



1-1-2008

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Recommended Citation

Brier, S. (2008). Brier, S. (2008). A Peircean panentheist scientific mysticism. *International Journal of Transpersonal Studies*, 27(1), 20–45.. *International Journal of Transpersonal Studies*, 27 (1). Retrieved from <http://digitalcommons.ciis.edu/ijts-transpersonalstudies/vol27/iss1/5>



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A Peircean Panentheist Scientific Mysticism¹

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Peirce's philosophy can be interpreted as an integration of mysticism and science. In Peirce's philosophy mind is feeling on the inside and on the outside, spontaneity, chance and chaos with a tendency to take habits. Peirce's philosophy has an emptiness beyond the three worlds of reality (his Categories), which is the source from where the categories spring. He emphasizes that God cannot be conscious in the way humans are, because there is no content in his "mind." Since there is a transcendental³ nothingness behind and before the categories, it seems that Peirce had a mystical view on reality with a transcendental Godhead. Thus Peirce seems to be a panentheist.⁴ It seems fair to characterize him as a mystic whose path to enlightenment is science as a social activity.

Introduction

The relation between science and Christianity in the West has been somewhat hostile ever since the trials against Giordano Bruno (1548-1600) and Galileo Galilei (1564-1642) in the Renaissance. But so have relations between the Church and the mystics ever since Meister Eckhart (1260–1328) was excommunicated from the church after his death in the Middle Ages. In modernity, science and religion have divided the arena of metaphysics between them. They are, however, still competing about how to explain the origin of humans and the universe, especially in the situations where fundamentalist versions of one or both of them are being promoted. But in general they seem to have established a peaceful division of territory in which mechanistic science's Big Bang theory covers nature, including the human body, and religion covers the area of "the inner world" or "the soul." As the scientific worldview has not been able to render the idea of a metaphysics of the sacred and of personal and cultural values superfluous, institutionalized religion is still one of the major forms of organizing the existential-phenomenological aspect of human life. But there are neither empirically nor philosophically good reasons to believe that either classical mechanical and positivistic science, or the present forms of organized religion, or attempts to combine their knowledge, have made us—or will make us—able to understand and control the fundamental processes of mind and nature. The promise of artificial intelligence, which would represent such mastery, remains unfulfilled (Ekbia 2008). Where questions of the origin of mind,

life, matter, and nature meet, there seems to be a black hole in our conceptual knowledge. This chasm points to a fundamental lack in the foundation of our knowledge and/or our understanding of knowledge. It is here that one can see Peirce's (1866-1913/1994) semiotic philosophy of religious and scientific knowing as an attempt to create a new transdisciplinary start on what I claim to be a panentheistic basis.⁵

Classical positivism, and later classical empiricism and rationalism, developed into the logical positivism and finally logical empiricism with its physicalistic vision of the unity of science; these are the first real reflective philosophies of that conception of the empirical-mathematical sciences that emerged during the Renaissance. Logical empiricism flowered, especially in the 1930's, and after World War II almost rose to be science's only well-established self-understanding. But after World War II, the majority of the theoretical developments within the philosophy of science became critical of this paradigm. An attempt was made to develop a more comprehensive understanding of the cognitive processes of science, as well as an epistemological understanding of its type of knowledge vis-à-vis other types of knowing such as an everyday understanding of the world.

Karl R. Popper (1972) and Thomas Kuhn (1970) are two of the most prominent philosophers of science in this development. Popper's and Kuhn's theories of science discuss whether observations and experiments can expand our knowledge of nature in such a way that we get a more and more truthful description. Is the growth of science an approach to a final description of the law(s)

of nature, or are we just establishing still more—often incompatible—viewpoints to describe an impenetrable complexity? Are we just receiving more information without getting nearer the truth? Popper (1972) has been endorsed as believer in the view that science get closer to the truth, and Kuhn (1970) as a social constructivist denying any kind of objective measure of truth and scientific progress. But Popper and Kuhn's viewpoints are not as incompatible as they might appear. According to my analysis (Brier, 2006), Kuhn and Popper meet in the middle, the former attaching more importance to the social psychological mechanisms in science and the latter more to the logic of research. The important point is that both abandon the simple view of science's truth-value that is often based on a mechanical monistic or dualistic view of the world. Peirce, like both Kuhn and Popper, points to the fallibility and incompleteness of science and to the important influence of metaphysical ideas and values upon the development of scientific knowledge. Both Popper and Kuhn agree that we cannot measure how near a theory is to truth or if science should even be portrayed as getting nearer to some kind of big truth, but we can see that knowledge grows and evolves and becomes more comprehensive. Thus it seems that science alone is not an applicable tool to reveal the big truth about the nature, meaning, and purpose of life and/or the nature of the universe. Peirce wrote:

Thus, the universe is not a mere mechanical result of the operation of blind law. The most obvious of all its characters cannot be so explained. It is the multitudinous facts of all experience that show us this; but that which has opened our eyes to these facts is the principle of fallibilism. Those who fail to appreciate the importance of fallibilism reason: we see these laws of mechanics; we see how extremely closely they have been verified in some cases. We suppose that what we haven't examined is like what we have examined, and that these laws are absolute, and the whole universe is a boundless machine working by the blind laws of mechanics. This is a philosophy which leaves no room for a God! No, indeed! It leaves even human consciousness, which cannot well be denied to exist, as a perfectly idle and functionless flâneur in the world, with no possible influence upon anything -- not even upon itself. (Peirce, 1866-1913/1994, Vol. 1, p. 162.)

Since the start of classical physics in the 16th century, our mathematical and logical description of the

physical, chemical, and biological universe has gradually grown to dominate our worldview. Our understanding has been invaded by this universe to an extent where it has become common sense to see our lived worlds as a part of the universe, each individual's life a small subjective world full of signification and "sense-making" within an objective universe. Through communication and co-operation these small signification spheres (Brier, 1999) are connected in social and cultural practice domains to that world of signification we call a culture. But still this world is—from natural science-based disciplines such as Western medicine—paradoxically seen as part of an objective and meaningless universe (well-described by Monod, 1972). The paradox lies in realizing that the ability to obtain knowledge comes before science, that symbolic knowing needs a self-conscious, embodied language user, that language needs signs to represent the nature and origins of reality and a society to convey meaning. This allows one to see the limitation of purely scientific explanations of the phenomenon of knowledge (Brier, 2008a, b, c).

The process of knowing is the prerequisite for science. How then can knowledge and intelligence ever be thought to be fully explained by a science based on physicalistic or functionalistic worldviews? As there is no knowledge without mind, no mind without nature, and no meaning without meaningfully embodied signs communicated in a society, how are we to explain knowing (the process) from a materialistic, bottom-up model based on a mechanistic understanding of the Big Bang theory, where life, intelligence, language, and knowledge are supposed to be explained through mathematical laws and logic? My suggestion is, therefore, that we have to live with both the universe and the world in a new and fruitful way, first by acknowledging that there are different worlds of description (Brier, 2008a, b, c).

Human scientific knowledge seems to be connected to an undetermined amount of *non-knowledge*, and it seems that the more exact and universal we want to make our knowledge, the more non-knowledge goes with it. It does leave open the possibility that reality provides an inner connection between different worlds, and that the universe is beyond a thorough scientific description but roughly describable anyway. Such a framework might help us to gain a less fundamentalist view of science and religion, and give us a better chance to judge the inner logic and consistency of different kinds of spiritual healing practices. Based on C. S. Peirce's (1866-

1913/1994) semiotic philosophy, I will attempt to outline a modern metaphysics of origin and cognition with the purpose of adding the existential-phenomenological dimension to the modern scientific evolutionary Big Bang model of the creation of the Universe by relating feeling, meaning, willing and conscious knowing to our scientific concept of reality without experienced meaning. Thus I will interpret Peirce in the light of the modern development of science and philosophy.

The Myth of Creation and the Theory of Evolution

In the Christian world, the biblical stories of creation are the principle myths of origin. Here the world is understood as being created by a personal God through a period of seven days. All order in nature (laws of nature) and in the human world (morals, laws) are given once and for all. There is nothing new under the sun. There is more in the cause than in the means. Man has, as something quite exceptional, received a soul. Nature as such is without soul. These myths in their fundamentalist and dogmatic understanding do not allow any symbolic interpretation and are in conflict with modernity's material, evolutionary self-understanding.

An important feature of modernity is its conception of itself as a participant in a unique cultural process of progress. The universal, historical, linear understanding of time, which appeared in the 18th century in connection with the Enlightenment, is an important contribution to mankind's view of the world and itself. In the 19th century it spread from geology (e.g., Charles Lyell [1842], *Principles of Geology*) to an evolutionary understanding of the origin of the species advocated by Charles Darwin (1859/1998) and others. Through thermodynamics—as in Prigogine's (1980; Prigogine & Stengers, 1984) understanding—this materialistic conception of evolution can now be coupled to the 20th century's cosmological understanding of the universe as something that came into being once, approximately 15 billion years ago, with a Big Bang, when “nothing became everything.”

In the modern developments of historical materialistic theory of society and culture, the world and humankind are seen as historical developments carrying this grand evolution. We understand thereby our world(s) as something, which has developed from the universe through time from simple physical beginnings (Popper, 1972). Furthermore we understand ourselves fundamentally as material end-products of an historical

development. This has very often been considered as the absolute opposite to the more phenomenological idea of creation.

The question now is whether the difference between evolution and creation is of an absolute character. What is the relation between the physical and the phenomenological reality, if any? Is there no connection between the universe and our worlds? Should it not be possible to make a modern metaphysics of creation, which does not contradict physics and, at the same time, aims at explaining the organizing power of evolution and thereby the origin of mind and consciousness? For it is a peculiarity that modern evolutionary materialism actually ascribes all creative abilities in the universe either to absolute deterministic law or to absolute chance (often understood as the negation of deterministic law) and postulates that life, mind and consciousness appear out of the organization of dead matter as new emergent qualities in self-organized systems. It is here the concept of information in nature is introduced as an objective organizing power, a natural force (Brier, 1992). But unfortunately, as soon as information is scientifically defined as objective, mathematical and mechanical, it can no longer be used as a tool to explain the emergence of life and mind in evolution (Brier, 1999).

The Cartesian metaphysics of modern science forces it to look for some kind of meeting point of the inner and outer worlds in the dynamics of the human brain. For medicine, this is where the psychosomatic link must be. That we have not found this link is supposed to be caused by our lack of physiological knowledge of the nervous system, especially the brain. That is one of the reasons neurosciences and cognitive sciences have experienced such a big boom over the last decade: we want to find that connection (Penrose, 1995; Searle, 1986). To Peirce (1866-1913/1994),⁶ it was his triadic, evolutionary, pragmatic semiotics that provided the connection between inner and outer, or rather the basis for going beyond this dichotomy.

We have come to understand that the nervous system, the hormone system, and the immune system are chemically linked to each other like a “biological self” in the way that they all produce receptors for each others' messenger molecules. This supports the idea of a second-order cybernetics, one which sees living systems as self-organized and self-producing beings: *autopoietic* as Maturana and Varela (1986) called it. From a bio-cybernetic point of view, one can point out that living systems organize worlds, which I, from a semiotic point

of view, call “signification spheres” (Brier, 2008a). But this theory is still based on the pre-assumption of an “inner world or life” of the living systems in the form of an observer (Brier, 1999) and it does not provide the explanatory connection. It is too cybernetic to develop a theory of first person experience, emotion, will, and qualia (Brier, 2008b).

Is it possible to arrive at an understanding of man and the universe that embraces modern science without seeing phenomenological man as a gypsy on the edge of a dead, foreign, and meaningless wasteland—what Monod (1972) so eloquently described as the consequence of mechanism also encompassing the biological description of life? Is it possible in the natural-science-technical age to bring man and the living into the center of a philosophical existential vision again? This is in my opinion what Peirce (1992) does in his scientific mysticism. To name his view as scientific mysticism will seem to many to be a paradox. Mysticism is a mode of thought, or phase of intellectual or religious life, in which reliance is placed upon a spiritual illumination believed to transcend the ordinary powers of understanding. As such is it often viewed as opposing a rational understanding of the world, and therefore the whole scientific enterprise.

But Peirce shows that it is actually mysticism and rationalism that represent opposite poles of theology. Rationalism regards reason—often in the form of logic or mathematics—as the highest faculty of man. In a modern (positivistic) interpretation of Plato, then, it is the rational thought of the philosopher or scientist, or both working together, that is the sole arbiter in all matters of knowledge and as such overthrows all religious doctrines. This view often sees the world as a computer and believes that all knowledge can be algorithmically represented. Mysticism, on the other hand, is often understood to declare that spiritual truth cannot be apprehended by the logical faculty, nor adequately expressed in any form of natural language. Peirce manages to combine both views in a pragmaticistic semiotic evolutionary philosophy, where logic is semiotics.

If it is correct, as Prigogine and Stengers (1984) claimed, that thermodynamics and quantum physics, seen together philosophically, are a more realistic and comprehensive worldview than classic mechanism, then spontaneity, irreversibility, time, and evolution have made their entrance as basal conceptions in physics (Prigogine, 1980). Then the belief in the complete scientific description of nature also ceases. We must realize that it is probably not possible for natural science

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to uncover Nature’s or matter’s “inner being,” if there is one. In natural science we are obliged, on the basis of observation, experiment, and generalization to make statistical models or “laws” based upon the calculus of probability and our critical judgment.

The new recognition of complex non-linear systems accentuates that, even if one knew the laws that govern a system’s basic dynamics, this is not enough to understand its detailed development, as the initial conditions are very crucial. Physics also realizes that no version of the Big Bang theory will tell us how the Universe was created, because the original “singularity” eludes scientific examination. Physical explanations do not start until after the universe is initiated. Further, mechanical physics does not have an interest in explaining the rise of mind and consciousness through evolution, as it was founded in a dualistic worldview where nature was mechanical by necessity. This was a foundational aspect in Kant’s (1781/1990) philosophy, an approach that Peirce (1866-1913/1994) further modified.

As Kultgen (1959-60) argued, it is important that both Peirce (1866-1913/1994) and Whitehead (1929) deny Kant’s (1781/1990) distinction between nature and freedom. To Peirce, nature has spontaneity and pure feeling at its basis in Firstness and teleology in its agapistic habit-taking of Thirdness. Thus Peirce denies the distinction between the phenomenological and the noumenal—understood as the thing in itself—because this idea of the incognizable appears as a null-term of theoretical and practical thought. It is not fruitful to try to think about something that one cannot think about. For Peirce, the real is wholly open to our pragmatic observation and thinking and there is no absolute difference between the object of theoretical and practical thought. Metaphysics is seen as an observable ideal limit of empirical inquiry (Kultgen, 1959-60, p. 288). Peirce did not have the modern and post-modern fear of metaphysics, and certainly did not see it as opposed to the scientific inquiry; therefore, he did not have the type of conflict between science and religion that is seen in the modern debate about intelligent design theory (see Fuller, 1998, 2002a, 2002b).

Peirce’s Philosophy of Creation and Evolution

It is important to notice that we do not here discuss religion as a social enterprise or the dogmas of established religions. Peirce (1976) is against dogmas in *International Journal of Transpersonal Studies* 23

religion and he does not cling to any single religion. In a letter to William James he wrote:

I can't help thinking that the mother of Christianity, Buddhism, is superior to our own religion. That is what one of my selves, my intellectual self says. But enough, I will keep my religion to myself and to One that does not scoff at it. (Vol. 3[2], p. 872)

In the quote above Peirce seems keen to work with that which is the foundation of all religions. His theory of the immanent⁷ divine as Firstness⁸ is close to the Buddhist idea of the void. Secondness is, in Peirce's philosophy, necessary in order for anything to take form in this world, while Thirdness is needed to stabilize any kind of structure and process. This is a principal philosophical discussion of how and where a concept of God may enter or have to enter a philosophy that can produce a concept of meaning and signification. It is important to note that Peirce is inspired in his theological philosophy not only by transcendental Christianity and by Buddhism with its concept of emptiness, but also by Aristotle and Plato.⁹ The divine is both immanent and transcendent in Peirce's philosophy. It is both an emptiness "behind and before" the manifested world in time and space as well as a Firstness of possibilities, "random sporting," qualia, and possible mathematical forms. Peirce (1866-1913/1994) wrote:

If we are to proceed in a logical and scientific manner, we must, in order to account for the whole universe, suppose an initial condition in which the whole universe was non-existent, and therefore a state of absolute nothing. . . .

But this is not the nothing of negation. . . . The nothing of negation is the nothing of death, which comes second to, or after, everything. But this pure zero is the nothing of not having been born. There is no individual thing, no compulsion, outward nor inward, no law. It is the germinal nothing, in which the whole universe is involved or foreshadowed. As such, it is absolutely undefined and unlimited possibility—boundless possibility. There is no compulsion and no law. It is boundless freedom.

Now the question arises, what necessarily resulted from that state of things? But the only sane answer is that where freedom was boundless nothing in particular necessarily resulted. . . .

I say that nothing *necessarily* resulted from the Nothing of boundless freedom. That is, nothing

according to deductive logic. But such is not the logic of freedom or possibility. The logic of freedom, or potentiality, is that it shall annul itself. For if it does not annul itself, it remains a completely idle and do-nothing potentiality; and a completely idle potentiality is annulled by its complete idleness. (Vol. 6, pp. 215-219)

On this basis of the divine, the concept of law in Peirce's philosophy is not the same as in Platonic inspired deterministic mechanism, where laws are universal, precise, mathematical, and therefore deterministic in themselves, upholding their own existence in the transcendent. Peirce wrote:

I do not mean that potentiality immediately results in actuality. Mediatly perhaps it does; but what immediately resulted was that unbounded potentiality became potentiality of this or that sort—that is, of some quality.

Thus the zero of bare possibility, by evolutionary logic, leapt into the unit of some quality. (Vol. 6, p. 220)

For Peirce, Firstness is a vague, dynamic, random mix of possible forms of existence in "pure feeling." The potentiality of a quality, in Peirce's metaphysics, is a timeless, self-subsisting possibility that serves as the metaphysical ground of the world of actual existence. He wrote:

The evolutionary process is, therefore, not a mere evolution of the existing universe, but rather a process by which the very Platonic forms themselves have become or are becoming developed. (Vol. 6, p. 194)

These forms start as vague qualities and become developed in the irreversible evolution of the world—a concept foreign to Plato—to become more stable and precise in form. Peirce further wrote:

The evolution of forms begins or, at any rate, has for an early stage of it, a vague potentiality; and that either is or is followed by a continuum of forms having a multitude of dimensions too great for the individual dimensions to be distinct. It must be by a contraction of the vagueness of that potentiality of everything in general, but of nothing in particular, that the world of forms comes about. (Vol. 6, p. 196)

Thus in Peirce's cosmology the qualities are vague; Peirce saw transcendentalism and vagueness as going together in

reality. It is not as in classical logic, where the very precise is also the very abstract and universal, which is also the way in which Plato's ideas are usually interpreted. Peirce wrote:

We must not assume that the qualities arose separate and came into relation afterward. It was just the reverse. The general indefinite potentiality became limited and heterogeneous. (Vol. 6, p. 199)

This is when the basic categories manifest or sort themselves out. As the categories are phaneroscopic, Peirce also refers to them as "universes of experience." With the emergence of the continuum of positive possibility, the Universe of Ideas or Possibility, Firstness is established (Vol. 6, p. 455). The next step is then the emergence of Secondness, as Peirce's categories are also evolutionary:

There is, however, an element of Secondness in the emergence of the continuum of forms where there was only indefinite nothingness before, and an element of Thirdness in the continuity and eternal subsistence of those forms. As the evolution continues, Secondness comes to the fore. Nascent relations of identity and difference emerge in and among parts of the continuum of forms, and qualities thereby come to be differentiated.

The second element we have to assume is that there could be accidental reactions between those qualities. The qualities themselves are mere eternal possibilities. But these reactions we must think of as events. Not that Time was. But still, they had all the here-and-nowness of events. (Vol. 6, p. 200)

Peirce also stated that Secondness is the category of "brute facts," resistance, will, force, and concreteness. He therefore wrote: "The next milestone in the evolution of the cosmos is the appearance of enduring existence, the Universe of Brute Actuality of things and facts" (Vol. 6, p. 455).

How is this possible? Peirce (1866-1913/1994) has the following suggestion that is very similar to the way modern physics talks about the universe emerging from a quantum vacuum field, except that Peirce's field has another nature because it is in another metaphysical framework. Like Aristotle, he is a hylozoist¹⁰ and a continuation thinker. Hylé¹¹—the sensitive matter—is a kind of field. He wrote:

Out of the womb of indeterminacy we must say that there would have come something, by the principle

of Firstness, which we may call a flash. Then by the principle of habit there would have been a second flash. Though time would not yet have been, this second flash was in some sense after the first, because resulting from it. Then there would have come other successions ever more and more closely connected, the habits and the tendency to take them ever strengthening themselves, until the events would have been bound together into something like a continuous flow. (Vol. 1, p. 412)

Here Peirce is close to the quantum field view of the origin of the universe, where original quantum events, such as the constant spontaneous play of virtual particles within the Planck time and space limit, is suddenly pushed over the limit and starts a new form of regular existence. This is what Peirce described as nature taking habits and drastic events in that habit-taking are often in physics called 'phase shifts.' Peirce next turns to the principle of habit-taking, which is so essential for stability and evolution at the same time:

all things have a tendency to take habits. . . . [For] every conceivable real object, there is a greater probability of acting as on a former like occasion than otherwise. This tendency itself constitutes a regularity, and is continually on the increase. . . . It is a generalizing tendency; it causes actions in the future to follow some generalizations of past actions; and this tendency itself is something capable of similar generalizations; and thus, it is self-generative. (Vol. 1, p. 409)

Peirce is again close to how modern quantum metaphysics conceptualizes a many-world ontology, where mutual universes are possible, existing side by side unaware of each other. He wrote.

The quasi-flow which would result would, however, differ essentially from time in this respect that it would not necessarily be in a single stream. Different flashes might start different streams, between which there should be no relations of contemporaneity or succession. So one stream might branch into two, or two might coalesce. But the further result of habit would inevitably be to separate utterly those that were long separated, and to make those which presented frequent common points coalesce into perfect union. Those that were completely separated would be so many different worlds which would know nothing of one another; so that the effect would be just what we

actually observe. (Vol. 1, p. 412)

Peirce then described how the forms of the world appear through stabilization of the early habit-formation tendencies in ways similar to how modern science also describes the early universe before matter and radiation separate. Pairs of states will also begin to take habits, and thus each state having different habits with reference to the different other states will give rise to bundles of habits, which will be substances. Some of these states will chance to take habits of persistency, and will get to be less and less liable to disappear; while those that fail to take such habits will fall out of existence. Thus substances will get to be permanent.

Peirce does not assume eternal transcendental “ideas,” like Plato, or their existence only in consciousness, like Husserl. As a true evolutionary, he started with vague beginnings, which within the Firstness of all possibilities crystallize out in a kind of phase shift—I suggest—into some basic differences that make up the foundation of the evolution of what Peirce call Secondness. In this way the cosmos develops into a state where Secondness predominates, which Peirce calls the *Universe of Actuality* (Parker, 2002).

In this way Peirce dares to give an ontological explanation based on a metaphysics of how the first differences come about and then avoids the philosophical embarrassment of an “open ontology” as in Luhmann’s (1995) ontological foundation of his epistemology. Still Peirce avoids a deterministic universe because in such a domain nothing forces there to be a tendency in evolution toward regularity in what Peirce calls the *Universe of Actuality*. He does not use the concept of forces here, because the notion of force implies necessity, and here we are rather talking about a selection process out of a spontaneous variety. This of course brings in the concept of irreversible time, where Peirce is close to Prigogine and Stengers’s (1984) interpretation of thermodynamics and the “arrow of time.” Habit-taking “can grow by its own virtue” (Peirce, 1866-1913/1994, Vol. 6, p. 101) and is a self-amplifying process, which leads to the ordered regularity and reasonability of Peirce’s Thirdness.

The laws in the universe represent deviations from the random and are therefore of significance. As argued earlier, it is difficult to talk about knowledge without assuming any kind of regularity in both the inside and outside reality, as also Heinz von Foerster realized (Brier, 2005). Peirce (1866-1913/1994) wrote:

Uniformities are precisely the kind of facts that need to be accounted for. That a pitched coin should

sometimes turn up heads and sometimes tails calls for no particular explanation; but if it shows heads every time, we wish to know how this result has been brought about. Law is *par excellence* the thing which wants a reason. (Vol. 6, p. 12).

But as regularity comes to operate with increasing force in the universe, law takes hold. In the infinite future, Peirce saw a universe developing in which law would become (almost) perfect. But he also saw that the only possible way of accounting for the existence of laws of nature and uniformity in general was to suppose them results of evolution. Then his concept of law becomes qualitatively different from the mechanistic one. He does not suppose the laws to be absolute or to be obeyed precisely. There will always remain an element of indeterminacy, spontaneity, or absolute chance in nature. This view also pertains to his concept of time. In the following quote he sums it up his view on law, physicality, mind, and time. He wrote:

I believe the law of habit to be purely psychical. But then I suppose matter is merely mind deadened by the development of habit. While every physical process can be reversed without violation of the law of mechanics, the law of habit forbids such reversal. Accordingly, time may have been evolved by the action of habit. At first sight, it seems absurd or mysterious to speak of time being evolved, for evolution presupposes time. But after all, this is no serious objection, and nothing can be simpler. Time consists in a regularity in the relations of interacting feelings. The first chaos consisted in an infinite multitude of unrelated feelings. As there was no continuity about them, it was, as it were, a powder of feelings. It was worse than that, for of particles of powder some are nearer together, others farther apart, while these feelings had no relations, for relations are general. Now you must not ask me what happened first. This would be as absurd as to ask what is the smallest finite number. But springing away from the infinitely distant past to a very very distant past, we find already evolution had been going on for an infinitely long time. But this “time” is only our way of saying that something had been going on. There was no real time so far as there was no regularity, but there is no more falsity in using the language of time than in saying that a quantity is zero. In this chaos of feelings, bits of similitude had appeared, been swallowed up again.

Had reappeared by chance. A slight tendency to generalization had here and there lighted up and been quenched. Had reappeared, had strengthened itself. Like had begun to produce like. Then even pairs of unlike feelings had begun to have similars, and then these had begun to generalize. And thus relations of contiguity, that is connections other than similarities, had sprung up. All this went on in ways I cannot now detail till the feelings were so bound together that a passable approximation to a real time was established. It is not to be supposed that the ideally perfect time has even yet been realized. There are no doubt occasional lacunae and derailments. (Peirce, 1866-1913/1994, Vol. 8, p. 318)

Thus we have a profound evolutionary and process view, with only three basic categories, which determines the types of possible interactions, the triadicty of semiosis being the third mediating type that is the primary drive of evolution. This is also the Universe in which the (almost) completely reasonable state of things—that Peirce in his esthetics saw as an ideal—would be made possible. The (almost) caveat is there because this universe is unrealizable in principle, as it would destroy any sort of the spontaneity and feeling that emanates from Firstness balancing necessity. But it is the regulative ideal toward which self-controlled thought and action move, and which is Peirce’s personal, social, and philosophical aim: the *summum bonum* in Peirce’s philosophy¹² (see Parker, 2002) that is the inspiration of many of the above formulations. Thus Peirce’s (1866-1913/1994) pragmatist concept of truth is different from analytical philosophy combined with that dualistic combination of mechanism and Platonism that Descartes founded. Peirce wrote:

truth is the concordance of an abstract statement with the ideal limit towards which endless investigation would tend to bring scientific belief, which concordance the abstract statement may possess by virtue of the confession of its inaccuracy and one-sidedness, and this confession is an essential ingredient of truth. (Vol. 5, p. 565)

The scientific finding of truth is thus in principle a possibility and is therefore still a guiding light for all scientific and scholarly enterprise. The world is made of a kind of abstract knowledge—the dynamic structures and processes, which in themselves are a kind of signs—and therefore it is knowable. It is the indifference of the sign

to mind-independence or mind-dependence that makes it possible for us to relate the real and the ideal without detriment to either.

In Brier (2007, 2008a) I argued that the first distinction or sign making process must be breaking some kind of original wholeness. Theoretically some kind of original observer¹³ has to be accepted in order to understand the first semiotic creation of an interpretant. Thus this theory for philosophical consistency demands a kind of objective idealism where mind is first, matter is second, and the tendency to take habits is third, as Peirce theorized. There has to be some kind of awareness resting in itself, that can make the first distinction, and therefore the first system-environment difference, which is something else than the wholeness.¹⁴ It breaks the wholeness and makes space and time appear. This is consistent with Peirce’s view that time emerges with evolution. For Peirce, his creational understanding means that subject/selves are elements in the potential super mind and that they discover themselves as partly ignorant beings that make mistakes. They/we come to know themselves as individual selves or egos because they/we lack knowledge of the whole. They/we realize that they are not the whole and are therefore imperfect and distinct from the whole. We are individual imperfect selves.

To Peirce cognition is sign producing and therefore the production of signification and meaning. Peirce (1868) saw introspection as one of the four incapacities of the human being. To him knowledge of the “internal world” is wholly a matter of inference by way of sign making. The human self can therefore only be inferred (Peirce, 1866-1913/1994, Vol. 5, p. 462) and surprisingly, it is inferred from our mistakes, from realizing that as self-conscious semiotic beings we are not the whole (i.e., we are not the Godhead). Human individuation is found in ignorance and error. Peirce wrote that “Ignorance and error are all that distinguish our private selves from the absolute ego of pure apperception” (Peirce, 1866-1913/1994, Vol. 5, p. 235). Peirce’s argument concerning the self was developed in his discussion of the dawning of self-consciousness in children:

It must be about this time that he [the child] begins to find that what these people about him say is the very best evidence of fact. So much so, that testimony is even a stronger mark of fact than the facts themselves, or rather than what must now be thought of as the appearances themselves. (I may

remark, by the way, that this remains so through life; testimony will convince a man that he himself is mad.) A child hears it said that the stove is hot. But it is not, he says; and, indeed, that central body is not touching it, and only what that touches is hot or cold. But he touches it, and finds the testimony confirmed in a striking way. Thus, he becomes aware of ignorance, and it is necessary to suppose a self in which this ignorance can inhere. So testimony gives the first dawning of self-consciousness.... (Vol. 5, p. 233)

He continued and concluded this way:

[Thus children] infer from ignorance and error their own existence. Thus we find that known faculties, acting under conditions known to exist, would rise to self-consciousness. (Vol. 5, p. 236)

We then here see the metaphysical foundation that supports Peirce's view on science and the religion or rather the relation between the search for truth and the divine in a way that is unique and which I interpret as a new type of mysticism. The unity of truth is not in the explicit knowledge system as a "grand story." This is what the postmodern movement rightfully objected against (Luntley, 1995). Peirce realized this, but kept it like a regulative idea (i.e., similar to Kant, 1781/1990), as a stage we might reach—not only in theory, but as lived reason in harmony with ethics and aesthetics—in a very distant future. I therefore agree with Deely (2001) in calling Peirce the first *true* postmodernist.

Religion and the Sacred

To go beyond fundamentalist religion and its dogmas, I would like to maintain a distinction between religion and the sacred. Religion is predominantly a social-political institution that organizes the relationship between the sacred and the profane with the help of rituals and codes. The sacred is defined through the fundamental myths, which in the same breath establish the worldview and understanding of the human, meaning, and society. Through the sacred, the world is given meaning, and thereby makes a distinction between meaning and the meaningless possible. The sacred, therefore, seems to be a power of a completely different form than those powers of nature that science describes. Typical for many religions is precisely that they organize the sacred by combining the emergence of the world with the history of the emergence of society

and its cultural meaningful order based on distinction of right and wrong as well as good and bad. In this way, it seems obvious that nothing could be different. There is therefore no room for a gradual development of religious truth, when all the dogmas have been written down. It was this understanding of religion that Peirce broke with in his new synthesis.

It is, however, exactly the reflective knowledge of the fact that we can change paradigms that we have gained from modern philosophy of science, which is a decisive trait in the democratic (dialogue-ethical) society's liberation from fundamentalist religions. In the liberal democratic society we are human being first (i.e., we start in the world of the living, feeling, language using, and embodied knowing beings), then we can choose to be Christian, Muslim, Marxist, Scientistic, or embrace other traditions. This means that one is human and has one's own existential relation to the sacred before one is religious, ideological, scientific, party political, or anything else. I think Peirce would have agreed with this view.

Fundamentalism can now be formulated as the opposite view, namely those who understand themselves as belonging to a given system first, and second as a member of the human race. It is within such beliefs that the goal easily becomes justifiable for any means. When you know the fundamental truth, then you also know that the others are fundamentally wrong and need to be "saved," or condemned as evil should they resist. The pattern is the same within religion, philosophy, politics, and science (Brier, 2008a).

It is important to stand by the fundamental status of the estimation/abduction principle for all knowledge, both regarding religion and the sciences: none of them should be assigned the patent of truth. Peirce (1866-1913/1994) wrote on universality:

I object to absolute universality, absolute exactitude, absolute necessity, being attributed to any proposition that does not deal with the Alpha and the Omega, in the which I do not include any object of ordinary knowledge. (Vol. 6, p. 607)

This is exactly where Peirce started in his "A Neglected Argument for the Reality of God" (p. 452), where he further developed the philosophical foundation for his concept of abduction. There is in his semiotic philosophy neither skepticism about human ability to acquire knowledge about the world, nor about the existence of a partly independent material reality, living reality,

or about the reality of mind as well as of the sacred. Combined with his profound evolutionary thinking this is a highly original point of view that may finally have found its time. But before we analyze Peirce's viewpoint we must briefly discuss the concept of mysticism. In the Christian tradition this worldview has often been seen as an opposition to the church's dogmas and in science as an opposition to belief in scientific method as the only way of obtaining reliable and clear rational knowledge.

Mysticism

The word "mystery" (*mysterion*) comes from the Greek verb *muo*, to shut or close the lips or eyes. Today the concept mysticism points to a belief in the possibility of the mind to make a break through the world of time and space into a phenomenological beingness of eternal timelessness, all-presence, and spacelessness. About this idea of a general mystical level, often called the *perennial philosophy*, Happold (1973) wrote:

In the deepest religious experience, whether it be Christian, Buddhist, Hindu, or Mohammedan, when all ideas, thoughts, sensations, and volitions which make up the self are exhausted, there is found to remain only a Void, the One of Plotinus, the Godhead of Eckhart and Ruysbroeck, the Brahman of Hinduism. The Void is not only Emptiness. In mystical experience it is found to be a Plenum-Void. The Emptiness and the fullness are one. (p. 80)

Mysticism includes the theory of a unity between consciousness, body, and universe that is beyond language (Happold, 1973; Maharishi, 1979; Stace, 1960): a unity where distance is gone (i.e., beyond space) and presence is total (i.e., beyond time), and where words and objects unite (the triad of semiosis collapses into unity).

To Peirce (1866-1913/1994), Firstness is an *element* of experience unrelated to other experiences. Everything starts as mixed together as a vagueness overwhelmingly present in the now that cannot be grasped in signs and language. He wrote:

The idea of the absolutely first must be entirely separated from all conception of or reference to anything else; for what involves a second is itself a second to that second. The first must therefore be present and immediate, so as not to be second to a representation. It must be fresh and new, for if old

it is second to its former state. It must be initiative, original, spontaneous, and free; otherwise it is second to a determining cause. It is also something vivid and conscious; so only it avoids being the object of some sensation. It precedes all synthesis and all differentiation; it has no unity and no parts. It cannot be articulately thought: assert it, and it has already lost its characteristic innocence; for assertion always implies a denial of something else. (Vol. 1, p. 357)

All these qualities of absolute Firstness fits with the description of the mystical union or pure consciousness. As Peirce wrote, then it is not an experience or a cognition because that would demand a full semiosis and therefore the presence of Secondness and Thirdness. The Peircean Firstness of monadic vagueness becomes the Secondness of a dyadic separation through interaction. Consciousness, the body, and reality have a sort of common foundation in something beyond what we can experience by the semiosis of cognition. It is interesting that rational and empirical analysis of space and time in physics actually leads theories into this paradoxical domain as they point beyond the Planck Scale where measuring of time and space become impossible. The Planck scale limit of meaningful measurement is a part of the foundation for quantum theory.

In his *Confessions*, St. Augustine (1961) made a famous analysis of time where he already made it clear that the universe is not created *in* time but *with* time—and Aristotle draws our attention to the fact that the universe, which is the place for everything, has no place for itself (i.e., one cannot ask meaningfully what there was *before* the universe's creation, still less, *where* it was or what is/was outside, as time and space only exist as a possibility in a universe). This is in accordance with general mysticism, as for instance in the writings of Meister Eckhart (1958) and Happold (1973, p. 269). Spirit or the sacred is precisely that which is transcendent, says the mystic. Therefore it is also "everywhere" at the "same time," and thereby also "inside" you and me, as well as "outside" us. The quotation marks are put in to show that the usual conceptions and distinctions are not enough when we speak of spirit. The mystics here will also say that "infinity"—and with it this "space-timelessness"—is found "behind" or "in" every point in the universe (pp. 119-120). The spirit is also immanent in the world as

love and creative power in matter. The mystics see it shine through the material appearances. Every self-conscious person therefore has in principle direct access to the spirit, since consciousness is also one of its manifestations. When consciousness is without content it is pure consciousness: that is to say, consciousness that is only conscious of itself (Maharishi,¹⁵ 1968, 1979). The human nervous system's most fundamental achievement is precisely this capacity to reflect reality's non-manifest aspect, which is the connection between the inner and the outer world. Peirce (1866-1913/1994) is a bit skeptical about this capacity. He wrote:

The immediate present, could we seize it, would have no character but its Firstness. Not that I mean to say that immediate consciousness (a pure fiction, by the way), would be Firstness, but that the *quality* of what we are immediately conscious of, which is no fiction, is Firstness. (Vol. 1, p. 343)

This mystical understanding of the ability of human consciousness to be in a sort of absolute Firstness as foundational to human consciousness is central to mysticism and so persistent over different cultures, historical periods, inside and outside different religions that the philosopher Leibniz (1992) called this view “the perennial philosophy,” a name Aldous Huxley (1945/1979) renewed in 1945 with a book on the subject. The perennial philosophy is the idea that a common, eternal philosophy exists that underlies all religious movements, in particular the mystical streams within them. The induction on many observations is that humans in many different cultures and all historical eras have recorded similar perceptions and experiences about the nature of reality, the self, and the world, including the meaning and purpose of existence and human life. Scholars supporting this view argue that these similarities point to underlying universal principles. They further conclude that these are the principles that form the common ground of most religions. Opposing those who claim that experiences—among them the religious ones—are totally determined by the culture's metaphysical views in the given period of history, the perennial philosophy claims that the differences in the way these fundamental perceptions are described arise from differences in human cultures. Thus in opposition to those scholars that claim that there is no unity behind the differences, the perennial philosophy claims that there is a fundamental unity and the differences can be explained in light of cultural

conditioning. In a philosophical analysis, Stace (1960) and Happold (1973) concluded that this is a well founded theory and, in his history of philosophy, the Norwegian ecological philosopher Arne Næss (1969, p. 69) pointed to convincing similarities between Master Eckhart and Shankara's paradigms of consciousness, even though one of them is a German Christian and the other an Indian Hindu—and several centuries divide them. Happold (1973) wrote:

the essence of that perennial mystical philosophy which is found in all the higher theistic religions:

That the Godhead is absolute Stillness and Rest, free of all activity and inaccessible to human thought, yet alive through and through, a tremendous Energy, pouring Itself out into the created world and drawing that world back into Itself.

That there is a complete unity in everything, all is in God and God is in all.

That man's real self is divine.

...the Godhead is not only Eternal rest, Unconditioned Dark, the Nameless Being, but also the Superessence of all Created things. Man is, thus, not a creature set over against God; he is united with this triune life, and, this union is within us by our naked nature and were this nature to be separated from God it would fall into pure nothingness. (p. 66)

Conscious development is thus to regain consciousness (the full awareness of) reality's immanent as well as transcendent aspects without violating the diversity in the relative manifestation. Expressed in concepts from Heidegger's (1949/1962) philosophy, it is to be aware of the connection between “dasein” and the universe in which we are “thrown.” It is to be conscious of the roots of our “thrownness.” Only from this position can we get rid of the “blindness” in our perception of reality.¹⁶ I think Heidegger's concept of “blindness” is pointing out what in the Vedic tradition is called “Maya.” It is that, which the unenlightened considers ultimate reality, but is still only a veil, a construction projected by our own inability to see things as they are in full.¹⁷ In science, it is the “physical reality” that is the last veil. Grand narratives are also veils. The relative (Maya) is not unreal in the sense that it does not exist, but rather in the sense that there is a more stable background “behind” it of pure

consciousness, in which the root of all knowledge is to be found. Happold (1973) wrote that this is found:

when religious feeling surpasses its rational content, that is, when the hidden, non-rational, unconscious elements predominate and determine the emotional life and the intellectual attitude. In the true mystic there is an extension of normal consciousness, a release of latent powers and a widening of vision, so that aspects of truth unplumbed by the rational intellect are revealed to him. (p. 19)

Knowledge (gnosis) has here a deep phenomenological foundation that transgresses—but does not reject—our normal understanding of the scientific and the rational. Mystical knowledge is subjective, without being personally individualistic, in that it bases itself on subjectivity's general aspect. To reach this is to attain what our culture once called wisdom. This type of knowledge may well be the central or fundamental aspect of human knowledge. It is embodiment of the deepest knowledge of ourselves and nature connecting inner and outer being. It is from his musing that Peirce created his concept of science as a social and ethical commitment to create a logically consistent foundation of knowledge for the development of human culture. He saw science as another form of religious commitment in the never-ending search for truth. I think the second part of the following quote by Happold (1973) describes very well Peirce's understanding and the basis of his method of musing:

One view of the world is that it is an intelligible presentation which is spread out before us for our detached and dispassionate examination; its nature can be grasped by thought, analysis and classification alone. This view has been held by most philosophers and scientists. Another view is that the world is not like that at all, that it is a "mystery," the secret of which can only be partially grasped by thought, analysis, and classification. To penetrate its deepest secrets one must not stand aside from it but try, as it were, to feel it. One must be content, intently and humbly, to "contemplate" it, to gaze at it as one might gaze at a picture, not in order to analyse the technique of its brushwork or colour arrangement, but to penetrate its meaning and significance. This intent, loving gazing in order to know and understand is what is meant when we say that contemplation is a tool of knowledge. (p. 70)

One can say that Peirce combined both visions by considering none of them to be absolutely true alone, but both may well be true together. A lot of the universe is within the reach of human understanding through science, but it seems that only a very little part is laid out in the open as simple computational laws. Still Peirce believed that in principle we should be able to get to know everything if we worked on it in a dedicated scientific way. But in reality he was aware that there was probably not time and money enough to ever reach that stage in semiotically based knowledge.

Peircean Scientific Mysticism¹⁸

In the article "A Neglected Argument for the Existence of God," Peirce (1866-1913/1994, Vol. 6, p. 452) contended that the very first step in abductive reasoning is a form of Pure Play, which he calls Musement. He describes it this way:

Pure Play has no rules, except this very law of liberty. It bloweth where it listeth. It has no purpose, unless recreation. The particular occupation I mean—a petite bouchée with the Universes—may take either the form of aesthetic contemplation, or that of distant castle-building (whether in Spain or within one's own moral training), or that of considering some wonder in one of the Universes, or some connection between two of the three, with speculation concerning its cause. It is this last kind—I will call it "Musement" on the whole—that I particularly recommend, because it will in time flower into the N.A. 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. So he can never attain the entirety even of a physicist's belief in electrons, although this is avowedly but provisional. But let religious meditation be allowed to grow up spontaneously out of Pure Play without any breach of continuity, and the Muser will retain the perfect candour proper to Musement. (Vol. 6, p. 458)

This first stage of abduction is to be undergone without rules or restrictions. There should be no censorship as to what can or cannot be considered. To that end, a positive attitude towards the world and the possibility of knowledge is needed, as a pessimistic outlook would eliminate the "open" mind attitude. There are all sorts of relations not amenable to being investigated if it is decided

a priori that they are not worth making. Chiasson (1999) ended her analysis of the “Neglected Argument” for God in the following way:

From this criterion, perhaps we could say that we could redefine Peirce’s use of the word *God* into: *any hypothesis-formed by means of optimistically undergone abductive reasoning—that leads one into consciously choosing ethical conduct that results in the living of a good life—whether or not the concepts we know as God or an after-life enter into the matter at all.* (n.p.)

On this basis the search for scientific knowledge for the benefit of mankind is seen as a sort of holy quest, like it was in the early Renaissance and long after, maybe especially until Darwin’s evolutionary theory. Only Peirce managed to take that into account and still keep the original vision of science intact, but now also combined with aesthetics and ethics.

Knowledge thus has its origin in the divine stability and intelligibility of the world according to Peirce. As Descartes (1984), Peirce saw the divine as the guaranty against total skepticism. But Peirce went much further in his evolutionary metaphysics. Peirce (1866-1913/1994) wrote in the Monist paper *Evolutionary Love*:

Everybody can see that the statement of St. John is the formula of an *evolutionary philosophy, which teaches that growth comes only from love*, from I will not say *self-sacrifice*, but *from the ardent impulse to fulfill another’s highest impulse*. Suppose, for example, that I have an idea that interests me. It is my creation. It is my creature; ...it is a little person. I love it; and I will sink myself in perfecting it. It is not by dealing out cold justice to the circle of my ideas that I can make them grow, but by cherishing and tending them as I would the flowers in my garden. The philosophy we draw from John’s gospel is that this is the way mind develops; and as for the *cosmos, only so far as it yet is mind, and so has life, is it capable of further evolution*. Love, recognizing germs of loveliness in the hateful, gradually warms it into life, and makes it lovely. That is the sort of evolution which every careful student of my essay “The Law of Mind” must see that *synechism* calls for. (Vol. 6, p. 289)

In Peirce’s philosophy, the production of meaning is brought into what mechanism sees as “dead” nature by the concepts of Firstness and Synechism, combined with hylozoism and the development of the universe through the three different kinds of evolution: (1) evolution by fortuitous

variation (*tychasm*); (2) evolution by mechanical necessity (*anancasm*); and (3) evolution by creative love (*agapism*). But it was with Peirce (1866-1913/1994) as it was with St. John that, of those three, love is the greatest and the most profound. He wrote:

Evolution by sporting and evolution by mechanical necessity are conceptions warring against one another. Lamarckian evolution is thus evolution by the force of habit. ... Thus, habit plays a double part; it serves to establish the new features, and also to bring them into harmony with the general morphology and function of the animals and plants to which they belong. But if the reader will now kindly give himself the trouble of turning back a page or two, he will see that this account of Lamarckian evolution coincides with the general description of the action of love, to which, I suppose, he yielded his assent. (Vol. 6, p. 301)

Further we must keep in mind that matter is “effete mind.” Thus the “Law of Mind” also breaks up habits of matter. Peirce wrote:

Remembering that all matter is really mind, remembering, too, the continuity of mind, let us ask what aspect Lamarckian evolution takes on within the domain of consciousness. ... the deeper workings of the spirit take place in their own slow way, without our connivance... Besides this inward process, there is the operation of the environment, which goes to break up habits destined to be broken up and so to render the mind lively. Everybody knows that the long continuance of a routine of habit makes us lethargic, while a succession of surprises wonderfully brightens the ideas. ... A portion of mind, abundantly commissured to other portions, works almost mechanically. It sinks to a condition of a railway junction. But a portion of mind almost isolated, a spiritual peninsula, or *cul-de-sac*, is like a railway terminus. Now mental commissures are habits. Where they abound, originality is not needed and is not found; but where they are in defect spontaneity is set free. Thus, the first step in the Lamarckian evolution of mind is the putting of sundry thoughts into situations in which they are free to play. (Vol. 6, p. 301)

This, of course, relates to his epistemology of abduction founded in “Pure Play.” It is the “Lamarckian” development of mind that makes science as a collective inquiry possible at all. Thus in Peirce’s philosophy, the categories work according to the “Law of Mind” and there is an inner

aspect of Firstness (pure feeling) in matter. But one has to be aware of Peirce's (1866-1913/1994) special conception of mind and consciousness. He wrote:

Far less has any notion of mind been established and generally acknowledged which can compare for an instant in distinctness to the dynamical conception of matter. Almost all the psychologists still tell us that mind is consciousness. But...unconscious mind exists. What is meant by consciousness is really in itself nothing but feeling...there may be, and probably is, something of the general nature of feeling almost everywhere, yet feeling in any ascertainable degree is a mere property of protoplasm, perhaps only of nerve matter. Now it so happens that biological organisms and especially a nervous system are favorably conditioned for exhibiting the phenomena of mind also; and therefore it is not surprising that mind and feeling should be confounded...that feeling is nothing but the inward aspect of things, while mind on the contrary is essentially an external phenomenon. (Vol. 7, p. 364)

Thus, the essence of consciousness is feeling and an important aspect of Firstness is pure feeling. The possibility of being aware on other levels may be reinterpreted as a mystical theory in a Peircean framework, as is the possibility of being aware of the basic Firstness uniting all manifest things. The universe is permeated with Firstness, but that is not the same thing as human self-conscious awareness, though a consistent theory of evolution has to point to it as the origin of human consciousness. Peirce (1866-1913/1994) wrote:

What the psychologists study is mind, not consciousness exclusively. ... consciousness is a very simple thing. ... not...Self-consciousness ... consciousness is nothing but Feeling, in general, -- not feeling in the German sense, but more generally, the immediate element of experience generalized to its utmost. Mind, on the contrary is a very difficult thing to analyze. I am not speaking of Soul, the metaphysical substratum of Mind (if it has any), but of Mind phenomenally understood. To get such a conception of Mind, or mental phenomena, as the science of Dynamics affords of Matter, or material events, is a business which can only be accomplished by resolute scientific investigation. (Vol. 7, p. 365)

Peirce was not speaking of human self-consciousness but of the essence of consciousness as a phenomenon that

develops in nature to emerge in new and more structured forms in living beings, nervous systems, and language-based culture. Being a sort of semiotically objective idealist, Peirce argued for a scientific study of mind seen as a foundational aspect of reality. This is in my view (Brier, 2008a) not possible for the mechanistic science that starts off with fixed and dead laws that cannot develop and cannot encompass emotions and free will as causal powers. I am also convinced that cybernetic informational computational artificial intelligence approaches will also be insufficient (Brier, 2008a), as well as biosemiotic ideas of semiosis without interpretation, which has its most well argued form in Marcello Barbieri's work (Barbieri, 2008). My main interest in Peirce is his work on establishing a new foundation that will make it possible for us to work scientifically with both matter, mind, and consciousness within the same framework. Peirce (1866-1913/1994) wrote about this concept of thought, understood as a function of mind and semiosis:

Thought is not necessarily connected with a brain. It appears in the work of bees, of crystals, and throughout the purely physical world; and one can no more deny that it is really there, than that the colors, the shapes, etc., of objects are really there. Not only is thought in the organic world, but it develops there. But as there cannot be a General without Instances embodying it, so there cannot be thought without Signs. We must here give "Sign" a very wide sense, no doubt, but not too wide a sense to come within our definition. (Vol. 4, p. 551)

Here Peirce widened the semiosis concept to include pattern-creating processes as nature's thinking. I would prefer to call these proto- or quasi-semiotic processes to avoid a too broad sense of the concept leading into a pan-semiotic metaphysics. Nevertheless, Peirce's metaphysics operated with the "inside" of material nature. He wrote, "Wherever chance-spontaneity is found, there in the same proportion feeling exists. In fact, chance is but the outward aspect of that which within itself is feeling" (Vol. 6, p. 265). I find it compatible with an interpretation of Peirce's theory and in accordance with perennial philosophy mysticism (Stace, 1960) to see living systems, most of all the human, as the way in which the universe is becoming aware of itself. Evolution is the development of self-organization of systems until they become closed and thereby individuals with their own cognition and intentions. One needs a body and a nervous system to

become (self)-conscious! As Peirce (1866-1913/1994) wrote:

Since God, in His essential character of *Ens necessarium*, is a disembodied spirit, and since there is strong reason to hold that what we call consciousness is either merely the general sensation of the brain or some part of it, or at all events some visceral or bodily sensation, God probably has no consciousness. (Vol. 6, p. 489)

Thus, Peirce's concept of God is first and most basically an abstract transcendental origin and continuity behind it all. It is a state of utter nothingness like the Godhead of Eckhart and the emptiness of the Buddhists, and it manifests as an immanent order and "drive" in evolution reminding me most of Hegel's spirit, but in a somewhat different metaphysical framework where evolution and scientific thinking is integrated in a model that deviates from the Greek Logos thinking and does not have the same sort of determinism as Hegel's theory had. In trying to give some hints about what pragmatism is and how it can be used on the highest metaphysical principles, Peirce summed up his general view of cosmic evolution in the following way:

A disembodied spirit, or pure mind, has its being out of time, since all that it is destined to think is fully in its being at any and every previous time. But in endless time it is destined to think all that it is capable of thinking. Order is simply thought embodied in arrangement; and thought embodied in any other way appears objectively as a character that is a generalization of order, and that, in the lack of any word for it, we may call for the nonce, "Super-order." It is something like uniformity. Pure mind, as creative of thought, must, so far as it is manifested in time, appear as having a character related to the habit-taking capacity, just as super-order is related to uniformity. ... perfect cosmology must ... show that the whole history of the three universes, as it has been and is to be, would follow from a premiss which would not suppose them to exist at all. ... But that premiss must represent a state of things in which the three universes were completely nil. Consequently, whether in time or not, the three universes must actually be absolutely necessary results of a state of utter nothingness. We cannot ourselves conceive of such a state of nility; but we can easily conceive that there should

be a mind that could conceive it, since, after all, no contradiction can be involved in mere non-existence. (Vol. 6, p. 490)

Here Peirce dealt with the classical—seemingly as we shall see—mystical paradox of the impossibility of characterizing the transcendent or absolute in any precise way. It is not directly conceivable in concepts and it cannot be perceived in the way things can. Nevertheless, it seems a logical inference of the analysis of Plato. In the Christian mystical tradition, the problem is often formulated as the relation between God and the Godhead.

Godhead and Superorder

One of the world's most famous interpreters of the mystical tradition in the East and the West is Daitsetz Suzuki, who lived in periods both in the East (Japan) and the West (United States). He specialized in the mystical foundations for Buddhism and Christianity and wrote a book comparing them that was recognized as a masterpiece. *Mysticism: Christian and Buddhist* (Suzuki, 2002) is now a world classic published on the Internet. What is most interesting though is that Suzuki was a contemporary of Peirce and worked for the editor of *The Monist*, Dr. Paul Carus¹⁹. Peirce had an intensive exchange with Carus and the *Monist* was the journal in which Peirce published some of his most famous articles (see for instance Peirce 1892 a, b, & c, 1893). Like Carus, Peirce had an interest in the mystical side of Buddhism. Suzuki (2002) commented about the above-mentioned paradox within the mystical view and explained why it is only seemingly a paradox in the following way:

God goes and comes, he works, he is active, he becomes all the time, but Godhead remains immovable, imperturbable, inaccessible. The difference between God and Godhead is that between heaven and earth and yet Godhead cannot be himself without going out of himself, that is, he is he because he is not he. The 'contradiction' is comprehended only by the inner man, and not by the outer man, because the latter sees the world through the senses and intellect and consequently fails to experience the profound depths of Godhead. (p. 9)

In the last quote by Peirce, he also touched upon the necessity of a generalization of order as the drive behind the evolutionary processes of the three basic categories. This "pull" towards order seems to be the final causation

of the evolution of the universe. It has an urge to embody its thoughts in manifest creation. Or as Plato (2004) put it in *Timaeus*, the One desire to share its love and perfection with the imperfect.²⁰ It “flows over” from the transcendent into the relative and manifest in time and space creating matter as “effete” mind. The last is a Peircean formulation. The paradox is that such a transcendent order cannot be formulated in any human language. David Bohm (1983) discussed the same consequences of his own ideas of *Wholeness and the Implicate Order*, the famous book where he worked with the idea of an immanent order in nature—inspired by the mystic Krishnamurti—that produces the “holomovement.” Thus I would say that Bohm’s conception of evolution is close to Peirce’s in having a sort of immanent Firstness ontology in a process philosophy. In an interview (Weber, 1972), Bohm talked about the “super implicate order,” which seems very similar to Peirce’s “Super-order” that has its existence out of time.

Like the Buddhists, Peirce saw this order as no-thing. The Buddhists talk about emptiness. Peirce wrote that the three universes, Firstness (qualia and potentialities), Secondness (resistance, will, and brute force), and Thirdness (mediation, understanding, and habit-taking) must evolve from a transcendental basis in an evolutionary metaphysics. Such metaphysics is also behind Shankara’s Advaita Vedanta that represents one of the purest mysticisms based on the Vedas, and Master Eckhart’s Christian mysticism (Næss, 1971). Suzuki quoted Eckhart in this matter (Suzuki, 2002, pp. 12-13), but here is the original quote from Eckhart (1929/1941):

When I existed in the core, the soul, the river, the source of the Godhead, no one asked me where I was going or what I was doing. There was no one to ask me, but the moment I emerged, the world of creatures began to shout, “God”. If someone were to ask me: “Brother Eckhart, when did you leave home?—That would indicate that I must have been at home sometime. I was there just now. Thus creatures speak God—But why do they not mention the Godhead? Because there is only unity in the Godhead and there is nothing to talk about. God acts. The Godhead does not. It has nothing to do and, there is nothing going on in it. It is never on the lookout for something to do. The difference between God and the Godhead is the difference between action and nonaction.

When I return to God, I shall be without form,

and thus my reentry will be far more exalted than my setting out. I alone lift creatures out of their separate principle into my own, so that in me they are one. When I return to the core, the soil, the river, the source which is the Godhead, no one will ask me whence I came or where I have been. No one will have missed me—for even God passes away. (pp. 225-226)

Suzuki (2002) commented on this: “It is in perfect accord with the Buddhist doctrine of *sānyatā* and advances the notion of Godhead as ‘pure nothingness’ (*ein bloss niht*)” (pp. 12-13). The formulation out of this paradox is essential in much mysticism and in panentheism. There is a transcendental reality beyond time and space that cannot be spoken of but, still, it is somehow the source of everything. Why is it necessary? Peirce (1866-1913/1994) explained:

For all Being involves some kind of super-order. For example, to suppose a thing to have any particular character is to suppose a conditional proposition to be true of it, which proposition would express some kind of super-order, as any formulation of a general fact does. To suppose it to have elasticity of volume is to suppose that if it were subjected to pressure its volume would diminish until at a certain point the full pressure was attained within and without its periphery. This is a super-order, a law expressible by a differential equation. Any such super-order would be a super-habit. Any general state of things whatsoever would be a super-order and a super-habit. (Vol. 6, p. 490)

Thus logically the idea of things having universal properties demands a logos as universal foundation. The big question is then, how does evolution start from there? Plato wrote in *Timaeus* that “the One” overflows by love to create something that can contain at least some love in an imperfect way, as it is not jealous. In the Vedas, it is desire that makes Brahman create the world through his Shakti (female force of creation; Sharfstein, 1978). Brahman is in itself the unmovable foundation, like Aristotle’s “unmoved mover.” In Christianity, it is the Holy Ghost that acts in creation on behalf of the unmovable “Father.” Peirce’s solution is close to these. But it is formulated within his own metaphysics and, therefore, much closer to a view and a wording acceptable from a scientific viewpoint of, for instance, quantum field theory and its idea of the world developing from

a vacuum field that is never quite at ease. Its nature is a spontaneous quantum fluctuation within the limits of the Planck Scale (see, for instance, Bohm, 1983). Peirce (1866-1913/1994) wrote the following about his Cosmology in 1891:

I may mention that my chief avocation in the last ten years has been to develop my cosmology. This theory is that the evolution of the world is hyperbolic, that is, proceeds from one state of things in the infinite past, to a different state of things in the infinite future. The state of things in the infinite past is chaos, *tohu bohu*,²¹ the nothingness of which consists in the total absence of regularity. The state of things in the infinite future is death, the nothingness of which consists in the complete triumph of law and absence of all spontaneity. Between these, we have on our side a state of things in which there is some absolute spontaneity counter to all law, and some degree of conformity to law, which is constantly on the increase owing to the growth of habit. The tendency to form habits or tendency to generalize, is something which grows by its own action, by the habit of taking habits itself growing. Its first germs arose from pure chance. There were slight tendencies to obey rules that had been followed, and these tendencies were rules which were more and more obeyed by their own action. There were also slight tendencies to do otherwise than previously, and these destroyed themselves. To be sure, they would sometimes be strengthened by the opposite tendency, but the stronger they became the more they would tend to destroy themselves. As to the part of time on the further side of eternity which leads back from the infinite future to the infinite past, it evidently proceeds by contraries. (Vol. 8, p. 317)

Thus Peirce believes in creation *ex nihilo* (out of nothing), but as an evolution going from *Tohu Bohu* to some kind of perfect order, as soon as the first tendency to take habit manifest itself in and with space and time. This is very close to David Bohm's view of the Super Implicate Order (Bohm & Weber, 1983) that is his attempt to unite the mysticism of Krishnamurti with the modern quantum theoretical understanding of reality. Clearly, we move over from Firstness into Secondness and Thirdness as soon as the tendency to take habits has some differences to work on that will not self-destruct. Peirce (1866-1913/1994) wrote:

Hyperbolic philosophy has to assume for starting-

point something free, as neither requiring explanation nor admitting derivation. The free is living; the immediately living is feeling. Feeling, then, is assumed as starting-point; but feeling uncoordinated, having its manifoldness implicit. For principle of progress or growth, something must be taken not in the starting-point, but which from infinitesimal beginning will strengthen itself continually. This can only be a principle of growth of principles, a tendency to generalization. Assume, then, that feeling tends to be associated with and assimilated to feeling, action under general formula or habit tending to replace the living freedom and inward intensity of feeling. This tendency to take habits will itself increase by habit. Habit tends to coordinate feelings, which are thus brought into the order of Time, into the order of Space. (Vol. 6, p. 585)

For David Bohm this will be when we go from the Super Implicate Order to the Implicate Order; or put in another way from the transcendent to the immanent. Here is another quote from Peirce where he makes this clear:

In that state of absolute nility, in or out of time, that is, before or after the evolution of time, there must then have been a *tohu bohu* of which nothing whatever affirmative or negative was true universally. There must have been, therefore, a little of everything conceivable. There must have been here and there a little undifferentiated tendency to take super-habits. But such a state must tend to increase itself. For a tendency to act in any way, combined with a tendency to take habits, must increase the tendency to act in that way. (Vol. 6, p. 490).

I think that Peirce's semiotics fits both Suzuki's mysticism and Eckhart's, since Suzuki (2002) pointed out that God is not creating the world in time, mathematically enumerable:

His creativity is not historical, not accidental, not at all measurable. It goes on continuously without cessation with no beginning, with no end. It is not an event of yesterday or today or tomorrow, it comes out of timelessness, of nothingness, of Absolute Void. God's work is always done in an absolute present, in a timeless 'now which is time and place in itself.' God's work is sheer love, utterly free from all forms of chronology and teleology. The idea of

God creating the world out of nothing, in an absolute present, and therefore altogether beyond the control of a serial time conception will not sound strange to Buddhist ears. (pp. 3-4)

Thus the Big Bang theory does not tell us how the world was created. It is an attempt to tell us about the physical development of time, space, and energy. Transcendence breeds immanence and immanence makes the distinction back to transcendence “before” time and “outside” space in an ever ongoing process of being and becoming.

To return to this article’s argument, then, it is possible to understand Peirce’s (1866-1913/1994, Vol. 6, p. 452) “Neglected Argument for the Reality of God” through the “musing” of “pure play” in the light of his benign form of panentheistic mysticism.²² To make valuable abductions, the scientist must in a positive way open his mind to the basic creative dynamics of both mind and matter. Many mystics speak of “emptying” the mind, “being simple,” “going beyond the ego,” and “letting God in.” But this is not to be understood as divine and intentional messages from a personal God or the perception of some ready-made and exact transcendental ideas. It is rather a listening to the hum of creation or the general or basic vibration of the Godhead, flowing “into” time, space, life, and mind and back again into its own “nothingness” in that fundamental vibration that upholds our reality.²³

As Suzuki (2002) pointed out, “*God is neither transcendental nor pantheistic*” (p. 9, emphasis supplied), meaning that God in this conception is not only pantheistic or transcendental, but both (panentheism²⁴), and thereby the concept covers infinitely more. This mystical theory lifts theories of knowledge and nature out of determinism. We cannot give a final deterministic description of nature, culture, or the knowledge process. *Thus knowing is much more than knowledge.*²⁵ Human knowing is a processional flow. It is only by letting go into this sporting of pure musement, as Peirce (1866-1913/1994) called it, by leaving behind any limits imposed by previous knowledge and skeptical attitudes that one can hope to abduce basic and universal knowledge. I think that Suzuki’s (2002) understanding fits well with Peirce’s when he wrote:

Eckhart quotes St Augustine: “There is a heavenly door for the soul into the divine nature – where some things are reduced to nothing.”

Evidently we have to wait for the heavenly door to open by our repeated or ceaseless knocking at it when

I am “ignorant with knowing, loveless with loving, dark with light.” Everything comes out of this basic experience and it is only when this is comprehended that we really enter into the realm of emptiness where the Godhead keeps our discriminatory mind altogether “emptied out to nothingness.” (p. 14)

Thus the completely open mind that does not have any goal of its own gain is the position where your consciousness is open for abducting new ideas through musing. But that is of course not the mystical union that the mystics seek to stay in. In musing you can at the most get a few glimpses and get inspired by those. Although Peirce actually did have a mystical experience, which he reported in a letter to a priest but never sent (Brent, 1998), his major path to the divine insight was clearly science, but an abductive-fallibilist pragmatic science. Where Plato and Descartes believed in transcendental ideas that our mind could contemplate in the highest and most divine status of mind, Peirce’s abduction with a basis in musing gives an evolutionary view on the basic source of human ideas. The ideas are vague and can only be clarified through the collective dynamic processes of science, which is the collective effect of being logical and pursuing the empirical testing of hypotheses through induction and deduction.

Our understanding is not ready made and fixed but fallible, and has to be tested and developed through human scientific practice. Thus, although Peirce’s musing can be seen as a technique of mystical revelation as abductive inspiration, it is not about forgetting real life in the ultimate divine existentiality, but a rich inspiration in building a common cultural understanding of reality.

Peirce does not underline the paradoxicality of the mystical experience and how it escapes linear thinking and presentation in language as, for instance, in the Tao Te Ching:

When you look at it you cannot see it;

It is called formless.

When you listen to it you cannot hear it;

It is called soundless.

When you try to seize it you cannot hold it;

It is called subtle.

No one can measure these three to their ultimate ends,

Therefore they are fused to one.
 It is up, but it is not brightened;
 It is down, but it is not obscured.
 It stretches endlessly,
 And no name is to be given.
 It returns to nothingness.
 It is called formless form, shapeless shape.
 It is called the intangible.
 You face it but you cannot see its front.
 You follow it but you cannot see its back.
 Holding on to the Ancient Way (Tao)
 You control beings of today.
 Thus you know the beginning of things,
 Which is the essence of the Way (Tao-chi).
 (Suzuki, 2002, p. 15)

On the other hand, Peirce said that Firstness is vague. It is only being—not existence, as Secondness is “existence.” Qualisigns need signs of Secondness to be manifest. Peircean philosophy thus can be viewed as being on a mystical metaphysical foundation. But like Aristotle he develops a philosophy of science on this basis, but Peirce’s “logos” of evolutionary love is vague and evolutionary. With his theory of abduction, Peirce places himself between Plato and Aristotle. It is our access to the divine that inspires our understanding of the material world through abduction. Induction is fallible because the ideas are vague and the laws of nature not exact. We have to deduce tests from our abductively created theories and then make inductions from them to test our fallible theories and keep on correcting them in the hope of a steady evolutionary improvement of our society’s knowledge basis.

Time, Creation and Evolution Seen from the Eternal Now

The mystical theory of cognition and consciousness thus point to an inner link between universe and world. If this is possible it should also be possible to conceive of an “outer link” between universe and world. Now, recapitulating that we cannot speak of time and space “outside” and “before” the universe “comes

into being,” we must realize that, seen from the non-manifest, one can therefore neither say that the world came into existence at a certain time nor that it “always” has been, because time first came into existence during and with the creation of the universe. The Universe is created and recreated in every eternal now in this view. When asked what was before the universe was created by Good, Master Eckhart (1979) answered that the universe was always in the thoughts of God. Seen from the Godhead all is one and time is eternity: “To see the universe in a grain of sand/ And a Heaven in a Wild Flower / Hold Infinity in the palm of your hand / And Eternity in an hour” wrote William Blake in “Auguries of Innocence.”

On the other hand time, seen from a human materialistic viewpoint, is real. Time is both attached to the phenomenon of perception and to the phenomenon of memory. We reconstruct reality historically-backwards from our memory, and extrapolate the future from “now” as a consequence of our expectations based on the past. Prigogine and Stengers (1984) underline that time is connected to the irreversibility of physical complex processes.

In this way, the conception of time is directly attached to our existence as material self-organizing cognitive systems (autopoietic systems). It is precisely this that is the human viewpoint: a material, autopoietic and cognitive system. Reading the *Monist* paper “The Law of Mind” (1892b), it is clear that Peirce’s solution to the problem of the world’s existence before existence of any observer, is a unique variation of the objective idealistic position. Peirce (1866-1913/1994) wrote:

The law of habit exhibits a striking contrast to all physical laws in the character of its commands. A physical law is absolute. What it requires is an exact relation. Thus, a physical force introduces into a motion a component motion to be combined with the rest by the parallelogram of forces; but the component motion must actually take place exactly as required by the law of force. On the other hand, no exact conformity is required by the mental law. Nay, exact conformity would be in downright conflict with the law; since it would instantly crystallize thought and prevent all further formation of habit. The law of mind only makes a given feeling *more likely* to arise. It thus resembles the “non-conservative” forces of physics, such as viscosity and the like, which are due to statistical

uniformities in the chance encounters of trillions of molecules.

The old dualistic notion of mind and matter, so prominent in Cartesianism, as two radically different kinds of substance, will hardly find defenders today. Rejecting this, we are driven to some form of hylopathy, otherwise called monism.....

The only intelligible theory of the universe is that of objective idealism, that matter is effete mind, inviscerate habits becoming physical laws. (Vol. 6, p. 23)

From this position he proceeded to develop the theory into the realm of semiotics and knowing. Therefore, in the present interpretation where the mathematical laws are not considered transcendent, his mystical vision seems to offer a combination of the phenomenological cognitive approach with the scientific aim to produce empirical-mathematical models.

To be able to accept such a unifying theory as that of Peirce, one must consequently admit that energy has other aspects than those physics until now has described. It is in my opinion precisely this organized power that Peirce (1892a & b, 1893) attempted to conceptualize in his theory of evolution, where he united the mental and the material as an evolutionary variant of objective idealism that can encompass modern physics. His triadic semiotics and its dynamics are also a major improvement over Hegel's dialectics and later versions of modern emergence theories (see Christiansen, 1995).

Seen from mysticism's perennial philosophy, there is no absolute difference between the two viewpoints of science and religion; on the contrary, they supplement each other as Peirce saw in his theory of the origin of abduction or what Sebeok and Danesi (2000) would later call modeling capacity. That capacity is a prerequisite for language. Thus the perennial philosophy's ultimate phenomenology can be united with the modern Big Bang materialistic evolutionism into a new vision that does not contradict the core of the scientific discoveries and admits them as parts of a greater comprehensive vision that reinstates mankind at the center of both the world and the universe.

Mysticism does not—as so many believe—have to be a contradiction of science or philosophy; it is on the contrary a theory of their cognitive and existential basis. It is precisely mysticism's reservation with regard to the completeness of linguistic knowledge that assures a human-centered holism, which is not totalitarian exactly

because the philosophical-scientific conceptualizing process will never be completed. As Nagel (1986) pointed out:

If we try to understand experience from an objective viewpoint that is distinct from that of the subject of the experience, then even if we continue to credit its perspectival nature, we will not be able to grasp its most specific qualities unless we can imagine them subjectively. ... Since this is so no objective conception of the mental world can include it all. (p. 259)

Notes

1. Another way of expressing the content of this article could be : Peirce's benignant form of the monstrous mysticism of the East: Panentheism and Scientific collectivism combined. See also note 22 for the Peirce quote that inspired this version.
2. I am grateful to Charls Pearson for inviting me to the conference on *Peirce's Religious Writings* in Denver 2003 and to all the participants for their inspiration. Special thanks go to Michael Raposa (1989) for sending me his masterpiece of a book, *Peirce's Philosophy of Religion*, which really opened my eyes for this aspect of Peirce's philosophy. I want to thank my colleagues and friends Peder Voetmann Christiansen, Claus Emmeche, Ole Fogh Kirkeby, Allan Combs, and John Deely for their inspiration and support for this line of work. Finally I thank Gary Fuhrman for his valuable and productive critique of an earlier version of the manuscript.
3. Transcendent—a philosophical and theological concept—in this context refers to that which is beyond our senses and experience; existing apart from matter (Raposa, 1989). "It" is beyond and outside the ordinary range of human experience or understanding. In theology, the concept transcendent pertains to God as exalted above the universe.
4. In Baldwin's Dictionary, to which Peirce contributed, Panentheism is described as:

A name given by Krause to his attempted reconciliation of theism and pantheism; the doctrine that God is neither the world, nor yet outside the world, but that the world is in him, and that he extends beyond its limits." (vol. 2, p. 255)

The term panentheism is Greek for “all-in-God,” pan-en-theos. Panentheism posits a god that interpenetrates every part of nature, but is also fully distinct from nature. God is part of nature, as in pantheism, but still retains an independent identity. Panentheism is a metaphysics which posits that God exists and interpenetrates every part of nature, and timelessly extends beyond as well. Panentheism is distinguished from pantheism, which holds that God is synonymous with the material universe. In panentheism, God is viewed as creator and/or animating force behind the universe, and the source of universal truth. A panentheistic view is conceiving of God as both immanent in Creation and transcendent from it. Plotinus taught that there was an ineffable transcendent “god” (The One) of which subsequent realities were emanations. From the One emanates the Divine Mind (Nous) and the Cosmic Soul (Psyche). We will look at Peirce’s philosophy in this light also, thanks to Kelly Parker (2002). The German philosopher Karl Christian Friedrich Krause (1781–1832) seeking to reconcile monotheism and pantheism, coined the term panentheism (“all in God”) in 1828. This conception of God influenced New England transcendentalists such as Ralph Waldo Emerson. Panentheism was a major force in the Unitarian church for a long time, based on Ralph Waldo Emerson’s concept of the Oversoul. It is well known that Peirce was influenced by the transcendentalists and the unitarians (see note 22). But the word panetheism was not used by him, probably because it had not found a common recognized definition at that time, as far as we know. The term was popularized by Charles Hartshorne (1897–2000) an American philosopher who developed Alfred North Whitehead’s (1929) process philosophy into process theology, which is panentheist. See Clayton and Peacock (2004) and Griffin (2004) for a modern discussion of the possible relations between panentheism and scientific naturalism.

5. The Eastern Orthodox and Oriental Orthodox Churches also have a doctrine called panentheism to describe the relationship between the Uncreated (God, who is omnipotent, eternal, and constant) and His creation. Most specifically, these Churches teach that God is not the “watchmaker God” of the Western European Enlightenment. Thus another foundation for science will have to be build up. This is—in my view—what Peirce does in his semiotic

- pragmaticism. Likewise, they teach that God is not the “stage magician God” who only shows up when performing miracles. God is not merely necessary to have created the universe, but that His active presence is necessary in some way for every bit of creation, from smallest to greatest, to continue to exist at all. That is, God’s energies maintain all things and all beings, even if those beings have explicitly rejected Him. His love of creation is such that he will not withdraw His presence. This is close to Peirce Agapistic view of evolution as we shall see. Thus the entirety of creation is sanctified, and thus no part of creation can be considered innately evil.
6. This journal has asked me not to use the standard Peirce scholar reference system with CP for collected papers and the like as it violates APA format.
 7. Immanence is a theological and philosophical concept. It is derived from the Latin words, ‘in’ and ‘manere,’ the original meaning being “to exist or remain within.”
 8. Firstness has no concrete forms, only potential qualities.
 9. The following pages owe a lot to Kelly A. Parker’s (2002) brilliant article. He has found a lot of quotes and inserted them in a meaningful order, which I have borrowed as it fits into the view I have already started to develop in Brier (2007, 2008a). But the vision of the Neo-Platonist features in Peirce’s theory is of course his own theory. I see the similarity, but I think his hylozoism is at least as important and in combination with Peirce’s openness to the value of empirical science brings him closer to Aristotle. Still his evolutionary thinking including Darwin’s understanding of evolution brought into a semiotic framework makes him unique. The view I present here seems to fit well with Sheriff (1994).
 10. Greek *hylē*: matter, literally, wood + *zōos* alive, living. The English term was introduced by Ralph Cudworth in 1678. Hylozoism—in this context—is the philosophical conjecture that all or some material things possess life, or that all life is inseparable from matter. It was a doctrine held especially by early Greek philosophers. Panpsychism is any system of thought that views all matter as alive, either in itself or by participation in a world soul, its processes, or some similar principle. Here Peirce’s Firstness is an interesting candidate. Hylozoism is different from the panpsychist idea of possessing a soul, but it does attribute some form of sensation to all matter,

very much like Whitehead's panexperientialism. Hylozoism it is not a form of animism either, as this tends to view life as taking the form of discrete spirits. Scientific hylozoism is a protest against a mechanical view of the world as dead, but at the same time upholds the idea of a unity of organic and inorganic nature and derived all actions of both types of matter from natural causes and laws. Hylozoism is maintaining that living and non-living things are, essentially, the same and stipulating that they behave by the same set of laws. Peirce presents us with his own semiotics version of hylozoism based on his (non-mechanical) evolutionary semiotic triadic laws.

11. In philosophy, hyle refers to matter or stuff. The Greeks originally had no word for matter in general, as opposed to any raw material suitable for some specific purpose, so Aristotle adapted the word for "lumber" for his ontology. It became the material cause underlying change in Aristotelian philosophy. It is that which remains the same in spite of the changes in forms. In opposition to Democritus' atomic ontology, hyle in Aristotle's ontology is a plenum or a sort of field. Aristotle's world is an uncreated eternal cosmos, but Peirce used the term in an evolutionary philosophy in a world that has an end and a beginning.
12. To get a more full understanding of Peirce's summom bonum, one will also have to go into his Agapistic theory of love and the divine, which was inspired by the apostle Paul (Peirce, 1893; see also Potters, 1997).
13. Here I am thinking of the ability to make observations and therefore distinctions, so important to the foundation of cybernetics and Luhmann's system theory through the work of George Spencer-Brown. To make distinctions one needs to have qualia to for instance make a distinction between black and white. I posit that we need semiosis to produce a distinction (Brier, 2008a). Triadic semiosis has Firstness' potentiality and pure feeling as a prerequisite. One can hardly talk of time and space in Firstness and one needs Secondness and Thirdness to form the concept of Firstness at all in a conscious mind. Firstness is the beginning and Secondness is the end. Thirdness is the mediation between them. It is minds tendency to take habits.
14. I have argued this point in Brier (2007) and followed George Spencer-Brown's very clear theory development on this matter, showing that it lead him to much the same philosophical position as Peirce.
15. I have chosen Maharishi Mahesh Yogi as a modern interpreter of Shankara's Advaita Vedanta, as his teacher was the leader of the order Shankara created.
16. But Heidegger was not a part of the mystical traditions' perennial philosophy.
17. A theory that was central to the Matrix movies where only the enlightened one could see the Matrix (the real reality) and therefore manipulate time and space.
18. Peirce defines mystical theory the following way: "... mystical theories (by which I mean all those which have no possibility of being mechanically explained)" (Peirce, 1866-1913/1994, Vol. 6, p. 425).
19. Eugene Taylor (1995) wrote about Suzuki's story and interaction with American pragmatism:

Deitsetz Suzuki was born in Kanzawa, an area north of Tokyo, in 1870 into a family of Renzai Zen lineage.... When he finished his schooling he became a teacher in a small fishing village until his mother died, when he moved to Tokyo and began taking classes at Tokyo Imperial University. Suzuki entered zen training at this time under Setsumon-roshi and began with koan training under the Master Kosen. Thereafter, under Soyen Shaku, he lived for four years in the strict life of a novice monk at Engakuji,... Here Suzuki also came under the influence of Kitaro Nishida, a Japanese thinker well versed in German idealist philosophy, whom Suzuki was later to introduce to the writings of William James. During this time Suzuki undertook the first of his many translation projects, rendering Dr. Paul Carus's Gospel of Buddhism into Japanese. ... Suzuki was invited by Paul Carus ... to come to the United States, where he was to undertake the translation of Chinese and Japanese texts for Carus's business enterprise, The Open Court Publishing Company. ... Meanwhile, the invitation from Carus seems to have precipitated a crisis in Suzuki's zen practice, which had become very intense in his four year struggle to master the meaning of his koan, Mu, meaning "no- thing." Just before he left, according to his teachers, Suzuki experienced self-realization. In honor of this occasion his teacher Soyen Shaku gave him the name Daisetz, meaning "Great Simplicity." ... Suzuki arrived in San Francisco in February 1897.... His first project for Carus

was an English rendering of the Tao te Ching, the famous Chinese classic attributed to Lao-tzu, followed by Ashvaghosha's Awakening of Faith in the Mahayana. ... He also began work at this time on his first book, perhaps one of the most influential for American readers, his Outlines of Mahayana Buddhism, which sketched the mystical aspects of Buddhism before it came to Japan. In all, Suzuki spent almost eleven years working for Carus ... Suzuki came into contact with the pragmatic American philosophy of William James and Charles S. Peirce. James and Carus were correspondents, while Peirce had published his pioneering series of cosmological essays in Carus' journal (The Monist) in the early 1890s." (n.p.)

20. "God made the world good, wishing everything to be like himself. To this end he brought order into it and endowed it with soul and intelligence. Let me tell you then why the creator made this world of generation. He was good, and the good can never have any jealousy of anything. And being free from jealousy, he desired that all things should be as like himself as they could be. This is in the truest sense the origin of creation and of the world, as we shall do well in believing on the testimony of wise men: God desired that all things should be good and nothing bad, so far as this was attainable. Wherefore also finding the whole visible sphere not at rest, but moving in an irregular and disorderly fashion, out of disorder he brought order, considering that this was in every way better than the other. Now the deeds of the best could never be or have been other than the fairest; and the creator, reflecting on the things which are by nature visible, found that no unintelligent creature taken as a whole was fairer than the intelligent taken as a whole; and that intelligence could not be present in anything which was devoid of soul. For which reason, when he was framing the universe, he put intelligence in soul, and soul in body, that he might be the creator of a work which was by nature fairest and best. Wherefore, using the language of probability, we may say that the world became a living creature truly endowed with soul and intelligence by the providence of God." Source: <http://oll.libertyfund.org/Texts/Plato0204/Dialogues/HTMLs/0131-03_Pt03_Timaeus.html#hd_lf131.3.head.034> Updated: April 20, 2004.

21. The Oxford English Dictionary defines "tohu-bohu" as "That which is empty and formless; chaos; utter confusion (also tohubohu)." Tohu Bohu is the formless primordial nothingness of things not yet created, the primordial state before Creation. It is not really a place, rather a state of being, a nonplace. It is the absence of time, form, and space. Tohu va-bohu in the Torah is usually translated as "empty and shapeless," from tohu wasteness + bohu emptiness, void, but in Hebrew tohu means "ruin," and bohu, "desolation." These two words are closely similar in meaning, tohu signifying that which lies waste, without inhabitants or other manifested activity, and bohu signifying that which is empty or void, so that the combination can be translated as the uninhabited void. Used in Genesis (tohu wabohu) for the state preceding the appearance of the manifested universe—primeval chaos: "And the earth was without form, and void; and darkness was upon the face of the deep" (Genesis 1:2).

22. Peirce (1866-1913/1994, Vol. 6, p. 102) himself admitted in the following quote to hold a benign form of it:

I have begun by showing that tychism must give birth to an evolutionary cosmology, in which all the regularities of nature and of mind are regarded as products of growth, and to a Schelling-fashioned idealism which holds matter to be mere specialized and partially deadened mind. I may mention, for the benefit of those who are curious in studying mental biographies, that I was born and reared in the neighborhood of Concord—I mean in Cambridge—at the time when Emerson, Hedge, and their friends were disseminating the ideas that they had caught from Schelling, and Schelling from Plotinus, from Boehm, or from God knows what minds stricken with the monstrous mysticism of the East. But the atmosphere of Cambridge held many an antiseptic against Concord transcendentalism; and I am not conscious of having contracted any of that virus. Nevertheless, it is probable that some cultured bacilli, some benignant form of the disease was implanted in my soul, unawares, and that now, after long incubation, it comes to the surface, modified by mathematical conceptions and by training in physical investigations.

In his review of Josiah Royce's book, *The World and the Individual*, Peirce (1866-1913/1994, Vol. 6, pp. 106, 108) mentioned mysticism in a somewhat skeptical fashion.

23. The last formulation is inspired by Vedic mysticism.
24. In panentheism, God is viewed as creator and/or animating force behind the universe, and the source of universal truth. Heraclitus (ca. 535–475 BC) viewed the Logos as that which pervades the Cosmos and is the force and rationality whereby all thoughts and things originate. Gnosticism is Panentheistic, believing that the true God is separate from the physical universe, but that there are aspects of the true God in the physical universe as well. Valentinian Gnosticism claims that matter came about through emanations of the Supreme Being. To other Gnostics, the emanations are akin to the Sephiroth of the Kabbalists—description of the manifestation of God through a complex system of reality. Panentheism is often viewed as a component of Hassidic Judaism and Kabbalah. Several Sufi saints and thinkers, primarily Ibn Arabi, held beliefs that were somewhat panentheistic. These notions later took shape in the theory of wahdat ul-wujud (the Unity of All Things). Twelver Shi'ism has a panentheistic trend, represented by scholars such as Sayyid Haydar Amuli, Mulla Sadra, and Ayatollah Khomeini (all of whom were influenced by Ibn Arabi). Many interpretations of Hinduism can be seen as panentheistic and the first and most ancient ideas of panentheism originate in the Bhagavad Gita. For example, Lord Krishna's saying to Arjuna: "I continually support the entire universe by a very small fraction of My divine power," has been interpreted to support panentheism (Bhagavad Gita, Chapter 10, verse 42.). Panentheism is the view that the universe is part of the being of God; it holds that God pervades the world, but is also beyond it. He is immanent and transcendent, relative and Absolute. This embracing of opposites is often called dipolar. For the panentheist, God is in all, and all is in God.
25. Hence the title of the journal, *Cybernetics & Human Knowing*.

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