Comments on Hookway, "The Pragmatic Maxim and the proof of pragmatism (2): after 1903"

Comentários sobre Hookway, "A Máxima Pragmática e a Prova do Pragmatismo (2): Depois de 1903"

Ahti-Veikko Pietarinen
University of Helsinki – Finland
ahti-veikko.pietarinen@helsinki.fi

Abstract: In his article published in the current issue of *Cognitio*, Professor Christopher Hookway addresses the question of Peirce's proof of pragmaticism after 1903. It is essential to give a clear account of the details of Peirce's proof, specially of his use of the then newly-discovered logic of Existential Graphs (EG). Hookway's aim is to answer why Peirce did believe a proof of pragmaticism needed the Existential Graphs. I suggest that Peirce's proof can still be maintained, since some modifications are made. My question is to twofold: first, given the logical theory of EGs at hand, can the proof itself be reconstructed with it, and, second, if so, how?

Key-words: Peirce. Hookway. Pragmatic maxim. Pragmaticism. Existential graphs. Proof.

Resumo: *No seu artigo publicado no presente número da* Cognitio, *o professor Christopher Hookway aborda a questão da prova do pragmaticismo de Peirce depois de 1903. É fundamental oferecer uma interpretação clara dos detalhes da prova de Peirce, especialmente do uso que ele faz da então recém-descoberta lógica dos Grafos Existenciais. O objetivo de Hookway é responder por que Peirce acreditava que uma prova do pragmaticismo precisava dos Grafos Existenciais. Sugiro que a prova de Peirce ainda pode ser sustentada, desde que levemente modificada. Minha questão é dúplice: primeiro, dada a teoria disponível dos Grafos Existenciais, poderá a prova ser reconstruída com ela, e, segundo, se sim, como?*

Palavras-chave: *Peirce. Hookway. Máxima pragmática. Pragmaticismo. Grafos existenciais. Prova.*

Pragmaticism is a philosophical position that Peirce believed could be conclusively proved. Beginning in 1903, he drafted several attempts towards a proof, ending with a semeiotic one which he took to be completed in 1908. Around 1905, he came to believe that an exposition of the proof is best conducted using his newly-developed logical theory of Existential Graphs (EGs). For about a decade, EGs had been his pet method for doing what he took as the most serious form of philosophy, logical analysis. Why did he believe the proof needed EGs? Given the logical theory of EGs at hand, can the proof itself be reconstructed with it, and if so, how?

Professor Hookway (this volume) undertakes the extremely important task of answering the former question, and he provides convincing reasons as to why Peirce held the first, 1903 proof from his *Harvard Lectures* to be seriously incomplete and hence inadequate as a persuasive argument for the correctness of pragmaticism. Peirce was never able to demonstrate that there are "but three elementary kinds of reasoning" (CP 8.209, *Letter to Calderoni*, 1905), abduction, deduction and induction, and nowadays it indeed is reasonable to think that there are not. However, here is my first suggestion: we could still save something from the first proof if we were to modify it a bit. Read Premise 3 (see HOOKWAY'S Section 2), instead of "There are just three kinds of arguments", as "There are *at least* three kinds of arguments", and Premise 5 as "Whether pragmatism is correct makes no difference to the soundness of deductive, inductive, *or* $x_1, x_2,...$ kinds of arguments that is not a consequence of its effects on abductive ones". Then the general strategy does go through. But the obvious problem is that it would be very hard to establish Premise 5, the more so if there is a very large, possibly an infinite, number of the kinds of arguments different from abductive ones.

Very few scholars so far have addressed the complexity of topics involved in what we might call Peirce's second or middle proof. Yet the details of the proof not only count among the greatest contributions to Peirce's overall architectonic philosophy but also enable us to connect many of his ideas with much more recent research in the philosophy of logic, mathematics, language and metaphysics.[1] It is pressing that we also begin addressing the second question (that is, "Given the logical theory of EGs at hand, can the proof itself be reconstructed with it, and if so, how?"), now that the groundwork is beginning to be mastered. (Beyond what I am able to summarise in this commentary, suggestions as to what kinds of issues are involved in that imminent next task are found in a special issue of *Semiotica* on Peirce's diagrammatic logic and reasoning; see Pietarinen, to appear.)

Some telling remarks concerning the development of Peirce's thoughts on the role of EGs in the proof are found in his unpublished manuscripts. *The Bed-Rock Beneath Pragmaticism* (MS 300, 1907–08?) was the fourth and antepenultimate paper designed to follow *Prolegomena to an Apology for Pragmaticism* (*PAP*, *Monist* 16, October 1906). It includes an illuminative retrospective account about the plan and formation of his *Monist* series. Peirce states in *The Bed-Rock* that *PAP* was a sketch of the proof written to prevent "a development of thought not likely to be independently reproduced in a century" from passing "into complete oblivion" (draft page 14). His goal was not, in retrospect, to endeavour providing a proof in *PAP* at all, but only to record those aspects of the state of the art concerning graphical logic essential for carrying out the proof, "with the aid of two introductory articles" (*ibid.*). He moreover remarks that in the overall *Monist* series he "did not design to give any full account of Existential Graphs" or

---

[1]   In addition to Hookway's paper and Pietarinen (to appear), I am aware of three more studies addressing the issues to do with the middle proof, by Nathan Houser (1981, 1998); Don D. Roberts (1981); and Fernando Zalamea (to appear). A notable number of papers have been published about issues revolving around the other two proofs, especially the first one. Pietarinen & Snellman (2006) reconstruct the third, semeiotic proof in the setting of contemporary logical semantics and game theory.

"expound the simple rules for using them", but that he "decided to insert an article on Existential Graphs", which was *PAP*, to explain "what may be called the philosophy of the system" and to convey "a much fuller and more convincing apprehension of the nature of my proof" (*ibid*., draft pages 14–16).

What is the apprehension we are thus meant to gather from *Prolegomena*? In other words, why does Peirce now choose EGs as his preferred medium to begin with? I propose that we can complement Hookway's cogent exposition with the following remarks. First, it is appropriate to emphasise that Peirce never held EGs to be necessary for the proof. He recognised that a very similar argumentation to the one he was after would go through for any intellectual concept, purport, thought or generality. But he takes it that EGs are the *best* representational medium in the sense that they work with any intellectual sign that has propositional content.

Even more interestingly, he sets forth that his earlier statement of the Principle of Pragmaticism (which, effectively, is one of the versions of the Maxim of Pragmaticism from around 1905–07)[2] "can with advantage be a little differently worded" if we take seriously that EGs provide "a moving picture of the action of the mind in thought" (MS 296, 1907, *The First Part of an Apology for Pragmaticism*).[3] After having laid bare these preliminary considerations, he goes on to argue that EGs "furnish a test of the truth or falsity of Pragmaticism" by disclosing "what nature is truly common to all significations of concepts" (*PAP*, CP 4.534fn; cf. MS 298, *Phaneroscopy*). In other words, "the study of that system", he asserts in *PAP*, "must reveal whatever common nature is necessarily shared by the significations of all thoughts".

This, in a nutshell, is the route by which Peirce arrives at the position in which he now has compelling reason to think that intellectual signs, including the meanings of linguistic expressions, when studied with the aid of EGs, can indeed be soundly and adequately compared with what pragmaticism asserts to be common to all significations. So curiously enough, his argumentation really begins with something like the 'superpremise' of EGs as "presenting before our eyes a moving picture of thought" (MS 300: 22). This superpremise then entitles a rewording of the principle. From this, he moves on to argue for the EGs as revealing the generality or commonality involved in the significations of our intellectual concepts and thoughts.

A crucial point to be noted is that a comparison between significations of concepts by EGs and those by pragmaticism cannot alone constitute an acceptable proof. First, a comparison can only function as a refutation of the principle in case a mismatch between

---

2   Take, for instance, the maxim from one of the unpublished papers (MS 319: 9–10, 1907): "Consider what effects that might conceivably have practical bearings – especially in modifying your habits – you conceive the object of your conception to have. Then your comprehensive conception of these effects is the whole of your conception of the object. (In order to make the rule plainer and more explicit, the words between the dashes, and the adjective 'comprehensive' have been inserted. The intention of the maxim remains just what it originally was.)"

3   In my Signs of Logic (PIETARINEN 2006), I endeavoured to articulate the logical, cognitive and historical content of Peirce's recasting of EGs as the "moving pictures of thought".

the two ways of analysing significations is found. Second, the list of conditional propositions to be compared is bound to contain uncountably many elements, and so the principle would remain undecidable on the basis of such a list. Third, one cannot attempt to verify conditional statements within the system of EGs, since these conditionals have to be given in non-indicative mood. As far as I am aware of, there is nothing corresponding to the meaning of subjunctive conditionals within EGs that Peirce could have had at his disposal. However, without a common method of measuring significations it remains unexplained how a mismatch could show anything to be erroneous in the two approaches. It would not even establish which of the two approaches precipitates problems.

Therefore, Peirce's comparative argument holds little promise. But there are other ways of formulating the proof, which likewise begin with the premise of "moving pictures of thought". I now make my own suggestion how we could view the relationship between EGs and the proof. Peirce by and large failed to notice this connection. Yet there is one specific but at the same time momentous discovery concerning EGs that is connected with the re-wording of his principle. It has to do with the graphical and logical treatment of modality, including different kinds of modalities, accomplished through 'tinctured' gamma graphs that he sketches in *PAP*.[4] But these appear like a bolt from the blue sky. Why are such modalities all of a sudden given such an important and central role? I believe the answer is this. In Manuscript 288 (1905–06), which provides material for the intended third *Monist* article *The Consequences of Pragmaticism*, Peirce restates the principle.[5] There it says simply:

(1) "The possible is what *can become actual*" (MS 288: 135).

This rewording was meant to replace the "vague" and "ecumenical proof" of the older principle. According to Peirce, "a possibility which could not be actualized would be absurd", and that is but "another of the forms of stating the principle of pragmaticism" (MS 288: 135). Now (1) does not appear anywhere in Peirce's published papers. However, in *PAP* and in the related drafts written after MS 288 such as *The Bed-Rock*, he is occupied with the question of the composition of concepts. For extensional concepts, he takes graphs to provide a straightforward solution: "Each component must be indeterminate in some respect or another; and in their composition each determines the other" (CP 4.572; see PIETARINEN 2006a). But one particular such problem which he soon runs into is that when we try to make such compositions, we often need to be able to

---

[4]   Roberts (1973) is one of the rare studies on the logic of tinctured EGs. See also Peirce's late *Assurance through Reasoning* (MS 669, 1910; MS 670, 1911). Just prior to *PAP*, Peirce wrote the unpublished series of drafts The Basis of Pragmaticism (MS 279-284) which contain extensive accounts of EGs, focussing especially on the philosophy of the system, but PAP is the first to add the modal part in terms of tinctures.

[5]   A small irony is that the central thesis of this manuscript reveals conclusively how distant Peirce's philosophical presuppositions are from those of Rorty's Consequences of Pragmatism.

identify actual objects with those that are possible. One of his examples refers to the problem of logically analysing the following assertion:[6]

> (2) There is a woman who is not and could not be identical with any possible catholic.

To represent and analyse this assertion in terms of existential graphs, we need to be able to draw a continuous line of identity from the sheet of actual assertion (where the concept is "Something is a woman" or "There exists a woman") into the negated ('ver-so') areas of conceived possibilities, in order to compose with the concept "something is other than any possible catholic". This Peirce accomplishes by representing universes of possibility with different tinctures from the universe of actuality and arguing that the indeterminacy concerning the concepts that compound the composite graph extends to those residing within the universes of possibility. The tinctured gamma graph in question is as follows:

(3)
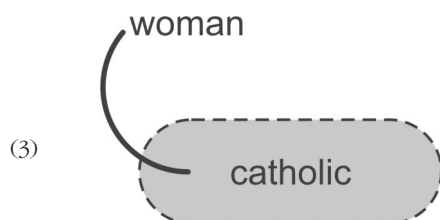
The two concepts are composed perfectly legitimately with one another with the aid of one continuous line of identity. I will not go into explaining the detailed workings of the signs involved in (3) since that is not central to the main point, but suffice it to mention that a couple of pages later Peirce mentions a more precise means of composing such 'many world' entities, which he calls *references*:[7]

> [There is] one great class of relations, the class of *references*, as I have called them, where one correlate is an existent, and another is a mere possibility; yet whenever I have undertaken to develop the logic of relations, I have always left these references out of account, notwithstanding their manifest importance, simply because the algebras or other forms of diagrammatization which I employed did not seem to afford me any means of representing them. I need hardly say that the moment I discovered in the *verso* of the sheet of Existential Graphs a representation of a universe of possibility, I perceived that a *reference* would be represented by a graph which should cross a cut, thus subduing a vast field of thought to the governance and control of exact logic.[8]

---

6   MS 490, Introduction to Existential Graphs and an Improvement on the Gamma Graphs. Peirce wrote this material for the April 1906 meeting of the National Academy of Science in Washington, D.C. Published in CP 4.473–584 only in minor parts.

7   Pietarinen (2006b, Chapter 5) has more on the logic and philosophy of Peirce's modal and diagrammatic concept of references.

8   Coincidentally, this passage was indeed published in CP 4.473–584.

In somewhat more up to date terms, the underlying problem here is quantification into the scope of modal operators.[9] And such propositions are well known in invoking all those infamous issues in the semantics of quantified modal logics to do with how objects are cross-identified between actual and possible worlds or in different possible worlds.

PAP is thus extremely relevant to the understanding of the middle proof when read in conjunction with the parallel drafts that Peirce composed in 1905–06. His general strategy in *PAP* and the writings adjacent to it is to come up with sound and adequate logical methods of analysing modal assertions and taking seriously the modal nature of objects as parts of not only actual but also of multiply referential possible worlds.

The conclusion I am driving at is this: If we indeed have at our disposal such expressively complete iconic languages corresponding, at least, to quantified modal logics, and if we also have some reasonable semantics for them based, for one, on suitable continuity principles (and Peirce is struggling to articulate all these in papers subsequent to *PAP*), then we would have everything that is needed for the expression of all assertions and for studying the significations of those assertions.[10] Peirce must have been quite pleased to have all these required features finally incorporated into EGs, including the Principle of Pragmaticism itself as a semantic or interpretational principle of modal graphs – for otherwise pragmaticism, whose correctness would merely hinge on comparisons between significations, might have been in serious trouble.

In other words, my suggestion boils down to the claim that Peirce's argument for the truth of pragmaticism is an attempt to articulate a comprehensive theory of logical semantics and pragmatics for certain very expressive diagrammatic languages. By 'very expressive' I mean those equivalent at least to first-order modal logic in which objects are many-world entities and in which cross-world identification and the continuity of objects are central. Taking the principle as he did as a principle of logic, now encoded into the phrase "the possible is what *can become actual*", we also perceive how his principle is able to cover the plethora of issues involved in his overall thesis of 'logic, considered as semeiotic'.

References

HOOKWAY, Chris. "The Pragmatic Maxim and the Proof of Pragmatism (2): After 1903." *Cognitio*, São Paulo, v.9, n.1, p. 57-72, jan./jun. 2008.

HOUSER, Nathan (1981). *Area Report*: Studies in a Philosopher Charles S. Peirce. PhD Qualification Area, University of Waterloo.

---

[9] Witness the translation of (3) into the language of quantified first-order modal logic, which is $\exists x(W(x) \wedge \Diamond \forall y(C(y) \rightarrow x \neq y))$. ($W(x)$:x is a woman; $C(y)$:y is a catholic.)

[10] According to Peirce, it is indeed all assertions that can be thus represented, as soon as we take the graphs in question to be signs in three dimensions: "Three dimensions are necessary and sufficient for the expression of all assertions; so that, if man's reason was originally limited to the line of speech (which I do not affirm), it has now outgrown the limitation" (MS 654: 6–7, Preface to Essays on Meaning, 1910).

HOUSER, Nathan (1998). "Introduction." In: PEIRCE, Charles S. (1998). *The Essential Peirce* 2. Edit.:Peirce Edition Project. Bloomington: Indiana University Press. xvii–xxxviii.

PEIRCE, Charles S. (1931–1958). (CP) *Collected Papers of Charles Sanders Peirce*, 8 v. Eds.: Charles Hartshorne and Paul Weiss (v. 1-6); Arthur W. Burks (v. 7-8). Cambridge, Mass.: Harvard University Press.

_____ (1967). (MS) "Manuscripts", in the Houghton Library of Harvard University, as identified by Richard Robin, *Annotated Catalogue of the Papers of Charles S. Peirce* (Amherst: University of Massachusetts Press, 1967), and in "The Peirce Papers: A Supplementary Catalogue." *Transactions of the Charles S. Peirce Society*, v. 7, p. 37–57, 1971.

PIETARINEN, Ahti-Veikko (2006a). "The Composition of Concepts and Peirce's Pragmatic Logic." In: Eduard Machery, Markus Werning and Gerhard Schurtz (Eds). *The Compositionality of Concepts and Meanings*: Foundational Issues. Frankfurt: Ontos-Verlag. p. 247–270.

_____ (2006b). *Signs of Logic*: Peircean Themes on the Philosophy of Language, Games, and Communication. Dordrecht: Springer. (Synthese Library 329)

_____ (to appear). "Moving Pictures of Thought II: Graphs, Games, and Pragmaticism's Proof." *Semiotica.*

PIETARINEN, Ahti-Veikko; SNELLMAN, Lauri (2006). "On Peirce's Late Proof of Pragmaticism." In: Tuomo Aho and Ahti-Veikko Pietarinen (Eds). Truth and Games. *Acta Philosophica Fennica*, Helsinki, v. 79, p. 275–288.

ROBERTS, Don D. (1973). *The Existential Graphs of Charles S. Peirce*, The Hague: Mouton.

_____ (1981). "Peirce's Proof of Pragmaticism and his Existential Graphs." In: Kenneth L. Ketner *et al.* (Eds.) *Proceedings of the C. S. Peirce Bicentennial International Congress*. Graduate Studies Texas Tech University. Lubbock: Texas Tech Press. p. 301–306.

ZALAMEA, Fernando (to appear). "EGs and the Proof of Pragmatism". *Semiotica.*

Address/*Endereço*

Ahti-Veikko Pietarinen
University of Helsinki
P.O. Box 9, FI-00014
Finland