

Peirce on Science and Metaphysics: Overview of a Synoptic Vision

Peirce sobre ciência e metafísica: visão geral de uma visão sinóptica

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Abstract: The explanatory priority of natural science is an hallmark of pragmatism in the Peircean tradition. In his case the pride of place accorded to natural science applied in the first instance to science conceived concretely as an empirically constrained hypothetico-deductive methodology but the privileging spilled over to actual scientific explanations conceived of as converging on a complete explanation in the limit. However, from his perspective this privileging of natural science did not exclude metaphysical explanation but rather required it. In this paper I intend to explore the several different senses of “metaphysical inquiry” in the Peircean project as a step toward endorsing some and questioning others.

Key-words: metaphysics, science, pragmatism, tychism, synechism, agapism.

Resumo: A prioridade explicativa da ciência natural é uma marca distintiva do pragmatismo na tradição de Peirce. Em seu caso, o lugar de destaque concedido à ciência natural referia-se, em primeiro lugar, à ciência concebida concretamente como uma metodologia hipotético-dedutiva estrangida empiricamente, mas esse privilégio se alastrou para explicações científicas efetivas concebidas como se convergissem, no limite, para uma explicação completa. Contudo, nessa sua perspectiva, esse privilégio da ciência natural não excluía a explicação metafísica, mas antes a requeria. Neste artigo pretendo explorar os diversos sentidos de “inquirição metafísica” no projeto peirceano, como um passo em direção a endossar alguns e questionar outros.

Palavras-chave: metafísica, ciência, pragmatismo, tiquismo, sinequismo, agapismo.

The explanatory priority of natural science is a hallmark of pragmatism in the Peircean tradition. In his case the pride of place accorded to natural science applied in the first instance to science conceived concretely as an empirically constrained hypothetico-deductive methodology rather than to any specific instance of scientific theorizing but this privileging spilled over to actual scientific explanations conceived of as converging on a complete explanation in the limit. From Peirce’s perspective, however, this privileging of natural science did not exclude metaphysical speculation but

rather required it. However, the kind of metaphysics Peirce's vision requires, a chastened 'scientific metaphysics', is delimited in cognitive status and plays several distinct roles in filling out his vision of the cognitive enterprise as a whole.

In the tradition of his spiritual mentor, Immanuel Kant, Peirce distinguished the style of metaphysics that was acceptable from the style that was unacceptable although the line drawn by him was neither extensionally nor intensionally equivalent to that drawn by Kant. Peirce was devastatingly critical of what he called "ontological" or "a priori" metaphysics. This designation was meant to identify that rationalistic tradition in metaphysics that purported to demonstrate truths about the nature of reality from a priori principles. It was this metaphysical tradition that elicited comments like "the demonstrations of the metaphysicians are all moonshine" (CP 1.7) and whose conclusions he described as "metaphysical rubbish" (CP 8.191). Peirce saw this tradition in metaphysics as effectively eliminated by the pragmatic maxim: "it will serve to show that almost every proposition of ontological metaphysics is either meaningless gibberish – one word being defined by other words and they still by others – or else is downright absurd" (CP 5.423).¹

Peirce, however, was no positivist. The attack on ontological metaphysics was intended to be on behalf of a purified metaphysics in the spirit of and using the observational methodology of the natural sciences. His first point is that scientific metaphysics "is engaged in the investigation of matters of fact and the only way to matters of fact is the way of experience" (CP 8.110). The second point is that the only way to investigate experience is with 'a scientific attitude' and using 'the scientific method'. The scientific attitude is a cognitive cast of mind dominated by the desire to find out the truth whatever that may be (in contrast to 'the seminary attitude' which is that of preserving or defending the truth at all costs) and the scientific method is an empirically constrained and socially embodied hypothetico-deductive methodology. This combination of attitude and methodology are the building blocks of Peirce's core definition of science:

science is to mean for us a mode of life whose single animating purpose is to find out the real truth, which pursues this purpose by a well-considered method, founded on a thorough acquaintance with such scientific results already ascertained by others as may be available, and which seeks cooperation in the hope that truth may be found, if not by any of the actual inquirers, yet ultimately by those who come after them and who shall make use of their results. (CP 7.54)

With this definition of science in mind, he goes on to insist that unless we construe metaphysics as such an "observational science and apply to it the universal methods of such science without caring one straw what kind of conclusions we reach...but just honestly applying induction and hypothesis, we cannot gain some ground for hoping that the disputes and obscurities of the subject may at last disappear" (CP 6.5). His third point, however, is that despite these continuities scientific

1. All the quotations in the text are to: PEIRCE, C. S. *Collected papers of Charles Sanders Peirce*. Ed. by C. Hartshorne and P. Weiss (v. 1-6); Arthur Burks (v. 7-8). Cambridge, MA: Harvard University Press, 1931-1958. 8 v.

metaphysics would be quite different from the special sciences both in the generality of its claims and the kinds of experiences it draws on to support them:

the only essential difference between metaphysics and meteorology, linguistics or chemistry is that it does not avail itself of microscopes, telescopes, voyages or other means of acquiring recondite experiences, but contents itself with ascertaining all that can be ascertained from such experience as every man undergoes every day and hour of his life. (CP 8.110)

Before exploring the various roles this scientific metaphysics plays in Peirce's overall cognitive enterprise, a bit more must be said about the distinctive features of metaphysics methodologically. In his architectonic of the philosophical sciences (which the special sciences in different senses 'presuppose') Peirce places his scientific metaphysics as fourth in the order of logical priority behind mathematics, phenomenology and the normative sciences (including logic) and describes metaphysics as a overarching scientific account of the most general features of reality both matter and mind insofar as this account can be supported by ordinary observation (CP 1.186; 1.282).

'Ordinary observation' is the pivotal notion. Whereas the observations invoked in the special sciences are minute, contrived or recondite (the notion of 'an experiment') those that guide metaphysical speculation are "observations such as come within the range of every man's normal experience ... observations which escape the untrained eye because they permeate our whole lives, just as a man who never takes off his blue spectacles soon ceases to see the blue tinge" (CP 1.241). Peirce maintains that these dimensions of our experienced world are hard to discern because of their omnipresence; we have no background against which to view them. Just as we are not normally aware of our heartbeat, we are not normally aware of the most pervasive characteristics of the world in which we live.

In addition to these omnipresent features of experience there are also "common sense ideas and beliefs that man's situation absolutely forces upon him" (CP 1.129), ideas and beliefs that we neither doubt nor assent to that Peirce surmises to have been cemented in by natural selection. These two sets of everyday facts guide the construction of a descriptive account of the most general features of reality that Peirce identifies as 'scientific metaphysics'. Moreover, this metaphysical picture of the world does not just stand along side the picture of the world conveyed by the special sciences but supplements or even undergirds it in several important ways:

the special sciences are obliged to take for granted a number of most important propositions because their ways of working afford no means of bringing these propositions to the test; in short, they always rest on metaphysics ... the philosopher alone is equipped with the facilities for examining such 'axioms' and determining the degree to which confidence may safely be reposed in them. (CP 1.129)

In fact, Peirce's scientific metaphysics plays a variety of roles in *undergirding* and *extending* his overall scientific picture of the world.

First and foremost is the issue of the status of our ordinary perceptually based beliefs about the world vis a vis the scientific account of the world. It seems clear that Peirce is both a law and entity realist about scientific theories: "the things that science discovers are beyond the reach of direct observation; we cannot see energy

nor the attraction of gravitation nor the flying molecules of gases. nor the explosions in the nerve cells – it is only the premises of science not its conclusions that are directly observed” (CP 6.2). In contrast to the extreme empiricism of James, Peirce accepts realistically “the attempts to explain phenomenally given elements as products of deeper-lying entities” (CP 8.60). Since it is the nature of scientific explanation to explain the features of the world that are more directly available to us in terms of underlying entities, structures and processes, if these are to be real explanations we are committed to their postulations as real features of the world. Moreover, Peirce clearly acknowledges that this scientific picture of the world can be quite different from the familiar world of common sense: “modern science, with its microscopes and telescopes, with its chemistry and electricity has put us into quite another world, almost as much as if it had transplanted our race to another planet” (CP 5.513). This realistic view of scientific laws and entities poses a crucial question – does this scientific picture of the world constituted by the realistic construal of its postulated theoretical entities, structures and processes commit us to the falsity of our common sense picture of the world which seemingly involves quite different features? Eddington’s two tables remind us that our ordinary perceptual judgments can be quite different from our scientific beliefs. This question is particularly acute for Peirce since his demarcation of scientific method from the other methods of fixing belief crucially depends on ordinary perceptual judgments monitoring the feedback mechanism which guides the self-correction of science. Accordingly, scientific method seems to depend on the reliability if not the truth of ordinary perceptual judgments under standard conditions. Hence, if our scientific picture of the world puts in question our ordinary perceptual judgments about it, we would be faced with an internal tension that would threaten to unravel the whole view.

My suggestion is that this is the *first place* where Peirce’s scientific metaphysics undergirds his scientific picture of the world. The relation of the ordinary perceptually constituted conception of the world to the scientific conception of the world is not that of the false to the true but rather that of the vague to the precise. Both are reliable at their own level simultaneously in a manner that allows Peirce to maintain his empirical demarcation of scientific method from the other methods of fixing belief while at the same time embracing a realistic interpretation of scientific theorizing.

Peirce’s ability to maneuver between the extremes of a reductive empiricism and reductive scientism rests on his account of concept formation that ranges over both perception and scientific theories. On his account our various conceptualizations of the world are not simply given but are the result of constructive mental processes, processes that have the same formal features both in the case of normal perceptual beliefs and the construction of scientific theories. In both cases it is a matter of coming up with a simple predicate (whether it be “red” or “electron”) that reduces the manifold of experience to some kind of unity. The mental processes that generate all our conceptualizations of the world, from the most general to the most precise, are inferential in nature and the specific form of the inference involved in this generation moment is abduction: “perceptual judgments are to be regarded as the extreme case of abductive inferences from which they differ in being absolutely beyond criticism” (CP 5.181). It is with these considerations in mind that Peirce talks of ordinary perceptual judgments and scientific theories as both being hypothetical in nature.

Of course there are enormous differences between the ordinary recognition of

colors and shapes and scientific accounts of the charge of an electron or the structure of the gene but the difference is not one of logical form; the processes involved in both judgments have the same abductive inferential structure. It's just that the perceptual 'inferences' are unconscious, indubitable and not directly subject to criticism whereas the scientific accounts are conscious, dubitable and subject to constant criticism.

As hypothetical products of abductive processes both orders of 'concepts' are obviously fallible, but there is a clear sense for Peirce in which our ordinary perceptual judgments are indubitable and reliable. They are indubitable because they are beneath the level of critical reflection and they are reliable because they are founded on "the totality of everyday experiences of many generations of multitudinous populations" (CP 5.552). Of course it does not follow from the fact that they are indubitable that they are incorrigible (later perceptual reports may conflict with them in such a way that I may infer that the former were erroneous) nor from the fact that they are generally reliable that they are true. Nevertheless, they are indubitable and reliable and as such are the touchstones of inquiry.

The positive epistemic status of these ordinary perceptual judgments is circumscribed by two factors: first, that their primary role is in guiding our ordinary interactions with our environment, and secondly, their status as "invariably vague" (CP 5.446). Their proper sphere of epistemic authority is with regard to the gross features of ordinary life and shades off as we pursue esoteric speculation. On the other hand, if the epistemic status of our ordinary perceptual judgments is circumscribed by their vagueness, that of our scientific judgments is circumscribed by their ideality. Peirce understands that 'to explain is to simplify' and urges us to bear this in mind in forming our attitudes towards the conclusions of our sciences: "owing to the necessity of making theories far more simple than the real facts, we are obligated to be cautious in accepting any extreme consequences of them, and also be on our guard against apparent refutations of them based on such extreme consequences" (CP 7.96). Given these caveats, it is reasonable to accept perceptual judgments in their vagueness and still believe that our scientific theories in their ideality do give us access to the real structures of things.

How is this possible? The view seems to be that ordinary perceptual judgments in standard conditions are reliable guides to the general features of the world in which we live. For all their vagueness, "they answer our general purposes" (CP 6.494) and among those purposes are the identification of given subjects of scientific inquiry and the identification of the ranges of phenomena that can confirm or falsify our scientific theories. Scientific theorizing, however, goes beyond these vague identifications in terms of both discrimination and precision. In theorizing, a new level of analysis is attained and categorizations that we have good reason to think are reliable at the macro-level may not apply at the micro-level, e.g., "it is quite open to reasonable doubt whether the motions of electrons are confined to three dimensions" (CP 5.445).

On this view it does not at all follow from the fact that the quite different because more precise scientific account is true that the original perceptually guided conceptualization is false. On the contrary; each is true (or at least reliable) at its level, and given the role of perception in the origination and confirmation of scientific theories, the success of science would seem to depend on the world having "the character that it can be explored and progressively understood by means of vague

ideas provided only that they may be made sufficiently precise; in this sense vagueness is as evident a character of the objective world as preciseness” (CP 5.552). Moreover, it is crucial for science that this be so. Scientific theorizing develops within our ordinary perceptually guided interactions with the world in such a way that the epistemic status of both is inextricably intertwined. Its role in providing this foundation for a synoptic vision seems to me to be the basic way in which Peirce’s scientific metaphysics supports the conditions of possibility of science.

The *second point* at which Peirce’s scientific metaphysics supports his account of scientific explanation is with regard to creative insight and with regard to those regulative principles that guide antecedent abductive theory selection. Peirce distinguishes two moments of abduction: first the purely creative moment bearing on the origination of conjectures that will make up the list of possible explanations of the range of phenomena under consideration. This moment of ‘discovery’ is basically a matter of the creative imagination of some people. Some exceptional individuals, upon being confronted with a perplexing array of phenomena, are able to imagine structures such that were such structures the underlying causes the phenomena in question would be rendered intelligible. Peirce thinks of this ability in terms of natural instinct and does not think it can be reduced to formulae or rules of procedure. But if we think of abduction as the proposal of an explanatory hypothesis for serious consideration, there is more to abduction than ‘discovery’ narrowly construed. The second moment arises from the fact that there may well emerge several suggested hypotheses that equally well ‘explain’ the facts. If we are to get on with the task of science we must select from the list of possible explanations those we are seriously to consider and then effect a preference ordering of these. Peirce does think that this moment of the abductive process, the moment of antecedent theory choice, is guided by principles and even more specifically that “it is in the light of one’s metaphysics ... one considers what different hypotheses have any claim to investigation” (CP 7.83). Here Peirce proposes his ‘principles of the economics of research’, the first of which is the principle of simplicity interpreted not as logical simplicity but as natural simplicity by which he means that those hypotheses that “naturally recommend themselves to the mind and make upon us the impression of simplicity – which here means facility of comprehension by the human mind – of aptness, of reasonableness, of good sense” (CP 7.220). Just as Peirce thought of the initial moment in terms of the natural instinct for guessing right, he invokes this same notion of natural instinct as operative in the moment of antecedent theory selection with the difference being that in the latter case this natural instinct can be further delineated in terms of principles directed toward the efficient discovery of truth in the long run.

Peirce ‘grounds’ this cognitively crucial natural instinct in a broadly evolutionary metaphysical story. Given the survival instincts in the rest of the animal kingdom, and given that the ability to guess right has obvious survival value for cognitive creatures like us, Peirce’s first thought is that it would not be unreasonable to think that our species too would have those instincts necessary for the effective continuance of our distinctive mode of life and that we, the survivors, would have this ability to guess correctly to a considerable degree (CP 6.476). His second more fine-grained thought is that these cognitive abilities would be best rendered intelligible if we surmise that the dispositions of the inquiring mind are constituted by nature’s evolving development:

if the universe conforms with any approach to accuracy to certain highly pervasive laws, and if man's mind has been developed under the influence of these laws, it is to be expected that he should have a 'natural light' or 'light of nature' or 'instinctive insight' or genius tending to make him guess those laws aright or nearly aright. (CP 5.604)

Being nature's products we would have ready access to her secrets. This overall metaphysical view is recommended by its ability to render intelligible this feature of scientific inquiry.

The *third point* at which Peirce's metaphysics undergirds his account of scientific inquiry is with regard to the general issue of 'realism' in all its guises. Peirce strongly felt that the anti-realist account of laws, powers, dispositions and modalities proffered by positivists such as Pearson and Mill rendered unintelligible the actual structure of explanation in the sciences. He maintained that actual scientific practice required the distinction between empirical generalizations and real scientific laws and that without a metaphysical commitment to the reality of dispositions and modalities such a distinction was impossible to maintain. He uses his own early illustration of the pragmatic maxim (where he argued that it made no real sense to call a diamond "hard" which is never in a position to be put to the test) as an example of a positivistic mindset that did not fit well with scientific practice. His mature view with regard to this familiar case is that the diamond 'would' resist pressure if tested and that this counterfactual condition made it the case that "the diamond is hard as a positive fact" (CP 8.207). To identify a certain object as a diamond is to conceive of it as a certain kind of thing having a definite structure having certain essential properties from which "hardness is believed to be inseparable" (CP 5.457). Any diamond in fact has a structure which grounds real dispositional properties which, whether manifested or not, involve real objective possibilities and necessities in the world. These in turn ground real scientific laws in contrast to mere empirical generalizations. The analysis proposed by the pragmatic maxim does not eliminate or reduce dispositions, powers or modalities but simply gives us a way of expressing our concepts of them so that we can tell real instances of them from fictions.

He makes a similar point with regard to probabilities. To say that a given roll of a die has a certain probability is to ascribe a certain 'would be' to the die itself which can be thought of on analogy with any habit or disposition we as agents might have. The fact that this dispositional property is to be explicated in terms of behavior "will not itself imply that the 'would be' of the die consists in such behavior" (CP 2.664). So, both the necessary laws and the probabilistic laws of science invite a metaphysical view of the world as not merely the sum of particulars but as containing "real modality, including real necessity and possibility" (CP 6.457). It is Peirce's scientific metaphysics that makes the case for and explicates these modal notions in our enriched picture of the natural world.

These first three points at which Peirce's scientific metaphysics undergirds or fills out his account of scientific inquiry might be thought of as addressing 'the conditions of possibility of science', but if we were to entertain this thought it would have to be in a very chastened form compared to the more heroic Kantian project. Lest we be tempted to take these metaphysical postulates as 'a priori conditions' or 'indispensable presuppositions', Peirce warns us against any such construal. They are not even full-blown 'beliefs' but rather 'hopes'. Disparaging philosophers of

transcendental inclination, he remarks “I reduce the indispensability of their postulates all the way from universality to the single case that happens to come up; and even then, I do not admit that indispensability is any ground of belief” (CP 2.113). The status of these metaphysical posits that would undergird scientific inquiry he likens to the assumptions bearing on card distribution made in the game of bridge in favor of the one providing your only possibility of winning the hand: “all that logic warrants is a ‘hope’ and not a belief” (CP 2.113).

The *fourth point* at which his metaphysics figures in his comprehensive view is much more general, namely, as the speculative extension of science into an overarching worldview. Whereas the first three points of metaphysical reflection might be thought of as ‘prior’ to science, this fourth could be seen as ‘posterior’ to science as long as the priority/posteriority is taken in a logical sense and not construed in any hard and fast manner. Peirce describes this moment of metaphysical speculation as follows:

Thus in brief my philosophy may be described as the attempt of a physicist to make such conjecture as to the constitution of the universe as the methods of science may permit with the aid of all that has been done by previous philosophers. I shall support my propositions by such arguments as I can. Demonstrative proof is not to be thought of. The demonstrations of metaphysicians are all moonshine. The best that can be done is to supply an hypothesis, not devoid of all likelihood, in the general line of growth of scientific ideas, and capable of being verified or refuted by future observers. (CP 1.7)

His objection here is not to metaphysics but to the pretense of demonstration, and his proposal is that metaphysical speculation in the sense of the construction of an overall world view should

take note of all the valuable ideas in each branch of science, should observe in what sense each has been successful and where it has failed, in order that, in the light of the thorough acquaintance so attained of the available materials for a philosophical theory and the nature and strength of each, he may proceed to the study of what the problem of philosophy consists in and the proper way of solving it. (CP 6.9)

In order to make sense out of ourselves, the universe we inhabit and our place in it we have to go beyond science to construct a comprehensive metaphysical view that would provide such an integrative vision. This would not be at all contrary to science but rather a speculative extension of science, where the extension is guided by the other dimensions of our experience that are beyond the purview of science but in which scientific inquiry is embedded. This includes not only our common perceptual world but also our multi-dimensional lived world including our feelings and aspirations. It is important to underscore the point that for Peirce this overarching metaphysical picture of reality is not at all ‘contrary to science’ but rather an enriched extrapolation from science: “metaphysics avails itself of some of the grander generalizations of physics, or more often of psychics, not as a governing principle, but as a mere datum for a still more sweeping generalization” (CP 3.428). Moreover, it is not merely a ‘generalization’ from science because some of the general features of the metaphysical worldview are drawn from the conceptually prior common sense view but these features are filled out by drawing on the best scientific information available.

Peirce spent his later years developing just such a comprehensive metaphysical worldview. In most general terms Peirce's view is clearly an evolutionary process view whereby "the whole universe is approaching in the infinitely distant future a state having a general character different from that toward which we look back in the infinitely distant past" (CP 1.362). The most general features of this evolutionary metaphysics he spells out in terms of 'tychism', 'synechism' and 'agapism'.

By "tychism" he means simply the view that "absolute chance is a factor in the universe" (CP 6.201) and he defends this general characterization of the universe against various forms of mechanism and determinism that were presumed to be part of the scientific picture of the world narrowly construed. Peirce's general point is that the law-like character of the universe is not an irreducible explainer but itself something to be explained, and that while 'chance' itself is not the explanation of law it is a necessary precondition of an evolutionary account of the development of laws over time. In searching for a model for the notion of the gradual formation of laws over time Peirce fastens on the psychological phenomenon of habit formation wherein a pattern of predictable behavior gradually solidifies, reducing but not eliminating genuine freedom. On this model he construes nature's development of laws as a process from a primordial indeterminacy to a fixity in the ideal limit with the element of pure chance present at any given time. He "uses chance to give room for the development of law by means of the law of habits" (CP 6.606). He bolsters this general explanatory argument for tychism with the empirical consideration that all our observations of the universe at the macro-level suggest that the events of the universe are law-like only to a degree of approximation (CP 6.46), a conclusion driven home even more strikingly at the micro-level where we have good reason for "serious doubt whether the fundamental laws of mechanics hold good for single atoms" (CP 6.11). Finally, he thinks that the obvious variety and diversity in the universe can be best accounted for on the hypothesis of tychism:

by thus admitting pure spontaneity or life as a character of the universe, acting always and everywhere though restrained within narrow bounds by law, producing infinitesimal departures from law continually and great ones with infinite infrequency, I account for all the variety and diversity in the universe in the only sense in which the really *sui generis* and new can be said to be accounted for. (CP 6.59)

"Synechism" as a metaphysical thesis (it is also a methodological thesis) is defined as the doctrine that "all things swim in continua" (CP 1.171), a generalization of the core idea of the calculus which generalization is "the master key which unlocks the arcana of philosophy" (CP 1.163). Peirce specifies this metaphysical thesis in terms of the continuity of space, the continuity of time, the continuity of consciousness and finally the continuity of all things.

Peirce's approach to the continuity of space is through the paradoxes of Zeno; he argues that the paradoxes arise from an inadequate conception of the radical continuity of space. We say space is continuous but continue to think of it as an aggregate of discrete units. In the conception of Achilles passing through a determinate series of line segments is presumed a metric in terms of which his position is successively defined. But since the metric is a system of discrete values, it introduces the fiction that there are discrete points on the line corresponding to its values. It is this fiction which generates the paradoxes since it invites the view that space is a continuum made up of ultimate parts: "all the arguments of Zeno depend on supposing that a continuum has ultimate parts – but a continuum is precisely that every part of which has parts in the

same sense” (CP 3.335). Far from reducing to absurdity the view that space is a continuum the paradoxes remind us just how radically continuous space is.

Peirce’s argument for the continuity of time is in the same spirit. Having argued that we must be immediately conscious of the past since the view that all our knowledge of the past is a matter of an inference from the present generates a regress, he goes on to argue that the continuity of time is a necessary condition for the fact that we are immediately conscious of the past. If time were composed of discrete instants, it would follow that the immediate awareness of any past instant would involve the immediate awareness of all past instants, a capacity clearly contrary to fact. This would follow because if the state that preceded the present by, say, half a second, were still immediately present before me, then, on the same principle the state preceding it would also be immediately present and so on *ad infinitum*. We would have to have an immediate consciousness of every state of mind that is past by any finite number of units of time. The only possible way for a past state to be no longer ipso facto present would be for it to be more than any finite number of units of time past. This would be possible only if time is continuous: “here, then, it seems to me, we have a positive and tremendously strong reason for believing that time really is continuous” (CP 1.169).

The other side of the thesis of the continuity of time is the continuity of consciousness since the argument that time is continuous is an argument to the effect that “we are immediately conscious through an infinitesimal interval of time” (CP 6.110). In fact, Peirce maintains that we directly perceive the continuity of consciousness: “my notion is that we directly perceive the continuity of consciousness and if anyone objects that that which is not really continuous may ‘seem’ so, I reply ‘but it could not seem so if there were not some consciousness that is so’” (CP 6.182). Since the distinction between appearance and reality cannot be invoked in this case, we must acknowledge that consciousness is continuous. Given the continuity of space, time and consciousness, Peirce concludes to the effect that “the reality of continuity once admitted, reason are there, divers reasons, some positive, others only formal, yet not contemptible, for admitting the continuity of all things” (CP 1.169).

“Agapism” is the third of Peirce’s speculative metaphysical views and he defines this as “evolution by creative love” (CP 6.302). This is a specification of the kind of evolutionary process the universe as a whole is undergoing. Of the three possible models for the general evolution of the universe, e.g., (1) evolution by fortuitous variation, (2) evolution by mechanical necessity, and (3) evolution by creative love, Peirce defends the latter. This model of evolution is a synthesis of creativity and lawfulness in a general teleological structure that suggests a point and a goal to the whole cosmic process.

Tychism, synechism and agapism clearly point in the direction of some kind of idealism and Peirce is unabashed about characterizing his overall metaphysical view as ‘objective idealism’: “the one intelligible theory of the universe is that of objective idealism, that matter is effete mind, inveterate habits becoming physical laws” (CP 6.25). The considerations that motivate assent seem to be these: since dualism runs counter to his principle of continuity and he thinks that the thesis of ‘emergentism’ is mysterious, the options are reduced to materialism or idealism. Since our access to the concept of ‘stuff’ is through laws, the pivotal issue becomes that of reduction.

Peirce's idealism, then, comes down to the claim that psychical laws are primitive and physical laws derived rather than vice versa: "instead of supposing mind to be governed by blind mechanical law, it supposes the one original law to be the law of mind of which the laws of matter are regarded as mere special results" (CP 6.277).

While this grand metaphysical vision is speculative in the extreme in terms of its content, it is 'modestly' speculative in terms of degree of assent. Its status is that of an extremely fallible explanatory hypothesis, a conjecture, a guess at the riddle of the sphinx: "the attempt of a physicist to make such conjecture as to the constitution of the universe as the methods of science may permit" (CP 1.7). Peirce's considered view is that metaphysics, chastened in the manner he delineated, cannot be avoided; it can only be engaged in reflectively and well or unreflectively and poorly: "so instead of merely jeering at metaphysics like other prope-positivists, whether by long drawn out parodies or otherwise, the pragmatist extracts from it a precious essence which will serve to give life and light to cosmology and physics" (CP 5.423).

References

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