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Problems in Applying Peirce in Social Sciences

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1. Introduction

A curious paradox inheres in Charles Peirce's relation to the social sciences. He is one of the most social of classical philosophers, if not the most social, one who can go so far as to claim that "individualism and falsity are one and the same" (CP 5.402 n2 [1893]) or that "logic is rooted in the social principle" (CP 2.654 [1878]). However, the science that de facto studies human beings' social relations, sociology, has remained an unmapped area in Peirce's otherwise so all-embracing purview of human intellectual endeavours. As his reputation has spread in recent years, it has reached also sociology, and today some sociologists are turning to him in search for theoretical inspiration. However, as he never said anything substantial about this discipline,¹ he is also a very Delphic guide in this domain, one whose pieces of advice demand a great deal of elucidation. I begin with a brief demonstration of how Peirce's very scarce sociological observations allow contradictory interpretations. After this, I give a quick resume of how his thought has so far been applied to sociology, and then, in the main part of this paper, I put forward my own opinion about how it could be used in dealing with the *conceptual foundations* of sociology and other social sciences. In particular, I wish to show that Peirce's philosophy has some new things to say in regard to the hoary question of what human rationality is

¹ All rules have their exceptions. Peirce was familiar with the work of his contemporary compatriot sociologists, Lester Ward and Franklin Giddings, reviewed it, and in personal correspondence with the two also touched on substantial issues. Peirce also held Ward in high intellectual esteem.

all about. I take the same course that the history of sociology has originally taken, by first taking critical issue, with the help of Peirce, with neoclassical economics, and then show how this *Auseinandersetzung* can yield conclusions that are also of relevance for theoretical sociology and its problem of rationality. In further likeness with the history of sociology (cf. Joas, 1996, ch. 1), I use the general interpretation of human action as the catalyst with which the relations between the various social sciences are to be sorted out.

As the relations between various sciences were of special interest to Peirce, it is understandable that he sometimes mentions sociology. However, the occasions when he looks behind this name and tries to see what this field of study is all about are rare. In a brief sketch for a history of science, *From Copernicus to Newton* (MS 1337), he presents one of those enumerative “orders of science” that he was fond of, and enumerates a part of it as follows:

Still more special combinations or structures are communities or societies of conscious beings especially men; and sociology must be reckoned as the seventh order of science. It has two main branches, the first relating to conduct in general, the second to intercommunication. The first branch includes ethics, theology, politics and law. The second branch includes the theory of art and sciences of language.

HP 1:148

This arouses ambivalent feelings in a reader who is familiar with theoretical problems in sociology. Peirce’s conception appears at first glance deceptively modern, with communication, politics, law and language as objects for sociological study. On the other hand, his expression “communities or societies of conscious beings, especially men” reminds a modern reader also of something else, about the unproblematic manner in which the entomologist Edward O. Wilson (1975) drew parallels between human societies and other kinds of societies in his suggested synthesis for sociobiology. Precisely those sociologists who would welcome language, communication and politics as themes would be horrified by the idea of comparing human societies with those populated by non-humans.

Accordingly, brief summaries like this do not suffice to make clear where Peirce’s ideas are of relevance for social disciplines and where they are not. There is a body of literature that previously has tried to answer this question. Within that literature, some have used Peirce for substantial purposes, some have approached him more from a meta-theoretical viewpoint, and as I now turn to that literature, I divide it into three thematic

groups. As I see things, Peirce has previously been applied to sociology and social theory² from three different viewpoints:

- (i) as a counter-example to modernism;
- (ii) as a theorist of the human self; and
- (iii) as a realist counter-example to critical realism.

Let us take a look at these viewpoints in closer detail.

2. Some previous attempts to apply Peirce in sociology and social theory

(i) *Peirce as a counter-example to modernism*

“We have never been modern,” is the famous slogan of Bruno Latour (1993), the French sociologist of science and a sort of semiotician in his own right. Those social scientists and philosophers, who take inspiration from Peirce while considering modernity, maintain that though we have been modern, this was not any foredoomed cultural fate. An alternative has been available all the time during the course of modernity, and Peirce’s philosophy is one example of it. This is the leading idea in the social treatises by the Midwest sociologist Eugene Halton (1995; Rochberg-Halton, 1986) – and philosophers and historians of ideas like Hoopes (1989; 1998), Deely (1994; 2000), Neville (1992) and Ochs (1993) are other relevant names. At their best, these works show sophisticated sociological insight. However, what they actually manage to contribute to is that field of study, for which even English-speaking scholars often use its German name, *Zeit-diagnose*, diagnosis of one’s own time. When the German sociologist Ulrich

² In choosing examples for closer inspection, I use awareness of semiotics as a criterion, and thus leave out some earlier treatments of Peirce in sociology. The first systematic sociological discussion of Peirce apparently occurs in the radical dissident sociologist C. Wright Mills’s 1942 dissertation, posthumously published as *Sociology and Pragmatism: The Higher Learning in America* (Oxford University Press paperback edition, 1966). That work testifies to Mills’s intellectual precocity, but its interpretation of Peirce follows the footsteps of the 1930s logical positivists, and thus misses semiotics. A generation later, J. D. Lewis and R. L. Smith rely heavily on Peirce in their *American Sociology and Pragmatism* (1980), but are not able to distinguish between semiology and semiotics, and accordingly drift onto false tracks. Jürgen Habermas’s *Knowledge and Human Interests* (originally of 1968; new English translation 1987) I would classify as a philosophical rather than as a sociological work, although its sociological influence has been considerable. Habermas has since then admitted that lack of knowledge about semiotics made him give an excessively positivistic depiction of Peirce in that work.

Beck (1986/1992) some twenty years ago became internationally famous by claiming that modern society is essentially a *risk society*, he was making a diagnosis of our time, and quite an apt one, many people would say. As for Peirce, he sometimes exercised *Zeitdiagnose* himself, as he lamented, for example, how political economy seems to legitimize universal selfishness, the opinion expressed in his famous essay “Evolutionary Love” (1893; re-published in CP 6.287-317 and EP 1:352-371).

However, while most sociologists would agree that *Zeitdiagnose* is a genuine part of sociological theorizing, few would take it as a central or the most important part. For another thing, it needs to be pointed out already at this early stage that those negative opinions that Peirce brings out in “Evolutionary Love” are not his final word about political economy or economics. On other occasions, he said something beyond mere ideology, something that has even analytic value. The above ‘anti-modernist’ body of literature shows close faithfulness to Peirce, but does not quite take modernity as a *fait accompli* (cf. Mazlish, 1989). Peirce may be a counter-example to modernism, but this does not yet tell what social-scientific relevance his philosophy may have.

(ii) *Peirce as a theorist of the human self*

Two famous sociologists, Norbert Wiley (1994) and Margaret Archer (2003) have used Peirce in an attempt to enrich current sociological theory with his ideas, drawing particularly on his notion of the human self. Self or subjectivity is a very hotly debated theme in sociology, so it is no wonder that even Peirce’s rather brief and scattered remarks about it have stirred some interest. His conception of the ‘self,’ however, is not of any ordinary variety; it is semiotically constituted, in other words, mediated by signs, and this has escaped these authors, despite the fact that Wiley’s book is entitled *The Semiotic Self* (1994).

Wiley, however, has committed a tragicomic blunder. He has managed to pinpoint the one and only non-semiotic part in Peirce’s literary corpus, those earliest (early 1860s) extant manuscripts that were published for the first time in the first volume of the *Writings* edition (1982). In them Peirce uses an expression consisting of pronouns, *I – It – Thou*. Wiley thinks, as is *prima facie* understandable, that these terms refer to Peirce’s self-theory, as other pragmatist philosophers use such pronouns in that sense, like William James (1890) and George Herbert Mead (1934) do with their *I/Me*

distinction.³ But it is not so; those passages were written while Peirce was just beginning to outline his semiotic theory (and his theory of the self), and their intended purpose is *logical*. In them Peirce is performing his famous feat, reducing Kant's twelve-term table of categories to his own basic three, those which later on assumed the laconic names, "firstness", "secondness" and "thirdness" (cf. Esposito, 1980). Accordingly, the tuistic expression, i.e., usage of I/you terms, later on completely vanishes from Peirce's usage, after it has performed its ancillary work (cf. Habermas, 1995). In his mature philosophy he does discuss the human self, but not by using tuistic expressions or ideas.

As Archer (2003) draws on Wiley's (1994) preceding work, these errors multiply further. The two authors argue to opposite effects, however, so that Wiley proposes a unification of the self-theories of Peirce and Mead, whereas Archer wishes to purge sociological theory of the detrimental effects of Mead's influence (as she thinks), and attempts to use Peirce's self-theory as a neutralizer. She thinks that Mead's self-theory is excessively social, but Peirce's is free of that fault, so that "The Peircian 'Me', as the personal conscience which is regularly consulted, is thus very different from Mead's 'Me', as 'the generalized other' " (Archer, 2003, p. 73). I have discussed Peirce's and Mead's respective self-concepts and argued that they amount to more or less the same thing, so that Peirce also does recognize the presence and importance of the generalized other. The only difference is that "man's circle of society [as] a sort of loosely compacted person" (Peirce CP 5.421 [1905]) is not as laconic an expression as Mead's "generalized other"; but it does refer to the same phenomenon (Kilpinen, 2002). As for Archer, her search for an irreducible, non-social core in the human self cannot receive support from Peirce's side, because his unshakable position is that "all thought is in signs" including also thoughts about one's self; they are mediated by signs. In fact, this is just the same idea that is behind Mead's *I/Me* distinction, the idea that one can *know* one's self only *as mediated*, as a 'me'. (For a more detailed criticism of Archer in this respect, see Gronow, 2008.)

(iii) *Peirce as a counter-example to critical realism*

The Copenhagen sociologist Margareta Bertilsson (2004) uses Peirce's philosophy to assess critically the theoretical movement that in current so-

³ The *I – Thou* distinction in Martin Buber's philosophy of theology is yet another well known example of such a division in self-theories.

cial science is known as critical realism. This movement, originating in the work of the philosopher Roy Bhaskar (1979) and carried on by various followers, has been dissatisfied with the dominating interpretive approaches to social science proliferating today, and has searched for an alternative, in both sociology and economics. Most interestingly, as Bertilsson shows in her article *The Elementary Forms of Pragmatism* (2004, see also Bertilsson, 2009), critical realists have in their project even appropriated some ideas from Peirce, particularly his idea about abduction as the third basic mode of logical inference (Bertilsson, 2004, pp. 385–6.). This, however, is not as welcome as it might seem at first blush, as Peirce and the critical realists understand the character of scientific (and human) inquiry differently, though this is not quite obvious at first sight. As Bertilsson maintains (pp. 385–6), the critical realists' conception of inquiry is an impoverished and more schematic version in comparison with that of Peirce's, all things considered.

I support Bertilsson's argument that critical realism is not realist (or critical) enough, if evaluated by Peirce's criteria. But if so, then her argument can be strengthened by pointing out that abduction is not even the only mode of truth-advancing logical inference that Peirce has introduced. His conception of 'theorematic deduction' (see below) takes the idea of truth-advancement even further. Bertilsson also maintains (p. 388 fn. 2) that "Peirce made the 'linguistic turn' well in advance of both Wittgenstein and the post-modernists," but strictly speaking this is not true, and does not advance the Peircean case in social sciences. Richard Rorty (1982) already took Peirce as a forerunner of the linguistic turn and simultaneously committed the error of not seeing (Bertilsson is ambivalent on this) that linguistics and Peirce's semiotics are at completely different levels of generality, so that linguistic affairs, important though they are, constitute only a tiny sub-domain in the problem field of semiotics. There is a turn in Peirce's development, but it is of semiotic nature (Bergman, 2004), and it constitutes a more comprehensive meaning-theoretic upheaval than any linguistic turn (for a similar point concerning pragmatism in general see Hildebrand 2004).

In sum, what seems to hinder the advancement of Peircean ideas in social sciences is that the thoroughly semiotic character of his philosophy has not been realized. In what follows, I try to avoid that error and argue where Peirce's social-scientific relevance actually lies. I think that it lies in his new, process conception of action, and in his new conception about the role of rationality therein, a conception that is more dynamic than previous

alternatives. Moreover, I think that the best course to approach Peirce is to begin in such a problem field where he *has* said something substantial, and this, so far as social sciences are concerned, is not sociology but economics.

3. Peirce on the problem field of social science

In the early 1890s, having lost his job at the U.S. Coast and Geodetic Survey, Peirce tried to concentrate on philosophy and drafted various plans for works to be published. The most gigantic of them was no doubt an intended 12-volume series, *Principles of Philosophy, or Logic, Physics and Psychics, Considered as a Unity, in the Light of the Nineteenth Century*, for which he printed an advertising prospectus in 1893. The eighth planned volume was intended to treat “Continuity in the Psychological and Moral Sciences”, or the social sciences, as we would say today, and its contents Peirce sketched in a telegram-like staccato language as follows:

Mathematical economics. Precisely similar considerations supposed by utilitarians to determine individual action. But, this being granted, Marshall and Walras’s theorem leads to a mathematical demonstration of free will. Refutation of the theory of motives. The true psychology of action expounded. HP 2:1115 [1893]

I propose that the best course in trying to deconstruct this list of topics, which despite its brevity titillates a social scientist’s imagination, is to begin from the end, “the true psychology of action”. The reason to take that course is that Peirce has, if not quite expounded, at least made clear what such a psychology would be like.

He expressed his opinion in a review on a new edition of Wilhelm Wundt’s *Principles of Physiological Psychology*. The following words do not paraphrase merely Wundt’s position, but what Peirce takes to be a sensible attitude toward mental phenomena *überhaupt*, namely that “the whole function of thinking consists in the regulation of conduct” (CP 8.199 [1905]). This phrase should alert Peirce scholars, because it comes close to repeating his position from some three decades before, namely that “the whole function of thought is to produce habits of action”, as the idea was expressed in his seminal essay, “How to Make Our Ideas Clear” (1878; W 3:265). This impression is not deceptive, because in an alternative draft for the review in question, Peirce goes on to elaborate his above agreement with Wundt’s psychology by saying that

Endeavouring to sum up the results of this elaborate investigation so far as they concern psychology in such imperfect fashion as they can be

reduced to one simple sentence, we may say that Wundt finds that the function of our thinking-organ lies in its regulation of motor reactions. Now this is neither more nor less than the substance of pragmatism in the dress of psychology. The original definition of pragmatism put it in the form of maxim: ‘Consider what effects that might conceivably have practical bearings you conceive the object of your conception to have. Then, your conception of those effects is THE WHOLE of your conception of the object.’ What is that than to say that the sole function of thought is to regulate motor reactions? CP 8.201 n. 3 [1905]

Here we have it, namely the answer with which Peirce keeps his promise of 1893, about showing what the “true psychology of action” would be like. Such a psychology, where thought regulates motor reactions and motor conduct, apparently is a true psychology of action or something close enough. While Peirce, in keeping with Wundt’s original problematic refers to motor reactions and their regulation, these do not make up the whole story, so that we can talk about action in an advanced, rather than merely behavioural sense. In the paraphrase that I quoted first, Peirce said that “the whole function of thinking consists in the regulation of conduct”. Conduct expresses a more advanced sense of action than mere motor reactions, so that we are entitled to conclude that we are dealing with Peirce’s psychology of action, or theory of action, in a comprehensive and serious sense. There is also reason to speak about it explicitly as Peirce’s theory, because though it apparently assumes its psychological framework from Wundt, it has also a characteristically Peircean kernel. Above, he speaks about “the substance of pragmatism in a dress of psychology”, and the substance of pragmatism is Peirce’s own doubt/belief theory of inquiry, originally put forward in 1877–8. This is the logical and rational kernel in the theory of action, whose descriptive psychological outlines Peirce appropriates from Wundt and other late nineteenth century theorists.

The theory of action belongs to the tools of the trade in the various social sciences; they all deal with human doings rather than people as such. We are making some headway in relating Peirce’s thought to that prevailing in social sciences, but we are not there yet. One thing to which Peirce scholarship has not given sufficient attention is that he right from the beginning maintained that his doubt/belief theory of inquiry also had general action-theoretic relevance; it was not purely a contribution to scientific methodology, though this was its main purpose. “Everybody uses the scientific method about a great many things, and only ceases to use it when he does not know how to apply it”, Peirce said while introducing that the-

ory of inquiry (EP 1:120), meaning that version of the scientific method that he himself was explaining in the article in question, “The Fixation of Belief” (1877). In the concluding paragraph of the second article, “How to Make Our Ideas Clear” (1878), he said, moreover, that “We have, hitherto, not [yet] crossed the threshold of scientific logic” (EP 1:141). Now, as Peirce’s announced purpose was to spell out the logic of science in that series of articles, the following conclusion suggests itself. The first two writings, “The Fixation of Belief” and “How to Make Our Ideas Clear”, together make up what might be called a *Prolegomena* for the true logic of science. In them, Peirce discusses human inquiry in general, rather than its explicitly scientific sub-variant, and if this interpretation holds water, I suggest further that those two writings express also Peirce’s conception of action, considered from its rational side (or logical, as was his preferred expression).

Before going further, there is still something in Peirce’s relation to Wundt that pertains to our present problem. Peirce held Wundt in high esteem (cf. HP 2:891 [c. 1901])⁴ and even credits him for having first shown, in the 1860s, “that every train of thought is essentially inferential in character” (CN 1:37 [1869]). This is an important idea, because the inferential character of human thought later on came to be one of the cornerstones in Peirce’s own philosophy. Accordingly, we can pose the following question: if every train of thought is essentially inferential in character, what then does the human mind do, when it infers?

Peirce’s answer to this question is *prima facie* surprising, if expressed in a laconic manner: the human mind does not actually ‘draw’ its inferences. In order to see what this means, recall what he said above about thought’s role in regard to motor action and conduct: it *regulates* them, rather than, say, produces them or brings them about. The idea of regulation is not confined to this task. Above, Peirce was perhaps unnecessary generous to his predecessor Wundt, by calling him the sole inventor of the idea that thought is essentially inferential. Rather, the truth is that Peirce brought to fruition Wundt’s original idea. Namely, his mature position is (cf. Murphey, 1961, pp. 359–60) that though every train of thought is *potentially* inferential, it does not have to be so actually. Peirce is famous for maintaining that logical reasoning takes place by means of self-control – in this it resembles ethics and is related to it – so that according to him a logical reasoner does not so much ‘draw’ his or her inferences. He or she

⁴ Peirce appreciated Wundt as a scientist rather than as a philosopher. See the 1905 review in its entirety.

rather *receives* ‘inferential candidates,’ in the stream of mental associations (CP 7.443-4f. [1893]), and out of these (s)he by means of self-control, by deciding whether to accept the association as a conclusion or not, makes genuine conclusions. “A logical reasoner is a reasoner who exercises great self-control in his intellectual operations”, is Peirce’s well-known position (EP 2:200–1 [1903]). The underlying idea is a bit like that of a gardener cultivating her flowers (cf. EP 1:354 [1893]). A gardener begins with great many seedlings, of which only a small minority will eventually flourish. Out of those seedlings, the gardener selects the most promising ones, nurtures them actively, and picks out of the ground and destroys the less promising ones. In this way she eventually produces a beautiful flower-bed, and I submit that the model in Peirce’s theory of reasoning is similar: a small minority of continuously flowing mental associations are eventually accepted as logical conclusions, and the procedure in doing this is precisely that of exercising self-control, as Peirce liked to say. “‘Autonomy’ is just a fancy word for ‘self-control’ ” maintains Daniel Dennett (1995, p. 366) today, and Peirce would have approved of this expression. I presume, though I cannot demonstrate it in the space available, that his endorsement of this idea might stem from his youthful reading experience of Friedrich Schiller’s *Aesthetic Letters* (1795), where Schiller’s position is that the “voice [of morality] is merely inhibitory” (p. 179 in the 1967 edition).

Here we have reached a point at which to take stock. Peirce’s idea about logical inferences as self-controlled operations provides us with the basics of his theory of rationality. This idea of rationality is the skeleton in his more general psychology of action, or theory of action, to follow social scientists’ parlance. And this, in turn, provides us with a tool of analysis, because theories of action, as I said above, belong to the tools of trade in social sciences. This enables us to return to the agenda that Peirce had set for himself in 1893, to explain what “Continuity in the Psychological and Moral Sciences” would be all about.

4. Peirce and economics

Peirce’s agenda, it will be recalled, contained an explicit reference to economics. It is now possible to juxtapose those two references to that science that Peirce made in 1893, the one in “Evolutionary Love”, the other in his advertising prospectus. In the first place, his *prima facie* very negative opinion in the former about political economy as a *Gospel of Greed* (EP 1:355–6) turns out to be sarcastic. Peirce tells later, in 1906 or so, that he

had on purpose made “as much fun as politeness would allow” of such writers who undertake to address the issue of human welfare, a question for which Peirce considered political economists “particularly unfit” (CP 6.517 [c. 1906]).

If so, does not then Peirce’s more neutral expression in his advertising prospectus express his position correctly? In it he takes the mathematical economics of Marshall and Walras as a *fait accompli*, and at first glance seems to have only minor reservations about its close relation to utilitarianism. Even this, however, is not the final truth. The reason is that Peirce elsewhere expresses regret about “political economy” having turned into “economics” (NEM 4:62 [c. 1902]) – that is to say, about its turning from a general social science into a more limited mathematical analysis of wealth. Accordingly, his opinion about the achievement of Marshall and Walras is ambivalent. While systematizing economics by means of mathematical methods – a feat with which Peirce would have no quarrel⁵ – they have also considerably narrowed its scope.⁶

I suggest that we should take a last look at “Evolutionary Love” in order to find a way out of this dilemma. There Peirce says, in connection with his critical discussion about political economy, that “the study of [its] doctrines, themselves true, will often temporarily encourage generalizations extremely false, as the study of physics has encouraged necessitarianism” (EP 1:354 [1893]). The clue-word is Peirce’s characteristic expression “necessitarianism”.

This curiously Peircean term is yet another of those that have not so far received sufficient attention by Peirce scholars. Even in advanced literature it has too often been taken merely as a synonym expression for “determinism.” In some cases, as in the quotation above, it can pass as such. I argue, however, that this in fact is only one of its sub-meanings, and that the term’s pertinence extends further. In the first place, if Peirce means merely determinism, why doesn’t he say so? It was a going English

⁵ Peirce was familiar with mathematical economics, as one of his half-serious hobbies from early on was to analyse economic theorems by means of differential calculus (e.g., W 3:173–176 [1874]). He was also well-read in economics, aware, for example, about the work of Antoine Cournot (1801-77), who in histories of economics is represented as the ‘missing link’ between classical and neoclassical economics (the economics of Marshall and Walras, for instance), but known only by very few during his lifetime (Schumpeter, 1954; on Peirce’s familiarity with Cournot, see Eisele, 1957/1979 p. 59; 1974/1979).

⁶ It is at this juncture that theoretical room is being made for a new general social science, sociology (Clarke, 1982; Mazlish, 1989). About that development see also Hodgson (2001; 2004).

term at the time, used also by him.⁷ That this meaning cannot be the crucial term's whole meaning comes out from a retrospective personal remark that Peirce once makes.

He tells that he originally, in his teens, “was a young necessitarian of the most odious type” (MS 958:42 [c. 1892]), but then had the good fortune of receiving Friedrich Schiller's aforementioned *Aesthetic Letters* (1795) as a gift, and that reading experience cured him of that vice. *Aesthetic Letters* cannot cure anyone of determinism, because that theme is nowhere mentioned in the book. It deals with moral philosophy, and more than once tells critically that “*Utility* is the great idol of our age, to which all powers are in thrall and to which all talent must pay homage,” as is Schiller's expression in his second letter, third section (p. 7 in the 1967 edition; original emphasis). My interpretation accordingly is that the mature Peirce faults his own earlier self for having been a young utilitarian, not for having been a young determinist. But if so, what then do utilitarian thought and determinism have in common, because there indisputably are cases where Peirce's pet term “necessitarianism” refers to the latter meaning?⁸ They share a common, exclusively deductive logical framework. Regarding the position to which Peirce refers as ‘necessitarianism,’ and to its supporter as, a ‘necessitarian’ I propose and submit for Peirce scholars to consider that a ‘necessitarian’ is such a person who in his or her logic exclusively relies on necessary reasoning.

Necessary reasoning refers in the first place to deductive reasoning in the ordinary sense of the term, and it is established knowledge within Peirce scholarship that his logical armature extends further than this. “Deduction is the only necessary reasoning”, is his expression in his 1903 Harvard lectures on Pragmatism, and he adds immediately that it “is the reasoning of mathematics” (EP 2:205). A brief moment later he elaborates this by saying that “all necessary reasoning, whether it be good or bad, is of the nature of mathematical reasoning”, and adds provocatively that “I declare that all necessary reasoning, be it the merest verbiage of the theologians, so far as there is any semblance of necessity in it, is mathematical reasoning” (EP 2:206).

This polemic assertion can be explicated by referring to the two different tasks that Peirce has explicitly set for logical analysis: its “security

⁷ One of William James's important early essays was *The Dilemma of Determinism* (1884) which Peirce said “struck” him (Peirce to James 3/18/1897; CP 8.306).

⁸ Peirce's *Reply to the Necessitarians* (CP 6.588-618 [1892]) is a case where ‘necessitarianism’ and ‘determinism’ are used interchangeably.

and uberty," (EP 2:463–4 [1913]). Necessary reasoning is strong in security, but weak in uberty, in the ability to yield new knowledge and information, which according to Peirce also belongs to the tasks of reasoning. He expresses the idea, in regard to empirical science and human individuals' ordinary involvements with material reality, as follows:

All that necessary reasoning can do is to keep an initial hypothesis consistent with itself, it cannot prove any matter of fact. [...] The world of possibilities in which necessary reasoning holds a solitary sway, is a world of generals. [...] The world of existencies to which truth is related, and in which necessary reasoning is out of place, is the world of individuals. CN 2:151 [1897]

Whereas necessary reasoning (deduction) is strong in security, its non-necessary counterparts (abduction in particular) are strong in uberty, in the *advancement* of human knowledge. As I said above, knowledge about Peircean abduction, the 'third' mode of logical inference, has of late reached also the social sciences. What instead has not yet reached that universe of discourse is that abduction does not exhaust what he has to say about truth-advancing (ampliative) logical inference. Peirce scholars know, but other people less so, about his position that "our ordinary reasonings, [even] so far as they are deductive, are not, in the main, such syllogisms as the books have taught, but are just such inferences that are particularly dealt with in this new branch of logic" (CN 2:132 [1896]). By "this new branch of logic" Peirce refers to his own invention, the "logic of relatives," as he called it. Its consideration qua logical theory can be left to the professionals of that discipline, but its consequences demand also other people's attention. On its basis, Peirce reaches a conclusion that there are *two* modes of deduction, namely its 'corollarial' and 'theorematic' variants, the former answering to the traditional idea of deduction, the latter being its more general and dynamic counterpart. Namely, theorematic deduction is also able to suggest new truths, not merely to preserve the truth of its premises, as is the case with the ordinary corollarial variant. Why not then make such use of this distinction as Peirce himself suggests, as he says that this "is a matter of extreme importance for the theory of cognition" (NEM 4:56 [c. 1902])?

5. Conclusion: Knowledge-advancing use of reason as Peirce's implicit legacy for social sciences

Regarding cognition, Peirce's distinction in the first place suggests that the domain of the ampliative use of human reason in his conception is even wider than most people have hitherto assumed. It is safe to say that he finds truth-advancement or knowledge-advancement even more important than the corroboration of putative knowledge, or the context of justification, to follow Popperian parlance.

Regarding our theme, the theory of action considered from a social-scientific viewpoint, Peirce's position is, we recall, that the whole function of thought is to produce habits of action. If so, we may ask how thought produces them when it operates in the ampliative mode, the mode that turns out to be more significant than ever. Here I take a shortcut and refer to results already achieved by other Peirce scholars (Hintikka, 2007; Pietarinen, 2003; 2006). Hintikka (2007, p. 47) provides an answer to the above question, by paraphrasing Peirce's position to be that the aim of scientific abduction is to "recommend a course of action". To this, I add that this holds not only for scientific abduction but also for abductions performed during everyday life.⁹ But the actual point is, as Hintikka adds immediately, that "such recommendation can scarcely mean a preference for one particular action in one particular kind of situation, but presumably means a policy recommendation" (ibid.).

If so, this provides us with ingredients for an answer to the question: where does Peirce's relevance for social sciences actually lie? The model of rationality that has prevailed in these sciences, making its first entrée with neoclassical economics on which also Peirce commented, has been what is known as the theory of rational choice. Some have called it the "default mode" of social theorizing in its entirety (Wagner, 2000) – or at least of its theory of rationality. That theory typically operates by means of necessary reasoning, to express the matter in Peirce's terms. If we take the upshot of Peirce's ampliative theory of rationality to be that it yields 'policy recommendations', this means that it proffers a more general notion, in a positive sense, of rationality. Rational choice still has a task to perform, but only an ancillary task. It finishes the job whose main part is in reason's production

⁹ Peirce's well known position is that "Not the smallest advance can be made in knowledge beyond the stage of vacant staring, without making an abduction at every step" (HP 2:900 [1901]). Early in his article, Hintikka (2007) says that "all our science and indeed our whole life depends on ampliative reasoning" (p. 40).

of ‘policy recommendations’ it singles out a particular deed to be done in terms of some of those policies. Peirce is aware of the existence and practical importance of rational choice, as he says that “Balancing reasons *pro* and *con* is the natural procedure of every man. No man can avoid doing so continually” (EP 2:78 [1901]). However, as he adds immediately that “reason is nothing but man’s natural way of thinking, carefully and consistently observed” (ibid.), I take this to suggest the following interpretation. A competent agent does make choices in the course of action, but (s)he takes them in stride, in the midst of an already ongoing action process, not while sitting pretty and pondering!

And with this hypothetical conclusion we have found a viewpoint from which Peirce’s thought may turn out to be of relevance for the social sciences. Early in this article, I expressed reservations about the views of the sociologist Margaret Archer (2003), but that disagreement is of minor importance. She has my full support when it comes to the program that she calls “resisting colonization”, namely the colonization that rational choice theory (with neoclassical economics implicitly in the background) exercises toward other social sciences and their theoretical assumptions. The collection *Rational Choice Theory* (2000), edited by Archer and Jonathan Tritter, is devoted to explicating and criticizing this tendency in the social sciences, in sociology in particular, and to critically questioning rational choice theory.

It is dubitable, however, whether its arguments are able to convert many (or any) of the uncritical supporters of that theory. Certain assertions, e.g. that rational choice theory does not take social normativity into account (at least not sufficiently) (Archer, 2000), or that it ignores emotions at the expense of rationality (Williams, 2000), are formally to the point. To all this, however, a supporter of the theory apparently has an answer ready: even supposing the importance of all that, a thought-out social theory in any case needs to include an explicitly rational component, and if this is admitted, isn’t then the notion of rational choice our only choice?

It is *not* our only choice, Peirce’s theory of rationality – in the language of social scientists – enables us to assert. And as I said above, it enables one to assert this in a positive sense, without doing away with the idea of rational choice (let alone with the idea of rationality itself) and replacing it by some other notion. There is such a phenomenon as choice, which does have a task to perform, but in a wide perspective that task is nonetheless rather pedestrian. In rational choice theory the subject is confined to draw on that information that he or she already has. Whence did it ever

come to his possession in the first place? This is a question that the theory of rational choice has to leave untreated (or address in a mystifying manner), but some people would find that very question more important. Peirce's ampliative theory of reason, on the other hand, incorporates that question as one of its basic tasks. It treats all humans as inquirers and assumes that the continuous enlarging of our stock of knowledge belongs to the human condition. Peirce's dynamic theory, furthermore, goes much better together with the sociological understanding of action, where action is taken as "reflexive monitoring of conduct in the day-to-day continuity of social life" – as Anthony Giddens (1984, pp. 43–44) has put it – than with those so-called 'action'-models that economic theory relies on. But in this respect the situation is again such that we need not do away with them completely. By drawing on Peirce's ampliative theory of rationality sociology will be able to resist colonization from the side of economics, without resorting to nihilistic attempts to deny the validity of the latter altogether.

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