his faith can only affect its expression, but not the deep mystery expressed.<sup>16</sup>

This attitude would be "a religion of science," meaning not, Peirce was clear, Christianity replaced by the worship of science, for "religion, in the proper sense of the term, can arise from nothing but the religious sensibility." Rather, it would be a religion so assured of its own worth that "it becomes animated by the scientific spirit, confident that all the conquests of science will be triumphs of its own."<sup>17</sup> Peirce's vision of scientific religion was one in which neither reason nor experience dominates, but both are brought together to create a living belief. Certainty of religious belief comes in the short term through experience, but in the long term through the refinement of that experience through continual communal interpretation and evaluation.

## Fixing Belief through the Method of Science

What were Peirce's grounds for laying so much weight upon science and the scientific method as the superior method for settling on a true belief? Peirce's interest in belief and how it came to be settled upon was central to his philosophical and logical theory of pragmatism, with its emphasis on the practical results of ideas.<sup>18</sup> In his essay, "The Fixation of Belief," Peirce described belief:

Our beliefs guide our desires and shape our actions.... The feeling of believing is a more or less sure indication of there being established in our nature some habit which will determine our actions.<sup>19</sup>

In contrast to belief, doubt does not establish a pattern of future action, but rather incites the process of settling on a belief.

Doubt is an uneasy and dissatisfied state from which we struggle to free ourselves and pass into the state of belief, while the latter is a calm and satisfactory state which we do not wish to avoid, or to change to a belief in anything else.<sup>20</sup>

To avoid settling for early certainty in the fixing of religious belief, Peirce believed it might be necessary to use the method of science to push oneself to question continually, even when other methods of fixing belief might appear to have settled the matter. Peirce knew that it was tempting to stay with beliefs learned early in life (a method he referred to as "tenacity") or to embrace those imposed upon a community by authority, such as the Church, or by *a priori* philosophical

assumptions. However, Peirce noted that although these methods may occasionally come up with the correct belief, there is no guarantee, linked as they are to the vagaries of human desires for certainty and security.<sup>21</sup> What is needed truly to satisfy doubts is a method

that enables beliefs to be determined "by nothing human, but by some external permanency—by something upon which our thinking has no effect.... Such is the method of science."<sup>22</sup>

The method of science provides a guard against the human temptation to settle for just any belief that appeared to assuage the unease of doubt, by providing a structured means of testing experience; and, therefore, it was central to Peirce's logical approach to the problem of the relation of religion and science. Whereas his close friend William James's psychological slant on belief stressed the "unsharable feeling which each one of us has of the pinch of his individual destiny [as] the one thing that fills up the measure of our concrete actuality," thus making individual experience the essential foundation of true ideas,<sup>23</sup> Peirce combined his support of the role of empirical experiences in the fixation of belief with a conviction of the necessity of a method for critically analyzing those experiences. The concept of "abduction" was one of Peirce's key innovations in his vision of the application of the method of science to religion, and it is the tie that binds science and religion together. Abduction for Peirce is distinct from

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his conceptions of induction and deduction, although he saw the three as connected.<sup>24</sup> In his sixth "Lecture on Pragmatism," entitled "Three Types of Reasoning," given in 1903, Peirce defined the three modes of logical thought:

Abduction is the process of forming an explanatory hypothesis. It is the only logical operation which introduces any new idea; for induction does nothing but determine a value, and deduction merely evolves the necessary consequences of a pure hypothesis. Deduction proves that something *must* be; Induction shows that something *actually is* operative; Abduction merely suggests that something *may be*.<sup>25</sup>

Abduction is able to suggest new ideas as explanatory hypothesis:

[Abduction is a kind of] perceptual judgment.... It is an act of *insight* although of extremely fallible insight. It is true that the different elements of the hypothesis were in our minds before; but it is the idea of putting together what we had never before dreamed of putting together which flashes the new suggestion before our contemplation.<sup>26</sup>

A new experience triggers this abductive flash of insight. Once the abductive explanation has been produced based on the singular experience, deduction and induction (Peirce often equated the latter to the more general idea of a "course of experimental investigation") are used to test the hypothesis.<sup>27</sup> Within pragmatic logic, abduction brings forward those hypotheses that might potentially

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modify practical action, while eliminating those that would have no distinctive effect on conduct from consideration.<sup>28</sup>

**Abduction, the Method of Science and the Neglected Argument**

In 1908, Peirce published an extended essay entitled "A Neglected Argument for the Reality of God." In it, he described his theory of how the direct experience of God that is the root of individual religious belief intersects with

the method of science, specifically its abductive aspect. Peirce began his essay with his idea of "musement," a sort of meditation in which the individual allows his or her mind to wonder freely at the nature of the universe. Eventually, according to Peirce, the interaction among the various aspects of the universe would "inevitably suggest the hypothesis of God's Reality."<sup>29</sup> Musement is, therefore, a form of abduction, producing possible and plausible explanatory hypotheses to explain unusual individual experiences. Furthermore, Peirce was clear that the scientific method is initially applied to the reality of God in the same way that it is applied to any object of thought. Knowledge of God is not specifically to be sought. Any *a priori* assumptions about what would be found or even what was being looked for must be discarded before beginning the process of generating abductive hypotheses through musement.

One who sits down with the purpose of becoming convinced of the truth of religion is plainly not inquiring in scientific singleness of heart, and must always suspect himself of reasoning unfairly.<sup>30</sup>

Yet the hypothesis of God is different from other abductive hypotheses, Peirce thought, for it is more than a theoretical idea for the

muser. Whereas in general cases of abduction, the hypothesis is suggested inferentially from a surprising experience and then tested, in the case of religious experience the initial experience that suggested the abductive hypothesis of

the existence of God is so persuasive that less rigorous testing of the hypothesis is required—the hypothesis could be verified by observing the practical transformation of the life of the muser. Drawing on his earlier ideas of 1893 that religion was not merely a belief, but a *living* belief, Peirce described the hypothesis of God generated by musement as affecting the individual with a desire "above all things to shape the whole conduct of life and all springs of action into conformity" with

it.<sup>31</sup> The hypothesis of God is created through the same method of science as all logical hypotheses for belief, but it is distinct in its transforming effect on the musér.

However, even such transforming experience requires logical analysis to guard against the natural human desire for security and certainty. This logical analysis was to be tailored in its level of precision to the object. The hypothesis of God presents the musér with an unusual object of hypothesis:

[I]t 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 yet as true so far as it is definite, and as continually tending to define itself more and more, and without limit.<sup>32</sup>

The hypothesis of God, thus, could not to be subject to the same kind of precise experiments that other abductive explanations could, but Peirce still believed it could be critically analyzed. His solution was his theory of pragmatism, or pragmatism as he was calling it by this point. Pragmatism was Peirce's flexible method of testing ideas of varying precision and levels of definition. The trained man of science, Peirce said, would test the hypothesis of God:

...taking his stand upon Pragmatism, which implies faith in common sense and in instinct, though only as they issue from the cupelfurnace of measured criticism. In short, he will say that the N. A. [neglected argument] is the First Stage of a scientific inquiry, resulting in a hypothesis of the very highest Plausibility, whose ultimate test must lie in its value in the self-controlled growth of man's conduct of life.<sup>33</sup>

The hypothesis of the reality of God conforms to the early stages of scientific inquiry, but given that it cannot be fully comprehended by the individual, and thus cannot be subject to definite deductive and inductive tests, its usefulness and value can only be determined by its transforming effects on the individual's way of living. Peirce had returned once again to "the sole principle of

logic which was recommended by Jesus: "Ye may know them by their fruits," thus making abduction "intimately allied with the ideas of the gospel."<sup>34</sup> Applying the method of science to religion made it evident that it was how one lived, not creeds and dogmas ascribed to, that was the hallmark of religious belief.

## Conclusion

Charles Sanders Peirce presents a vision of the integration of religious experience with scientific reason unlike any other offered by his nineteenth-century contemporaries; and even today, his logical approach to the problem of the relations between science and faith is unique among the varied ideas that form the debate. Rather than casting religion as the fossil of an earlier stage of humanity's moral development, as Andrew Dickson White did, or considering it as an aspect of individual psychology and, thus, wholly separate from the work of science. Peirce's emphasis on how belief is formed enabled him to envision a relationship in which religion and science were equal and integrated partners. His stress on the interplay of experience and reason as both valid and necessary elements of the pursuit of truth enabled him to overcome the trap of equating truth with certainty and "anything goes" relativism. Peirce saw his vision of "scientific religion" as maintaining the integrity of both religion and science, while allowing them to be brought together. As he described in "The Marriage of Religion and Science":

It is a religion, so true to itself, that it becomes animated by the scientific spirit, confident that all the conquests of science will be triumphs of its own, and accepting all the results of science, as scientific men themselves accept them, as steps towards the truth, which may appear for a time to be in conflict with other truths, but which in such cases merely await adjustments which time is sure to effect. This attitude, be it observed, is one which religion will assume not at the dictate of science, still less by way of a compromise, but simply and solely out of a bolder confidence in herself and in her own destiny.<sup>35</sup>

Peirce's call for the openness of science to new truth to be applied to religion and his simultaneous assertion of the validity of human spiritual experience are two sides of the same anti-dogmatic coin. Both aspects of his "scientific religion" guard against the lure of settling for certainty, and each serves as a check on the dominance of the other. In the long term, it is this relinquishment of certainty in favor of the pursuit of truth that will invigorate both science and religion. In his 1878 essay, "The Fixation of Belief," Peirce noted:

All those [systems] which repose heavily upon an "inconceivability of the opposite" have proved particularly fragile and short lived. Those, however, which rest upon positive evidences, and which avoid insisting upon the absolute precision of their dogmas are hard to destroy.<sup>36</sup>

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### Endnotes:

1. Barlow.
2. Brent, pp. 27, 30, 45.
3. *Ibid.*, p. 3.
4. One example of Peirce's social indiscretion was his very public affair and cohabitation with his second wife prior to both his divorce from his first wife and his remarriage. To add to the scandal was his second wife's mysterious background, including an unsubstantiated claim that she was a Hapsburg princess. See Menand, pp. 281-82.
5. Brent, pp. 156, 39-41; Menand, p. 159.
6. Goudge, pp. 5-7.
7. Hartshorne and Weiss, p. v.
8. Peirce, "The Marriage of Religion and Science," para. 428. (Citations from this se-

ries give the paragraph number, the convention for this edition of Peirce's collected papers.)

9. Peirce, "How to Make Our Ideas Clear," para., footnote 2.

10. Peirce, "The Marriage of Religion and Science," para. 432.

11. White, p. 23. Although White's title indicates that his was directed to theology, lines such as the ones quoted here which appear throughout the book suggest that White envisioned science as replacing more than simply theology.

12. Peirce, "What is Christian Faith?" para. 439.

13. *Ibid.*, para. 436.

14. John Draper, a contemporary of Andrew Dickson White and Charles Peirce, received much attention for his book, *History of the Conflict between Religion and Science* (1874). Draper saw the conflict between religion and science as resulting from an inevitable clash between the two. Unlike Peirce and White, who both, to varying degrees, saw essential elements of religion as compatible with science, Draper saw all facets of religion as inhibiting the progress of science.

15. Peirce, "Answers to Questions Concerning My Belief in God," para. 496.

16. Peirce, "The Marriage of Religion and Science," para. 432.

17. *Ibid.*, para. 433.

18. Peirce renamed the theory pragmatism—a term he deemed too ugly to be "kidnapped"—in the later years of his life to distinguish his version of the doctrine from that of other American philosophers who had taken up his ideas. Menand, pp. 350-51; Smith, p. 6.

19. Peirce, "The Fixation of Belief," para. 371.

20. *Ibid.*, para. 372.

21. Peirce, "The Fixation of Belief," para. 378, 379, 383.

22. *Ibid.*, para. 384.

23. James, para. 499.

24. See Goudge, pp. 195-99, for a discussion of how Peirce over time came to see induction and abduction as two points on the spectrum of ampliative (amplifying, rather than explaining) inference, and the connection of the two with deduction.

25. Peirce, "Three Types of Reasoning," para. 171.

26. Peirce, "Pragmatism and Abduction," para. 181.

27. Peirce, "Three Types of Reasoning," para. 168.

28. Peirce, "Pragmatism and Abduction," para. 196.

29. Peirce, "The Marriage of Religion and Science," para. 465.

30. *Ibid.*, para. 458.

31. *Ibid.*, para. 467.

32. *Ibid.*, para. 466.

33. *Ibid.*, para. 480.

34. Peirce, "How to Make Our Ideas Clear," para. 402, footnote 1 (1893). John E. Smith points out that here Peirce might be drawing on an idea prominent in seventeenth and eighteenth century American Calvinist Puritanism, that any individual might deceive themselves and others of their beliefs, and so real outward evidence of transformation was a necessary corollary of professed belief. See Smith, p. 18.

35. Peirce, "The Marriage of Religion and Science," para. 433.

36. Peirce, "The Fixation of Belief," para. 376.

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