

Peirce's View of the Role of Ethics in Scientific Inquiry

A Visão Peirciana do Papel da Ética na Inquirição Científica

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Abstract: During the decade of the 1890s Peirce begins to reflect on the relationship between ethics and scientific inquiry. The question on which he focuses his attention is whether ethics can somehow collaborate in the improvement or growth of the scientist's activity, or whether, on the other hand, it can be an impediment. Peirce considers the issue from two perspectives: one intrinsic to science itself, and the other extrinsic to it. In so doing, he raises two basic questions: first, whether there is an ethics specific to scientific research, with certain habits and virtues that scientists should embody. The second question is whether any ethics that is external to science may intervene in its research activity and how it could do so. The purpose of this paper is to examine the responses given by Peirce to these questions, beginning in the 1890s, and in later years, and to show how these answers are modified as Peirce refines and deepens his conception of ethics.

Keywords: Charles S. Peirce. Ethics. Scientific Inquiry. Virtues. Self-controlled action. Purposeful activity.

Resumo: *Durante a década de 1890, Peirce começa a refletir sobre a relação entre ética e inquirição científica. A questão sobre a qual ele concentra sua atenção é se a ética pode de alguma forma colaborar para a melhoria ou crescimento da atividade do cientista, ou se, por outro lado, pode ser um impedimento. Peirce considera a questão a partir de duas perspectivas: uma intrínseca à própria ciência, e outra extrínseca a ela. Ao fazer isso, ele levanta duas questões básicas: primeiro, se existe uma ética específica para a inquirição científica, com certos hábitos e virtudes que os cientistas deveriam encarnar. A segunda questão é saber se qualquer ética que é externa à ciência pode intervir em sua atividade de pesquisa e como poderia fazê-lo. O objetivo deste trabalho é examinar as respostas dadas por Peirce a essas questões, começando na década de 1890, e em anos posteriores, para mostrar como essas respostas são modificadas à medida em que Peirce refina e aprofunda sua concepção de ética.*

Palavras-chave: *Charles S. Peirce. Ética. Inquirição Científica. Virtudes. Ação autocontrolada. Atividade proposital.*

Introduction

One of the central features of scientific inquiry for Peirce is its complete fairness in studying facts and their implications. In his view, the man of science must strive to

get at the facts of observation in his research field with perfect impartiality and candor concerning the outcome of any inquiry (*W*8.345-346, 1892). During the decade of the 1890s Peirce begins to reflect on the relationship between ethics and scientific inquiry out of a concern to maintain scientific activity free of factors that could distort its disinterested nature. He holds that science is “a living historic entity” that progresses via diligent inquiry into truth, motivated by a deep desire to learn (*CP* 1.44, c.1896). Peirce, then, is interested in ethics insofar as it can help to improve the scientist’s ability to progress in his search for truth.

Thus, the purpose of this article is to examine Peirce’s answers to two important questions: first, whether there is an ethics inherent in scientific inquiry, i.e. whether the development of scientific activity necessarily requires and strengthens certain specific moral qualities. The second question is whether the interference of an external ethics in science is favorable or unfavorable to scientific progress: does an exaggerated regard for the moral beliefs of a community hinder or even prevent the advancement of science? With respect to the first question, Peirce states that there is indeed an ethics indissolubly bound up with scientific inquiry. The pursuit of scientific research requires and strengthens certain fundamental habits or virtues, which improve both the scientist’s research activity and his specific capacities. In answer to the second question, Peirce initially responds that any intervention by ethics in scientific research is unfavorable to its progress, to the point of being able to destroy the true nature of science and prevent its progress. However, when Peirce later studies ethics in greater depth and investigates its relation to the other normative sciences, especially to logic, his answer changes: scientific research depends intimately on ethics, because this research is a self-controlled, purposeful activity. In turn, the science that studies self-controlled action and its conformity with the ultimate end of man is ethics. In order to better understand the three answers given by Peirce it is essential to keep in mind what ethics means in each case.

1. Ethics as Inherent in Scientific Inquiry

Peirce’s answer to the first question is that there is an inherent ethics in scientific research, which improves both the scientist’s activity as well as his specific capabilities. In his opinion, suitable progress in science necessarily requires that the researcher acquire certain moral qualities. In addition, scientific activity must strengthen the scientist’s pre-existing moral qualities, “quite independently of what the results of that research may be” (*W* 8.345, 1892). Peirce thus refers to ethics as the character of being moral, as a moral quality or virtue: “the moral teachings involved must undeniably be good” (*W* 8.345, 1892). Among these moral qualities, two stand out as being of greatest importance: perfect fairness, which is linked with what Peirce calls moral indifference; and perfect candor in studying facts and in considering possible outcomes of this study (*W* 8.345-346, 1892). But there are other qualities that are needed to be a thorough scientist, a real lover of truth: being single-minded, sincere with oneself and honest (*CP* 1.49, c.1896). Peirce is convinced that anyone who aspires to become a scientist naturally must be a person of upright conduct, “otherwise, his love of truth will melt away, at once” (*CP* 1.49, c.1896).

In essence, perfect fairness is a quality that implies that the scientist must put aside all his prejudices, presuppositions and preconceptions, in order to examine

the observed facts in the most unbiased way possible. Given that a fact often has multiple dimensions or truth aspects, there are multiple perspectives to consider. Thus, the impartiality of the scientist should move him to study his subject with an indifferent eye, i.e. without rejecting any consideration or explanatory theory, but should put them aside for the duration of his research. In addition, he ought not to mix in elements belonging to different fields of knowledge, in accordance with what is required by the investigation at hand (W 8.345-346, 1892).

Many great scientists go to church, and are there very unlike what they are in their laboratories. At one time they are studying one aspect of truth, at another time another. To regard either aspect fairly and honestly, the other must for the time be excluded. If they conflict, the presumption, the faith of the scientific man is that it is because the last word has not been said, on one side or on the other; at any rate, it must at least be hoped that there is an ultimate resting-place which will be satisfactory from both points of view (W 8.346, 1892).¹

This moral indifference also applies to the possible results to be obtained. The scientist must above all avoid directing his research towards pre-established results, or searching for arguments that support a conclusion that he wants to justify in advance: "There is an ethics indissolubly bound up with it [the logic which observational science uses]—an ethics of fairness and impartiality—and a writer, who teaches, by his example, to find arguments for a conclusion which he wishes to believe, saps the very foundations of science by trifling with its morals" (CP 6.3, 1898). Scientific research must allow diverse points of view to be expressed, and must listen to everyone, without confusing their positions. Thus, the scientist must try, as far as possible, to construct a theory that does full justice to the various orders of facts. Whether he succeeds or not, the scientist's attitude must inspire him to continue collecting new facts, in all fields, in order to confirm existing theories or suggest new ones (W 8.346, 1892).

The other essential moral quality is perfect candor in recognizing the facts of observation and their implications, which involves four basic attitudes on the part of the scientist. First, he must always strive "to get at the facts of observation, uncolored by any theory or doctrine, moral, political, or physical" (W 8.346, 1892). Second, the presence of certain discrepancies in his observations is not something that a scientist should avoid; rather, he should recognize that they are required for the progress of his investigation, since "it shows that he is on the road to learning something he does not yet know" (W 8.346, 1892). Peirce gives the example of Kepler, who did not ignore a minor discrepancy in the position of the planet Mars—an error of eight arc minutes. This discrepancy led him to formulate his famous laws of planetary motion, which, in turn, made possible the discovery of Newton's law of universal gravitation, and thereby opened the way for the later development of all modern science (W 8.346, 1892). Third, the scientist must not exclude any testimony, "not even the fancies and traditions of men" (W 8.346, 1892). Fourth, even though the scientist cannot exclude

1 As Peter Skagestad points out, "Since the truth cannot be self-contradictory, religion and science will converge in the long run, but no one can say as yet what opinion they will converge on" (SKAGESTAD, S. *The Road of Inquiry. Charles Peirce's Pragmatic Realism*. New York: Columbia University Press, 1981, p. 210).

anything, he also must not confound different orders of premises. Science must distinguish the different perspectives and levels of consideration. Therefore, Peirce maintains that science “must let instincts and superstitions have their say, unchecked, and listen to them; and then it must let scientific observation have its say, equally unchecked” (W8.346, 1892). He adds that, if it can, science should develop theories which do full justice to both orders of facts (W8.346, 1892).

These specific moral qualities of scientific research are nothing but habits or virtues. They are habits or certain ways of being—fairness, sincerity, honesty, etc.—that are acquired and perfected by a particular activity, in this case, scientific activity. The acquisition and strengthening of these dispositions or habits is essential for science to advance appropriately and to achieve its proposed ends (W8.345, 1892). The dynamics of habits are clearly apparent in this acquisition and strengthening, as advocated by Peirce. In his view, the scientist acquires, through his investigative activity, certain habits that improve his scientific capacities or certain parts of his nature.² In turn, the nature or capacities strengthened by these habits make it possible for a scientist to undertake his activity in an ever more perfect way. Hence, since habits “must undeniably be good” (W8.345, 1892), they can only be virtues. Perfect fairness, honesty, perfect candor, etc., are therefore virtues whose possession enables the scientist to conduct himself rightly, that is, so that his scientific activity conforms to its own end. But Peirce seems to go even further: he not only demands specific virtues of the scientist, but he holds that every man who is engaged in science must be morally virtuous, a man of good or right conduct (CP 1.49, c.1896).

2. External Morality and Scientific Research

In response to the second question—i.e. whether an ethics external to science should influence it—Peirce’s answer is that an exaggerated intervention of morality in scientific research hampers its progress, even to the point of destroying its true character and preventing its progress (CP 1.49-62, c.1896). He is not referring here to ethics as a field of scientific knowledge, which, in his classifications of the sciences of this period, is usually located among the lowest areas of study, well below philosophy.³ The ethics he refers to is that which is understood as morality, in particular as the doctrine or practice of the duties inculcated by the moral rules that are recognized as valid by a society: “morality consists in the folklore of right conduct [...] [it] is the

2 Vincent Colapietro notes that in Peirce’s thought “habits, especially those that have been self-cultivated, constitute the innermost core of the individual self” (COLAPIETRO, V. *Peirce’s Approach to the Self: A semiotic perspective on human subjectivity*. Albany, NY: State University of New York Press, 1989, p. 90).

3 In two texts from 1892, “The Sciences in Their Order of Generality” (W8.275-276, 1892) and “Plan for a Scientific Dictionary” (W8.292-295, 1892), Peirce presents his classification of the sciences according to their order of generality. In both cases the sciences are divided into seven branches: mathematics, philosophy, nomology, chemistry, biology, sociology and individual facts, to which the first text added physics of the ether. Ethics is located within sociology (W8.275, 8.294, 1892). In the *Century Dictionary* Peirce puts sociology under the “sciences of organizations of organisms” and says that it is “the science of psychical unions, especially modes of human society, including ethics, linguistics, politics, etc.” (CD 7.5396-5397, *science*, def. 3).

traditional wisdom of ages of experience" (*CP* 1.50, c.1896).⁴ Peirce is not hostile to ethics or morality as such, but whenever an external factor—no matter what it may be⁵—threatens the activity or the very nature of science, he rejects it due to its negative consequences for science. The fundamental issue for Peirce is preserving scientific activity in its nature and specific methodology. He defines science as the "diligent inquiry into truth for truth's sake, without any sort of axe to grind, nor for the sake of the delight of contemplating it, but from an impulse to penetrate into the reason of things" (*CP* 1.44, c.1896).⁶ What he has in mind when he writes about the relationship between science and ethics is the "disinterest" of scientific research in particular. Science seeks the truth or reasons for things without any ulterior purpose or interest. Thus he always excludes from genuine science any inquiry into the truth of things having a utilitarian interest or practical application.⁷

There are four basic reasons why Peirce adopts this position on ethics. The first is presented with the following argument. Morality is essentially conservative. Conservatism rejects free inquiry and innovation. Therefore, morality is opposed to the progress of science (*CP* 1.49-51, c.1896). The line of reasoning which Peirce pursues in this argument is as follows. Morality is essentially conservative. Conservatism is a habit, and like any habit, it tends to spread and extend itself. Thus, moral conservatism in a community leads to conservatism about good manners and, finally, to conservatism regarding opinions of a speculative kind. No matter how purely speculative these propositions may be, "the whole moral weight of such a community will be cast against science" (*CP* 1.50, c.1896). Peirce explains that when he speaks of morality here he is distinguishing between good conduct and moral conduct, since they are not the same, although many people identify them (*CP* 1.50, c.1896). The former refers to that conduct which can be described as virtuous, the conduct that arises from the possession of certain qualities that enable a person to act rightly. The latter refers to the conduct that is established by the tradition of a society, in the sense of the customs, education and good manners that are characteristic of that community. In fact, he says that "good morals and good manners are identical" (*CP* 1.50, c.1896). The former not only has a place in the activity of the scientist, but is almost essential to it: "It is quite natural, therefore, that a young man who might develop into a scientific man should be a well-conducted person" (*CP* 1.49, c.1896). On the other hand, moral conduct is not only unnecessary, but can hinder and even halt the progress of scientific research (*CP* 1.50, c.1896).⁸

4 Cf. *CD* 5.3856, *morality*, def. 1-3.

5 Cf. SKAGESTAD, P. *The Road of Inquiry*, p. 200.

6 As Christopher Hookway claims, "it is impossible not to be impressed by the single-minded love of the truth which motivated Peirce's writings. He was marked by the 'devotion to the pursuit of truth for truth's sake', which, he insisted, was required for scientific work" (HOOKWAY, C. *Peirce*. London: Routledge & Kegan Paul, 1985, p. 10).

7 In *CP* 1.45 (c.1896), Peirce gives the example of chemists who study dyestuffs for their utility or commercial value, and who therefore don't rank as genuine scientists. The genuinely scientific chemist, on the other hand, seeks to learn about his specific subject in order to grow in knowledge, no matter its possible usefulness.

8 One can understand the criticism of Peirce of the intrusion of morality in science if one considers the conception of morality that he is rejecting. If morality is defined as the folklore

The second reason is that the conscience, which guides moral conduct, concerns itself with necessary and universal laws. In its field there is no room for doubt or probable reasoning, since these would paralyze action. But science can only rest on experience, which gives rise to doubt, probable reasoning and fallible results. Therefore, “the real character of science is destroyed as soon as it is made an adjunct to conduct” (*CP* 1.55, c.1896). The core of the argument concerns doubt and probable reasoning. In the field of the conscience, doubt and fallible reasoning have no place, since if a proposition is to be applied to conduct, it has to be embraced and believed without reservation. Otherwise the person would not carry out the action which he has decided to perform. This is quite the opposite of what happens in the case of science, where the scientific spirit requires that an investigator be willing to put aside his beliefs when experience contradicts them. Contrary to what happens in the field of consciousness, the experience that science rests upon can never lead to absolute certainty, accuracy, necessity or universality. That is why for the scientist “the desire to learn forbids him to be perfectly cocksure that he knows already” (*CP* 1.55, c.1896). It becomes clear that in this argument Peirce defends fallibilism in science, while he does not consider it applicable to moral conduct.

The third reason is that men rationalize about their own conduct in order that theoretical knowledge may guide their action. The first effect of this is sham reasoning, since the conclusion—the decision to be taken—determines the reasoning, not conversely.⁹ But this method is completely opposed to science, where reasoning determines what the conclusion shall be, and where experimental research is conducted without considering beforehand what conclusions it will lead to. Therefore, since sham reasoning leads to a rapid deterioration of intellectual vigor and to distortions of the true method of science, it is harmful to science to become involved in issues of moral conduct (*CP* 1.56-58, c.1896). It should be noted that the contrast between ethical and scientific reasoning that Peirce stresses is not so strong as it might seem, but rather has certain nuances. In this case, what is most important is that scientific demonstration can also start from results. In fact, the scientist often knows the result beforehand, but not the reason that explains that result. His task, then, is to find it. In other words, he has knowledge of the conclusion, but the premises that account for it are unknown. The scientist also knows in advance the destination he wants to reach with his research. In general, in scientific research the effect is known before the cause. First one knows the fact, and then one asks why. Aristotle explains this by saying that the fact is better known to us, since it is closer to sense experience;

of right conduct, as the traditional wisdom about good conduct accumulated through ages of experience, or as good manners established by a community, it is understandable that Peirce considers morality essentially conservative and therefore completely alien to science. This mindset has no place in science, which should have a spirit completely opposed to conservatism, in order to undertake its research freely and with an open-minded attitude regarding new phenomena and theories.

- 9 Peirce writes something similar a couple of years later, in “Philosophy and the Conduct of Life,” where he discusses reason as applied to moral conduct: “Men many times fancy that they act from reason when, in point of fact, the reasons they attribute to themselves are nothing but excuses which unconscious instinct invents to satisfy the teasing ‘whys’ of the *ego*” (*MS* 437.12; *RLT* 111; *CP* 1.631, 1898).

the theory that explains the fact, on the other hand, is better known by nature, because it is more intelligible and universal.¹⁰ Therefore, the scientific syllogism has less asymmetry with practical reasoning than one would expect.

Finally, the fourth reason is that every moral system is grounded in dualistic distinctions—right and wrong, good and bad—and doesn't recognize any conception that isn't dualistic, especially the conception of continuity. Now, continuity "is the leading conception of science," which is present in all laws, both physical and psychical (*CP* 1.61-62, c.1896).¹¹ Therefore, any influence of morality on science will be harmful when it tries to impose duality over continuity (*CP* 1.61-62, c.1896).¹² Indeed, Peirce not only speaks of morality in this argument, but also of religion. One of the worst effects, in his opinion, of the influence upon science of both moral and religious reasoning is that they tend to ignore all distinctions that are not dual—as the distinctions are in which they are both grounded. "Religion recognizes the saints and the damned. It will not readily admit any third fate. Morality insists that a motive is either good or bad." Therefore, Peirce concludes "[t]hat the gulf between them is bridged over and that most motives are somewhere near the middle of the bridge, is quite contrary to the teachings of any moral system which ever lived in the hearts and consciences of a people" (*CP* 1.61, c.1896).

3. The Dependence of Scientific Inquiry on Ethics

At the beginning of the 20th century, when Peirce begins an in-depth study of ethics and its relation to the other normative sciences, especially with logic, the answer is different. Scientific research largely depends on ethics because it is a self-controlled activity and has a purpose, and the science that studies self-controlled action and its conformity with the ultimate end of man is ethics. At this stage of his intellectual development, Peirce no longer understands ethics in the same way as he did previously. Ethics does not involve a moral quality or virtue that a scientist must have, nor is it the doctrine or practice of the duties required by the moral rules that are recognized as valid by a society. On the contrary, ethics is a science, the science of self-controlled conduct in conformity with ends, or rather the science that studies the conformity of deliberated action with its purpose.¹³ On the other hand, when he reflects on scientific research and its relationship to ethics, he primarily concentrates on logic from among everything that configures science as such, since it is exactly the right method for properly undertaking scientific activity. According to Peirce, the idea that logic is "the *art of devising methods of research*,—the *method of methods*—,

10 Cf. ARISTOTLE. *Analytica Posteriora* I 3, 72b25-29.

11 Cf. POTTER, V. *Charles S. Peirce: On norms and ideals*. Amherst, MA: University of Massachusetts Press, 1967, p. 71-86.

12 Dualism is an issue that appears repeatedly in Peirce's writings. Here, in "Lessons from the History of Science," he writes about ethical dualism as being at a disadvantage with respect to continuity. Dualism also appears in "The Basis of Pragmatism in the Normative Sciences," but in that text, dualism no longer belongs only to ethics, but also to the three normative sciences (Cf. *EP* 2.378-379, 2.381-383, 2.385, 1906).

13 Cf. PEIRCE, C.S. "What Makes a Reasoning Sound?" (*EP* 2.252-253; *CP* 1.611-612, 1903); "An Outline Classification of the Sciences" (*EP* 2.260; *CP* 1.191, 1903).

is the true and worthy idea of the science” (CP 7.59, 1882). As a result, any person who is engaged in scientific inquiry needs logic to improve his reasoning power and his knowledge of methods (CP 7.68, 1882).

Peirce pays special attention to a basic feature of scientific research: its character of involving self-controlled action. When scientists design an experiment to test a theory, or when they imagine certain procedures in order to resolve a question in geometry, “these are *voluntary acts* which our logic, whether it be of the natural or the scientific sort, *approves*” (CP 5.130, 1903). Now, every voluntary action presupposes self-control, since the action is carried out while knowing what is done and choosing deliberately to do it. The procedures used in scientific activity are valid or not, good or bad insofar as they lead to truth or move away from it: “a method that tends to carry us toward the truth more speedily than we could otherwise progress is good; a method that has a tendency to carry us away from the truth is utterly bad, whether we naturally approve of it or not” (EP 2.252, 1903). A procedure can be approved or disapproved of only if it is a self-controlled action. If it were completely beyond the person’s control, it would be equally idle to approve or disapprove of it, just as it would be to approve or disapprove of the growth of hair. In fact, Peirce claims that “logic stops where self-control stops” (CP 5.149, 1903). The key reason for connecting scientific activity and logic with ethics is that approving or disapproving of a self-controlled action is a specific activity of ethics.

Now, *the approval of a voluntary act* is a *moral approval*. *Ethics is the study of what ends of action we are deliberately prepared to adopt*. That is right action which is in conformity to ends which we are prepared deliberately to adopt. That is all there *can be* in the notion of righteousness, as it seems to me. The righteous man is the man who controls his passions, and makes them conform to such ends as he is prepared deliberately to adopt as *ultimate* (CP 5.130, 1903).

Thus, ethics judges that voluntary acts are right if they conform to the ends deliberately adopted. As a result, the methods or procedures used in scientific research are right if they conform to the ends deliberately adopted. Moreover, they are right insofar as they conform to the ultimate ends of the person. Consequently, according to Peirce the voluntary acts of scientific research are subject to ethics to the degree that their approval is a moral activity. Thus, he states that “a logical reasoner is a reasoner who exercises great self-control in his intellectual operations; and therefore the logically good is simply a particular species of the morally good” (CP 5.130, 1903).

Another key issue for this way of understanding scientific research and its relationship to ethics is the conformity of actions with ends, or more specifically, with the ultimate end. According to Peirce, “the end is germane to a voluntary act in a primary way in which it is germane to nothing else” (CP 5.130, 1903).¹⁴ In the texts quoted above it is clear that the basic determinant of whether a scientific procedure or logical reasoning is valid is its conformity with its purpose: if one method achieves its purpose of approaching the truth, it is good, but if it leads away from the truth,

14 It is because of the narrow link between the self-controlled action and its end that Peirce considers ethics the normative science *par excellence*, since its proper subject is just the end to which voluntary action is intimately related (Cf. CP 5.130, 1903).

then it is bad. Not only that, such self-controlled acts in science or logic are right in so far as they lead toward the final end of the human being (*EP* 2.252; *CP* 1.611, 1903). What, then, is the ultimate end? This is something that the logician or the scientist as such cannot answer, because it does not belong to their science to answer that question. However, they ought to recognize what the ultimate end is. What would happen if they fail to do so, if they simply assume that there is some ultimate end, while not knowing what it is? Peirce answers that this is hardly possible, since in that case an objective distinction could not be made between valid or invalid methods, good or bad reasoning. Accordingly, there would be no ideal or purpose to scientific activity or to logic and, therefore, there would be no rule, which would imply the absence of any logic and scientific knowledge (*EP* 2.252-253; *CP* 1.611, 1903). As a result, the knowledge of the ultimate end is essential to the development of logic and the soundness of scientific activity. In Peirce's opinion, finding out what this ultimate end is seems to be the task of the moralist, and the logician and the scientist have to accept the teaching of ethics in this regard. "But the moralist, as far as I can make it out, merely tells us that we have a power of self-control, that no narrow or selfish aim can ever prove satisfactory, that the only satisfactory aim is the broadest, highest, and most general possible aim" (*EP* 2.253; *CP* 1.611, 1903).

For any more definite information, then, one must resort to the aesthete, whose task is to say what the state of things is that is most admirable in itself, without any reason for its being admirable beyond its inherent character (*EP* 2.253; *CP* 1.612, 1903). What is sought is "an ultimate end of action *deliberately* adopted—that is to say, *reasonably* adopted—[that] must be a state of things that *reasonably recommends itself in itself* aside from any ulterior consideration. It must be an *admirable ideal*" (*CP* 5.130, 1903). In turn, the ultimate end that reasonably recommends itself in itself consists in the development of Reason or *Noûs*, in its embodiment, manifestation and growth:

I do not see how one can have a more satisfying ideal of the admirable than the development of Reason so understood. The one thing whose admirableness is not due to an ulterior reason is Reason itself comprehended in all its fullness, so far as we can comprehend it. 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 (*EP* 2.255; *CP* 1.615, 1903).¹⁵

Reason, therefore, was not completely embodied once and for all at the "instant" of creation. Instead, just as creation is continuous and "is going on today and never will be done", Reason is similarly being embodied today and will continue to be embodied in this way forever (*EP* 2.255; *CP* 1.615, 1903). Creation is the very development of Reason. This is why the meaning of Reason is inexhaustible. There will always be new things to discover and new theories that explain the every day phenomena

15 "Through surrendering ourselves to ever loftier ideals, we move toward becoming agents through whom the only truly admirable ideal—the continuous growth of concrete reasonableness—can become more fully actual" (COLAPIETRO, V. *Peirce's Approach to the Self*, p. 96-97).

we observe in our world. The meaning of reality can never be exhausted. Indeed, Reason is in a continual process of improvement, since it never reaches its perfection once and for all, but is constantly growing. So the development of Reason is *per se* admirable; it is the ultimate end, that which, ultimately, scientific activity tends to result in.¹⁶ This is why the ultimate end of the human being, his ideal of conduct, is to participate in the continuous development of Reason, revealing its meaning a little more every day, in order to render the world more reasonable.

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16 Cf. PFEIFER, D. *The Summum Bonum in the Philosophy of C. S. Peirce*. Doctoral Dissertation. Urbana, IL: University of Illinois, 1971, p. 144-145; NUBIOLA, J. "What Reasonableness Really Is". *Transactions of the Charles S. Peirce Society*. vol. 45, n. 2, p. 125-134, Spring 2009.

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