

The Final Incapacity: Peirce on Intuition and the Continuity of Mind and Matter (Part 2)

A Incapacidade Final: Peirce sobre Intuição e Continuidade da Mente e Matéria (Parte 2)

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Abstract: This is the second of two papers that examine Charles Peirce's denial that human beings have a faculty of intuition. In the first paper, I argued that in its metaphysical aspect, Peirce's denial of intuition amounts to the doctrine that there is no determinate boundary between the internal world of the cognizing subject and the external world that the subject cognizes. In the present paper, I argue that, properly understood, the "objective idealism" of Peirce's 1890s cosmological series is a more general iteration of the metaphysical aspect of his earlier denial of intuition. I also consider whether Peirce continued to deny that there is a definite boundary between the internal and external worlds in the years after the cosmological series.

Key words: Charles Peirce. Intuition. Cognition. Generality. Indeterminacy. Continuity. Objective idealism.

Resumo: *Este é o segundo de dois artigos que examinam a recusa de Charles Peirce de que o ser humano possui uma faculdade de intuição. No primeiro artigo, afirmei que, em seu aspecto metafísico, a recusa de Peirce da intuição chega-se à doutrina de que não há fronteira determinada entre o mundo interno do sujeito cognoscente e o mundo externo que o sujeito conhece. Neste artigo, afirmo que o "idealismo objetivo" da série cosmológica de 1890 de Peirce é um plano mais geral do aspecto metafísico de sua primeira negação da intuição. Também considero que Peirce continuou a recusar uma fronteira definida entre os mundos interno e externo nos anos após as séries cosmológicas.*

Palavras-chave: Charles Peirce. Intuição. Cognição. Generalidade. Indeterminação. Continuidade. Idealismo Objetivo.

In the "cognition series" of 1868-69, Charles Peirce argued that humans lack introspection, that we cannot think without signs, that we cannot conceive the incognizable, and that we lack intuition.¹ In an earlier article, I focused on the last

1 The cognition series consists of three articles published in the *Journal of Speculative Philosophy*: "Questions Concerning Certain Faculties Claimed for Man" (QCCF, 1868), "Some Consequences of Four Incapacities" (SCFI, 1868), and "Grounds of Validity of the Laws of Logic: Further Consequences of Four Incapacities" (1869). Arguments relevant to each of the four incapacities appear in all three papers, but especially in the first two. In QCCF,

of these four incapacities, arguing that, in its metaphysical aspect, Peirce's denial of intuition amounts to the claim that there is no definite boundary between the internal world of the mind and the external world that the mind cognizes; cognizing mind and cognized object are continuous with one another.² In the present paper, I continue my examination of the final incapacity by arguing that his denial of intuition is an early version of his *objective idealism*, according to which "matter is effete mind" (CP 6.25, W 8:106, EP 1:293, 1891). Objective idealism is a central thesis of Peirce's notoriously difficult "cosmological series" of articles published in *The Monist* from 1891 to 1893.³ As I show in section one, that doctrine is at bottom the same position regarding the continuity of mind and non-mind that Peirce had defended decades before—in short, it is the metaphysical aspect of his denial of intuition.⁴ In section two, I examine some of Peirce's later writings, writings that suggest that he continued to deny a sharp mind/non-mind boundary in the years following the cosmological series.

1. Objective Idealism

Hitherto the uses of the principle of continuity have been quite restricted. Commonly it has been used only in a negative way [...].

Peirce argues that we lack introspection, then that we cannot conceive the incognizable, then that we cannot think without signs, and finally that we lack intuition. These four incapacities are summarized in SCFI (CP 5.265, W 2:213, EP 1:30), albeit in a different order: introspection, intuition, thinking without signs, and conceiving the incognizable. The titles of the present article and its predecessor refer to the fact that intuition is the final incapacity that Peirce deals with in QCCF.

2 LANE, 2011.

3 The cosmological series consists of five articles published in the *Monist*: "The Architecture of Theories" (CP 6.7-34, W 8:98-110, EP 1:285-97, 1891), "The Doctrine of Necessity Examined" (CP 6.35-65, W 8:111-25, EP 1:298-311, 1892), "The Law of Mind" (CP 6.102-63, W 8:135-57, EP 1:312-33, 1892), "Man's Glassy Essence" (CP 6.238-71, W 8:165-83, EP 1:334-51, 1892), and "Evolutionary Love" (CP 6.287-317, W 8:184-205, EP 1:352-71, 1893).

4 So far as I am aware, I am the first to argue that Peirce's objective idealism is a later iteration of the metaphysical aspect of his denial of intuition. OCHS (1993, p. 233) mentions in passing that in the cognition series, "Peirce proposed an objective idealism as an alternative to Cartesian dualism," but he does not defend that claim or offer an analysis of Peirce's objective idealism that goes beyond Peirce's own pronouncement that "matter is effete mind." His further, brief comments on the cognition series as an anticipation of the cosmological series are restricted to the epistemological aspects of Peirce's denial of intuition (p. 243). Other commentators have seen still other connections between the cognition series and the cosmological series. For example, BURKS (1996, p. 335) emphasizes the analogy between "the infinite semiotic inferential evolutionism of the human community" he finds in the earlier series and the "infinite cosmic evolutionism" of the later series. FOREST (2007, p. 733) connects Peirce's rejection of intuition to his objective idealism by way of his rejection of "inexplicables," but he does not elaborate on that connection or suggest that they are ultimately the same doctrine. Carl HAUSMAN (1993, p. 66) notes that Peirce's "idea of the eventfulness and temporality of thought-signs [...] anticipates [...] 'The Law of Mind,'" the third article in the cosmological series, but he does not recognize the metaphysical aspect of the denial of intuition or its recurrence in the cosmological series.



The Final Incapacity

For me, on the contrary, upon the first assault of the enemy, when pressed for the explanation of any fact, I lock myself up in my castle of impregnable logic and squirt out melted continuity upon the heads of my besiegers below.

I do not merely use it subjectively as a way of looking at things, but objectively put it forward to account for all interaction between mind and body, mind and mind, body and body. (R 949, c.1893-94).⁵

There are no explicit disavowals of intuition in the cosmological series, and although Peirce does use the term “intuition” and its cognates in his later writings, he does so only infrequently and seemingly never with the same sense he had given them in the cognition series.⁶ Still, a careful reading of the cosmological series reveals that Peirce continues to deny that there is a sharp division between the internal, cognizing mind and the external, cognized world.

In “The Law of Mind” (LM), the third article of the cosmological series, Peirce reminds us that continuity had played a central role in the cognition series.

The present paper is intended chiefly to show what synechism is, and what it leads to. I attempted, a good many years ago, to develop this doctrine in the *Journal of Speculative Philosophy* (Vol. II); but I am able now to improve upon that exposition, in which I was a little blinded by nominalistic prepossessions. (CP 6.103, W 8:136, EP 1:313, 1892).⁷

What, exactly, are the nominalistic prepossessions that, after almost 25 years, Peirce has come to see in his earlier work? He does not tell us, but a plausible explanation becomes available once we attend to the change that his definition of continuity underwent during that time.

By the time of the cosmological series, Peirce has become dissatisfied with his earlier view of continuity, according to which a continuum is that which has parts all of which have parts of the same type and thus no ultimate parts. Both at the time of the cognition series and at the time of the cosmological series, he takes this to

⁵ I take the date of R 949 from HAVENAL, 2008.

⁶ For example, W 6:187, 1887-88 (see the editorial comment on this use of “intuition” at W 6:448); CP 4.147, 1893; CP 6.595, 1893; CP 1.492, c.1896; CP 4.157, c.1897; CP 6.82, RLT 212, 1898 (see the editorial note on this use of “intuition” at RLT 287 n.5); CP 6.87, RLT 217, 1898; CP 7.491, RLT 228, 1898; CP 3.613 and 619, 1902; and CP 6.96, 1903. One late use of a cognate of “intuition” that may appear to be an exception occurs in an advertisement for “The Grand Logic” that is reproduced in CP 8 p.278, c.1893. There Peirce asserts that the evidence for the reality of continuity “is given in direct presentation” but then considers the possibility that this is mistaken: “Besides, even if continuity is not given intuitively, its reality answers the logical conditions of a good theory”. This suggests that something that is given intuitively is “given in direct presentation”. But even this use of “intuitively” seems more akin to Kant’s than to Peirce’s own earlier use in the cognition series.

⁷ Peirce also refers to the “nominalism” of the cognition series in “Man’s Glassy Essence,” when he says that his views in that earlier series were “too nominalistic to enable me to see that every general idea has the unified living feeling of a person” (CP 6.270, W 8:182, EP 1:350, 1892).



be the same property as infinite divisibility. In the cosmological series, he refers to this property—having no ultimate parts / being infinitely divisible—as *Kanticity*. By 1892, he has come to think of his earlier identification of continuity with *Kanticity* as inaccurate, since it “allows of gaps” in a continuous series (LM, CP 6.122, W 8:144, EP 1:321). A true continuum has, not only *Kanticity*, but *Aristotelicity*, the property of “contain[ing] the end point belonging to every endless series of points which it contains” (LM, CP 6.123, W 8:145, EP 1:321), i.e., the property of having “adjacent parts [that] have their limits in common” (CP 6.164, 1889). Peirce now believes that it is the *Aristotelicity* of a continuum that rules out gaps and thus makes a continuum truly general. The perceived “nominalistic prepossessions” of the cognition series did not amount to a blanket denial of the reality of generality,⁸ nor to a denial that cognition is continuous, but rather to an incorrect conception of continuity itself, one that implies that continua contain gaps and are thus not truly general.

So, by the time of the cosmological series, Peirce is working with a conception of continuity that he believes to be superior to that of the cognition series. But other ideas of his have not changed, a fact to which he alludes immediately after mentioning those early “nominalistic prepossessions”: “I refer to [the cognition series], because students may possibly find that some points not sufficiently explained in the present paper are cleared up in those earlier ones” (LM, CP 6.103, W 8:136, EP 1:312).

Among the ideas that have not changed is his view that continuity must play a role in any adequate explanation of human mental processes:

[W]hen we regard ideas from a nominalistic, individualistic, sensualistic way, the simplest facts of mind become utterly meaningless. That one idea should resemble another or influence another, or that one state of mind should so much as be thought of in another, is, from that standpoint, sheer nonsense. (LM, CP 6.150, W 8:153, EP 1:330).

The “law of mind” of Peirce’s title has to do with relations among ideas:

[I]deas tend to spread continuously and to affect certain others which stand to them in a peculiar relation of affectibility. In this spreading they lose intensity, and especially the power of affecting others, but gain generality and become welded with other ideas. (LM, CP 6.104, W 8:136, EP 1:313).

As this indicates, he is now pursuing a far more general account of the relations among mental items and events than he had sought in the cognition series. His attention is no longer so narrowly focused on representative “thought-signs”, the semiotic relations that were featured so prominently in the earlier series are absent, and he writes broadly of “ideas” rather than of “cognitions”.

My concern now is not with relations that obtain among items and events within a given person’s mind but rather with the relation between the internal and

8 Max FISCH (1986, p. 198 n.3) mistakenly assumes that Peirce’s reference to the “nominalistic prepossessions” of the cognition series was to his having not yet fully embraced scholastic realism, the view that there are real generals. But in that series Peirce’s commitment to scholastic realism is explicit (CP 5.312, W 2:239, EP 1:53).

external worlds and what Peirce's objective idealism maintains about that relation. In "The Architecture of Theories" (AT), the first article in the cosmological series, he describes objective idealism as the view that "matter is effete mind." (CP 6.25, W 8:106, EP 1:293); in LM, he characterizes it as "a Schelling-fashioned idealism which holds matter to be mere specialized and partially deadened mind." (CP 6.102, W 8:135, EP 1:312).⁹ Despite first appearances, objective idealism is not a view about what sort of substance there is—at least not directly—but rather a view about which of two kinds of law is more fundamental. Peirce characterizes "physical law[s]" as "absolute," in that they require "exact relation[s]"; events "must actually take place exactly as [they] require" (AT, CP 6.23, W 8:105, EP 1:292). On the other hand, the law of mind requires "no exact conformity"; it makes a given feeling "*more likely*" to occur but does not necessitate that it occur (Ibid.). Later, in "Man's Glassy Essence" (MGE), the fourth article in the series, he qualifies this distinction in an important way: "matter never does obey its ideal laws with absolute precision, but [...] there are almost insensible fortuitous departures from regularity [...]" (CP 6.264, W 8:180, EP 1:348). The difference between physical laws and the mental law is not absolute, as it would be were physical laws wholly deterministic, admitting of no exceptions or variations whatsoever. With this qualification Peirce makes the difference between the two sorts of law one of degree, with physical laws being those that admit of relatively few exceptions and the law of mind one that admits of relatively more. This interpretation is in harmony with what Peirce says in 1893's "Immortality in the Light of Synechism" regarding how the synechist must view regularity: "Thoroughgoing synechism will not permit us to say [...] that phenomena are perfectly regular, but *only that the degree of their regularity is very high indeed.*" (CP 7.568, EP 2:2, emphasis added). This is an important qualification, as we will see below.

Peirce's objective idealism holds that as the universe itself was coming into being, the law of mind evolved first and physical laws evolved from it: "The one intelligible theory of the universe is that of objective idealism, that matter is effete mind, *inveterate habits becoming physical laws*" (AT, CP 6.25, W 8:106, EP 1:293, emphasis added); "the one original law [is] the recognized law of mind, the law of association, of which the laws of matter are [...] mere special results." (CP 6.277, c.1893). In the cosmological series Peirce uses "matter" as a technical term for substance that obeys relatively deterministic law and "mind" as a technical term for substance that obeys laws that require a lower degree of conformity.¹⁰ A

9 Peirce's *Century Dictionary* (1889) definition of "idealism, objective" attributes the view to Schelling but does not hint that Peirce will soon incorporate at least a part of Schelling's doctrine into his own cosmology: "The doctrine of F. W. J. von Schelling (1775-1854), that the relation between the subject and the object of thought is one of absolute identity. It supposes that all things exist in the absolute reason, that matter is extinct mind, and that the laws of physics are the same as those of mental representations."

10 This suggests that when Peirce describes something as "mind" he does not mean to imply that it is conscious or sentient but only that it does not conform to (relatively) exceptionless law. But elsewhere in the cosmological series he writes that "[w]herever chance-spontaneity is found, there, in the same proportion, feeling exists" (MGE, CP 6.265, W 8:180-181, EP 1:348), and in a manuscript from that period he asserts that "all matter [has] a certain excessively low degree of feel-

specific human consciousness is an instance of mind, since it operates relatively indeterministically; it

is not subject to “law” in the same rigid sense that matter is. It only experiences gentle forces which merely render it more likely to act in a given way than it otherwise would be. There always remains a certain amount of arbitrary spontaneity in its action, without which it would be dead. (LM, CP 6.148, W 8:153, EP 1:329).

Toward the end of LM, Peirce briefly considers the continuity between matter and mind and the arising of “feeling” or “sensation” from that which is merely physical. He says that, given his commitment to the law of mind, he must also accept that

an idea can only be affected by an idea in continuous connection with it. By anything but an idea, it cannot be affected at all. This obliges me to say, as I do say, on other grounds, that what we call matter is not completely dead, but is merely mind hidebound with habits. It still retains the element of diversification; and in that diversification there is life. (CP 6.158, W 8:155, EP 1:331).

Peirce’s law of mind, in conjunction with the claim that the material world outside the mind gives rise to feelings and sensations, implies objective idealism. Were mind and matter not ultimately the same substance, there could be no interaction between them.¹¹ But again, in this context “matter” means substance that is subject to relatively

ing.” (CP 6.277, c.1893). However, I share Short’s assessment of Peirce’s use of mentalistic language in these passages, that it was “a rhetorical strategy that served to startle his audience, challenging their Cartesian preconception of matter and mind as utterly different. However, as well as being beneficially leading, it was disastrously misleading.” (2007b, p. 668). For more on this point, see LANE, 2009, p. 15-16.

- 11 My attribution to Peirce of the view that there is one and only kind of substance might seem to be incompatible with his rejection of neutralism, which he says is “a doctrine often called *monism*,” in AT. But there is no incompatibility here. In this same passage, Peirce has already *endorsed* monism: “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.” (AT, CP 6.24, W 8:105, EP 1:292). Then, on the assumption that monism is true, he proceeds to pose the question whether “physical laws [...] and the psychical law” are independent of one another, or whether one is “primordial” and the other “special” and “derived” from it (Ibid.). In the cosmological papers, Peirce uses “neutralism”, as well as “materialism” and “idealism”, in idiosyncratic ways, to refer to the three possible answers to this question. Here idealism is the view that the law of mind arose first and that physical laws derive from it; materialism is the view that physical laws arose first and that the mental laws arose from them; and neutralism is the view that each type of law is primordial, having arisen separately from the

absolute law, while “mind” means substance that is not subject to relatively absolute law. The difference between matter and mind is one of *degree*, specifically, the degree to which a given item or activity is governed by law (Recall that objective idealism holds that matter is “*partially* deadened mind.” CP 6.102, W 8:135, EP 1:312, emphasis added). Although “we cannot tell, in the present state of psychology” exactly how it is that the activity of the nervous system gives rise to visual, auditory and other kinds of sensation, the law of mind implies

that these feelings are communicated to the nerves by continuity, so that there must be something like them in the excitants themselves. If this seems extravagant, it is to be remembered that it is the sole possible way of reaching any explanation of sensation, which otherwise must be pronounced a general fact absolutely inexplicable and ultimate. (LM, CP 6.158, W 8:156, EP 1:332).

There is continuity between the external world and the internal, between the (somewhat more) deterministic realm of matter and the (somewhat less) deterministic realm of mind. The difference between the two is one of degree, and one shades continuously into the other:

[I]n obedience to the principle, or maxim, of continuity, that we ought to assume things to be continuous as far as we can, it has been urged that we ought to suppose a continuity between the characters of mind and matter, so that matter would be nothing but mind that had such indurated habits as to cause it to act with a peculiarly high degree of mechanical regularity, or routine. (CP 6.277, c.1893).

Despite the difference in emphasis—Peirce is here concerned with feeling and sensation rather than cognition—this is, in essence, the same metaphysical claim for which Peirce had argued in 1868-69: an individual mind that experiences the world is continuous with the world that it experiences.

Peirce returns at length to the topic of the relationship between matter and mind in MGE, the purpose of which is “to elucidate [...] the relation between the psychical and physical aspects of a substance.” (CP 6.238, W 8:165, EP 1:334). After a long discussion of the molecular constitution of matter and of protoplasm in particular, Peirce asserts that protoplasm not only “feels” but also “exercises all the functions

other. Peirce rejects neutralism, on the basis of Ockham’s razor. That he does so is compatible with my attribution to him of the view that there is one sort of fundamental substance, some instances of which—“matter”—behave relatively more deterministically, and other instances of which—“mind”—behave relatively less deterministically. (The passage quoted above contains the only occurrence of “hylopathy” I have been able to locate in Peirce’s writings. Interestingly, there is no entry in the *Century Dictionary* for that term, but therein Peirce defined “hylopathism” as “[t]he doctrine that matter is sentient.” It is possible that Peirce’s use of “hylopathy” rather than “hylopathism” in AT was deliberate, but nothing that he says in the cosmological series is strong evidence of this).

of mind.” (CP 6.255-56, W 8:175, EP 1:343).¹² This “can never be explained, unless we admit that physical events are but degraded or undeveloped forms of psychical events” (CP 6.264, W 8:180, EP 1:347-48), i.e., unless we accept that objective idealism is true. What follows is a recondite explanation of how the protoplasm within a nerve cell can feel. A few paragraphs later Peirce comes close to spelling out what he thinks is going on at the “boundary” between mind and matter:

if matter has no existence except as a specialization of mind, it follows that whatever affects matter according to regular laws is itself matter. But all mind is directly or indirectly connected with all matter, and acts in a *more or less* regular way; so that all mind *more or less* partakes of the nature of matter. (CP 6.268, W 8:181, EP 1:349, emphases added).

Peirce’s phrase “more or less” suggests once again that the difference between mind and matter—between substance obeying relatively indeterministic law and substance obeying relatively deterministic law—is one of degree, not kind. The passage continues:

Hence, it would be a mistake to conceive of the psychical and the physical aspects of matter as two aspects absolutely distinct. Viewing a thing from the outside, considering its relations of action and reaction with other things, it appears as matter. Viewing it from the inside, looking at its immediate character as feeling, it appears as consciousness. These two views are combined when we remember that mechanical laws are nothing but acquired habits, like all the regularities of mind [...]. (CP 6.268, W 8:181-82, EP 1:349).

So Peirce’s view in the cosmological series is that there is no sharp boundary between matter and mind, between substance governed by relatively exceptionless law and substance governed by law that requires a lower degree of conformity. In 1893’s “Immortality in the Light of Synechism,” he reiterates the view, making even more explicit the notion that the difference between matter and mind is one of degree:

[Synechism] will not admit a sharp sundering of phenomena from substrates. That which underlies a phenomenon and determines it, thereby is, itself, *in a measure*, a phenomenon.

Synechism, even in its less stalwart forms, can never abide dualism, properly so called [...] the philosophy which performs its analyses with an axe, leaving as the ultimate elements, unrelated chunks of being [...]. In particular, the synechist will not admit that physical and psychical phenomena are entirely distinct,—whether as belonging to different categories of substance, or as entirely separate sides of one shield,—but will insist that all phenomena are of one character, though some are *more* mental and spontaneous, others *more* material and regular. (CP 7.569-70, EP 2:2; emphases added).

Once again we see the metaphysical claim that Peirce made years earlier in denying intuition, viz., that there is no sharp boundary between the external and the internal,

¹² For a historically informed account of Peirce’s molecular theory of protoplasm, see REYNOLDS, 2002, p. 77-97.

and on this later formulation, the difference between the two is one of degree. The objective idealism for which Peirce argues in the cosmological series is a broader iteration of his earlier denial of a sharp division between the cognizing mind and the cognized world.¹³

What are the implications of Peirce's revised concept of continuity—as Kanticity plus Aristotelicity—for his denial of a sharp distinction between matter and mind? Consider that in LM Peirce gives an example reminiscent of those we have seen from the period of the cognition series. He refers back to “the Aristotelical principle” (that “a continuum contains the end point belonging to every endless series of points which it contains”) in order to consider

an aspect of [it] which is particularly important in philosophy. Suppose a surface to be part red and part blue; so that every point on it is either red or blue, and, of course, no part can be both red and blue. What, then, is the color of the boundary line between the red and the blue? (CP 6.126, W 8:145, EP 1:322).

As we saw earlier, the answer Peirce would have given during the period of the cognition series is that, since the line is part of a continuous surface, every part of it has parts, so there is no part that is so small that it cannot be partly red and partly blue; to suppose otherwise is to adopt an inaccurate conception of continuity. By the time of the cosmological series, the answer is a bit different. He has begun to incorporate infinitesimals into his account of continuity, here expressed in terms of “the immediate neighborhood” of a point on the line.¹⁴

[R]ed or blue, to exist at all, must be spread over a surface; and the color of the surface is the color of the surface in the immediate neighborhood of the point. I purposely use a vague form of expression. Now, as the parts of the surface in the immediate neighborhood of any ordinary point upon a curved boundary are half of them red and half blue, it follows that the boundary is half red and half blue. (CP 6.126, W 8:145-46, EP 1:322).

This view is clarified in 1893's “The Logic of Quantity.” There Peirce presents yet another example of a boundary between two contiguous spatial regions, this time a blot of black ink on a piece of white paper. Is the boundary black, white, both, or neither? Peirce answers that the points of which the boundary is composed “do not exist in such a sense as to have entirely determinate characters attributed to them” (CP 4.127). Rather,

it is only as they are connected together into a continuous surface that the points are colored; taken singly, they have no color, and are neither black nor white, none of them. Let us then try putting “neighboring part” for point. Every part of the surface is either black or white. No part is both black and

13 One way in which my interpretation of the cosmological series differs from that of MURPHEY is that on his view, “Peirce was at this time uncertain of his own stand on first impressions” of sense, i.e., of intuitions. (1961 [1993], p. 338). On my reading, the cosmological series agrees with the cognition series: there are no such things.

14 HAVENAL calls the period of 1892 through 1897 the “Infinitesimal Period” in Peirce's work on continuity. (2008, p. 97-104).

white. The parts on the boundary are no more white than black, and no more black than white. The conclusion is that the parts near the boundary are half black and half white. This, however (owing to the curvature of the boundary), is not exactly true unless we mean the parts in the *immediate neighborhood* of the boundary. These are the parts we have described. They are the parts which must be considered if we attempt to state the properties *at precise points* of a surface, these points being considered, as they must be, in their connection of continuity. (Ibid., emphases in original).

As in the cognition series, Peirce's view is that the boundary between a *P* surface and a non-*P* surface is partly *P* and partly non-*P*. What is new is the explanation how this can be: the boundary is partly *P* and partly non-*P* in virtue of two facts, viz., that on the *P* side of the boundary, the area that is infinitesimally close to the boundary is *P*, and that on the non-*P* side of the boundary, the area that is infinitesimally close to the boundary is non-*P*.¹⁵

In LM, Peirce applies this new analysis to the continuous relations that hold among ideas occurring within a given mind:

[...] the boundary [between the red area and the blue area] is half-red and half-blue. In like manner, we find it necessary to hold that consciousness essentially occupies time; and what is present to the mind at any ordinary instant is what is present during a moment in which that instant occurs. Thus, the present is half past and half to come. (CP 6.126, W 8:146, EP 1:322).

The present activity of a mind, being the boundary between its past and future activity, is itself half in the past and half in the future. As he had maintained in the cognition series, mental events do not occur instantaneously and a person's mind does not consist of temporally discrete, instantaneous mental "atoms". Another doctrine that remains from the cognition series is that within an activity of the mind spanning any duration at all, there are innumerable concomitant activities. But what is different in the cosmological series is the new reliance on infinitesimals in his synechistic analysis of mind:

A finite interval of time generally contains an innumerable series of feelings; and when these become welded together in association, the re-

15 HAVENAL maintains that between writing the passage just quoted from 1892's LM and the passage just quoted from 1893's "The Logic of Quantity" (LQ), Peirce changed his views about the boundary between contiguous *P* and non-*P* areas: "In 1892, he writes that on a surface divided into two parts, one red and one blue, the boundary between both 'is half red and half blue' (CP 6.126, 1892). In 1893, he says that the parts in the immediate neighborhood of the boundary are half black and half white (CP 4.127), but that the points of the boundary are not existing points and as such are not determinate as to the property being colored." (2008, p. 101) But I do not think Peirce actually changed his mind between these two articles. Peirce does not say in LM that *the points* on the boundary are half *P* and half non-*P*, but rather that *the boundary itself* is half *P* and half non-*P*, and that this is the result of "the parts of the surface in the immediate neighborhood of any ordinary point upon a curved boundary [being] half of them red and half blue." So I disagree with Havenal and see no change in Peirce's thinking between 1892's LM and 1893's LQ about boundaries and the points that lie on them.

sult is a general idea. For [...] [it is] by continuous spreading [that] an idea becomes generalized.¹⁶

[One] character of a general idea so resulting is that it is living feeling. A continuum of this feeling, infinitesimal in duration, but still embracing innumerable parts, and also, though infinitesimal, entirely unlimited, is immediately present. And in its absence of boundedness a vague possibility of more than is present is directly felt. (LM, CP 6.137-38, W 8:149, EP 1:325).¹⁷

Peirce does not describe how his revised concept of continuity might be applied to his view of the boundary between the internal and the external worlds, but it is not difficult to picture the rough outline of such an application. The boundary between mind and non-mind is itself partly mind and partly non-mind, just as he had maintained in the cognition series. But given the new elements of the cosmological series, this view would be cashed out in terms of mental and physical law. The boundary between mind and matter might be understood as the ideal point at which some threshold of regularity is crossed. On the “matter side” of the boundary is substance behaving with a sufficiently high degree of regularity to be above that threshold; on the “mind side” is substance behaving with enough spontaneity to be below that threshold. On each side, an infinitesimally close approach to that threshold might be made without the boundary ever actually being crossed.

The analogy between mental and non-mental events, on the one hand, and contiguous but differently colored surfaces, on the other, might seem especially weak at this point. But whether or not Peirce would embrace the approach I have just sketched, it remains clear that the anti-dualistic, synechistic view of the continuity of matter and mind echoes, in a more general form, the metaphysical aspect of his earlier rejection of intuition. There is, on this view, no sharp distinction between cognized world and cognizing mind, between the external world and the internal. In Peirce’s objective idealism, the metaphysical regress of the cognition series remains: the mental shades off into the non-mental, with no determinate boundary separating the two.¹⁸

16 Peirce seems to mean it literally when he describes ideas as “spreading,” since he also takes ideas to occupy space. “[F]eeling has a subjective, or substantial, spatial extension, as the excited state [of the protoplasm of a nerve cell] has. This is, no doubt, a difficult idea to seize, for the reason that it is a subjective, not an objective, extension. It is not that we have a feeling of bigness; [...] It is that the feeling, as a subject of inhesion, is big.” (LM, CP 6.133, W 8:148, EP 1:324; see also 6.277, c.1893).

17 See also CP 6.132, W 8:147, EP 1:324; and 6.134, W 8:148, EP 1:325. Peirce makes similar comments in undated manuscripts which seem to be from this same period; see NEM 3:124 and 126.

18 Here it is especially important to distinguish the cognition series’ metaphysical regress from its semiotic regress. The latter has been criticized by SHORT, who argues convincingly that “[t]he discovery of the index enabled Peirce to relinquish the thesis that every cognition must be preceded by a cognition, ad infinitum.” (2007a, p. 51). This is true, but only if “cognition” is understood narrowly, to include perceptual judgments, which have a representational aspect, and to exclude percepts, which lack any representational function, as well as to exclude the mental and neurological processes by which percepts and perceptual judgments are causally determined. On my view, there is still an infinite regress in Peirce’s later account, but not every part of the regress has a representative function.

2. After the Cosmological Series

Peirce's satisfaction with the cosmological series' account of continuity is not long-lasting. In an 1899 letter to Paul Carus, he writes:

I find I did an injustice to Kant in one of my *Monist* papers in which I discussed continuity. I was so much dominated by Cantor's point of view, that I failed to see the true nature of continuity, which is now quite clear to me, and also for the same reason mistook Kant [...]. (NEM 3:780; quoted in annotations to LM at W 8:394).¹⁹

In 1903, in a marginal note written in his copy of the *Century Dictionary*, he indicates that his earlier notion of Kanticity had been muddled, as it failed to distinguish (1) *having parts all of which have parts of the same kind* from (2) *infinite divisibility* or *having a third part between any two parts*. Having come to distinguish (1) from (2), he endorses (1) as the correct definition of “the common sense idea” of continuity, despite the fact that “there are great difficulties with it.” (CP 6.168, 1903) Something else new in this later, more distinct conception of continuity is its prominent modal aspect: Peirce now thinks of the elements of which a continuum is composed not as actual individuals but instead as *possibilia*.²⁰

I believe that Peirce's metaphysical doctrine that mind is continuous with non-mind survived this further change in his conception of continuity. In this section I will canvas some of the textual evidence that is relevant to this conjecture.²¹

I will begin by considering passages from 1902's “Minute Logic” that seem at first blush to indicate a reversal of course on the issue of intuition. Joseph Esposito has cited that work as evidence that Peirce eventually came to “rethink his anti-

The infinite regress that still obtains according to Peirce's later view stretches back beyond the first perceptual judgments and percepts to include the cognitive processes that causally determine those judgments and percepts. And it is that regress that shades back from the mental into the physical. For more on Peirce's theory of perception, see section two, below.

- 19 Peirce later characterizes his treatment of continuity in LM as “blundering” (CP 6.174, 1906) and writes that that article was “regretted as soon as published” (CP 6.182, c.1911).
- 20 Peirce had begun working with this new, modal conception of continuity by no later than his 1898 Cambridge Conferences lectures, collected in RLT. For an account of the philosophical motivations that led to Peirce's introducing a modal element into his conception of continuity, see LANE, 2007a.
- 21 One potentially relevant text that I will not consider here is an October 1908 letter from Peirce to C. J. Keyser (NEM 3:889-99) in which he sketches what he calls his “Introvortical theory” of how matter affects mind. Another avenue of future research is Peirce's 1909 work in triadic logic, in which he considers that some propositions about boundaries—such as that between contiguous black and white surfaces—may be neither true nor false but instead take a third value: “L”, the Limit between truth and falsity. (R 339) It may be that Peirce had in mind that some propositions about events at the boundary between the external and internal worlds take that third value. For more on the philosophical motivations behind Peirce's work in three-valued logic, see LANE, 1999.

intuitionism”: “In the ‘Minute Logic’ Peirce returns to the intuitionism of Abbé Gratry’s *La Logique*, which he had read forty years previously, by advocating a ‘natural light of reason’ (CP 2.23-25) as the basis upon which logical principles are discovered.”²² However, a close examination of “Minute Logic” shows no evidence that Peirce has changed his mind about what he had called intuition in the cognition series. While Peirce does embrace what he calls a natural light of reason, he goes on to specify what he means in a way that makes clear that it is nothing at all like “a cognition not determined by a previous cognition of the same object, and therefore so determined by something out of the consciousness”:

The reasonings of the present treatise will, I expect, make it appear that the history of science, as well as other facts, prove that there is a natural light of reason; that is, that man’s guesses at the course of nature are more often correct than could be otherwise accounted for, while the same facts equally prove that this light is extremely uncertain and deceptive, and consequently unfit to strengthen the principles of logic in any sensible degree. (CP 2.25, 1902).

Two paragraphs later Peirce rejects the notion “that the reasoning process, as it is in the mind, consists of a succession of distinct arguments,” compares the view that “the process of thought in the mind is [...] composed of distinct parts” to the mistaken conception of spatial continuity according to which Achilles can never overtake the tortoise, and concludes that “there is no fact in our possession to forbid our supposing that the thinking-process [is] one continuous (though undoubtedly varied) process” (CP 2.27). So his view of the continuity of ideas within a given mind has not changed. More to the point, he gives no indication that the “natural light of reason” that he here recognizes is the ability to have thoughts or ideas determined immediately by the external world. What he says here is thus compatible with the metaphysical aspect of his rejection of intuition.²³

In this same passage, Peirce rejects the notion that the thought processes engaged in by any actual human being ever involve a “first premise” or “first argument.” Now early on, Peirce described an intuition as a “first premiss” (W 1:488, 1866), an “ultimate premise” (W 1:489, 1866; W 1:515, 1866), and “a premiss not itself a conclusion” (W 1:515, 1866), and he repeated the “ultimate premise” label in drafts of the cognition series itself (W 2:162-3, 175-77). So is this rejection of “first premises” in “Minute Logic” a restatement of his rejection of intuition and thus of a determinate boundary between mind and non-mind? Not necessarily, since, as we have already seen, by the final draft of the cognition series he has rejected the definition of “intuition” as “a premise not itself a conclusion,” because that definition excludes cognitions other than judgments (QCCF, CP 5.213, W 2:193, EP 1:12). Further, he also asserts in “Minute Logic” that there is something in the continuous flow of cognition that *precedes* any alleged first premise: “[t]he real thinking-process presumably begins at the very percepts” (CP 2.27).

22 ESPOSITO, 1980, p. 195.

23 It is also compatible with the fallibilism of the cognition series (“this light is extremely uncertain and deceptive”).

Fully to understand this, and to understand its relevance to the issue of the boundary between mind and non-mind, we need to take a short detour through Peirce's theory of perception. When a person engages in sensory perception of her environment, there occurs in her mind what Peirce calls a *percept*. A percept is both a phenomenal presentation of the world to the perceiver and a direct causal interaction between the perceiver and her environment. It is a direct interaction between the perceiving subject and the object that she perceives, and it is thoroughly non-representational. The representational aspect of perception is a *perceptual judgment*, the spontaneous belief that occurs along with the percept.²⁴ What Peirce is asserting in the "Minute Logic" is that reasoning begins with percepts.²⁵ However, he is not positing percepts as intuition-like starting points for mental activity. They are not absolutely first mental events constituting a wholly mental boundary between mind and non-mind. Peirce says elsewhere in "Minute Logic" that percepts are "mental constructions, not the first impressions of sense." (CP 2.141, 1902) So, since percepts are the output of some previous mental activity, they cannot be intuition-like boundaries between the mental and the non-mental. Peirce maintains that "[t]he real thinking-process [...] begins at the very percepts", but this is not a reinstatement of intuition; the final incapacity remains an incapacity.

But this might still be too quick. In the passage quoted above Peirce mentions first impressions of sense, and as we saw earlier, he uses the phrase "first impression of sense" in the cognition series, both in a draft version (W 2:191) and in the final version (CP 5.291, W 2.227, EP 1:42), seemingly as a synonym for "intuition."²⁶ Although he does not go on explicitly to assert that there are such things, neither does he seem eager to deny their existence outright: "percepts [are] mental constructions, not the first impressions of sense. But what the first impressions of sense may have been, I do not know except inferentially and most imperfectly." (CP 2.141). However, later in this same paragraph a strong whiff of skepticism about first impressions of sense is detectable: "As for going back to the first impressions of sense, as some logicians recommend me to do, that would be the most chimerical of undertakings" (Ibid.) He does not explain in "Minute Logic" why such an undertaking would be chimerical,

24 Taken together, the perceptual judgment and percept form what Peirce calls the *percipuum*: "I propose to consider the percept as it is immediately interpreted in the perceptual judgment, under the name of the 'percipuum.' The percipuum, then, is what forces itself upon your acknowledgment, without any why or wherefore, so that if anybody asks you why you should regard it as appearing so and so, all you can say is, 'I can't help it. That is how I see it'" (CP 7.643, 1903). As Peirce's characterization of the percept suggests, his theory of perception is a form of direct realism. For more on Peirce's theory of perception, see LANE, 2007b.

25 For Peirce, this is an important fact about human reasoning and its representation in language and formal logic, since "a percept cannot be represented in words, and consequently, the first part of the thinking cannot be represented by any logical form of argument." (CP 2.27, 1902).

26 There is another instance of "first impressions of sense" in the final version of the cognition series that is not obviously synonymous with "intuition" (CP 5.223 n.2, W 2:200 n.4, EP 1:17 n.). But in that passage Peirce is describing what he takes to be Kant's understanding of experience, and his use of it there does not indicate much about his own views on intuition.

but the explanation is to be found a few years earlier, in a manuscript written in 1893: “These ‘first impressions of sense’ are hypothetical creations of nominalistic metaphysics: I for one deny their existence.” (CP 6.492). Why nominalistic? Because to posit them is to posit a very first mental event in our perceptual interaction with our environment, a discrete rupture in the genuine continuum that runs from the external to the internal world.²⁷

So Peirce explicitly disavows first impressions of sense—which he had previously also called intuitions—in 1893, and he expresses skepticism about them in 1902. But a manuscript entitled “What Logic Is” (R 609), written in September 1908, suggests that he may eventually have changed his mind. Therein he discusses the origination of visual sensations and repeatedly mentions first impressions of sense, seemingly committing himself to their existence, e.g.:

[T]he excitation of a minute part of the retina can only convey a sense of light without any sense of its being spread over a surface or occupying any position [...]. This Feeling of light without any attribution to it of extension or position exemplifies what I mean by a First Impression of Sense. (R 609:6-7).²⁸

He goes on to consider whether a person is conscious of her own first impressions of sense and concludes that “logic decidedly favours, although without positively asserting” the view that she is not (R 609:11-12). What is more relevant to the matter at hand, though, is that he seems to imply that first impressions of sense are caused directly by extra-mental objects: “after this First Impression *no further direct effect* upon the perceiver is made by that Real Object,—that state of things,—which produces the First Impression.” (R 609:12, emphasis added).

So has Peirce amended his theory of mind such that it now maintains that mental activity, or perhaps just sensory experience in particular, originates with a first, wholly mental process or event, one that is determined by something that is wholly outside the mind? Perhaps not. In the passage just quoted, Peirce refers to the cognition series, and in particular to section VII of QCCF, in which he lays out his argument against intuition, and he then implicitly endorses its contents:²⁹

27 Peirce describes first impressions of sense as being “of the most dubious character” in his Carnegie application of 1902 (R L75, draft C); but there his concern is principally epistemological, and it is not clear whether he means to deny that there are such impressions or merely to say that they are not epistemically certain. For other instances of “first impressions of sense,” each of which is consistent with a denial that there are such things, see 5.597, 1903; 7.624, 1903, and 5.416, EP 2:336, 1905.

28 I cite the ISP (Institute for Studies in Pragmaticism) page numbers for R 609.

29 On this score, it is also worth noting that in “Some Amazing Mazes” (written in 1907 and published in the *Monist* is 1908), Peirce refers with approval to an argument that he had given in SCFI: “The argument which seems to me to prove, not only that there is such a conception of continuity as I contend for, but that it is realized in the universe, is that if it were not so, nobody could have any memory. If time, as many have thought, consists of discrete instants, all but the feeling of the present instant would be utterly non-existent. But I have argued this elsewhere.” (CP 4.641).

A close friend of mine, a thinker of great ability and extraordinary independence [...] after repeatedly talking over with me an argument which I published in March 1868 (Journal of Speculative Philosophy, Vol. II, pp 112-114.) declared to me that he could not comprehend my position. Now as these carefully conducted conversations left me as completely in the dark what difficulty there was or could be in understanding a proposition to my thinking so perfectly simple, I feel that I must take great pains now to expound the meaning of this opinion. (R 609: 12-13).

What follows is an account of the relation between the mind and the external world, the same relation that concerned Peirce in both the cognition and the cosmological series. But as we have already seen, an apparent difference is that in this late manuscript Peirce seems to be assuming that there *are* first impressions of sense, e.g., when he asserts that the external “states of things” that cause first impressions of sense “will usually be undergoing change, or at any rate will endure through a lapse of time, with or without change.” (R 609:13).

However, some of Peirce’s subsequent comments suggest that less has changed than might at first seem to be the case. Consider his statement that

[t]he full explanation of what I mean by the First Impression of Sense produced by a state of things that endures through a lapse would involve the analysis of a continuum; and this [...] is of great difficulty in itself, and would require considerable preparatory expounding that could only be made clear at some length. (R 609:15-16).³⁰

This echoes his earlier insistence that to understand the relation between the inner and outer worlds, we must first have in hand an accurate account of continuity, and it suggests strongly that he still maintains that that relation is continuous. He does not put the point that straightforwardly, however, but instead proceeds as follows:

The Real state of things, then, must act upon Sense at each instant of a lapse of time; and the instantaneous state only acts while it lasts, that is, for an instant. This instantaneous effect is the whole of what is meant by the First Impression of Sense [...] (R 609:16).

This is familiar as well. In the cognition series, intuitions are characterized as instantaneous states of mind, occurring “in the immediate present” (QCCF, CP 5.253, W 2:207, EP 1:24)³¹; “at only the first instant” of cognition would there be an intuition (QCCF, CP 5.262, W 2:209, EP 1:26); and from the fact that “there is no intuition [...] it follows that the striking in of a new experience is never an instantaneous affair” (SCFI, CP 5.284, W 2:224, EP 1:39). So the intuitions of 1868-69 and the first impressions of sense of 1908 have this much in common: were they to occur, they would occur instantaneously. The manuscript continues:

30 Peirce says that an analysis of the continuum “will be given later,” but this manuscript ends without his giving one.

31 This repeats verbatim what occurs in the draft version at W 2:173.

[...] and though this [i.e., the first impression of sense] develops [...] for a certain time, yet its changes subsequent to the effect of the Instantaneous state of things are due to the action of the brain and not directly to the Real state of things, although there follows a continuous series of instantaneous states of thing, producing a continuous series of First Impressions of Sense, simultaneously with the continuous development in consciousness, under the action of the brain, of effects of past Impressions of Sense. (R 609:16-17).

Peirce is describing a series of instantaneous states, beginning with the states of the external causes of perception, which states are followed by instantaneous states of the brain, which themselves result in instantaneous “first impressions of sense”. Each such sequence occurs simultaneously with another sequence, which begins later (but perhaps only infinitesimally later) in time. On the face of it, this analysis suggests that Peirce is employing a much more primitive conception of the continuum than even that of the cognition series, one according to which a continuum is composed of absolute, indivisible parts, the temporal continuum is composed of instants, and the continuum from the external to the internal world is composed of instantaneous physical or mental states.

But at this point Peirce indicates that we are to take his talk of instantaneous states in something other than a literal way:

Here I am obliged to make a remark which complicates the exposition and which, until the nature of a continuum shall be fully expounded, will render the exposition vague. It is that all that is ever said about instantaneous states unless at the instant of cessation or beginning of a change is, as the schoolmen would have said, to be understood as *exponible*; that is to say, is not to be interpreted according to the common rules of language, but in a special way. For an instant of time that is neither marked by the beginning nor by the ending of a process *is a fiction; there is no such element of time*. But until I can furnish the full account of the nature of a continuum, the Reader will best *imagine* that time consists of a series of instants, remembering that this representation is subject to future correction. (R 609:17-18, emphases added).

So in this manuscript Peirce has been using the language of “first impressions of sense” to convey a rough, non-literal formulation of his view of the relation between matter and mind. A more literal account would require a more adequate account of continuity than Peirce here felt prepared to offer. All of this, in addition to the fact that nowhere in R 609 does he indicate that the account put forward in the cognition series was mistaken in any way or that he is consciously changing that account in this new articulation of it, although not counting as decisive evidence that the metaphysical aspect of his original denial of intuition has survived into 1908, nonetheless makes it very tempting to read this manuscript as expressing a further iteration of that same view.

But even if one is not convinced by the foregoing analysis of R 609, she might still be persuaded of the truth of the main theses of this article and its prequel: that Peirce’s 1868-69 denial of intuition has, in addition to its semiotic and epistemological

strands, an important metaphysical strand according to which there is no definite boundary between the external world and the minds of those who experience and cognize it, and that this metaphysical claim reappears in the cosmological series as objective idealism. This is, I hope, an important insight into the development and continuity of Peirce's metaphysics.³²

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32 As I noted in LANE, 2011, I presented an earlier, much shorter version of this article and its prequel at the fall 2009 meeting of the Georgia Philosophical Society, in Atlanta, Georgia, and at the 2010 meeting of the Society for the Advancement of American Philosophy, in Charlotte, North Carolina. I am grateful to the audience members of each meeting for their questions and comments, as well as to Scott Forschler for his helpful commentary during the SAAP meeting. I am also grateful to T. L. Short for extremely helpful correspondence and comments on an early draft and to Masato Ishida for encouraging me to deal with R 609.

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