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Charles Peirce and the Community of Philosophical Inquiry

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> *We individually cannot reasonably hope to attain the ultimate philosophy which we pursue; we can only seek it, therefore, for the community of philosophers.*
> Charles S. Peirce, 1868 (5.265)

Introduction

Since the American philosopher Charles Sanders Peirce (1839-1914) originated the idea of a 'community of inquiry' to describe and promote the norms of scientific inquiry, that idea has been used to characterize a wide variety of educational programs, academic disciplines, and institutional, governmental, and political practices. The first purpose of this essay is to establish that the precise phrase 'community of inquiry'—which does not occur in Peirce's writings—was coined in 1978 by Matthew Lipman (1923-2010) and Ann Margaret Sharp (1942-2010), who were also the first to adapt the idea to an educational program, namely, philosophy for children.

Many contemporary scholars who use the phrase 'community of inquiry' do not mention Peirce. Some (particularly those writing on education) attribute the idea to John Dewey; few acknowledge Lipman and Sharp. Of those who do attribute the notion of a community of inquiry to Peirce, most—including Lipman and Sharp—do not offer any detailed account of which aspects of his thinking are relevant to their projects. The second purpose of this essay, therefore, is to provide a summary of what Peirce meant by the idea—how he conceived of community in relation to inquiry—by explaining what I take to be the five most important elements of his theory of inquiry and three different roles of a community in relation to that theory. I hope to encourage scholars who have reason to use the idea of a community of inquiry to more carefully consider which aspects of Peirce's thought we do and do not employ, and to consult Peirce's writings in doing so.

In adapting Peirce's idea of a community of inquiry to educational, civic, and other contexts, scholars inevitably draw on other sources. In designing their protocol for children's philosophical practice Lipman and Sharp drew on many other philosophers and educational psychologists. However, many contemporary scholars of philosophy for children who write about the community of inquiry in that context do so in a way that does not reflect a familiarity with Lipman and Sharp's scholarship, let alone a familiarity with Peirce. The third purpose of this essay, therefore, is to provide a summary of the first iteration of the community of inquiry written by Lipman, Sharp, and Frederick S. Oscanyan and to remark on how it does and does not derive from Peirce. I believe that a deeper familiarity with the origins of the 'community of philosophical inquiry' in the scholarship of Peirce, Lipman, Sharp, and Oscanyan will illuminate important aspects of contemporary theory and practice in this field and clarify points of disagreement and debate.

Genealogy of a Phrase

In his autobiography Matthew Lipman recalled that in writing his first philosophical novel for children, his aim was:

> To write a text that would allow both teachers and children to engage simultaneously and openly in inquiry at the same time in the classroom [...] and in that way consolidate the classroom into a single community containing both children and adults engaged in a single inquiry. About ten years later, borrowing a phrase invented by Charles Peirce, I would call such a group a community of inquiry. (2008:109)

From the early 1970s until their deaths just five months apart in 2010, Lipman and Sharp collaborated on developing both a theory and a protocol for the 'community of inquiry' as the standard method of practicing 'philosophy for children,' as they conceived and pioneered that educational endeavor. Both Lipman and Sharp acknowledged the American Peirce as the originator of the idea (see Lipman, 1998:278; 2008:109; Sharp 1991:37n13, 1995:141), though the precise phrase 'community of inquiry' does not occur in Peirce's writings.[1] Nor does the phrase occur in the writing of interpreters of Peirce before Lipman and Sharp began using it.[2] Such writers used various other phrases to highlight particular aspects of Peirce's insight into the social dimension of inquiry—none of which appear in Peirce's writings—including "community of scientists" / "scientific community" (Buchler 1939/1966; Goudge 1950; Hollenbach 1973; Potter 1967), "community of minds" (Fisch 1939; Goudge 1950; Hollenbach 1973), "community of investigators" (Fisch 1960; Knight 1958; Moore 1961; Murphey 1961; Smith 1965; Turley 1977), and "community of inquirers" (Bernstein 1965; Hollenbach 1973; Potter 1967; Rescher 1978; Smith 1965; Thompson 1952). Peirce himself makes one mention of "the scientific communion" (2.220, 1903) and "the community of philosophers" (5.265, 1868).[3]

Since Lipman and Sharp invented their protocol for classroom philosophical dialogue, the phrase and idea of a community of inquiry has been widely used to characterize a variety of pedagogical approaches (see, e.g., Bacon and Matthews 2014; Garrison et al 2010; Goos 2004; Stover and Pollock 2014). Tellingly, most of these scholars credit the idea to Dewey, many do not mention Peirce, few acknowledge Lipman, and none (other than those whose work is related to Philosophy for Children) credit Sharp. Before and since Lipman and Sharp's contribution, Peirce's notion of the relationship of community to inquiry has been used to explain the epistemology of academic disciplines (see Appleby, Hunt, and Jacob 1994; Haack 1995; Seixas 1993) and the normative status of institutional, governmental, and political practices (see Barber 2003; Rutherford 1990; Shields 2003; Talisse 2004). Few of these scholars cite Lipman or Sharp, because most of them derived their understanding of the notion directly from Peirce and the secondary literature on him. Nevertheless, it

[1] This is confirmed by a digital search of Peirce's collected papers.

[2] Though I cannot claim to have read every book and article on Peirce before 1978, I conducted an exhaustive digital and manual search of scores of those books and articles.

[3] References to Peirce's works are standardly abbreviated as the volume of his *Collected Papers* (CP), followed by paragraph numbers.

is significant, and has never before been acknowledged, that Lipman and Sharp were the first to coin the precise phrase 'community of inquiry'.

In addition to Peirce, Lipman and Sharp attributed their understanding of the community of inquiry to the tradition of Socratic dialogue, John Dewey's epistemology, logic, and political theory, and Justus Buchler's theories of human judgment and of discussion as a method of 'query'. Lipman also drew on the constructivist psychology of Jean Piaget and the social psychology of George Herbert Mead and Lev Vygotsky (see Lipman 1996). Sharp drew on the work of a number of feminist, ecological, and religious writers (see Gregory and Laverty, 2018). However, the notion of a community of inquiry came to Lipman and Sharp directly from Peirce, albeit through Dewey and Buchler.[4] It is surprising, therefore, that while they both wrote extensively on Dewey, neither Lipman nor Sharp wrote much about Peirce in relationship to the community of inquiry.[5] In order to trace the influence of Peirce on Lipman and Sharp I will first offer an analysis of the role of community in Peirce's theory of inquiry.

Peirce on Inquiry and Community

In order to clarify the relationship of community to inquiry in Peirce's philosophy I will first describe what I take to be the five most important elements of his theory of inquiry: anti-intuitionism, fallibilism, the belief-doubt-inquiry-belief cycle, the logic of inquiry, and self-correction. I will then explain three different roles of a community in relation to that theory: semiosis, corroboration, and criticism.

The cornerstone of Peirce's epistemology, including the necessity of a community to make advances in knowledge, is his refutation of the human capacity proposed by many medieval and modern philosophers of intuitions of self-evident empirical or rational truths, unmediated by human cognition. But then, if none of our cognitions is a direct intuition of reality, each is an inference. One of Peirce's most important contributions is his recognition that for thought to be inferential, it must be semiotic. To begin with, he argued, our very perceptions are, themselves, inferences that employ signs to interpret the "firstness" of an "unlimited and uncontrolled variety and multiplicity" of sense data that is "peculiar and idiosyncratic [and] predominant in feeling" (1.302, 1894).[6] In representing an object or event, a sign interprets it as being of a certain kind, belonging to a certain general class and having certain general characteristics, though every object and event is capable of multiple

[4] Sharp studied Peirce and Dewey in her doctoral work at the University of Massachusetts, Amherst. Lipman enjoyed conversations and correspondence with Dewey in the 1950s. His 1953 doctoral dissertation for Columbia University, published in 1967 as *What Happens in Art*, was an extension of Dewey's aesthetics. Buchler's doctoral dissertation, published in 1939 as *Charles Peirce's Empiricism*, was the first extensive study of Peirce following the publication of Peirce's *Collected Papers*. Buchler began teaching at Columbia in 1942 and in 1952 he hired Lipman, then a doctoral student, to teach in the general education program at the Columbia College of Pharmaceutical Sciences, where he eventually became a full professor and chair of the Department of General Education (see Lipman, 2008: 83). During that time, Lipman also spent "ten years or so [...] specializing [...] in *Buchlerian* metaphysics" (2008: 114), publishing several articles that Buchler commended.

[5] Sharp's essays on Peirce (1995a, 1995b) treat his theory of agapism or "evolutionary love."

[6] For a treatment of Peirce's theory of the inferential nature of sense perception and its relation to the similar theory of Friedrich Nietzsche, see Gregory 2001.

interpretations by virtue of the various sign-concepts that may be applied to it. Thus, "The sign stands for something, its *object* [...], not in all respects, but in reference to a sort of idea, which I have sometimes called the *ground* of the representamen" (Peirce 2.228, 1897). Moreover, every interpretant sign calls for interpretation of itself by other signs. "There is no exception [...] to the law that every thought-sign is translated or interpreted in a subsequent one, unless it be that all thought comes to an abrupt and final end in death" (Peirce CP5.284, 1868). In this sense, every sign is inherently vague.

Peirce coined the term 'fallibilism' to name his conviction that all cognition—including perception, memory, and reasoning—and, therefore, all inquiry and knowledge—is susceptible to error.[7] In the first place, because all cognition is inferential, it is necessarily hypothetical and provisional, in that it is contingent on past cognitions and is open to being revised or abandoned if not confirmed in subsequent experience. Peirce recognized a number of sources of human fallibility, one of which is the necessarily partial and limited nature of human cognition, no matter how skilled and technologically enhanced. Another is the inevitability of ordinary misperception, miscalculation, and fallacious reasoning, as well as hallucination and mental illness. A third source of human fallibility are the subtle, often unconscious psychological and emotional motives including anxiety, self-interest, pride, group loyalty, and ideology, that make it difficult to perceive, remember, and reason in an impartial manner. These human proclivities motivated Peirce to proclaim his famous "First Rule of Reason":

> Upon this first, and in one sense this sole, rule of reason, that in order to learn you must desire to learn, and in so desiring not be satisfied with what you already incline to think, there follows one corollary which itself deserves to be inscribed upon every wall of the city of philosophy:
>
> Do not block the way of inquiry. (1.135, 1899)

Importantly, Peirce's fallibilism is neither a kind of skepticism nor of relativism. It is a refutation of the possibility of unshakable foundations for knowledge, and, therefore, of knowing that any of our beliefs is final. It is to accept "that while holding certain propositions to be each individually perfectly certain, we may and ought to think it likely that some one of them, if not more, is false" (Peirce CP5.498, 1905). Yet, it does not follow that we can or ought to doubt any of our beliefs in the meantime. Genuine doubt, like genuine belief, requires reasons.

Against Descartes' recommendation of the method of universal doubt, Peirce argues that "it is possible that propositions that really are indubitable, for the time being, should nevertheless be false" and that, in any case, "genuine doubt cannot be created by a mere effort of will, but must be compassed through experience" (5.498, 1905). This is so, because Peirce adopted the Scottish philosopher Alexander Bain's concept of 'belief' as not merely a favored proposition about the world but one on which we are prepared to act, to which Peirce added the notion of 'habit':

[7] Peirce appreciated the paradox of his position: "If I must make any exception, let it be that the assertion that every assertion but this is fallible, is the only one that is absolutely infallible" (2.75, 1902).

> The essence of belief is the establishment of habit, and different beliefs are distinguished by the different modes of action to which they give rise. If beliefs do not differ in this respect, if they appease the same doubt by producing the same rule of action, then no mere differences in the manner of consciousness of them can make them different beliefs, any more than playing a tune in different keys is playing different tunes. (5.398, 1878)

Peirce took doubt to be the catalyst for identifying error: not as a protocol for testing our beliefs against what seem to be self-evident truths, but as the felt sense that a belief has led us into an unexpected and precarious relationship with reality, which moves us to inquire:

> Doubt is an uneasy and dissatisfied state from which we struggle to free ourselves and pass into the state of belief while the latter is a calm and satisfactory state which we do not wish to avoid [...]. The irritation of doubt causes a struggle to attain a state of belief. I shall term this struggle inquiry [...]. The irritation of doubt is the only immediate motive for the struggle to attain belief. It is certainly best for us that our beliefs should be such as may truly guide our actions so as to satisfy our desires; and this reflection will make us reject any belief which does not seem to have been so formed as to insure this result. But it will only do so by creating a doubt in the place of that belief. With the doubt, therefore, the struggle begins, and with the cessation of doubt it ends. Hence, the sole object of inquiry is the settlement of opinion. (5.372-375, 1877)

Based on his own, extensive research into the history of science, Peirce was the first to theorize the logic of scientific inquiry in terms of three distinct types of inferences: deduction, induction, and 'abduction' or inference to the most likely explanation, which was one of his original contributions to logic. However, Peirce came to understand the import of the three types of inference as not primarily logical—a matter of demonstrating three different ways of moving from premises to a warranted conclusion—but practical—a matter of three different kinds of tasks to be performed in an inquiry. Inquiry consists in comparing the predicted observations from a conjectural explanatory thesis with actual observations. Peirce understood science as just inquiry by means of the abductive-deductive-inductive method into any area in which the inquiry is bound to be constrained by something external to human cognition (the natural world, historical evidence of the past) and which, therefore, will result (and has been shown to result) in the convergence of opinion within the community of qualified experts. The results of inquiry in the physical science are more reliable than the results of inquiry in other disciplines only because science deals in an exceptionally precise way with variables that are quantifiable to extreme degrees.

Peirce argued that even though human cognition is fallible and there is no possibility of testing our beliefs against intuitions of self-evident truths, the scientific method of inquiry distinguishes truth from error over time because it is 'self-corrective'. He wrote that "one of the most wonderful features of reasoning and one of the most important philosophemes in the doctrine of science [is] that reasoning tends to correct itself, and the more so, the more wisely its plan is laid. Nay, it not only corrects its conclusions, it even corrects its premises" (5.575, 1898). While abduction, deduction, and induction function in tandem in an inquiry, Peirce credits induction as the engine of self-correction. This is because he understands induction as not merely generalization from particular cases, but the

repeated testing of that generalization into the indefinite long run, in which process the generalization, if not confirmed, is modified or corrected in accordance with the results.

The word 'self' in the phrase 'self-correction' signifies that it is we, the inquirers, who correct our own beliefs, as opposed to being corrected by an external authority (including the authority of supposedly self-evident empirical or rational truths). To say that *inquiry* is self-corrective or that it has the power of self-correction is just to say that inquiry is the means by which we identify our cognitive mistakes and limitations. On a mundane level, as individuals, we continually revise our understandings, beliefs, and opinions—as well as our desires, values, and habits of action—in light of new experience. Communities of inquirers—especially communities of historical, mathematical, scientific, and other disciplinary inquirers—likewise continually correct what they uphold as disciplinary knowledge.

This sketch of Peirce's theory of inquiry makes intelligible three indispensable roles that community plays in it. The first is semiosis: the establishment of the semiotic matrix within which inquiry operates. Although inquiry is, in many cases, a mundane process carried out by individuals in the course of ordinary experience, our abilities, both to make sense of our experience and to self-correct that sense, depend on our employment of complex semiotic systems acquired, at first, unreflectively, by our participation in sociocultural communities. Communities of inquiry, even more so, employ shared semiotic systems to communicate and collaborate.

The second role of community in Peirce's theory of inquiry is corroboration. Because individual cognition is fallible (including observation, memory, calculation), it cannot be sufficient to verify propositions of fact. Nor, for the same reason, can repeated observations by the same observer ever be sufficient. Consequences deduced from conjectural hypotheses must be such as can be observed by anyone, and propositions of fact are only verified when their consequences have been widely corroborated by the relevant community. In this regard, the goal of the community of inquiry is to see what kinds of inter-subjective agreement can be reached, uncoerced by any forces beyond the methods and findings of the inquiry itself. Thus, for Peirce, "reality is the dynamical reaction of certain forms upon the mind of the community" (6.612, 1893). Importantly, corroboration of findings across a community of inquirers—including such strategies as replicated experiments and the triangulation of sources—requires that those findings be arrived at independently and in a variety of contexts, with minimal collaboration among the inquirers in order to avoid undue influence, one to another.

In contrast, the third role of community in inquiry—mutual criticism, which includes elaboration and refinement as well as correction—requires close collaboration. Peirce declared that "The conception of an argument or inference as a process [is] only entitled to those designations by virtue of its being a subject of logical criticism" (2.26-27, 1902).] Because all thought is inferential it is both inherently vague and therefore susceptible to clarification and elaboration, and fallible, or susceptible to correction and even abandonment. Individuals can and routinely do find reasons to refine, extend, and correct their own prior arguments; but a community can do so with incomparable efficacy. All the factors that make cognition fallible make it more difficult for us to recognize bias and error in our own thinking than in that of others. It is for this reason that we must rely on the perspectives and experiences of others to correct our belief-habits. "[T]he progress of science cannot go

far except by collaboration; or, to speak more accurately, no mind can take one step without the aid of other minds" (Peirce 2.220, 1903).

Peirce himself participated in a number of professional organizations and discussion societies, including the Metaphysical Club (see Menand 2001), which provided opportunities for public disputation, peer review, the solicitation of diverse views, and other mechanisms for facilitating mutual criticism among communities of peers. Thus, Peirce observed:

> Coming down to the more immediate and more pertinent causes of the triumph of modern science, the considerable numbers of the workers, and the singleness of heart with which [...] they cast their whole being into the service of science lead, of course, to their unreserved discussions with one another, to each being fully informed about the work of his neighbour, and availing himself of that neighbour's results; and thus in storming the stronghold of truth one mounts upon the shoulders of another who has to ordinary apprehension failed, but has in truth succeeded by virtue of the lessons of his failure. (7.51, 1902).

For Peirce, not only claims to empirical knowledge but beliefs of every kind are warranted by their confirmation and efficacy in experience (ordinary and scientific), rather than by their unerring derivation from intuited truths; and they are more warranted, the more and different kinds of arguments and evidence they can martial, accepted by the relevant community. Peirce captured this notion by juxtaposing the metaphor of a chain with that of a rope, in the same passage where he applied his theory of inquiry to philosophy:

> Philosophy ought to imitate the successful sciences in its methods, so far as to proceed only from tangible premises which can be subjected to careful scrutiny, and to trust rather to the multitude and variety of its arguments than to the conclusiveness of any one. Its reasoning should not form a chain which is no stronger than its weakest link, but a cable whose fibers may be ever so slender, provided they are sufficiently numerous and intimately connected. (5.265, 1868)

The 'community of philosophical inquiry' developed by Lipman and Sharp was both a protocol meant to operationalize Peirce's recommendation for philosophical inquiry and a pedagogical device intended to initiate young children and schoolteachers into that enterprise. In the following section I summarize their first iteration of the idea and remark on how it derives from, and moves beyond Peirce.

Lipman, Sharp, and Oscanyan on the Community of Philosophical Inquiry

In his quasi-autobiographical philosophical novel *Natasha* (1996), the character representing Lipman mentions Peirce in reply to a question about his own intellectual influences: "For me, the pivotal figure has always been Dewey. Earlier than Dewey, of course, there was the founder of the American school, Charles Peirce" (1996:7-8). However, Peirce is not mentioned in Lipman's university textbook *Discovering Philosophy* (1969). Nor, for the first few years of their collaboration, did Lipman or Sharp use the phrase 'community of inquiry'. Their first use of the *idea* appears in the first edition of *Philosophy in the Classroom*, which they co-authored with Oscanyan, then in the philosophy

department at Yale University. There, they describe the characters of Lipman's philosophical novels as being "committed to [...] communal inquiry" (1977:70) and write of a "community of children" becoming a "community of inquirers" (1977:126), though without citing Peirce. Chapter seven of that book, titled "Logic for Children," contains a section titled "Nonformal Logic," which is explained as

> the good reasons approach [which] uses normative rules, principles which govern two types of procedures: looking for reasons, and evaluating reasons found.[...] [G]ood reasons logic [...] uses normative principles which put general constraints on the sorts of reasons that can be put forth in support of an action or opinion.[...] These principles divide into two main classes, those which bear on the process of inquiry by which reasons are arrived at, and those which have to do with evaluating resultant reasons. (1977:125).

After stipulating that "An inquiry can concern anything at all: a source of curiosity, bother, delight, perplexity, interest, irritation, intrigue," (1977:125) the authors present five principles for how reasons are legitimately arrived at in an inquiry, and five principles or standards for evaluating those reasons. These passages are historically important, because the authors assert that, "Taken together, these standards and the group of restrictions on the process of inquiry outline how to transform a class of pupils into a community of inquirers who participate in shared dialogues" (1977:128). Because the book is no longer in print and difficult to locate, I quote the passages that deliver those principles here in their entirety. These are the principles for identifying reasons in an inquiry:

> *Impartiality:* The process of inquiry ought to be impartial, avoiding looking at the situation in question with bias or prejudice, or in ways which ignore the comments or suggestions of others. Seeking for reasons should be done in a fair manner, so that all concerned have a voice in results.
>
> *Objectivity:* The process of inquiry should be objective, avoiding preconceived versions of the results to be gained, and staying with the relevant implications wherever they may lead. An inquiry is objective if it meets with the approval of the relevant community of inquirers, but not if it violates their sense of what counts as reasonable.
>
> *Relevance:* The reasons obtained in the process of inquiry must be relevant to the issue in question, they should relate to the purpose of the inquiry. Every inquiry has some aim or goal, and this ought strongly to influence what is counted as significant and what not in the search for reasons.
>
> *Respect for Persons:* The process of inquiry should be conducted in a style which avoids injuring or embarrassing anyone. Since each person is a source of significant reasons, any process of inquiry which deeply disturbs someone so as to place them outside the scope of the ongoing inquiry eliminates a potential source of information and inevitably distorts the process itself.
>
> *Search for Further Reasons:* The process of inquiry should be conducted in such a way as to invite other members of the community of inquirers to search for further reasons, if they find that they are not satisfied with its results. This requires that whatever process be used, it be sufficiently open-ended so as to invite further inquiries rather than discourage them or shut them off. (1977:126)

And these are the principles for evaluating reasons in an inquiry:

> *Generality:* A good reason is a reason expressed in general terms. To see that a reason is a good one, one should be able to see what it would mean to use that reason in situations other than the context in question. This requires that a reason cited must apply to a variety of situations, hence that the reason itself be stated in terms sufficiently general to give it breadth of application.
>
> *Universality:* A good reason is a reason for every member of the community of inquirers. They may not all agree that it is a good one, but each can see for him or herself whether it applies to the action or opinion in question, and when they agree that it does this standard applies.
>
> *Publicity:* A good reason is a reason known to every member of the community of inquirers. As in the case of universality, this does not mean that everyone has to think it's a good reason, or even that it is worth considering. But they can know of it and so have a chance to react to it, and when this is the case the standard applies.
>
> *Order of Conflicting Claims:* If there is a conflict within the community of inquirers as to which reasons are good and which are bad, a good reason will be a reason which imposes an order on the competing claims, showing how in the given situation certain of the views expressed are better reasons, and others worse. This may not completely resolve the conflict, because even after the good reason has been accepted a disagreement may remain among members who proposed the more reasonable views. But a reason which refines a disagreement and perhaps resolves itis a good one.
>
> *Finality:* No reason is a good one which does not meet one or more of the above standards, and every reason must be evaluated, or at least be open to evaluation, by the members of the community of inquirers. There is no higher court of appeal, nor higher standards in evaluating reasons. (1977:128)

Although these ten principles were clearly derived as much from Dewey, Buchler, John Rawls, and others, as from Peirce, nevertheless, Lipman, Sharp, and Oscanyan were unequivocal in holding them up as the framework for a community of inquirers:

> A close look at each of the principles will show that they can only be understood in the context of a community of inquirers who take part in shared dialogues. It is not just that the principles only make sense given such a community; they are a part of its structure and outlook. (1977:129-130)

Paradoxically—though not necessarily a contradiction—the authors claim that, while the implementation of the ten principles brings about a community of inquirers, the establishment of such a community is conducive to learning how to implement the principles:

> As to nonformal logic, it is wise to avoid thinking that the children will not learn it at all unless it is made a separate topic of instruction. Embedded as it is in the procedures of dialogues, simply encouraging a class to become a community of inquirers can be a very effective way of getting across some of its main ideas. (1977:136)

Though Peirce is not acknowledged in the 1977 book, many of these principles can be traced to his theory of inquiry. His anti-intuitionism is reflected in the principle of objectivity, which stipulates that "An inquiry is objective if it meets with the approval of the relevant community of inquirers, but not if it violates their sense of what counts as reasonable." That "what counts as reasonable" is not a matter of intuition is reflected in the principle of the search for further reasons, which recommends that members of the community should search for further reasons if they are not satisfied with the results of the inquiry, rather than consult supposedly infallible intuitions. The same principle is the only indication by the authors of the fallibility of inquiry.

Both the principles of objectivity and of the search for further reasons are also indications by Lipman, Sharp, and Oscanyan that an inquiry advances by means of self-correction. However, as an educational practice, the community of inquiry is necessarily different from inquiry conducted by a community of experts (see Seixas 1993, Gregory 2002). On the one hand, Lipman, Sharp, and Oscanyan's principle of finality articulates Peirce's conviction that "There is no higher court of appeal, nor higher standards in evaluating reasons" above "the community of inquirers" (1977:128). On the other hand, they qualify that principle with the understanding that, while children can be peers with their teachers in terms of philosophical thinking, they also rely on their teachers as experts of the procedures of inquiry. Thus:

> [I]t is the teacher who, through questioning, can introduce alternative views with the aim of always enlarging the students' horizons, never letting complacency or self-righteousness take precedence. In this sense, the teacher is a gadfly, encouraging the students to take the initiative, building on what they manage to formulate, helping them question underlying assumptions of what they arrive at, and suggesting ways of arriving at more comprehensive answers. (1977:60)

> As a teacher [you] can help them, when they seem to be groping, by suggesting connections and possible implications or consequences of their ideas. You can attempt to put their thoughts into some kind of context which will make their thoughts more meaningful to them [...]. (1977: 52)

This is the idea behind Lipman and Sharp's injunction that the philosophy teacher must be "pedagogically strong but philosophically self-effacing" (Lipman 1988:183; Sharp 1992:167). The role of the teacher as facilitator of disciplined inquiry is also central to the theory, first presented in the 1977 book, that the philosophical text, the teacher, and the community of inquiry all function as cognitive models that help children understand the procedures of inquiry, participate in enacting them, and acquire them as personal dispositions. Thus, "The teacher [...] becomes a philosophical model for the children in the classroom which confirms the children in their freedom to think for themselves" (1977:12). It is because the classroom community of inquiry has this pedagogical structure

that "these procedures of the community, when internalised, become the reflective habits of the individual" (Lipman and Sharp 1978:88).[8]

Peirce's notion of inquiry as being prompted by doubt occasioned by a problematic experience and ending in a revised belief more adequate to it is dramatized in the first chapter of Lipman's first philosophical novel for children, *Harry Stottlemeier's Discovery* (1974). Lipman, Sharp, and Oscanyan make no reference to Peirce's conception of inquiry as the process of moving from doubt to belief, apart from opining that "As long as our beliefs are effective in dealing with the problems that we face in life, there is no reason for us to give them up" (1977:77), and that "While no belief need be final, the aim of discussion and inquiry generally, is to move towards a tentative settlement by arriving at answers and beliefs that are serviceable and satisfying" (1977:78). The authors do, however, recommend that a science teacher not "deny the student the right to doubt the outcome of a scientific inquiry," and that they "make clear [...] that the 'facts' which he [*sic*] teaches rest upon evidence which is always retrievable or in some fashion demonstrable," so that science education does not become "indoctrination" (1977:90).

Lipman, Sharp, and Oscanyan take quite a different approach from Peirce's to the logic of inquiry. Rather than focusing on abduction, deduction, and induction as inter-dependent, mutually necessary and sufficient procedures, they introduce "formal" and "nonformal" inferences in the manner of a variety of tools to be selected and used depending on what is needed to advance the inquiry. The authors equate deductive inference with formal logic, which they describe as "rule-governed thinking," explaining that "the rules of which it is composed are structural, putting specific constraints on the kinds of inferences permitted in terms of the internal structure of sentences" (1977:110). They explain "nonformal" inference in these terms:

> A nonformal inference thus states a reason which stands in a certain relationship to the action or opinion at the focus of inquiry. There are many such relationships within the scope of nonformal logic, such as inductive, analogical, explanatory, action-guiding and authoritative inferences. This list is by no means complete, but it does represent the major types of nonformal inferences. (1977:133)

The authors' description of an inductive inference as providing a "generality [that] projects beyond the evidence base cited in the specific cases" (1977:131) are in line with Peirce's understanding, and their description of explanatory inferences as providing "answers to the question, 'Why did that happen?', or 'Why does this take place?'" (1977:132) is clearly derived from Peirce's concept of abduction.

It is obvious that Lipman, Sharp, and Oscanyan did not agree with Peirce's conviction that "Philosophy ought to imitate the successful sciences in its methods" (5.265, 1868). In contrast, they discuss the relationship of philosophy to science this way:

[8] Lipman's groundbreaking use of social learning theory, as delineated by Mead, Dewey, Lev Vygotsky, and Jerome Bruner, is beyond the scope of this essay, but it is as central as Peirce's theory of inquiry to the theory and practice of the classroom community of inquiry he developed with Sharp. The power of cognitive modeling through social interaction has been verified in numerous empirical studies conducted by contemporary educational psychologists (see Reznitskaya and Gregory, 2013).

> [W]herever there is a threshold of human knowledge, those who think about that particular subject area can only grope and cast about speculatively in an effort to understand what is there. Gradually, as methods of investigation of the new subject area are developed, as methods of observation and measurement and prediction and control are perfected, the period of philosophical speculation is replaced by one of scientific understanding. In this sense, philosophy is the mother of all sciences, for as philosophical speculation becomes more rigorous and substantiated, as measurement and experimentation and verification begin to occur, philosophy turns into science. (1977:89)

However, Lipman, Sharp, and Oscanyan took seriously Peirce's metaphor of the cable or rope whose strength derives from the number and connection of its fibers, as an important illustration, not only of anti-intuitionism but also of the roles of community in inquiry. With regard to semiosis, the authors emphasize both that children have sufficient linguistic acumen to engage in philosophical discourse and also that acquiring new meaning is among the primary purposes of that discourse:

> Philosophical discussions can evolve out of a great many of the demands children make for the meaning of an idea. (1977:89)

> [T]he masses of information [children] acquire would be useless did they not have dispositions to process it so as to discover its relevance and meaning. (1977: 37)

> [P]hilosophy is concerned to clarify meanings, uncover assumptions and presuppositions, analyze concepts, consider the validity of reasoning processes, and investigate the implications of ideas and the consequences in human life of holding certain ideas rather than others. (1977:88-89)

> It is when the [philosophical] concepts are analyzed and related to the students' own lives that they begin to take on more and more meaning. (1977:68)

What I have called the corroborative role of community in inquiry is reflected in Lipman, Sharp, and Oscanyan's principle of universality, according to which "A good reason is a reason for every member of the community of inquirers. They may not all agree that it is a good one, but each can see for him or herself whether it applies to the action or opinion in question, and when they agree that it does this standard applies" (1977:128). Unlike Peirce, they were not concerned that close collaboration in an inquiry would undermine the participants' ability to make judgments sufficiently independent that a convergence of those judgments would constitute their justification.

For Lipman, Sharp, and Oscanyan, the chief role of community in philosophical inquiry is that of mutual criticism—including clarification, elaboration, and correction. This explains their detailed description of the role of the teacher in facilitating the inquiry. It also explains the importance of their principle of publicity, according to which, "A good reason is a reason known to every member of the community of inquirers. [T]his does not mean that everyone has to think it's a good reason [...]. But they can know of it and so have a chance to react to it" (1977:128). Similarly, their principle of respect for persons cautions that "Since each person is a source of significant reasons, any process of inquiry which deeply disturbs someone so as to place them outside the scope of the ongoing inquiry

eliminates a potential source of information and inevitably distorts the process itself" (1977:126). This idea is elaborated in the article that features the first use of the precise phrase 'community of inquiry', "Some Educational Presuppositions of Philosophy for Children," co-authored by Lipman and Sharp for the *Oxford Review of Education*—again without citing Peirce:[9]

> [T]he variety of thinking styles in the classroom, coupled with a variety of backgrounds, values and life experiences, can contribute significantly to the creation of a community of inquiry. Furthermore, shared inquiry comes to be seen as the positive counterpart to thinking for oneself. When widely different approaches to problems are openly accepted, then invidious competition diminishes and the inputs from the different participants are welcomed. (1978:86)

Many of the other principles for providing and evaluating reasons in a philosophical dialogue are meant to be applied in the course of the dialogue, not only in each participant's own thinking but in response to the thinking of others. The principle of impartiality, for instance, recommends "avoiding looking at the situation in question with bias or prejudice, or in ways which ignore the comments or suggestions of others" (1977:126), yet this is nearly impossible to do without the benefit of critical evaluations of one's own statements by others in the community. The principle of generality requires that a good reason "must apply to a variety of situations"—something, again, that requires ideas from multiple perspectives.

It would not be an overstatement to suggest that the procedures and tools of the classroom community of inquiry developed by Lipman, Sharp, and Oscanyan in 1977, and further interpreted, developed, and reconstructed by Lipman and Sharp in the years following, are a sophisticated elaboration of what I have called Peirce's theory of mutual criticism as one of the roles of community in inquiry. Their significant differences from Peirce are, first, that, like Buchler and, in fact, building on his theory (1954), Lipman, Sharp, and Oscanyan take discussion, by itself, to be a sufficient instance of inquiry. Thus, they explain that,

> The method of discovery for each of the children in [Lipman's] novels is dialogue coupled with reflection. This dialogue with peers, with teachers, with parents, grandparents and relatives, alternating with reflections upon what has been said, is the basic vehicle by which the characters in the stories come to learn. And it is how your students will likewise come to learn by talking and thinking things out. (1997:60)

Second, they revise Peirce's notion of a community of experts into a pedagogical device in which "The teacher is an authority figure primarily in the sense of being the arbiter of the discussion process" (1977:83) without determining the outcome. Third, no doubt prompted by Dewey's democratization of communal inquiry as a method of problem-solving among non-experts, they assert that even young children are capable of engaging productively in such inquiry. Their work thus constitutes a significant contribution, not only to educational theory but also to Peirce studies.

[9] The first direct reference to Peirce in relation to philosophy for children is a list of five essays by him in the bibliography of the second edition of *Philosophy in the Classroom* (1980:310).

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