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Pragmatism and Logic

Francesco Bellucci

AUTHOR'S NOTE

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I.

- ¹ In a famous address before the Philosophical Union at the University of California in Berkeley on August 26, 1898, William James credited Charles S. Peirce with being the originator of pragmatism. The principle of pragmatism, James says, was enunciated by Peirce in the early 1870s and sounded like this: the purpose of thought is to produce belief; belief is a habit of action; therefore, the purpose of thought is to produce habits of actions.¹ James' accreditation is supported by Peirce's own later recollections.² The doctrine that James so brilliantly summarizes is the one that Peirce had published, without linking it to the term "pragmatism," in the *Illustrations of the Logic of Science* series in 1877-1878. In the second installment of the series, the celebrated "How to Make Our Ideas Clear," he enounced a rule "for attaining the third grade of clearness of apprehension" of concepts that would later be labeled by him the "maxim of pragmatism." But it was not until after James' 1898 address, and especially from 1903 onwards, that Peirce started to write about pragmatism, in the apparent attempt to show its relevance to virtually any other aspect of his philosophical and scientific research.³
- ² Now, among the many things that Peirce says about pragmatism after 1903 there is one that has not received all the attention it deserves, not in the sense that it has been

neglected, but in the sense that its full import has not been adequately understood. It is the claim that pragmatism is a doctrine of logic. This claim is first made in the first of the Harvard Lectures of 1903, on “The Maxim of Pragmatism,” which begins with the words: “Ladies and Gentlemen: A certain maxim of Logic which I have called Pragmatism has recommended itself to me for divers reasons and on sundry considerations” (EP2: 133). Quite often Peirce describes pragmatism as a “logical maxim” (R 328: 2, c. 1905), “logical doctrine” and “a theory of logical analysis” (R 844, 1908; cf. EP2: 551n15).⁴ In one of the drafts of the “Preface” that in 1909 Peirce wanted to add to a republication of the *Illustrations* we read a reference to those early papers as containing “the earliest formulation of a method of logical analysis that [I] had had the habit of alluding to as [my] ‘pragmatism’” (R 633). Indeed the idea that pragmatism is a doctrine of logic emerges at the very beginning of the exchange with James on pragmatistic matters. In a letter dated March 16, 1903 Peirce wrote to James: “as I understand it, [pragmatism] is one of the propositions of logic” (RL 224). Two years later, in another letter to James, he declared: “pragmatism is for me but a comparatively unimportant feature of my logic” (June 15, 1905, RL 224).

- 3 The aim of the present paper is to explain in what sense pragmatism is a “feature of Peirce’s logic,” and in what sense it is a “comparatively unimportant feature” of it. The importance of this question is hard to underestimate. It is well known that Peirce was one of the most original, learned, and productive logicians of the 19th century, not only in formal or mathematical logic – a field in which he is now justly considered as the joint-discoverer, together with Frege, of quantificational theory – but also in inductive and, his creation, abductive logic. The observation that is often made that Peirce’s conception of logic was broader than the contemporary one should not imply that he did not have a *precise* conception of what logic is and of what belongs to it. He was also, James declared in August 1898, the inventor of pragmatism. His repeated claim that pragmatism is a doctrine of logic was thus an informed claim. Yet the connection that the claim makes has not been taken seriously enough by commentators, as I hope will appear from what follows.

II.

- 4 One first route to the clarification of the claim that pragmatism is a doctrine of logic is to look at Peirce’s notion of logic and its divisions. Here is a passage from a fragment of about 1906:

Logic is a classificatory science dominated by the idea of the difference between truth and falsity. Its central department, called Critic, is the study of the nature of the trust that ought to be placed in different kinds of reasoning. This leads up to another department, called Methodeutic, which studies the proper way of conducting different kinds of inquiry in order to attain either the most absolute truth attainable by generations and generations of investigators, or the best attainable approach to truth that can be had in time for a practical application of it. On the other hand, the study of Critic has to rest upon the results of an introductory department of logic, Stechiology, the business of which is to analyze reasonings in their ultimate components and to show how these are compounded. (R 602: 5-6)

- 5 The central department, “critic” or “logical critic,” investigates the conditions of validity of the different kinds of arguments; since an argument is valid if its leading principle is true, logical critic may be said to be the investigation into the truth of

logical principles. The first department, here labeled “stechiology” but more often called “speculative grammar,” investigates the constituent parts of arguments (i.e., propositions) and the constituents of those constituents (subjects, predicates, etc.). The third department, “methodeutic” (also “speculative thetotic”), investigates the methodology of scientific inquiry. This characterization, however generic, is sufficient for the moment.

- 6 Since pragmatism is a logical doctrine, the question to what department of logic it belongs is a natural one. As we shall see, Peirce is explicit on the matter. Scholars have given contrasting answers. For example, for Manley Thompson pragmatism belongs to speculative grammar. Since, Thompson argued, Peirce says in the *Minute Logic* that speculative grammar considers “in what sense and how there can be any true proposition and false proposition, and what are the general conditions to which thought or signs of any kind must conform in order to assert anything” (CP 2.206), then “pragmatism as the criterion of significant assertion would be the logical maxim resulting from this study” (Thompson 1953: 138). Peirce’s description of speculative grammar in the *Minute Logic* clearly implies in Thompson’s view that “pragmatism, then, as a method for obtaining clearness of ideas, the development of which is subsequent to an analysis of the conditions of assertion, becomes the culmination of the stoicheiology of logic” (*ibid.*: 165). A similar view was voiced by John Fitzgerald, according to whom Peirce’s “pragmatic principle [...] is only part of speculative grammar” (1966: 165); and by Thomas Goudge, who likewise claimed that “[i]n its most incisive formulation, Peirce’s pragmatism was a theory of meaning whose sphere of application was the domain of Speculative Grammar” (1950: 155).
- 7 Cheryl Misak is of a different opinion: “For Peirce, the backing for explaining the validity of general logical principles is a pragmatist backing. We proceed with inquiry on the assumption that logical laws are true, and until a doubt arises, we are justified in taking them to be true” (2016: 40-1). The question of the validity of logical principles is for Peirce a question of logical critic. Saying that the backing, i.e., the support, of the explanation of the validity of logical principles is a pragmatist backing amounts to saying that logical critic knows pragmatism and carries its investigations according to it. The idea seems to be that a “pragmatist” logical critic is one that accepts that logical principles are true until experience prove them false.
- 8 In his 1981 article “The ‘Proof’ of Pragmaticism” Max H. Fisch criticized Thompson and Fitzgerald for assigning pragmatism to speculative grammar. On the contrary, Fisch argued, pragmatism belongs to neither speculative grammar nor logical critic (as Misak suggests), but to methodeutic. Fisch was unsurprisingly right: Peirce himself assigned pragmatism to methodeutic in two drafts of the 1907 paper on pragmatism and in a draft (contained in RS 104) of a 1904 letter to C. A. Strong (cf. Fisch 1986: 375n15).

Pragmatism is plainly, in the main, a part of methodeutic. (R 320: 23)

Pragmatism is, thus, nothing more than a rule for ascertaining the meaning of words – a mere rule of methodeutic, or the doctrine of logical method. Consequently, it must be founded exclusively upon our understandings of signs, without drawing support from any principle either of metaphysics or of psychology. (R 322: 12)

Semeiotics has three parts: Speculative Grammar, which studies the essential nature of the different kinds of signs; Critic, which studies the general conditions of their relations to their objects; and Methodeutic, which studies the general conditions of their fulfilling their purpose. In this third part, to which Pragmatism belongs, I allow some use of facts of history. (RS 104: 35)

- 9 I shall have little to say about the semiotic characterization of logic that is evident in the last passage. The question I want to raise is simply: what does it mean that pragmatism is a “part” or a “rule” of methodoetic?

III.

- 10 In 1902 Peirce applied to the Carnegie Institution for a grant to bring to completion the treatise on logic on which he had been working since at least the summer of 1901, titled *Minute Logic*. The grant was rejected and the *Minute Logic* remained incomplete. At some point James must have realized that the Carnegie Institution would not finance Peirce’s project, and started making plans for inviting him at Harvard to deliver a series of lectures. James’ plan realizes at the beginning of 1903, and the lectures are scheduled for the spring of the same year. The first lecture is held on March 26, 1903. On James’ request, the subject of the lectures is pragmatism.⁵ Now, in the seventh lecture Peirce explains that pragmatism is the logic of abduction:

If you carefully consider the question of pragmatism you will see that it is nothing else than the question of the logic of abduction. That is, pragmatism proposes a certain maxim which, if sound, must render needless any further rule as to the admissibility of hypotheses to rank as hypotheses, that is to say, as explanations of phenomena held as hopeful suggestions; and furthermore, this is *all* that the maxim of pragmatism really pretends to do, at least so far as it is confined to logic, and is not understood as a proposition in psychology. (EP2: 234)

- 11 Abduction, as Peirce conceives it in his later years, is the first step of a three-steps process of inquiry. When confronted with a surprising fact of observation, we make a hypothesis that explains it, i.e., we adopt a concept or proposition from which the surprising fact would follow deductively. This is the first step of inquiry, abduction. Having thus made a hypothesis, we have to test it. A hypothesis cannot be tested in itself; it can only be tested in its consequences. Thus, we draw deductive consequences or *predictions* from the hypothesis (other than the surprising fact itself which prompted the adoption of the hypothesis). This is the second step of inquiry, deduction. Having drawn deductive consequences from the hypothesis that count as predictions, these are to be tested, i.e., the conditions for their realization are to be created or otherwise determined and it has to be observed whether in fact the predictions are realized. Insofar as those predictions are realized, the hypothesis is confirmed. This last step is induction. Its inductive character consists in the fact that of all the predictions that could be made from the hypothesis, only a sample will be tested; and any reasoning from sample to whole is inductive according to Peirce.
- 12 In order to test a hypothesis one has to test some predictions that are made on the basis of it. Yet, not all predictions are testable. Suppose I entertain the following hypothesis about hard bodies: “hard bodies remain perfectly soft until they are touched, when their hardness increases with the pressure until they are scratched” (W3: 267). In normal conditions, there is no way to test this hypothesis, because any testing of it would imply the non-obtaining of the conditions under which it holds, i.e., any testing of it would imply touching the hard body, thereby failing to verify what its properties are when it is not touched. In other words, there is no experience that may tell us whether the hypothesis is true or not. The hypothesis is a non-experimental one, because its predictions are non-experimental. The maxim of pragmatism *excludes* such

hypotheses from the realm of scientific hypotheses; it is a rule as to the admissibility of hypotheses to rank as (experimental) hypotheses: “Any hypothesis, therefore, may be admissible, in the absence of any special reasons to the contrary, provided it be capable of experimental verification, and only in so far as it is capable of such verification. This is approximately the doctrine of pragmatism.” (EP2: 235). It has to be noted that when Peirce says that the pragmatic maxim “render[s] needless any further rule as to the admissibility of hypotheses to rank as hypotheses,” he should be taken to mean “to rank as *experimental* hypotheses.” For any concept or proposition from which the surprising fact result is an explanation of that fact and thus a hypothesis. The pragmatic maxim further distinguishes, among hypotheses, those that are experimental. Peirce’s reference to experimental verification is a clear indication of this.

- 13 I have mentioned that in 1902 Peirce applied to the Carnegie Institution for a grant to complete the *Minute Logic*. The application documents, the so-called “Carnegie Application” (RL 75⁶), contain a list and the abstracts of thirty-six “memoirs” into which Peirce planned to divide the treatise. The plan of the memoirs runs parallel to the table of contents for the *Minute Logic* that Peirce drafted in July 1901 (R 1579). The last seven memoirs, no.27 to 33, were devoted to “Methodeutic.” Here are three parallel passages from three distinct drafts of memoir 27:

Methodeutic has a special interest in abduction, or the inference which starts a scientific hypothesis. For it is not sufficient that a hypothesis should be a justifiable one. Any hypothesis which explains the facts is justified critically. But among justifiable hypotheses we have to select that one which is suitable for being tested by experiment. There is no such need of a subsequent choice after drawing deductive and inductive conclusions. (RL 75, Draft B)

Of the different classes of arguments, abductions are the only ones in which, after they have been admitted to be just, it still remains to inquire whether they are advantageous. (RL 75, Draft A)

I here consider precisely what methodeutic is. I show that it is here permissible to resort to certain methods not admissible in stechiologic [i.e., speculative grammar] or in critic. Primarily, methodeutic is nothing but heurctic and concerns abduction alone. (RL 75, Draft D)

- 14 From the “critical” (in Peirce’s sense) point of view, any hypothesis that explains the surprising fact is like any other. In order for a conception or proposition to count as an explanatory hypothesis it is sufficient that the surprising fact follows deductively from the hypothesis. Yet critically equivalent hypotheses may not be equivalent from the “methodeutical” point of view. While under the critical point a hypothesis is merely anything from which the surprising fact follows deductively, under the methodeutical point of view a hypothesis is something that has to survive empirical testing; thus “among justifiable hypotheses we have to select that one which is suitable for being tested by experiment,” that is, since logical critic does not distinguish between explanatorily, i.e., critically equivalent hypotheses, it is up to another department of abductive logic to make a selection of those hypotheses that are suitable for being tested. Now a non-experimental hypothesis can never be tested; thus the first thing that methodeutic does with regard to critically equivalent hypotheses is to separate those that can be experimentally tested from those that cannot. But this is precisely what the maxim of pragmatism does.
- 15 Methodeutic is not limited to prescribing the experimental character of hypotheses; it also involves considerations of simplicity and economy. A fragment of c. 1903 recites:

“The recommendations of an explanatory hypothesis are, 1st, verifiability; 2nd, simplicity; 3rd, economy” (RS 64: 60). Besides being “verifiable,” i.e., experimental, an explanatory hypothesis has to be “simple” and “economic.” But simplicity and economy are criteria for the further selection, among experimental hypotheses, of those that are advantageously tested first. In other words, the further methodetical principles of simplicity and economy are only applied to pragmatically equivalent hypotheses.

- 16 Let me stress this point by means of an example. I have been sneezing and have had a running nose since yesterday. Any supposable condition or event that causes sneezing is a possible explanation of it, in the sense that sneezing would result from it as a deductive consequence (cf. EP2: 231).

The surprising fact that I am sneezing is observed.

But if H were true, sneezing would be a matter of course.

Hence, there is reason to suspect that H is true.

- 17 H is the hypothesis that explains sneezing. The little medicine I have been taught leads me to consider four possibilities for H: allergic rhinitis, nasal polyp, COVID-infection, and condition C. Condition C is a condition that is entirely described by saying that it has no consequences whatsoever on the human body or the environment and has no other symptoms besides sneezing; i.e., sneezing is the only manifestation of C. The four hypotheses are equivalent under the explanatory (“critical”) criterion, for sneezing results from all of them. They are not equivalent under the experimental or “pragmatistic” criterion, for condition C is the only one that cannot be tested, because in order to test a hypothesis I have to test an experimental deductive consequence *other than the very thing that prompted the adoption of the hypothesis*. Since by definition C has only sneezing as its only experimental consequence, C cannot be tested. The maxim of pragmatism excludes the hypothesis of condition C from the realm of experimental hypotheses. The three hypotheses that remain (allergic rhinitis, nasal polyp, COVID-infection) are “pragmatistically” equivalent. In order to decide which one to test first, considerations other than pragmatistic adequacy enter into play. Thus, even if I’m sure that COVID-infection is the least likely to turn out to be the true hypothesis, I may decide to try it first simply because it is the cheapest to test (I have a COVID-test at home). The decision to test one hypothesis first because it is the cheapest is a consideration of economy.

- 18 The four initial hypotheses are explanatorily equivalent: all of them are explanations of the surprising fact; they are equivalent from the “critical” point of view. Logical critic cannot go beyond this formal determination of what may count as an explanation. It has to pass the ball to methodetic (“abductions are the only ones in which, after they have been admitted to be just, it still remains to inquire whether they are advantageous”). The first thing that methodetic does is to apply the pragmatic maxim, which separates experimental from non-experimental hypotheses (“pragmatism proposes a certain maxim which, if sound, must render needless any further rule as to the admissibility of hypotheses to rank as [experimental] hypotheses”). Yet, while the pragmatic maxim thus belongs to the methodetic of abduction, the methodetic of abduction is not exhausted by the pragmatic maxim (“this is *all* that the maxim of pragmatism really pretends to do”): pragmatistically equivalent hypotheses may not be economically equivalent.

- 19 In sum, the answer to my initial question (what is the part of logic to which pragmatism belongs?) can be cast in the form of the following syllogism in *Barbara*:
 Pragmatism is the logic of abduction (Harvard Lecture VII)⁸
 The logic of abduction is not exhausted by logical critic but involves methodetic (Carnegie Application)
 Therefore, pragmatism involves methodetic.
- 20 Another way of saying this is: pragmatism, as Peirce conceives it in the Harvard Lectures, is the methodetic of abduction.
- 21 Has pragmatism anything to do with the other two forms of reasoning that follow abduction in the process of scientific inquiry? “The maxim of pragmatism, if true, fully covers the entire logic of abduction. It remains to inquire whether this maxim may not have some *further* logical effect. If so, it must in some way affect inductive or deductive inference” (EP2: 235). Peirce’s answer is that it has not. On the one hand, since induction tests a hypothesis suggested by abduction, the influence that the maxim has upon it is already contained in the influence it has upon abduction. In other words, the maxim already filters what hypotheses will be “passed” to inductive testing, and thus it has already exhausted its task before those hypotheses are tested. On the other hand, abduction gives deduction its premises, for a hypothesis is tested by testing its deductive consequences, and thus deduction moves from premises that are provided by abduction. Thus, the maxim influences deduction only in the sense that it influences the premises of deduction, but it does not influence deduction’s “rationale.” In either case, the influence of pragmatism on deduction and induction is indirect, i.e., pragmatism influences deduction and induction by means of its influencing abduction: “no effect of pragmatism which is *consequent upon its effect on abduction* can go to show that pragmatism is anything more than a doctrine concerning the logic of abduction” (*ibid.*).

IV.

- 22 Perhaps the best “classical” account of Peirce’s pragmatism is that of W. B. Gallie’s *Peirce and Pragmatism* (Gallie 1952). Gallie was perfectly aware that pragmatism was for Peirce a principle of logic.⁹ According to Gallie, Peirce “prefers to treat Pragmatism as a rule of inference – that which determines the admissibility of the conclusion of any hypothetical inference” (*ibid.*: 140). He also explains how this view of pragmatism, which is inference-based, is compatible with its early formulation in the *Illustrations* series, which was term- or concept-based.¹⁰ Yet even in this most lucid examination of Peirce’s pragmatism lurks a potential misunderstanding. Gallie says:
- [...] in order to understand an informative statement or appreciate the peculiar force of a hypothesis, one must be in a position to say, or show how, evidence for or against it could be obtained, that is, obtained by deliberate intention and not, so to say, stumbled upon by mere fortune. Unless this condition is fulfilled, a hypothesis or a piece of alleged information just isn’t what it claims to be or appears to be: it is as logically inadmissible as a conclusion allegedly derived from two negative premises or as a generalization from instances which we have no reason for considering a fair sample of the kind or collection that is being examined. (*Ibid.*: 143)
- 23 Gallie seems to be saying that a hypothesis that does not conform to the pragmatist maxim, i.e., which is not experimentally verifiable, or which is only accidentally

verified, is logically inadmissible. That with “logically inadmissible” he means “logically *invalid*” is evidenced by the two examples that follow, one deductive and the other inductive. It is a rule of deduction, or at least of syllogistic, that from two negative premises nothing follows deductively. Likewise, it is a rule of induction that from an unfair sample nothing can be concluded inductively. To violate these rules is to violate two rules that make deduction and induction valid. Likewise, so the suggestion goes, to violate the pragmatic maxim is to violate a rule that makes abduction valid.

- 24 The problem with this view is that it does not distinguish the critical from the methodical components of abduction. It is one thing to say that a hypothesis obtained by abduction explains the surprising fact. We saw above that this amounts to saying that the fact follows deductively from it. If this is the case, the hypothesis does count as a hypothesis after all, and the inferential process by which it is obtained, abduction, is “valid.” Quite another thing is to say that a hypothesis obtained by abduction is the one that has to be verified. This abduction alone cannot determine; the hypothesis has to be put to test by testing its deductive consequences and by generalizing on the results. In Peirce’s words, “[a]ny hypothesis which explains the facts is justified critically. But among justifiable hypotheses we have to select that one which is suitable for being tested by experiment” (RL 75, Draft B). Validity is a problem of logical critic, not of methodical; the pragmatic maxim concerns methodical, not logical critic. Gallie unduly associates the *critical* invalidity of deduction and induction with the *methodical* invalidity of abduction, and thereby misunderstands the proper place of the pragmatic maxim within the logic of abduction.¹¹

V.

- 25 That pragmatism has something to do with methodical, and in particular with the methodical of abduction, has not entirely escaped the attention of commentators. Yet the peculiarly “triadic”¹² relationship of these three components of Peirce’s logic (abduction, methodical, pragmatism) is in general poorly understood.
- 26 Even when the general point that pragmatism belongs to methodical is appreciated, the connection with the methodical of *abduction* is not made. For example, Helmut Pape recognizes that “[d]er Pragmatismus ist eine Theorie, die der dritten und letzten semiotischen Disziplin zuzuordnen ist, der Methodik [pragmatism is a theory which is to be subordinated to the third and last semiotic discipline, methodical]” (1989: 311), but abduction is no part of his explanation of the subordination.¹³ In like manner, Mats Bergman clearly states that “the pragmatic method is arguably a part of rhetorical or methodical inquiry” (2008: 62), but his explanation of why this is arguably so contains no reference to abduction.¹⁴ Again, Jean-Marie Chevalier acknowledges that “la méthodique contient la théorie du pragmatisme [methodical contains the theory of pragmatism]” (2022: 253); but neither does his – otherwise intelligent – discussion of Peirce’s late (post-1902) pragmatism mention abduction (*ibid.*: 252-62), nor does his discussion of Peirce’s earlier (1868-1884) theory of induction and abduction (*ibid.*: 93-118) – which also features a section on Peirce’s economy of research, which is a component of methodical – has anything to say about pragmatism or the pragmatic maxim.
- 27 On the other hand, when the connection between pragmatism and abduction is clearly seen, the connection with *the methodical* of abduction is not made. For example,

Atocha Aliseda connects abduction with pragmatism in the same way as I propose: “Peirce puts forward the pragmatic method as that providing a maxim that completely characterizes the admissibility of explanatory hypotheses. [...] it is required that every hypothesis is subject to experimental corroboration (verification in Peircean terms)” (Aliseda 2006: 176). Yet Aliseda does not distinguish the critical from the methodological component of abduction, and if this distinction is not made the possibility of understanding Peirce’s association of pragmatism with methodological is precluded.

- 28 In the third place, while sometimes something like Peirce’s distinction between the critical and the methodological component of abductive logic is made, that is not accompanied by a recognition that *pragmatism* belongs to the methodological component. For example, Tomis Kapitan takes Peirce’s abduction to include “not only the *invention* of hypotheses but *selection* of them for further consideration” (1997: 477). Likewise, Hintikka claims that for Peirce the purpose of abduction is twofold: “The purpose of ‘scientific’ abduction is both (i) to generate new hypotheses and (ii) to select hypotheses for further examination” (1998: 503). Although neither Kapitan nor Hintikka put the matter in these terms, the distinction between invention/generation and selection can be framed in terms of the distinction between logical critic and methodological: from the critical point of view, any hypothesis that explains the surprising fact is equivalent to any other that may be generated; the question of which among critically equivalent hypotheses has to be selected to be subjected to deductive and inductive verification is a question of methodological. While they thus see the difference between the critical and the methodological components of Peirce’s abductive logic, neither Kapitan nor Hintikka does see that pragmatism belongs to the methodological component.
- 29 Even those commentators who explicitly attribute the selection process to methodological fail to connect pragmatism to it. For example, Sami Paavola, in commenting on a passage from the Carnegie Application that I have also discussed, says: “the selection of hypotheses to be tested is just the task of methodological. According to this view, methodological starts when the generation of has somehow already happened” (2004a: 260).¹⁵ But no mention is made of the fact that any methodological selection of hypotheses is initially made on the basis of the pragmatic maxim.
- 30 While several commentators have thus recognized either that, in Peirce, pragmatism is connected to methodological, or that pragmatism is connected to abduction, or that abduction is connected to methodological, yet it appears that none of them has explained how these *three* conceptions (pragmatism, abduction, and methodological) are connected to one another. And I think, and have given reasons to think, that such an explanation is necessary if we are to fully understand Peirce’s claim that pragmatism is a doctrine of logic.

VI.

- 31 One of Peirce’s last philosophical projects is the article “An Essay toward Improving Our Reasoning in Security and in Uberty,” on which he worked intensely in 1913 and of which several versions exist. One of the points that Peirce is eager to make in the “Essay” is the following: “Pragmatism contributes to the security of reasoning but hardly to its uberty” (R 838: 10). This point, I shall argue, has to be taken in connection

with the 1903 doctrine that pragmatism is the logic of abduction, and by clarifying this point I hope to shed further light on the connections between logic and pragmatism.

- 32 Since pragmatism is said to contribute to the security of reasoning but not to its uberty, we shall in the first place understand what these terms refer to. “Uberty” and “security” are terms that Peirce uses exclusively in 1913 to refer to two “measures” of reasoning: uberty is the measure of the informativeness or fruitfulness of a kind of reasoning; security is the measure of its capacity to produce certainty. The three kinds of reasoning can be measured along both dimensions. As Peirce writes to Frederic Adams Woods in that same year, “logicians should have two principal aims: first, to bring out the amount and kind of security (approach to certainty) of each kind of reasoning, and second, to bring out the possible and esperable uberty, or value in productiveness, of each kind” (CP 8.384). Deduction is the most secure of the three kinds of reasoning, for it is truth-preserving (in its necessary variety) or probability-preserving (in its probable variety), but the least uberous, for in deduction nothing is learned in the conclusion that was not already contained in the premises.¹⁶ Abduction, by contrast, is the least secure, for it merely suggests a hypothesis that has to be verified, but the most uberous, for it is the only kind of reasoning that may provide a new idea:¹⁷ “[...] the adoption of a hypothesis on probation [...] is *reasoning* and though its *security* is low, its *uberty* is high” (CSP to FAW, CP 8.388). Uberty and security cannot be had at the same time, because “the more gravid in life and richer in light the conclusion of a reasoning may be, if it true, the less secure can that reasoning be” (R 684: 2). There is a trade-off between security and uberty. They are the two “poles” of the analysis of reasoning. Peirce even suggests defining “logic” as a technical term “for the science of the security and uberty of reasonings” (LoF1: 147n8 = R 683).
- 33 Now, in a letter to Royce written on June 30, 1913, Peirce makes the point about pragmatism that we anticipated:
- A. (i) As for my *Pragmatism*, then, it is all very well as far as it goes, it chiefly goes to improve the *security* of inference without touching, what is for more important, its *Uberty*. (ii) It does not for instance seem to have anything to say as to our exaltation of *beauty*, *duty*, or *truth*. [...] (iii) I am going to insist upon the superiority of *Uberty* over *Security* in the sense in which gold is more useful than iron, though the latter is more useful in some respects. (iv) And also that the art of making explanatory hypotheses is the supreme branch of logic. (RL 385)
- 34 The same point is made in the “Essay.” After having given a new formulation of the pragmatic maxim¹⁸ he says:
- B. (i) That maxim is, roughly speaking, equivalent to the one that I used in 1871 to call the rule of “pragmatism.” It certainly aids our approximation to [the] *security* of reasoning. But it does not contribute to the *uberty* of reasoning, which far more calls for solicitous care. (ii) For reasoning must be strangely perverse if it habitually gives falsity rather than truth, while we know but too well from history that in any one field it may remain completely sterile through one millennium after another. (iii) Yet the maxim of Pragmatism does not bestow a single smile upon beauty, upon moral virtue, or upon abstract truth; – the three things that alone raise Humanity above Animality. (EP2: 465)
- 35 All of this is admittedly quite obscure, and it has rarely been the object of commentary.
- ¹⁹ Let us try to dispel the fog. For easy of reference, I have labeled the two passages as “A” and “B” and have divided both into subsections. The two passages have a parallel structure, or so I shall argue. In both A and B Peirce makes the point that pragmatism improves (A-i) or contributes to (B-i) the security but not to the uberty of reasoning. At

the end of section (B-i) he adds that it is uberty, not security, that “calls for solicitous care.” This means, we can assume, that logicians should solicitously care about the uberty rather than the security of reasoning. Section (B-ii) then explains why logicians should care about uberty more than about security. Reasoning is “by default” a secure activity. Whatever the particular degree of security of each of the three classes of arguments, the general security of reasoning is proven by the fact that even the least secure form of reasoning, abduction, is more often correct than incorrect. This, Peirce has argued elsewhere, is sufficiently shown by the history of science.²⁰ Conversely, history, including the history of science, shows that reasoning may remain in its least uberous forms for centuries; for example, still in the 19th century philosophers thought that the only valid formal logic was Aristotle’s syllogistic. In this sense, the least uberous form of reasoning, deduction, had not made a single step forward since Aristotle. (This is of course a Kantian caricature; but I think it illustrates Peirce’s point quite well.) The same point is made in section (A-iii) by means of the metallic metaphor. Uberty is like gold, security like iron; iron is very abundant and very cheap, gold is very rare and very costly; of course iron is useful, even indispensable (like security is) but men should not be concerned about searching for it, because it is easily found in sufficient quantity; rather, they should search for gold, which has properties that no other metal has (like uberty). Logicians should find the means for improving the uberty, not the security, of reasoning.

- 36 Now, the fact that abduction is the most uberous of the forms of reasoning and the fact that pragmatism is the logic of abduction would seem to imply that pragmatism is concerned with the uberty, not the security, of reasoning, which is the opposite of the point that Peirce makes in sections (A-i) and (B-i). That the implication is mistaken is shown by the following considerations. On the one hand, the pragmatic maxim is a principle for excluding non-experimental hypotheses. As such, it can hardly be said to contribute to the uberty of abduction. Uberty, we have seen, is the measure of the informativeness of reasoning. A non-experimental hypothesis can be as informative as, and even more informative than, any experimental hypothesis can be. There is nothing in the experimental character of a hypothesis that makes of it an uberous hypothesis or a more uberous hypothesis than a non-experimental one. On the other hand, the maxim does contribute to the hypothesis’ security. Security, we have seen, is the measure of the certainty of reasoning. While abduction is in itself the least secure form of reasoning, its security is improved in the procedure of its verification. It is by verification that a hypothesis is rendered more secure, which means that, in general, is the procedure of the inductive testing of the hypothesis by means of a testing of its deductive consequences that confers security upon an unsecure hypothesis. And since the maxim of pragmatism tells which hypotheses should pass to the verification procedure and which should not, that maxim may be said to contribute to the security of reasoning. In other words, an uberous hypothesis obtained by abductive reasoning is secured by means of its experimental verification, and since the maxim of pragmatism selects experimental hypotheses, it may be said to contribute to the security of abductive reasoning.
- 37 On the other hand, the maxim of pragmatism alone is insufficient to secure a hypothesis. The maxim is only the first step of the methodetical consideration of hypotheses, and is followed by other methodetical steps that involve considerations of economy, simplicity, etc. Peirce does not say that the maxim of pragmatism by itself

yields secure hypotheses; he merely says that it (B-i) “aids our approximation to [the] security of reasoning,” that it (A-i) “improve[s] the security of inference.” It is a step in the verification process, not the whole of it.

- 38 In this connection it should also be observed that in both sections (A-i) and (B-i) the reference is generally to reasoning and inference, and not specifically to abduction. But this is of course wholly consistent with Peirce’s overall analysis. According to Peirce, abduction is the first step in inquiry, followed by deduction and induction. It is also the least secure step. Improving or approximating the security of reasoning as a whole thus means nothing else than improving or approximating the security of its least secure step, i.e., abduction.
- 39 Section (A-ii), parallel to section (B-iii), adds that the pragmatic maxim has nothing to say about “beauty,” “duty” (“moral virtue” in B-iii), or “truth” (“abstract truth” in B-iii). This may quite naturally be taken as a reference to the three “objects” or “ends” of the three normative sciences, namely esthetics, ethics, and logic, respectively.²¹ Now, it would appear that pragmatism, since it belongs to the methodetic of abduction, and thus to the logic of abduction, does belong to logic; and thus, at least in this weak sense, it does have something to say about one of the normative sciences. In Peirce’s classification of the sciences each science or branch of science depends for its principles and ends on the science or branch that precedes it in the classification.²² Within philosophy as a whole, metaphysics depends on the normative sciences and these on phenomenology; within the normative sciences, logic depends on ethics and ethics on esthetics; within logic, methodetic depends on logical critic and logical critic on speculative grammar. These observations suggest the following. On the one hand, pragmatism, as a methodetical doctrine, depends on logical critic, which in turn depends on speculative grammar. In this sense, pragmatism may be said to depend on the *remaining* parts of logic. On the other hand, the normative sciences do not depend on pragmatism. In a letter to James of 1902, Peirce writes: “The true nature of pragmatism cannot be understood without them [= with the normative sciences]” (CP 8.256). Arguably, since the explanatory relation is anti-symmetric, the normative sciences can be understood without pragmatism.
- 40 In particular, the end of logic (the distinction between truth and falsity) depends on ethics (for it is ethics that distinguishes the good from the bad, and truth is a species of the morally good). So not only methodetic, but the whole of logic assumes the distinction between truth and falsity; even speculative grammar, the first branch of logic, assumes some such distinction. Methodetic assumes that representations may be true and devises the methods for rendering them true more often than not; it *pursues* the end of logic (truth) but does not *define* it.
- 41 The result is the following: while the normative sciences do not depend in general on pragmatism, pragmatism in general depends on them. Since it depends on the normative sciences, it has nothing special to say about their several ends. Those ends, and especially truth, the end of the science of logic (to which pragmatism belongs), are to be identified before we enter into pragmatism and independently of pragmatistic considerations.²³

VII.

- 42 I think we are now in a better position to appreciate Peirce's claim in the 1905 letter to James quoted above that "pragmatism is [for him] but a comparatively unimportant feature of [his] logic" (1905 June 15, RL 224). Pragmatism is a feature of logic, because application of the pragmatic maxim is the first step in the methodical evaluations of hypotheses, the subsequent steps being the application of further methodical criteria such as simplicity and economy; pragmatism thus constitutes the *beginnings* of a methodical of abduction, and not the whole of it. No doubt methodical is a central component of abductive logic; and no doubt abductive logic is "the supreme branch of logic," as Peirce says in section (A-iv) of the 1913 letter to Royce. Yet, since indeed the pragmatic maxim does not exhaust the methodical of abduction, its importance is comparatively low: it is just a component (the "pragmatic" component) of a component (the "methodical" component) of a component (the "abductive" component) of Peirce's logic.
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NOTES

1. James 1898. On James' address see Fisch (1986: 283-5).
2. See EP2: 448 (1908); EP2: 457 (1911). On the Cambridge Metaphysical Club see Fisch 1964.
3. Cf. Murphey (1961: 358-9).
4. A virtually complete list of Peirce's formulations of the pragmatic maxim, from 1878 to 1913, is in Schmidt 2020.
5. See Wible 2014 for a detailed account.
6. Joe Ransdell reconstructed the documents of RL 75 and made an online edition of it, which I follow here; see Ransdell 1998.
7. Abductive "simplicity" is discussed by Peirce in the "Neglected Argument" (EP2: 434-50); Peirce's early interest for the "economy of research" is testified by a "Note on the Theory of the Economy of Research" (W4: 72-8) and later in "On the Logic of Drawing History from Ancient Document" (EP2: 75-113). On Peirce's investigations into the economy of research see Rescher 1976 and Wible 1994; see also the recent symposium on the economy of research in vol. 54 (2) of the *Transactions of the Charles S. Peirce Society*.
8. Cf. also: "The question of Pragmatism is the question of Abduction" (LoF1: 474, from R 1584, which is a draft for the projected Lecture VIII of the Harvard series of 1903).
9. "In the present study we shall be concerned exclusively with Pragmatism in its original meaning as a 'method of logic'" (Gallie 1952: 13).
10. Gallie intelligently connects the later, inference-based formulation, to the early, term-based formulation, by means of Peirce's doctrine that "Terms, Propositions, and Arguments are one and all signs, but they are signs at different level of explicitness" (1952: 139).
11. A similar tendency in de Waal (2021: 116): "for a hypothesis to count as a product of abduction, rather than as a wild guess, the formation of the hypothesis should abide by the principle of pragmatism." If a hypothesis counts as the product of abduction only if it satisfies the pragmatic maxim, then a non-pragmatic (i.e., non-experimental) hypothesis is not the product of abduction; is it the product of a fourth mode of reasoning?
12. I beg the reader not to think that I'm here suggesting anything like a connection with Peirce's famous doctrine of the irriducibility of genuine triadic relations.

13. Pape also argues that while pragmatism presupposes the theory of signs (semiotics, or speculative grammar), yet it is an independent theory, and accepting Peirce's semiotics should not entail accepting his pragmatism (cf. Pape 1989: 345). In my terms, this should mean: one can describe the "grammar" of abduction (describe the signs of which an abductive argument is composed) and offer a "critic" of abduction (explain what the logical validity of abduction is, if it has any) without yet committing to a certain "methodeutic" of abduction (describe the successive criteria of hypothesis verification).

14. There is a complication, which I am unable to discuss here, but which should at least be mentioned. There is a tendency in recent Peirce scholarship to distinguish between "speculative rhetoric" and "methodeutic"; cf. Bergman (2008: 62-7); Bergman & Gava 2018; Bergman 2018; Gava 2018; Topa 2019. If I understand him well, Bergman's general idea is that speculative rhetoric, but not methodeutic, is concerned with pragmatic (in the sense of linguistic pragmatics) and communicative aspects of sign use, while methodeutic is concerned with scientific methodology. If this is so, then Bergman would at least agree that it makes little sense to speak of a "speculative rhetoric" of abduction.

15. Cf. also Paavola 2004b.

16. Peirce's distinction between necessary and probable deduction is best explained in the 1883 "A Theory of Probable Inference" (W4: 408-49); see also EP2: 298 (1903). Peirce also recognized two varieties of (necessary) deduction, the corollarial and the theorematic; cf. EP2: 96 (1901); EP2: 298 (1903); CP 4.233 (1902). One may argue that the theorematic variety is more uberous than the corollarial in the same sense in which abduction is more uberous than deduction.

17. "Abduction is the process of forming an explanatory hypothesis. It is the only logical operation which introduces any new idea" (EP2: 216, 1903). Abduction covers "all the operations by which theories and conceptions are engendered" (CP 5.590).

18. As follows: "in my endeavor to meet the exigencies of verifiable thought in science, I have long ago come to be guided by this maxim: that as long as it is *practically certain that we cannot directly, nor with much accuracy even indirectly, observe what passes in the consciousness of any other person, while it is far from certain that we can do so (and accurately record what [we] can even glimpse at best but very glibberly) even in the case of what shoots through our own minds, it is much safer to define all mental characters as far as possible in terms of their outward manifestations*" (EP2: 465).

19. But see Maddalena (2009: 92-3), in which the passage from the "Essay" is connected to what Peirce says later in the same work, namely that "uberty" is not the same as "fruitfulness": empirical observation is informative in the sense of being fruitful, while abduction is informative in the sense of being uberous.

20. Cf. R 638: 14-15 (1909); R 652: 23-24 (1910).

21. See EP2: 197 (1903); EP2: 260 (1903); cf. Fabbrichesi (2006: 103-4). Fabbrichesi connects section (B-iii) to the following passage from the *Philebus*: "Then if we cannot use just one category to catch the good let's take this trio, fineness, commensurability, truth, and treating them as a single unit say that this is the element in the mixture that we should most correctly hold responsible, that it is because of this as something good that such a mixture becomes good" (65a1-5; transl. Gosling).

22. The best book on Peirce's classification of the sciences remains Kent 1987.

23. According to Fabbrichesi (2006: 103), section (B-iii) is problematic because it is impossible to accept that pragmatism has nothing to do with the normative sciences. If my reconstruction is correct, however, pragmatism depends on the normative sciences while the latter do not depend on the former; in this sense, the maxim of pragmatism "does not bestow a single smile" upon the objects and the ends of those sciences: those objects and ends are identified before and independently of the pragmatistic step in inquiry.

ABSTRACTS

The paper seeks to explain in what sense pragmatism was for Peirce a doctrine of logic. It is argued that pragmatism is a doctrine of logic for Peirce because its maxim, the pragmatic maxim, is a maxim of the method of abduction, i.e., concerns the method of selecting hypotheses for experimental testing. The paper also connects this idea to Peirce's 1913 thesis according to which pragmatism contributes to the security but not to the liberty of reasoning. The connection consists in that by excluding hypotheses that cannot be tested, the maxim renders the whole process of reasoning more secure, while any explanatory hypothesis is "uberous" in Peirce's sense as any other.

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