Varieties of Analytic Pragmatism

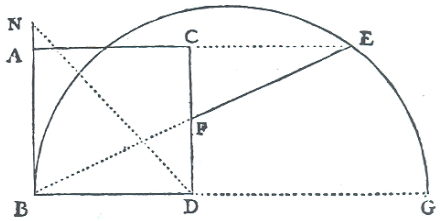
Danielle Macbeth

In his Locke Lectures Brandom proposes to extend what he calls the project of analysis to encompass various relationships between meaning and use.[1] As the traditional project of analysis sought to clarify various logical relations between vocabularies—Russell's theory of descriptions, for instance, showing how sentences containing definite descriptions can be rewritten, ostensibly without any change in meaning, as sentences containing only propositional functions and standard logical locutions—so Brandom's extended project seeks to clarify various pragmatically mediated semantic relations between vocabularies. A vocabulary V_1 is, for example, a pragmatic metavocabulary for another vocabulary V_2 just if V_1 enables one to say what one must be able to do to count as saying the things V_2 enables one to say. The point of the exercise in both cases is to achieve what Brandom thinks of as algebraic understanding, "the sort of . . . understanding characteristic of mature mathematized sciences" (pp. 212-3). Because the pragmatist critique of the traditional project of analysis was precisely to deny that such understanding is appropriate to the case of natural language, the very idea of an analytic pragmatism is called into question by that critique. What I want to try to do here is to clarify the prospects for Brandom's project, or at least something in the vicinity of that project, through a comparison of it with what I will suggest we can think of as Kant's analytic pragmatism as developed by Peirce.

Much as Brandom situates himself relative to the standard project of analysis as it was challenged by the later Wittgenstein's pragmatism, so Kant situates himself relative to the dogmatism of Descartes' new algebra as challenged, so he thought, by Hume's skeptical doubts. Because what is at issue in Kant's case would seem to be precisely the sort of algebraic understanding that Brandom esteems as "the very best sort of understanding to have" (p. 214), it is worth briefly rehearsing both Descartes' achievement in mathematics and the skeptical challenge it engendered before turning to the version of analytic pragmatism Kant developed in response to that challenge.

Before Descartes the paradigm of mathematics was Euclidean demonstration, a practice in which the task is to find, that is, to construct, a diagram that provides a path from one's starting point to some desired conclusion. Because in this form of mathematics one achieves results by reasoning through a diagram, seeing it now this way and now that in an ordered progression of steps, the diagram is itself the locus of proof in this form of mathematics. Having an adequate diagram just is having a proof in ancient mathematics. Descartes' signal achievement was to show how to dispense with diagrams in mathematics, bringing thereby a radically new level and sort of clarity to the subject.[2]

By way of illustration, consider the following problem: we are given a square AD and line BN; the task is to prolong the side AC to E so that EF, laid off from E on EB, is equal to NB. Heraclides' solution, as given in Pappus's *Collection* and reproduced in Descartes' *Geometry*, is this diagram:[3]



[1] Published, with an afterword, as *Between Saying and Doing: Towards an Analytic Pragmatism* (Oxford: Oxford University Press, 2008).

[2] See my "Viète, Descartes, and the Emergence of Modern Mathematics", *Graduate Faculty Philosophy Journal* (2004) 25: 87-117.

[3] All references to Descartes' works are to the Adam-Tannery (AT) edition of the *Oeuvres de Descartes* (Vrin, Paris, 1964-76). The English translations used are *The Geometry of Rene Descartes* (G), trans. David Eugene Smith and Marcia L. Latham (New York: Dover, 1954), and *The Philosophical Writings of Descartes* (CSM), in three volumes, translated by John Cottingham, Robert Stoothoff, Dugald Murdoch, and in the case of the correspondence, Anthony Kenny (Cambridge: Cambridge University Press, 1984-91).

That is, BD is extended to G, where DG = DN. Taking now the circle whose diameter is BG, it can be shown (by a chain of reasoning through the diagram that need not concern us) that the point E that is wanted is at the intersection of that circle and AC extended as needed. Already in the *Regulae*, Descartes reports that such a practice of demonstrating through diagrams "did not seem to make it sufficiently clear to my mind why these things should be so and how they were discovered" (AT X 375; CSM I 18). As he remarks in his *Geometry* of this solution in particular, "those not familiar with this construction would not be likely to discover it" (AT I 387; G 188). His own approach, we will see, is a methodical, stepwise construction that eventuates in an equation the root of which solves the problem.

We know that BD equals CD because they are sides of one and the same square. Call that length, which is given by the terms of the problem, a. Let c be the length EF, and take the length DF as that which is sought, the unknown x. CF, then, is equal to $a - x$ because, by compositionality, CF + FD = CD. Because the triangles BDF and ECF are similar, we know that BF : DF :: EF : CF, that is, that $a - x : c :: x : \mathrm{BF}$. So, transforming this proportion into an equation, we know that $\mathrm{BF} = cx/(a - x)$. But because BDF is right at D, we also know that $\mathrm{BF}^2 = \mathrm{BD}^2 + \mathrm{FD}^2$; that is, $\mathrm{BF}^2 = a^2 + x^2$. Combining the two equations thus gives us $(cx/(a - x))^2 = a^2 + x^2$, which we can transform in a sequence of steps licensed by familiar algorithms of algebra into the equation $x^4 - 2ax^3 + (2a^2 - c^2)x^2 - 2a^3x + a^4 = 0$. The root of this equation can then be constructed and the problem is solved.

In solving this problem, Descartes appeals to four relationships that can be expressed both graphically in a diagram and symbolically in the language of algebra: equality (of sides of a square), compositionality (of lines from their parts), proportionality (of triangles), and the relationship that is expressed in the Pythagorean theorem.[4] And as we have just seen, the symbolic expression of these relations furthermore enables one to combine the given information systematically into a single equation and thereby to solve the problem without any need for the additional constructions that are involved in the Euclidean demonstration. In Descartes' geometry one does not need to discover the diagram that is the medium of Euclidean demonstration but only to translate the given information into symbolic form and then combine it all into a single solvable equation. It is just this that enables Descartes to claim that he has a *method* for the discovery of truths in mathematics. Although there is no method by which to discover the diagram that is needed in a Euclidean demonstration, once we conceive the problem symbolically—the diagram not as an iconic display of objects of various sorts in relations but simply as a presentation of relations and proportions that can equally well be expressed algebraically—Descartes can show us how combine the given information symbolically into a single equation and thereby to solve the problem. As Poincaré would later remark, "before Descartes, only luck or genius allowed one to solve a geometrical problem. After Descartes, one has infallible rules to obtain the result; to be a geometer, it suffices to be patient . . .".[5] Translation of a problem into a symbolic language the signs of which are everywhere governed by rules yields what we might well think of as an algebraic understanding of that problem.

Descartes' mathematics is systematic, algorithmic, and symbolic. It is in these respects quite unlike the sort of diagrammatic demonstration one finds in Euclid. And yet, Descartes at first thought, mathematics needs images. As he explains in the *Regulae*, mathematics needs images because the intellect reflecting in the absence of an image can discover logical possibilities that are not *real* possibilities, that are shown to be unreal by an image one forms: "even if the intellect attends solely and precisely to what the word denotes, the imagination nonetheless ought to form a real idea of the thing, so that the intellect, when required, can be directed towards the other features of the thing which are not conveyed by the term in question, so that it may never injudiciously take these features to be excluded" (AT x 335; CSM i 61). For example, using the intellect alone one might determine that extension is not body and on that basis mistakenly conclude that there can be extension without body. Such a mistake is avoided, on the *Regulae* account, by one's forming a real idea of an extension in the imagination and discovering on that basis that it is impossible to form an image of extension that is not also an image of body. The distinction between extension and body is *only* a distinction of the intellect; there cannot actually be extension without body.[6] That extension requires a body

[4] I owe this observation to Kenneth Manders. See his "Euclid or Descartes?", ms.

[5] Henri Poincaré, Preface to his *Oeuvre de Laguerre*, vol. I, quoted in Manders, "Euclid or Descartes?".

[6] This is why Descartes thinks that there can be no vacuum: "The impossibility of a vacuum, in the philosophical sense of that in which there is no substance whatsoever, is clear from the fact that there is no difference between the extension of a space, or internal place, and the extension of a body. For a body's being extended in length, breadth and depth in itself warrants the conclusion that it is a substance, since it is a complete contradiction that a particular extension should belong to nothing; and the same conclusion must be drawn with respect to a space that is supposed to

is not logically necessary, but as the imagination reveals it is necessary nonetheless. It is, as the point might be put, not formally necessary but instead materially necessary.

According to Descartes' early account the necessary non-logical relations that are needed in mathematics, without which it would be paralyzed, are to be grounded in the faculty of imagination. When Descartes came to realize that his new mathematical practice enabled him to discover truths even in cases in which no corresponding image could be formed, he needed another account. What he came up with was the idea that God creates these necessary but non-logical truths and implants in us the ideas by which to discover them using only the pure intellect. By reflecting on our innate ideas of, for instance, substance, duration, order, and even thinking itself, one can discover by reason alone both the essence and fundamental laws of nature and the essence and fundamental laws of the mind, including the method by which inquiry ought to be conducted. Mathematics in particular thus came to be seen as at once ampliative, that is, a science within which to discover new and significant truths, and also strictly logical, that is, by means of reason alone.[7] The pure science of the intellect that Plato had first envisaged had finally been realized.

Mathematical reasoning, according to Descartes, is at once deductive, each thing following of necessity from what came before, and also ampliative. By reflecting on one's God-given ideas and assenting only to what is clear and distinct regarding them, that is, what is clearly necessary in them, whether or not logically necessary, one discovers new truths. This, Kant would come to think, is sheer dogmatism. Although logically necessary relations among concepts are unproblematic because grounded in the law of identity, one cannot simply assume as given the non-logical necessary relations that are needed in mathematics.[8] Of course, if the existence of God could be proven, then one could perhaps talk of (divinely) implanted ideas; but the existence of God cannot be proven and hence one cannot talk of such ideas.[9] To talk of such ideas is to appeal to nothing more than a brute Given, as unfounded as it is unquestionable. It is this rejection of any Given, of the very idea of an indubitable foundation for our knowledge of necessary but non-logical relations, that entitles Kant to be recognized as the first pragmatist. And because his pragmatism is furthermore systematic, rigorous, and theoretical (in something like the way that the physical sciences are theoretical), it deserves to be called the first analytic pragmatism.[10]

But as is invariably the case with pragmatism, Kant's pragmatism can be interpreted in either of two ways. The first, and less radical, way is to take the rejection of the Given to impair in some fundamental way our capacity for knowledge of fully objective truth. On this interpretation, one leaves in place the *need* for a foundation, if knowledge of fully objective truth is to be possible, all the while denying that that need can be met. This is the pragmatism of James, Dewey, Rorty, and, we will see, Brandom. For all such

---

be a vacuum, namely that since there is extension in it, there must necessarily be substance in it as well" (AT VIII A 49; CSM I 229-230).

[7] Of course it is not strictly logical in the Scholastic sense of logic, but it is, Descartes thinks, strictly logical in the true sense of logic, in the kind of logic that provides the rules that govern the direction of the mind, "which teaches us to direct our reason with a view to discovering the truths of which we are ignorant" (AT IX B 14; CSM I 186). Both Locke and Leibniz similarly held that by logic alone (as they understood logic) one might extend one's knowledge.

[8] Thus Kant, unlike Descartes, limits what he calls general logic to what is, as we would say, formally necessary. It is, he thinks, psychologistic to include among purely logical relations those that are necessary but not logically necessary. As I argue below, necessary but not logically necessary relations are to be understood by appeal to the practices and activities of the special sciences, mathematics and the natural sciences. The transcendental aesthetic and transcendental logic serve to set out the necessary conditions of such practices and activities.

[9] See Kant's remarks in "On a discovery whereby any new critique of pure reason is to be made superfluous by an older one" (AK 8:222).

[10] That Kant's philosophy is systematic and rigorous is obvious enough. That it is theoretical is indicated, on the one hand, by the familiar contrast Kant draws between the practice of mathematics and that of philosophy, and on the other, by the fact that he thinks that the philosopher must follow the practice of the physicist rather than the mathematician. As is made clear in the B Preface, the philosopher, like the natural scientist, puts forth hypotheses and then tests them. The *Critique* itself is such a test, and a very successful one Kant thinks. But he nonetheless cautions us in the Method that "in its transcendental efforts . . . reason cannot look ahead so confidently [as in mathematics it can], as if the path on which it has traveled leads quite directly to the goal, and it must not count so boldly on the premises that ground it [as mathematics can] as if it were unnecessary for it frequently to look back and consider whether there might not be errors in the progress of its inferences to be discovered that were overlooked in its principles and that make it necessary either to determine them further or else to alter them entirely" (A735/B763-A736/B764). As we will see in more detail below, natural science, unlike mathematics on Kant's view, is constitutively self-correcting, and hence philosophy is as well.

pragmatists there is a kind of bedrock, for instance, our language and interests, or our agreements, or our social practices, that is to provide such foundations as there are for knowing, or at least our talk of knowing. To read Kant as a pragmatist of this variety is to take the forms of sensibility and understanding likewise to stand as surrogates for the foundation that is not otherwise to be had. So read Kant is, I think, clearly guilty of psychologism.

The second, more radical and I think more insightful, response to the rejection of the Given is to see not only that the Given is a myth but also that knowledge of fully objective truths does not *require* a Given, and indeed, could not be *helped* by a Given insofar as what is Given is merely a kind of blind prejudice, merely, as Peirce would say, what one is inclined to think. But if the Given, assuming there were one, could not possibly provide a foundation for knowing then it must be the foundationalist picture itself that is a myth; it must be that it is not the *products* of inquiry that are the key to knowing but instead the *process*, the dynamic *activity* of inquiry, the actual practices and processes of science. This is the pragmatism of Peirce and Sellars. To read Kant as such a pragmatist—and hence as a transcendental idealist not *because* of his pragmatism (as on the first reading) but in *spite* of it—is to take the forms of sensibility and understanding not as standing surrogate for some mythic foundation but instead as conditions of the possibility of the *activity* of inquiry. I want very briefly to indicate how such a reading of Kant would go.

According to Kant the practices and processes of science involve two very different sorts of activities, on the one hand, the constructive practices of mathematics and on the other, the theoretical, postulational, and self-correcting practices of the empirical sciences. His key insight on the side of mathematics is that although the new mathematical practice inaugurated by Descartes does not use images or Euclidean diagrams, but instead symbols and equations, it is nonetheless essentially diagrammatic. Indeed, it is the algebraic practice of successive writings and rewritings that first concretely displays the inherently temporal and dynamic character of all mathematical practice, and so even of Euclidean demonstration, which, one might think, essentially involves space for the drawing of the diagram but not time. Although the inherently diagrammatic, spatial, character of reasoning in mathematics is best illustrated in Euclidean geometry, its essentially temporal nature, the fact that it constitutively involves an organic process of unfolding over time is better illustrated in Descartes' algebra. This was Kant's deepest insight: that it is not the product but the process of mathematical proof, that is, the activity of constructing, that is the key to understanding the nature and possibility of our knowledge of the necessary but non-logical relations in mathematics; for it is this process that forges those necessary bonds among concepts that constitutes knowledge in mathematics, that "[brings] forth the truth together with the proof" (A734/B762; cf. B15-16). Space and time serve on this account not as a Given foundation but instead as the conditions of the possibility of such constructive activity.

The practice of natural science is very different according to Kant. It achieves knowledge of its laws, which like the truths of mathematics involve necessary but non-logical relations, not through constructions but through postulation and experimentation: "reason, in order to be taught by nature, must approach nature with its principles in one hand, according to which alone the agreement among appearances can count as laws, and, in the other, the experiments thought in accordance with these principles" (Bxiii). On Kant's account, our inquiries into the nature of the empirical world become *science* properly speaking only when we learn to approach nature not as a student awaiting instruction (in effect, a Given) but "like an appointed judge who compels witnesses to answer the questions he puts to them" (ibid.). Empirical inquiry is in this way constitutively self-correcting. And much as space and time are the preconditions of the constructive activities of mathematics so, Kant argues, the pure concepts of the understanding, and in particular those under the title of relation, are the precondition of self-correction in natural science.[11]

There are three sorts of judgments under the title of relation: categoricals, hypotheticals, and disjunctives. That both categoricals and hypotheticals are needed if self-correction is to be possible is a familiar theme from Sellars, and Brandom following him. Concepts must be inferentially related if judgment, as opposed to mere classificatory behavior, is to be possible; and such relations, if they are to provide grounds for judgments rather than merely causes of them, must themselves be available as the contents of judgments. There can be categorical judgments that describe only if there are also hypothetical ones.

[11] The forms of judgment falling under the titles of quantity and quality are preconditions of all science, mathematics as much as physics; only those under the title of relation (and modality, but these do not concern the content of judgment) are peculiar to the practice of the natural, empirical sciences.

But although hypothetical judgments are necessary for judgment, they are not sufficient according to Kant. One needs also the capacity to judge disjunctively. We can begin to understand why when we consider the fact that not only do we correct our categorical judgments in light of our hypothetical judgments, we also can correct our hypothetical judgments in light of our categorical judgments. That is, any conflict between the two can be resolved either by giving up the relevant categorical judgment or by giving up the hypothetical one. And in most cases of conflict it will be reasonably clear which makes more sense. *But there is no guarantee of this*. In some cases it will seem that *none* of the conflicting claims can reasonably be jettisoned. In such cases, what needs to be revised is not merely a categorical or a hypothetical but one's conception of what is possible, what makes sense at all.

The ancient problem of change provides a simple illustration of the point. Change is pervasive in our lives, but before Aristotle it seemed that changes is impossible insofar as it cannot come from what is or from what is not. We have an inconsistent triad: (1) there is change; (2) change cannot come from what is (because it already is); (3) change cannot come from what is not (because nothing comes from what is not). Each of the three claims taken alone seems compelling. That there is change seems manifest in experience; and that nothing can come either from what is (because it already is) or from what is not (because nothing comes from nothing) also seem to be obviously true. The conflict cannot be resolved, so it seems, by rejecting *any* of our three claims.

Hume's skeptical challenge is essentially similar. We have (we think) knowledge of causal relations. Hume shows that this knowledge cannot be either a relation of ideas, known by reason alone (because it is not logically necessary), or a matter of fact based on experience (because though not logically necessary, it is nonetheless necessary). But surely, Hume thinks, such knowledge could only be based on the one or the other. And the same is true of Kant's antinomies. Indeed, antinomy is at the heart of the whole of Kant's critical enterprise insofar as the reality on which thought aims to bear both *must* rationally constrain judgment, if judgment is to be rational at all, and *cannot* rationally constrain judgment insofar as reality has Kant thinks no inherently normative significance.

In cases involving only categoricals and hypotheticals either experience contradicts some purported inferential connection among concepts or some conceptual connection leads to a contradiction among putative experiences. In the cases of concern here we end up contradicting *ourselves* insofar as none of the available options seem to make any sense. We need, then, a third conception of judgment, and it must be just the sort of disjunctive judgment Kant provides. Suppose that categorical and hypothetical judgments were the only two forms of judgment involved in inquiry, that they were together sufficient to ground our second thoughts. There would in that case be no guarantee that there would not be a stalemate between them, that is, a case in which we find ourselves wanting to affirm that A and that not-B and that A entails B. And yet there *cannot* be an irresolvable stalemate for reason. Although it would be dogmatism to assume that we have already in hand the conceptual resources that are needed to understand reality as a whole, it would be skepticism to deny that we can achieve such resources as are needed. To avoid dogmatism we need to recognize that we may well find ourselves with an inconsistent triad that we simply do not know how to resolve by the usual means; to avoid skepticism we need a third form of judgment enabling us to express the difficulty in the form of a judgment and so reason about it. That third form of judgment is precisely what Kant gives us, a disjunctive judgment of the form A is (B or C), where the sphere of possibilities is exhaustive. By making our current understanding of all the possibilities explicit in this way, we are at the same time put in a position to come to understand the new possibilities that will resolve our difficulties. Kant's table of the pure concepts of the understanding establishes in this way the preconditions for our second thoughts and thereby the science of nature.

According to the reading just outlined, Kant's pragmatism involves rejecting not only any Given but also the whole foundationalist picture on which it depends. What is set in the place of the foundationalist picture is the practice of scientific inquiry, specifically, the activity of construction in mathematics and of hypothesis, experiment, and self-correction in natural science. Two developments in the sciences after Kant would prove critical to the development of Peirce's Kantian analytic pragmatism, first, the emergence over the course of the nineteenth century of yet another form of mathematical practice according to which theorems are to be proved by strictly deductive, logical reasoning from definitions alone, and also a new sort of physics that does not merely use mathematics but to a surprising extent just is mathematics. For our purposes it is the first of these, the new mathematical practice of deducing theorems on the basis of definitions, that is of primary importance. What it shows is either that Kant was wrong about the constructive nature of mathematics or that he was wrong about the non-constructive character of purely logical reasoning. Most, including Brandom, assume that the first is correct; they jettison Kant's philosophy

of mathematics while embracing his conception of logic as formal. Peirce argues that it is the second that is correct, and he does so on the basis of his analyses of reasoning, analyses that, he claims, "surpass in thoroughness all that has ever been done in print, whether in words or in symbols—all that De Morgan, Dedekind, Schroeder, Peano, Russell, and others have ever done [notice that Frege is not mentioned],—to such a degree as to remind one of the difference between a pencil sketch of a scene and a photograph of it".[12] What these analyses reveal, according to Peirce, is that "all necessary reasoning . . . is mathematical reasoning," that it is diagrammatic (ibid.). It follows that a good logical notation, like a good mathematical one, enables one to reason in the notation itself; just as on Kant's own account of the notations of mathematics, a good logical notation ought to enable one to exhibit logical relations in a way facilitating the discovery of new truths. (I have argued elsewhere that Frege's notation is good in just this sense.[13]) If, now, we combine that insight with Kant's insight into the practice of the natural sciences, in particular, his insight into the role of self-correction in that practice, we thereby give up the last semblance of foundationalism in mathematics. Although not the whole point, one constitutive role of axiomatizing, rigorously defining, and deductively reasoning in mathematics, and indeed in logic as well, is to reveal errors in our conceptions and to facilitate thereby the process of self-correction. It is just as Peirce says: "one of the most wonderful features of reasoning" is the fact that "it not only corrects its conclusions, it even corrects its premises".[14]

For Peirce as for Kant "the data for the generalizations of logic are the special methods in the different sciences"; "to penetrate these methods the logician has to study various sciences rather profoundly".[15] Their analyses are undertaken in order to achieve an understanding of the actual practice of science, the striving for truth. And because they are, the variety of analytic pragmatism Kant and Peirce espouse is quite unlike that we find in Brandom's Locke Lectures. First, and most obviously, Brandom develops and pursues his version of analytic pragmatism not as a logician but as an analytic philosopher of language; his aim is not so much to *understand* the practice of modern mathematics and the modern mathematical sciences as it is to *emulate* these sciences in order to achieve thereby the sort of understanding that he thinks they achieve. But there are other differences as well. I will consider three that relate to their various understandings of the nature of algebraic understanding, and also a fourth that is more global and perhaps the most important of all.

According to Brandom, algebraic understanding is the understanding that is achieved by "*constructing* the conceptual contents expressed by a target vocabulary" and "it does that by exhibiting them as complexes formed as the products of applying explicit algorithms to the conceptual contents expressed by a base vocabulary" (p. 213). This, he thinks, is not merely a good thing but the "gold standard" of understanding insofar as "it takes the issue of what one means . . . out of the hands, out from under the authority, of the one making the claims. It establishes a fact of the matter about the inferential relations that articulate the contents of the concepts expressed by the target vocabulary that swings free of the beliefs and preferences of the concept user" (p. 214). The idea finds an echo in Peirce's claim that "the very first lesson that we have a right to demand that logic shall teach us is, how to make our ideas clear . . . to know what we think, to be masters of our own meaning".[16] But for Peirce making one's ideas clear, being master of one's own meaning, is not the intrinsic good that it is for Brandom. Whereas Brandom takes clarity, in particular, conceptual clarity, to be a cardinal virtue, for Peirce such clarity is important primarily as a means: to make one's ideas clear is the first step on the way to improving them. Brandom does envisage a use for clarity insofar as it more easily enables us to settle disputes as they arise; nowhere does he suggest that such disputes might require us to revise and correct the ideas, however clear, with which we began.

A second, closely related difference is that Brandom's account, unlike Peirce's, is essentially static. For Brandom algebraic understanding consists in being clear about some *thing*; his focus is on the products of understanding. Peirce is concerned rather to understand the processes of understanding, and as we have seen, this focus on the activity of inquiry is a direct consequence of his rejecting, with Kant, not only a

---

[12] Charles Sanders Peirce, "The Three Normative Sciences" (1903), in *The Essential Peirce: Selected Philosophical Writings, II: 1893-1913*, ed. N. Houser and C. Kloesel (Bloomington and Indianapolis: Indiana University Press, 1998), p. 206.

[13] See my *Frege's Logic* (Cambridge, Mass.: Harvard University Press, 2005).

[14] Charles Sanders Peirce, *Reasoning and the Logic of Things: The Cambridge Conference Lectures of 1898*, ed. Kennth Laine Ketner (Cambridge, Mass.: Harvard University Press, 1992), p. 165.

[15] Letter to Daniel C. Gilman quoted in the Introduction to *The Essential Peirce: Selected Philosophical Writings, I: 1867-1893*, ed. N. Houser and C. Kloesel (Bloomington and Indianapolis: Indiana University Press, 1992), p. xxix.

[16] Charles Sanders Peirce, "How to Make Our Ideas Clear" (1878), in *Essential Writings* I, p. 126.

Given foundation but also the whole foundationalist conception of knowing. The difference between Peirce and Brandom on this point is, furthermore, reflected in the notation each aspires to. Brandom's diagrams display various relationships that can obtain among vocabularies and practices-or-abilities. Like the diagrams developed by Euler and Venn, Brandom's diagrams utilize the two-dimensional space of the page graphically to present relations. What Brandom's graphs do not enable one to do is to reason *in* the diagram. Of course one can, given a particular meaning-use diagram, draw inferences about the relations depicted; what one does not, and cannot, do is draw those inferences graphically. And the reason one cannot is that, as Kant's study of mathematical practice led him to see, a notation within which to reason must involve three levels of articulation: primitive signs, wholes of those signs in relation, which in some way present the entities of interest, and finally wholes of these (intermediate) wholes of primitives.

Think, for instance, of calculation in Arabic numeration. The primitives are the ten digits and the intermediate wholes are the numerals we form by concatenations of those primitives. These intermediate wholes are then arranged in a particular way on the page depending on the calculation one wishes to perform, say, addition or subtraction, multiplication or division. Having set up one's numerals appropriately, one then (perceptually) reconfigures the display in various ways: considering now one primitive sign from one numeral and one from the other, one performs a calculation, writes the result in the appropriate place, and goes on in a familiar stepwise fashion until the desired result is obtained. Similarly in Euclidean geometry, there are, first, the primitives (points, lines, angles, and areas), then the wholes composed of those primitives, that is, the familiar figures (circles, triangles, and so on) that make up the subject matter of Euclidean geometry, and finally there are the diagrams themselves within which can be discerned various intermediate wholes depending on how the diagram is regarded. I have argued elsewhere that it is just this feature of Euclidean diagrams that enables them to constitute ampliative demonstrations.[17] And it is true in general that the extraordinary power and fruitfulness of such notations as vehicles of reasoning rests on just this feature. Because Brandom's notation has only two levels of articulation, only primitive parts and wholes of those parts, it is not and cannot be a medium of reasoning. Nor, of course, is it intended to be. What matters for Brandom's purposes is the display of relations, not any activity an inquirer might engage in.

Perhaps it will be objected that Brandom *does* concern himself with activities and processes; after all, his *is* a form of pragmatism. He is concerned with use as much as with meaning. The crucial question, however, is *how* he is concerned with use. As Brandom reads Wittgenstein, that use underlies and so is prior to meaning is shown by the fact that usage and consequently meaning can and does change (see p. 6). Thus if we want to codify meaning, say, in order to create a dictionary, we must first look to how words are actually used by (native) speakers of the language. As the point is developed in *Making It Explicit*, explicit rules codifying meanings essentially depend, on pain of a vicious regress, on rules implicit in practice.[18] The regress of interpretations is to be stopped by one's implicit grasp of a rule as manifested in one's practice. As should be clear, this is the version of pragmatism that jettisons the mythic Given while keeping in place the foundationalist picture overall. The *need* for a Given remains and is here met by appeal to practices.

But one can also read Wittgenstein differently, as rejecting not only the Given but also the whole static foundationalist picture on which it depends.[19] Much as an animal is an instance of a form of life, where a form of life is characterized by particular capacities, perceptual and motor, and a narrative of growth, development, and characteristic behavior, so, on this reading, a person going by a signpost (say) is an instance of a (now socially rather than biologically evolved) form of life characterized by various activities and abilities, among them the ability to see and so to follow the way a signpost points. Much as mere stuff can acquire, in the course of the evolutionary emergence of animals, the significance of food, that is, of being (appropriately or normally) nourishing for an animal of a certain sort, so what is otherwise a mere stuff can acquire, in the course of the social evolutionary emergence of rational animals, the significance of being a reason for us. The signpost itself, in such a context, can tell us the way to go on. In place of the foundationalist picture, we have on this reading the picture of a kind of animal with its characteristic capacities and activities, as an instance of a form of life that is itself a narrative of birth, growth, and finally

---

[17] See my "Diagrammatic Reasoning in Euclid's *Elements*", forthcoming.

[18] Robert B. Brandom, *Making It Explicit: Reasoning, Representing, and Discursive Commitment* (Cambridge, Mass.: Harvard University Press, 1994).

[19] See John McDowell, "How Not to Read *Philosophical Investigations*: Brandom's Wittgenstein", reprinted in *The Engaged Intellect: Philosophical Essays* (Cambridge, Mass.: Harvard University Press, 2009).

death. The activities of life itself, and in particular our own form of life as the rational animals we are, thus play a constitutive role in this account that is altogether different from that they play on Brandom's reading.

This difference between the two varieties of pragmatism it is possible to read into Wittgenstein is further reflected in the fact that Brandom's analytic pragmatism, by contrast with that of Peirce, inevitably needs a given vocabulary that provides, in effect, the bricks and stones with which to build its structures. As Brandom himself puts the point, "*every* context in which it [algebraic understanding] *is* available contains an appeal to a base vocabulary whose use is *not* held in place algebraically, but depends on *another* sort of practical mastery and understanding" (p. 215-6), one that Brandom thinks of as hermeneutic. Because Brandom conceives analysis as a matter of constructing contents by "exhibiting them as complexes formed as the products of applying explicit algorithms to the conceptual contents expressed by a base vocabulary (treated for this purpose and relative to this construction, as simple)" (p. 213), he simply must have some materials given at the outset. The task is that of conceptual engineering, of building structures out of given materials. On a more Kantian and Peircean version of analytic pragmatism what analysis reveals is not structure or form for an antecedently given content, but instead a dynamic, organic process of intellectual inquiry and growth mediated, at least in many instances, by a symbolic, or as Peirce would say, diagrammatic, language, one that is fully meaningful in its own right and has not two but three levels of articulation.

There is, finally, a very striking difference in the overall orientation of Peirce and Brandom that is not, I think, accidental to the varieties of analytic pragmatism they espouse. Because for Peirce the central concern of the philosopher is actual scientific inquiry, which is first and foremost constitutively self-correcting, Peirce's first, and in a sense only, rule of reason is "that in order to learn you must desire to learn and in so desiring not to be satisfied with what you already incline to think".[20] To learn, and so to be a true scientist in Peirce's sense, one must be devoted to "the pursuit of truth for truth's sake", where this devotion is, Peirce thinks, a kind of existential commitment, "a mode of life", "the devoted, well-considered, life-pursuit of knowledge".[21] Peirce describes his own philosophical ideas as the fruits of just such a life, as growing "out of a contrite fallibilism, combined with a high faith in the reality of knowledge, and an intense desire to find things out".[22] Brandom's orientation, inspired by the example of David Lewis, is very different. On this approach "what philosophers should do is lay down a set of premises concerning some topic of interest as clearly as possible, and extract consequences from them as rigorously as possible. Having done that, one should lay down another, perhaps quite different set of premises, and extract consequences from them as rigorously as possible" (p. 225). What Brandom finds "liberating and exhilarating about this metaphilosophical attitude is that Lewis . . . didn't care much what reasons one had for starting with one set of premises rather than another. He was entirely open to, and indeed eager to, turn his awe-inspiring intellect to following out the consequences of even the wackiest of claims" (p. 226). It is in just this spirit that Brandom would have us take up his work in the Locke Lectures (ibid.). For Peirce, although "there is no positive sin against logic in *trying* any theory which may come into our hands", nevertheless "it is better to be methodical in our investigations"[23]; and this is better because "the more voraciously truth is desired at the outset, the shorter by centuries will the road to it be".[24] If one desires truth above all else then Lewis cannot be one's model.

Brandom's variety of analytic pragmatism aims to extend the project of analysis that is exemplified in such work as Russell's theory of descriptions to embrace not only meanings but also use. Because pragmatism, in particular the pragmatism of the later Wittgenstein, is for him simply the idea that there is no Given foundation for meaning, his variety of analytic pragmatism is and must be limited to feats of construction between bits of vocabulary. But perhaps a further step is needed as well. If, as I have argued, the Given could not possibly found either meaning or truth and knowledge insofar as it would be utterly unquestionable and hence merely what we are inclined to think (which is a matter for psychology, not

---

[20] *Reason and the Logic of Things*, p. 178.

[21] Charles Sanders Peirce, "The Century's Great Men in Science" (1901), originally appearing in the *New York Evening Post*, quoted in the Introduction to *The Essential Peirce*, II, pp. xxii-xxiii.

[22] Charles Sanders Peirce, "Concerning the Author" (1897), in *Philosophical Writings of Peirce*, ed. Justus Buchler (New York: Dover, 1955), p. 4.

[23] *Reasoning and the Logic of Things*, p. 178.

[24] *Reasoning and the Logic of Things*, p. 170.

philosophy), then it is the whole static foundationalist picture that must be given up, replaced with just the focus on the activities of inquiry in the sciences that we find in Peirce and Kant.[25]

But although these two varieties of pragmatism are in this regard very different, they are nonetheless alike in embracing the need for systematic theorizing in philosophy, in eschewing the sort of quietism that Wittgenstein can seem to espouse. As the analytic pragmatism of Kant and Peirce furthermore shows, the idea of an analytic pragmatism, which can easily seem oxymoronic, is not inherently problematic. Kant, the first pragmatist, certainly did not eschew philosophical theorizing, the forming and testing of hypotheses, and nor did Peirce; for both, such a "scientific", and so inherently self-correcting, attitude is constitutive of the practice of philosophy. Indeed, one could say that, for them, to be a pragmatist *just is* to be an analyst insofar as the method of their variety of pragmatism is critique, the task of self-scrutiny that reason can and must take up in the aftermath of dogmatism and the inevitable skepticism that follows it. Brandom's variety of analytic pragmatism is not so easily seen as a real and organic unity. It may well be that in the end his variety is just as John McDowell has described it, the project of (in Brandom's words) "perversely transplanting perfectly healthy pragmatist organs into the rotting corpse of analytic philosophy" (p. 202). I leave this question for others to decide.

[25] As Sellars puts it, "science is rational, not because it has a *foundation* but because it is a self-correcting enterprise which can put *any* claim in jeopardy, though not *all* at once." Wilfrid Sellars, "Empiricism and the Philosophy of Mind", in *Science, Perception and Reality* (London: Routledge and Kegan Paul, 1963), §38, p. 170.