The idea that there is a philosophical tradition that can be identified as distinctively Socratic, which had no major heirs after Plato until Peirce, has become more and more insistently persuasive over the years since it first occurred to me, and Jeff Kasser's carefully developed paper on "Peirce's Supposed Psychologism," presented at last year's meeting of the Peirce Society, persuaded me to take advantage of the present occasion to surface the idea here in hopes that it might be helpful in understanding some things about Peirce which still have not come into clear focus for us. Jeff Kasser argued that, contrary to the currently prevailing understanding of what Peirce was doing in "The Fixation of Belief", Peirce never regarded himself as giving a psychologistic account of inquiry there -- and, he argues, Peirce was right about this. I agree in both respects and the present paper can be regarded as in support of Jeff Kasser's conclusions, but I come at this from a different angle which may help make the conclusions more clear intuitively.
I think it is important to understand the Fixation paper and its companion piece "How to Make Our Ideas Clear" better than we commonly do at present since those two papers -- actually one paper in two parts -- are by far the most widely read and reprinted of Peirce's papers and provide the *locus classicus* of pragmatism. And, beyond that, they are important as providing an approach to logic, philosophy of science, and theory of human understanding generally which contrasts favorably with the currently prevailing approaches to these fields. This can be seen most readily in philosophy of science, where the currently prevailing approach shows clear signs of having run its course in virtue of its inability to give a plausible account of the obvious success of the hard sciences in response to the sceptical attacks on the rationality of the sciences which Paul Feyerabend's criticisms in particular have engendered. Feyerabend's critique -- which brought into focus the sceptical significance of much prior discussion in philosophy of science going back to the turn of the century -- is especially important both because of its influence and because it makes obvious the assumption that has made scepticism inevitable, namely, that philosophy of science is wedded to a criterial epistemology with the task of playing the role of watchdog in relation to the claimed and accepted results of the sciences, which are to be assessed in terms of criteria or standards that such results must measure up to if they are to be regarded as logically acceptable as scientific findings. These are of course criteria of method, concerning the derivation of the accepted results. When Feyerabend argued persuasively that there is no general method that can be identified in a plausible rational reconstruction of actual scientific procedures which terminate in acceptance of results, he produced, in effect, a *reductio ad absurdum* of the epistemological conception of philosophy of science, though it is not commonly regarded as that because no alternative conception of its task is recognized as a viable possibility. I am especially concerned with understanding the Peircean approach as a viable and more satisfactory alternative to the usual epistemological approach, and I think that a recognition of the Socratic tradition, with which Peirce's thought has fundamental affinities, can be helpful in that respect.

The aim is to induce a shift in perspective on Peirce and what he was doing. Peirce was a radical thinker, attempting to re-think and re-establish logic at the most fundamental level, and it is appropriate to go back to the beginnings of logic in the West to understand what this means. The Aristotelian account of the syllogism, important as it is, does not provide the basic problematics needed to understand Peirce's enterprise nor, in my opinion, is this to be found in Aristotle's conception of science, but must be sought earlier. I believe that Socrates, as known through Plato, is the resource wanted, and I try here both to make a start on developing this more radical understanding and to convey a hint of how it might pay off intellectually to do so. I don't pretend to anything more than being suggestive here, but suggestions can sometimes be as useful as demonstrations, and are perhaps more appropriate in an oral address than are the latter, assuming they are not mere momentary enthusiasms but express some sustained concern, as the
I will begin with a sketch of the conception of the Socratic tradition, provide some brief explanation of how Peirce's philosophy correlates with this systemically, and conclude with an indication of how philosophy of science can address the sceptical challenge from this perspective to illustrate how this relates to current concerns in philosophy.

II

The starting point for understanding the Socratic tradition is with the sort of wisdom to which Socrates lays claim in the Apology. This remarkable document could function as a sort of charter document for the Socratic tradition, and the fact that we commonly regard its philosophical content as negligible is a measure of the extent to which the Socratic tradition itself does not come into focus for us as a substantive philosophical project. Now, the key to understanding what Socratic wisdom is does not lie in the exact wording of the verbal formulation of it as a confession of ignorance -- which is fortunate since what he says there is frequently represented poorly in translation -- but rather in attending closely to the context and circumstances in which this is said. Socrates does not say, for example, that he knows that he doesn't know anything -- a common mistranslation which has a charmingly paradoxical air to it but which reduces the idea to the cognitive level of a Zen koan (a communicative form used to shut down rather than encourage further thought) -- nor does he say that he knows what he does and doesn't know, which imputes to him the view which is exhibited in the Charmides dialogue as at the root of the thinking of the tyrant Critias, which Socrates shows in that dialogue to be empty of content. What he says is that he doesn't think that he knows what he doesn't know, which, understood in context, means that although he does indeed lay claim to an understanding which can legitimately be called "wisdom" ("sophia"), it is not the kind of wisdom which others mistakenly claim to have owing to their failure to realize that what they suppose wisdom to be is actually an understanding of the sort which only a god could have. Socratic wisdom is an understanding based on the recognition of that mistake, which is to say that it is based on recognizing the impossibility of taking the god's eye view of things. The Socratic tradition can perhaps fairly be characterized overall as the tradition in philosophy that concerns itself chiefly with working out the basis and implications of that incapacity. In Peirce, this aspect of the Socratic tradition appears overtly in several forms, e.g. in the denial of "intuition" (thus in his anti-foundationalism) and in his fallibilism.

We are apt to miss the force of Socrates' claim to being an Apollo-endorsed practitioner of human wisdom, which was not a statement of personal humility and obviously was not regarded as such by the 501 jurors who tried his case. The word "Sophia" is a craft term -- sophia is a know-how -- and the basis for referring to...
someone as having wisdom was that they were or purported to be masters of a craft of the *logos* dedicated to the sort of understanding required for human beings to flourish. Thus the word "*sophia*" and its cognates was commonly regarded as applicable not only to the work of the traditional seven sages, whose talent for *logos* enabled them to create the founding constitutions of their cities in discourse, but was also applied to the work of the poets, rhapsodes, and playwrights, to the variety of remarkable individuals we call the "Pre-Socratics" (including the Pythagoreans and other mathematicians who cultivated math as a spiritual discipline), and of course to the Sophists as well, from whom Socrates is especially concerned to distinguish himself. Socrates' first major move in his statement in defense of his life was thus to make the audacious claim that he was not merely deserving of being identified as a person with *sophia*, but was, at the time of his discovery of his vocation, at least, the only person then living who could lay rightful claim to it.

Plato clearly believed that this was indeed so, and I suggest as a heuristic strategy that all of Plato's work can profitably be understood as devoted to the attempt to preserve and extend this practice as a tradition by establishing a place for it within the emerging writing-based culture, which he believed -- with reason -- to be hostile in tendency to the values of the dialogical communication the historical Socrates had attempted to raise to the level of a critical and self-controlled craft. In my reading of the dialogues, Platonism is not a special doctrine about the ontology of "forms": on the evidence of the texts, Plato was as uneasy as most of us are about what exactly to make of the ontological status of predicative content, though he had no more doubt about the reality of it than, say, Aristotle -- or Peirce -- did. In this reading, Platonism is best understood as the attempt to discover the presuppositions of the practice of Socrates' dialectical craft (the "forms" have whatever reality and ontological status that requires), to explore the possibilities of its development beyond the basic aporetic and hypothetico-deductive method which is its Socratic kernel, and to carry philosophy as a communicational practice forward into the era of increasing dependence on writing by representing it iconically in drama shaped by pedagogical ends. For Socrates and Plato, as for Peirce, philosophy is logic first and metaphysics only subsequently.

Now, for a Greek of that time a god is, first of all, an immortal being superior in power to humans, and for Socrates in particular this meant also an unchanging being, whose understanding can therefore only be perfect (complete) and unfailing -- infallible -- precisely because unchanging. In contrast, human understanding is essentially temporal and of the nature of a process because understanding is a form which *psyche* takes, and *psyche* is the life in a living being, which is essentially of the nature of a process. Since *psyche* is constantly in process it is always imperfect in the sense of incomplete, and it is fallible because it is constantly changing in content and requires constant effort to maintain its integrity as a process: its coherence and self-identity across time. Since it requires a discipline of corrective
effort, it is intrinsically normative. The following passage from the *Symposium*, elucidating the Eleusinian mystery doctrine, taken together with the description in the *Phaedrus* dialogue of *psyche* as self-changing and thus essentially unending, should make it clear to those acquainted with Peirce's semiotic that the conception of *psyche* in the Platonic dialogues is comparable to if not identical with Peirce's conception of the semiosis process, which is autonomous in the sense that signs generate their own interpretants (interpretation is observation of meaning already available potentially in the sign), and is frequently referred to by Peirce as "psychical":

Mortal things seek as best they can to be immortal, and the only way they can do this is by reproduction, which replaces the old with the new, thus making it possible to describe ever-changing life as nevertheless the same life, as when one is said to be the same person from childhood through old age, even though one does not have the same properties as before. For one is continually becoming a new person while at the same time losing parts of oneself as well -- hair, flesh, bones, blood, and the elements of one's body in general. And this is true as regards the psyche, too, where none of our ways or habits, opinions, desires, pleasures, pains, or fears ever really remain the same: for as some come into existence, others perish. And more astonishing yet, as regards our knowledge, not merely does some of it come into existence while other elements of it perish, so that in what we know we never stay the same person, but the same is true for every particular instance of knowledge. The reason we must keep practicing our skills [of understanding] through regular exercise of them, for example, is that our knowledge is constantly departing through forgetfulness and the exercise substitutes something fresh in place of that which departs and so preserves our knowledge in such a way as to make it seem the same. Every mortal thing is preserved in existence in this way only: not by staying exactly the same forever but by replacing the old with the new, which is a semblance of what it replaces. The immortality of the immortals (i.e. the gods) is very different. (Plato, *Symposium* 207d)

In context, the diagnosis of the basic confusion of the human and the divine which is implicit in this is that we mistakenly act as if the human function of ideals -- the gods, the "forms" -- that give us direction in life is to attract us to them in such a way that we will, ideally, become simply identical with them. But this is the category mistake the moth makes when, attempting to live in the light of the flame, it finally dives directly into it and is consumed. Category mistakes can be fatal! The gods -- the ideals, the forms -- are not alive in the way *psyche* is alive and simply becoming identical with a form cannot be the goal of *psyche*. The function of the forms (ideals, gods) is to motivate and inform *psyche*, to enlighten us by enlightening the world we are trying to understand, not to consume us. But consume us they will -- turning us first into tyrants (the delusion of being godlike)
then into nothing -- if we do not learn how to keep our distance while nevertheless somehow maintaining a proper relationship to them. Speaking logically rather than poetically, this is the problem of understanding predication and its relationship to reference: predication is what informs us to our profit insofar as we recognize in practice the need to maintain proper reference and we develop and exercise the skills for doing so effectively.

According to the passage from the *Symposium* quoted above, life is a process the integrity of which is constituted by constant formal replication which keeps it in form, and in the case of distinctively human life the special form the life process takes is given by *logos*, which is a power of selection and gathering or collecting of things -- synthesis or summation -- in and through discourse, which functions like a shuttle weaving together the warp and woof of predicative and referential elements into a tapestry of depiction, an activity which gives order, direction, and re-direction to the course of the life which it informs. The word "*dialogos*" adds to this, through the prefix "*dia*", the idea of proceeding through something, hence the idea of a *subject-matter* to be ordered by *logos*. The Greek word for dialectic is cognate with "*dialogos*" and is shorthand for "the dialectical craft" ("*hê dialektikê technê*"), which was commonly used in the sense of "the conversational art." Socrates' claim was to have discovered the true conversational *technê*, and his theory and practice of that craft, together with Plato's reflective presentation of the Socratic theory and practice, marks the beginning of the logical tradition to which Peirce belongs: the Socratic tradition.

Had it not been for the formal work of Aristotle, the Stoic logicians, Kant, Boole, and DeMorgan, Peirce doubtless could not have reconceived and generalized the principles of logic as he did and been able to arrive finally at his own conception of logic as semiotic. But there is a core of ideas in Peirce's understanding of what logic is which is similar to the core ideas implicit in the practice of Socratic dialectic, and these ideas are not available in Aristotle or in the thinking of any of the other formalists who developed logic after Socrates and Plato, as far as I can see.<9>

In its origins Socratic dialectic probably developed as a modification of practices of eristic dispute that made use of the *reductio* techniques of the mathematicians, perhaps as especially modified by the Parmenidean formalists.<10> Socratic dialectic differs importantly from the earlier argumentation, though, in at least two major respects, *first*, by conceiving of the *elenchic* or refutational aspect of the argumentation not as a basis from which one could then derive a positive conclusion either as the contradictory of the proposition refuted, as in *reductio* argumentation, or by affirming the alternative because it was the sole alternative available, but rather as inducing an *aporia* or awareness of an impasse in thought: subjectively, a bewilderment or puzzlement. *Second*, it differs also by using the conflicting energies held in suspense in the
aporia as the motivation of inquiry.

First, as regards the inducing of the aporia, which was always the initial aim of Socratic argumentation, what made this possible was the requirement that the argumentation that generates the elenchus or refutatory moment be sincere, such that one finds oneself actually asserting both of the contradicting elements at once: the Socratic aporia is not merely a contradiction but a self-contradiction, which actually precludes refutation where it occurs since in refutation the refuted element drops out whereas the aporia depends on it not dropping out but maintaining itself in opposition to what supposedly refutes it. But what is sincerity? For present purposes all that we need to understand is that the sincerity requirement supposes that what is asserted or put forth expresses a real conviction on the part of the asserter, so that in the event of a self-contradiction in assertion there is a corresponding opposition of intention or tendency to action that makes it impossible for the self-contradicting asserter to act in respect to the subjectmatter in either of two conflicting ways until such time as the conflict in intention is resolved. (Peirce's account of the matrix of inquiry in the Fixation article is the obvious analogue.)

The commitment to truth manifests itself as essential in inquiry at a rudimentary level here in the refusal to resolve the problem of contradiction and the corresponding paralysis of conflicting intent simply by deciding arbitrarily that there are really two things there instead of one. Deciding that there are two will formally eliminate the contradiction and release both of the conflicting actions at once -- which can now be directed at what are now regarded as being logically different objects -- and end the tensions constitutive of the aporetic state. Formally, that is always possible, but at the possible expense of the object and/or the agent, in case the object really is one thing and not two, since at least one of the responses will be inappropriate in the situation in that case. The commitment to truth thus shows itself at this rudimentary level in respect for the integrity of the object or subject matter, which is treated as being something real about which there are conflicting opinions, rather than as a merely fictional or fabricated object which can be split into as many different objects as is convenient for the elimination of the conflicts. Thus although truth is itself a logical conception, the commitment to truth is moral in that it involves a choice to respect or not respect the integrity of the object.

The second point of difference between Socratic dialectic and earlier forms of disputational argument which involve formal refutation is that the aporia functions here in the service of inquiry, which is possible as an activity through the willingness to tolerate the aporetic state for so long as is necessary for further elements to be introduced into the aporetic situation and set in relationship to the rest in such a way that a solution to the problem is arrived at, regardless of how long that might take. I speak of being "willing to tolerate" the aporetic state.
because there is often a choice about this, and as Plato's dramas of dialectic frequently underscore, people are sometimes not at all happy about being brought into the aporetic condition and are not eager to stay in it unless, like Socrates, they have come to regard the life of inquiry as a normal form of human life. It is of course possible to recognize and cultivate the latter, and a good many people take to inquiry naturally, but there are also many who do not and who will readily falsify their own experience and deliberately turn large areas of their life into fiction in order to eliminate arbitrarily the uncomfortable self-contradictions of *aporia* when it threatens to arise. It is not accidental that traditions of inquiry are called "disciplines", given the many ways in which the discomforts of sustained and truly honest inquiry can be and are avoided.

Inquiry is *aporia* protracted in time, enabling articulation, structuring, and restructuring as new elements are introduced into the reflective situation and arranged and rearranged until such time as, finally, the contradictions that sustain it as aporetic disappear and the *aporia* and therefore the inquiry ends as a solution. Inquiry thus begins with sincerity in self-contradicted assertion which, as the *aporia* is sustained in time, passes over into and becomes indistinguishable from respect for the integrity of the subject-matter, toleration of it in those respects in which it is frustrating, and confidence or trust in its potentiality for finally being made intelligible. Sincerity, integrity, toleration, trust: these are moral conceptions. Thus it is the moral character of inquiry -- the *moral norms* of inquiry -- that makes it *existentially* possible for inquiry to occur and the *aporia* to take on logical structure, the latter being constituted by the *logical norms* governing the predicative and referential structure of the process, which is explicated by Peirce in terms of sign typology and inference structures construed semiotically. The distinctively logical norms are thus posterior to the moral norms, which provide the existential frame within which the former -- the logical relationships -- can be articulated.

III

The natural development of the Socratic tradition is in the direction of a general theory of inquiry -- as distinct from a theory of knowledge -- which will have (at least) two major levels, corresponding to the dependence of the logical level on the moral level. The "upper" or logical level will include, first, a general theory of predication and reference, which Peirce developed as a philosophical grammar of signs: an account of various sign types (e.g. iconic, indexical, symbolic), their properties and functions, and their combinatorial possibilities in the context of inference; and, second, a classification of argument/inference types. The second, which Peirce calls "critical logic" and of course developed extensively, was not developed in antiquity until Aristotle. But the first, corresponding to Peirce's philosophical grammar, is abundantly discussed in the Platonic dialogues in one way and another. Thus, for example, there is the marvelously sophisticated discussion of the problematics of names (both proper and general) and the
relationship of predicates (rhemata) and names (onomata) in the *Cratylus*, and of
the problematics of reference and predication in the context of assertion
(knowledge claims) in the *Theaetetus*. But any place in the dialogues where the
function of ideal form or predicative content is under discussion -- any discussion
of the so-called "theory of forms" -- is pertinent, as is any place where the nature of
*psyche* is being characterized, including the theory of the tri-partite *psyche*, since
*psyche* is semiosis. For example, the three-way distinction of the principles of the
psyche as *logos*, *thumos*, and *epithumia* correlates roughly with various of Peirce's
trichotomies based on the categorial distinctions of 3rdness, 2ndness, and 1stness
(e.g. the symbol-index-icon distinction, in some contexts), and the theory of the
well-ordered *psyche* and the various degenerate forms can be interpreted as
perfected and degenerate forms of communication or thinking in general, as
analyzed semiotically.

The second and more basic level of theoretical development is concerned with
the aporetic structure of inquiry, which is constituted by the conformity to norms
functioning to sustain *aporia* in its protracted form as required for the purposes of
inquiry, thus providing a special environment within which the logical conceptions
develop and function. Since these norms, being pre-logical, are moral in type the
discussion and development of them takes the form of considerations pertaining to
inquiry as a form of life. In the Platonic dialogues this is the concern of all of those
dialogues which deal with the nature of Sophism as a practice, with methodic
strategies that go beyond the Socratic core of dialectic as protracted *aporia*, with
the possibilities of rhetoric, with the question of the relationship of poetry to
philosophy, and with the relationship of the inquiring life to other forms and
aspects of human life generally. In Peirce, discussion of these matters is diffused
throughout his work since his own understanding of science as a form of life was a
commonplace in the household of his youth and it informs his understanding of the
nature of science and reasoning generally and pervasively. But "The Fixation of
Belief" (and its companion paper on the clarification of ideas) is especially
concerned with it in virtue of his aim there of establishing an understanding of the
way in which the sciences are based on the appeal to *experience* as regards
acceptance of claimed results. Since the sciences are social collaborations, the
protracted *aporia* of inquiry must allow for what is required if agreement of all
concerned as participants in the *aporia* is to be freely reached, and of course the
pragmatic maxim provides the specification of the commonly available steps to be
taken to establish the interaction with the subject-matter which is required if it is to
have its say-so in the matter, as it were. But as we will see shortly, implicit in this
as well are norms of communicational participation and interaction which are
constitutive of the procedural structures that maintain the basic aporetic aspect of
inquiry and are logically prior to the logical norms that regulate its content.

IV

Formalism in logic and philosophy of science can be regarded as the approach
that regards the logical norms of inquiry as self-sufficient, whereas in the Socratic
tradition to which Peirce belongs the moral norms, which govern the aporetic
aspect of inquiry, are equally important and, in a certain sense, prior. (This is what
Peirce has in mind when he says that logic presupposes ethics, I believe.) The
reason the currently prevailing view of the task of philosophy of science cannot
provide a plausible account of why inquiry in the hard sciences is successful is that
the epistemological approach attempts to account for scientific activity in terms of
logical norms alone and thus attempts to rationally reconstruct the process of
acceptance of results in terms of methods of inference. But the way acceptance
actually works belies that; for it is something that simply occurs when the aporia
in fact ceases to obtain, which happens whenever inquirers are in fact satisfied
regardless of the formally specifiable strength of the argument. To suppose that this
betokens the irrational or the a-rational or warrants drawing a sceptical conclusion
from it is a mistake, based on a misunderstanding of what rationality is. I will now
sketch out briefly the Peircean alternative to this to illustrate the difference it makes
if this approach is taken rather than the usual epistemological approach.

From the Peircean point of view we begin by regarding the sciences as
communicational communities whose members share a commitment to finding out
about something cooperatively, and we think of this primarily from the point of
view of the scientific inquirers as such, who are always -- that is, ideally --
trying to do what they can to promote a common acceptance of findings which
will accumulate, notwithstanding the occasional setbacks when some part of what
has accumulated has to be jettisoned. What makes the findings accumulate is that
only those findings which actually come to be used in the ongoing course of
inquiry count as accepted. Scientific findings are not accepted because
somebody says "This is acceptable", much less because somebody says "I accept
this," regardless of who says it on what occasion or from what office. They are just
accepted or not, and the only way we can tell if they are accepted is by finding out
whether or not they actually function in the relevant intellectual community as
premises or presuppositions used in further inquiry. What begins as a putative
finding, presented as a conclusion argued for in a claim publicly made, becomes a
premise or presupposition taken for granted in subsequent claims made by others:
that is, insofar as this has obtained, acceptance has occurred, and of course it may
be accepted only in part or only by a part of the relevant community of inquirers or
only for a short-lived period. On the other hand, it can of course be thoroughly,
widely, and permanently accepted -- apparently permanent, that is. (Or it can be
ignored or be abused in various ways, such as by bowdlerization, obfuscation,
misrepresentation for the purposes of plagiarizing it, being construed in the worst
possible sense, and so forth.) The important point is, though, that there are no
logical criteria according to the satisfaction of which acceptance occurs or fails to
occur.

What is the use, then, of logic and the attempt to be rational by presenting and
insisting upon reasons and evidence? Well, it is just what it seems to be, apart from
the bogus task of providing arbitrarily appointed or self-appointed pseudo-authorities with bogus entitlements for justifying or certifying or validating knowledge claims as such, as if from the "magisterial" or "authoritative" or god's-eye view. I need not go into detail here to repeat the obvious about why we relate things as premises to conclusions and set them within the context of other things taken for granted or assumed or hypothesized or whatever, with the aim of building increasingly sophisticated cognitive maps of the subject-matter in which the inquiry is grounded through the beliefs that generate the *aporia* that makes such inquiry possible to begin with. The important point here is rather that logical criteria do not govern acceptance but function rather within inquiry as critical controls on the discourse that occurs therein, affecting acceptance indirectly, of course, and in a myriad of ways, but never themselves wholly determining it because acceptance is always conditioned also by satisfaction of the moral norms governing communication practices, which make it possible for claims to be made and to be subject to challenge.

Now, the philosopher of science is not in position *ex officio* to judge any substantive claim in a field of inquiry except insofar as he or she is also a participant in that field on par logically with other researchers into that subject matter. There is no god's eye position from without or from above which the philosopher of science can take as regards the assessment of the substantive research claims of the participants. What the philosopher as such can have something to say about, though, is the extent to which and the way in which rationality characterizes the research conduct in the field in question. And when the rationality of a field of inquiry comes into question there are two importantly different places to look. One is to the inferential -- or, more generally, logical -- practices of the practitioners of the field, which may be facilitated by sophisticated inferential and representational practices, logically controlled, or which may be vitiated or even corrupted to a greater or lesser degree by entrenched but unsound inferential practices. Important assessment of the intellectual health of a given field could sometimes be provided on the basis of these considerations alone, but this is only half of what needs to be understood. The other place to look is to the communicational practices in the field, especially but not exclusively the formal publication practices, to determine whether or not there is in fact a healthy communicational community of inquiry, in which researchers are enabled to make responsible claims to their peers -- meaning anyone to whom researchers are directly (if only implicitly) addressing their claims when they are attempting to establish something in a given field[^15] -- and are enabled to critically challenge claims made by peers and to respond to critical peer challenges, whether in rebuttal or in admission of error.

[^22]:

To say which of these two factors of critical control -- the logical and the moral -- is the more important serves no useful purpose, so far as I can see, but it is important to understand that the quality of both is important for the assessment of the rationality of the field of inquiry in question. Why? From the Peircean point of
view, the answer is roughly as follows. The critical control of inquiry is always ultimately for the purpose of enabling the subject-matter of inquiry -- the object -- to interact with the inquirer(s) in such a way that the subject-matter itself is the "brute" decisive factor in establishing acceptance of conclusions about it (in "fixing belief" about it, as Peirce phrases it in the classic article on the topic). The pragmatic maxim -- which functions on the logical rather than the moral level of inquiry -- is designed to encourage the specification of methods of effective access to the subject-matter or object, such that genuine interaction with it can occur which will have the effect of allowing the object to literally impress its form on the perceiver in such a way that its reality has been effectively accommodated by the inquirer. But scientific inquiry aims at developing a cooperative understanding of the object on the part of as many people as are interested in joining in the effort, because with each additional member of the community every other member is potentially empowered further by the possibility of that person providing to the rest yet another and complementary understanding of it, from yet another perspective on it. This is possible, though, only to the extent that there is unrestricted access both to the subject-matter AND to other inquirers into the same subject matter, and this access is used skillfully and appropriately. Wherever there is a communicational practice or a professional attitude which discourages this or where there is a failure of a practice that is needed for this purpose, there is reason to think that the overall understanding of the subject matter is affected adversely thereby, even though one may be quite unable to spell out precisely what difference it makes.

Let me return in this connection to the sincerity factor, mentioned earlier as a value at the basis of the *aporia* itself which makes inquiry possible, so that I can point out briefly just how important that one moral factor can be. In a science, everything said about the subject-matter in a publication which one expects others to take seriously should be said responsibly and sincerely, which is to say that lying, misdirection, evasion, waffling, fudging, and other forms of deliberate or tolerated misrepresentation -- in short, any of the many forms of insincerity -- are the most fundamental of all violations of the communicational norms of scientific inquiry. Secrecy is a limitation on science: where secrecy begins science ends, strictly speaking, but that is a limitation on the scope of inclusion of a scientific community, and although necessarily crippling to whatever extent it is practiced, it is not secrecy but rather insincerity -- lying in its most general form -- that degrades and tends to kill science by poisoning it insofar as it enters into it effectively. Why? Because no real subject-matter of any importance can be understood from the perspective of a single person -- reality has facets -- but is essentially a matter of the coordination of multiple perspectives on the same thing, and lying introduces pseudo-perspectives that tend toward defeating attempts within a scientific community to establish a coherent coordination of the perspectives available at a given time, thus deracinating inquiry by destroying the integrity of its connection with its subject-matter as its ultimate source of control.
Although this barely scratches the surface of the pre-logical moral considerations at the basis of inquiry, it is enough to suggest how the Peircean philosopher of science might attempt to account for the success of some fields in the sciences, namely, by claiming that in addition to exhibiting a reasonably high degree of conformity to logical norms in the content of its publications and other communications, such fields also will exhibit in their communicational practices -- both in general and especially as regards formal publication -- conformity to communicational norms that are conducive to encouraging and enabling access by all concerned to the means both of making formal claims of findings to their peers and of responding critically to claims made where criticism seems to be justified.

Now, whether this thesis about the reasons for the overall success of inquiry in a given field is true or not is a matter of fact. To investigate the truth of it would require the development of a hypothesis about the ideal moral code of communicational enablement and control that one would expect to find in a flourishing intellectual enterprise, along with reasons as to why one would have such an expectation. This may sound more daunting than it actually is, though, if the function of such a moral code is not borne in mind: to enable and encourage access to and critical control of the ongoing process of developing and articulating the structure of elements which are under the control of the logical norms of inquiry. The reason it should not be especially difficult to do this is that the appeal would be primarily to considerations which are already familiar to all of us through our daily practices of intellectual life, regardless of what our special field might be, and the method used to develop it would be the Socratic method of reminder and peer criticism.

NOTES

<1> This paper first appeared, somewhat abbreviated, as the Presidential Address at the December 28, 1999 meeting of the Charles S. Peirce Society in Boston, Massachusetts in conjunction with the annual meeting of the Eastern Division of the American Philosophical Association.

<2> I know of no basis in Peirce's writings for imputing a conscious allegiance to such a tradition. He does in later life come to an appreciation of Plato which seems absent earlier: for example, he acknowledges that Aristotelianism can fairly be regarded as a species of Platonism, after first remarking that his own philosophy is a species of Aristotelianism, and he remarks of his pragmatism that "Socrates bathed in these waters". But my interpretation is not based on occasional comments of that sort.

<3> This first occurred to me in connection with Dewey many years ago and I am still inclined to think of it in terms of the pragmatist tradition generally, but to put it in these terms would require a commonly understood conception of what pragmatism is, and that is too much in dispute at present for that to be feasible in a short paper. It is possible, though, that a well developed conception of the Socratic
tradition might in due time make it possible to conceive the pragmatist tradition more effectively.

<4> A copy of Jeff Kasser's paper is available on-line at the Peirce Arisbe website: http://www.door.net/arisbe/menu/library/aboutcsp/kasser/psychol.htm

<5> It is true that the sign relation, which is basic in Peirce's semiotical logic, is a generalization of the conception of the functional role of the syllogistic middle term, and the Aristotelian *dictum de omni* is a kind of foreshadowing of that generalization. But Peirce's logic cannot be understood in a purely formalistic way alone.

<6> Apology 21d. . . . oun ouk oida, oud' oiomai.

<7> From the moral point of view, the Socratic tradition is based on a diagnosis of what Aristotle later referred to as the "tragic flaw" -- the fault line, as it were -- in the character of the doomed heroic figures in the Greek tragedies, which the Greeks commonly identified as being the arrogance associated with the moral, legal, and religious crime of *hubris*, which is essentially the refusal to recognize limits in action. By the time Plato was writing, shortly after the Peloponnesian war, which was marked by lunacies of Athenian *hubris* from beginning to end, the recognition of the flaw as especially problematic in Greek life generally was a commonplace, as was the understanding of it as involving a confusion of the human and the divine. Thus the Socratic logical tradition was originally driven at least in part by the aim of diagnosing the confusion in human self-understanding which set the Greeks on paths of self-destruction again and again, and of providing a kind of therapeutic solution for it. The inducement of the dialectical *aporia* is described as having purgative value, for example, and the use of medical comparisons in connection with dialectic is extensive. We cannot pursue that aspect of it here, though.

<8> For our purposes, the significance of the religious background -- the story about the Delphic Oracle and Socrates' interpretation of this as a vocational call -- lies in the invocation of the god Apollo in particular, who was the god most closely associated with the virtue of self-control (sôphrosunê, temperance, moderation, sanity). The Apollonian dictum "Know thyself" was commonly understood to mean "Remember that you are only human, not a god!"

<9> Aristotle seems never to have understood what Socrates was doing, as Plato presents him, which shows most obviously in the difference between Socrates' robust conception of dialectic and the feeble and relatively trivial analogue of that as it appears in Aristotle. The root of their difference was in the logical wedge which Aristotle introduced by distinguishing *epistêmê* from *technê*. In Socratic-Platonic usage "*epistêmê*" expresses a craft conception of knowledge, and *epistêmê* and *technê* have the same logical grammar, whereas in Aristotle craft is relegated to an inferior status because it involves production. This makes it impossible for the virtues to be treated as crafts, and thus disconnects *sophia* from
technê, too. Epistêmê is associated primarily with formally (syllogistically) structured understanding rather than regarded as a know how of argumentation, and sophia is identified with epistêmê plus nous (intuition of the truth of first premises). Thus begins the tradition of conceiving science as the systematically arranged product of inquiry rather than the critically controlled process of inquiry, and with that the implicit canonization of epistemologically conceived theory of understanding, which is concerned with the principles of assessment of putative products of inquiry to ascertain whether or not they truly deserve treatment as being knowledge in virtue of their method of derivation. Currently prevailing philosophy of science is still firmly in this camp, which became extraordinarily well-entrenched academically in the U.S. during the 30's and 40's. That Peircean philosophy of science is concerned primarily with science as process rather than product seems clear enough and justifies the turn to the Socratic tradition for an understanding of his approach. However, it should also be noted that the issue is complicated by Peirce's insistence in the 1890's on the importance of not conflating theory and practice.

<10> The Sophists were probably also indebted to these same argument traditions to some extent, but their more fundamental debt was to the poetic/rhapsodic tradition. Socrates' relation to the Sophist tradition (as well as the poetic tradition) is of the first importance, but it is both too subtle and too complex to discuss here.

<11> "The feeling which gives rise to any method of fixing belief is a dissatisfaction at two repugnant propositions. But here already is a vague concession that there is some one thing which a proposition should represent. Nobody, therefore, can really doubt that there are realities, or, if he did, doubt would not be a source of dissatisfaction." (CP 5.384)

<12> Classical Scepticism, whether in the Pyrrhonian or the Academic tradition, was based on something very like the Socratic aporia and almost certainly has its ancestry there rather than in the scepticism of the Sophists. The Sceptics, though, did not seek to overcome the aporia through subsequent inquiry (or did not believe that it could be overcome) and prized instead the "peace of mind" or ataraxia ("unperturbedness") which the "suspense of judgment" could supposedly induce. This result surely required something more than the aporia itself could provide, though, since the people whom Socrates himself "numbed" with his "torpedo fish" technique did not respond as if tranquilized by it. But however that may be, in cultivating the aporia at all, classical scepticism assumed truth, albeit unknowable truth, which is importantly different from the contemporary scepticism which simply dispenses with the idea of truth. This latter view aligns scepticism about science with the Sophist tradition rather than with classical Scepticism.

<13> The moral import of this will be more clear, perhaps, if you consider an example where the object or subject-matter is a person or persons whom one finds oneself unable to understand because of responses which are seemingly evidential of inconsistent properties of their thinking: think of how easy it is to dismiss someone's intelligence by this sort of ad hoc logical bifurcation, which leaves
nothing to be explained. Cognitive practices in connection with morally neutral subject matter take on moral import, too, when disagreements with others about the unitary or non-unitary character of shared subject matter start raising questions that need to be resolved.

<14> Acceptance is the actual embedding of the proposition accepted as a premise or presupposition supporting a further conclusion, the acceptance of which -- if it actually does occur -- embeds the first yet more deeply, and so on. The more deeply embedded the more difficult it becomes to recall what it is that is being taken for granted, but this does not affect the actual logical status of a given proposition: if it did there would be no point in attempting to recover the understanding of what has been taken for granted when something goes wrong and the assumptions responsible are being sought for. Findings also become cumulatively embedded by functioning in the design of increasingly more sophisticated instruments of observation.

<15> Professional publication is always properly addressed "to whom it may concern", i.e. to others with the same commitments to inquiry into the same subject matter, whoever they may be (some of whom may not yet be born), not to the general public. Any such person implicitly addressed is a peer of the person addressing the claim. This can be explicated further -- there is no space to do it here -- but it should be noted that, strictly speaking, there is no way of identifying a professional peer in a general way other than as someone, X, to whom one's publication is addressed, leaving it to such persons to identify themselves as among the addressees by responding as a peer responds. This is one of the implications of the abandonment of the pretense to the god's eye view. The concept of an intellectual peer and of peer criticism is extraordinarily important for understanding what critical control actually is at the social level, since it reduces entirely to practices of responsible peer criticism. Practices that go under the label of "peer review" in current intellectual life should not, however, be assumed always to be a part of the peer-based critical control system. In fact, these are usually crippled forms of peer criticism at best, and in some fields the term "peer review" is used for practices which are actually attacks on peer-based critical control. I am addressing that topic in other work and cannot pursue it further here, but it is worth remarking that I find almost no traces of philosophical discussion anywhere on the topic of peer review or the rationale of peer criticism, notwithstanding its obvious import for critical control practices, which is surely another symptom of something amiss in philosophy of science as usually conceived at present.

END OF: Ransdell, "Peirce and the Socratic Tradition"
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