

# Peirce's Ethics of Terminology

Men, the principal occupation of whose lives is finding out the truth, are called *scientific men*; and their occupation is called *Science* . . . .

*The New Elements of Mathematics*, IV: 188, 1904

The History of the human intellect has been one of my chief interests, especially in reference to the physical and philosophical sciences. Here, I have always gone to the sources.

*The New Elements of Mathematics*, IV: ix, 1902

My philosophy may be described as the attempt of a physicist to make such conjecture as to the constitution of the universe as the methods of science may permit, with the aid of all that has been done by previous philosophers.

MS 867: ISP 4, 1895

. . . Each chief step in science has been a lesson in logic.

"Illustrations of the Logic of Science," P 120, 1878

When I decided to prepare an account of this topic, I expected that it would be an instructive but reasonably brief exercise in locating a fairly narrow theme in Peirce's late works. Luckily, for the sake of thoroughness I scanned the corpus of Peirce's work as available in the archive at the Institute for Studies in Pragmaticism at Texas Tech University. Of course, I knew that the Ethics of Terminology was important to Peirce. I have been surprised to find out that it is very important, and that it is not simply a late theme in his work; it is instead a significant aspect of the science of philosophy, as Peirce understood that matter, and as such, it is an important element in Peirce's entire career. Moreover, the theme is not simply a minor late afterthought or aside. In Peirce's hands, it is a culmination of scientific traditions antedating him by at least two centuries. Peirce's development of the logic of scientific terminology is not a precursor of any contemporary discipline or technique. It is a well-developed heir of a long-standing ancestry, and it is a matter concerning which some relevant contemporary disciplines are considerably

below Peirce's level. Hence, in this matter as in others, Peirce can help us learn how to solve relevant present problems.

One might also be tempted to regard this theme in Peirce's works as being strictly a philosophical matter, as "philosophy" is often understood today (as a nonscience, part of the "humanities"). This is dead wrong, for it was as a scientist that Peirce studied this topic, and it was as a man of science that he proposed that what he had learned from natural science be brought into philosophy as a cure for an incapacitating disease (philodoxy) from which philosophy and other disciplines suffered and still suffer. The means by which he achieved his insights into this theme and its consequences may also be something of a surprise. It has been known for some time that Peirce was a distinguished practicing scientist, and that he was a master mathematician, and a devoted student of the history of science and of the biography of science. But while acknowledging these factors, many Peirce scholars have thought of these matters as somewhat separate from his principal work which is often taken to be in philosophy and logic. This research on his *Ethics of Terminology* will further confirm that Peirce was first a man of science, who was a master of mathematics, of the history of science (including the history of philosophy, which he considered to be a science), and of science biography (biography of leading scientific figures, including philosophers). It is time to fully dismiss the notion that his work in natural science, in history of science studies, or in biographical studies were pastimes in which he was interested only in a kind of recreational sense, or the notion that any kind of firm wall can be constructed between his scientific and philosophic life. I hope my account of Peirce's *Ethics of Terminology* will add to the growing body of evidence that will tend to confirm those conclusions for you. In order to trace this evidence, I must begin with a series of reminders about parts of the history and development of scientific terminology, a history concerning which, as we shall see, Peirce was well informed. Thus, I find myself continuing a general line of research pioneered by Carolyn Eisele (in S 387-412), Victor Lenzen (in S 816-827), Max Fisch (in S 483, 487, 489, 491), and Thomas Cadwallader (in S 227, 228, 230).

## I. Development of Scientific Terminology in Biology and Chemistry

We backtrack to the seventeenth century, and give particular attention to the condition of chemistry. At this time, and for quite some time later, before the hard work required to establish a systematic chemical

terminology, recommended by its logical coherence and the fact that the community of chemists had been brought to objective agreement about it, the linguistic condition of chemistry was chaotic. Terms and names in chemical textbooks were a matter of individual and arbitrary choices of authors, often for self-serving reasons. Alchemy was still alive, and one could characterize its approach in terminology and other matters as a clear instance of the "Charismatic method," a technique in which the goal is to serve an individual's reputation or to seek to promote an intellectual fashion for selfish reasons, instead of seeking only the truth, independently of personal preferences or preconceptions. Specifically, alchemists (and chemists also — the distinction was not yet firm) intentionally changed terms for substances to keep secret for themselves their presumed capabilities. If one remembers the pragmaticistic maxim, and applies it here, one sees that the consequences of this intentional and accidental confusion of terms was that an objective approach to chemistry was virtually impossible, because a community of objective minds could not communicate, and thus science, which is a community of scientific intelligences, could not exist. (Crosland, p. 94) What existed was a clear example of the condition Peirce called nominalism — the resolve to settle questions through arbitrary or selfish means instead of through objective procedures.

Francis Bacon, a scientist from this period, was in part reacting to this kind of condition when he wrote in the *Novum Organum* (1620) the following diagnosis.

For men believe that their reason governs words; but it is also true that words react on the understanding; and this it is that has rendered philosophy and the sciences sophistical and inactive. Now words being commonly framed and applied according to the capacity of the vulgar, follow those lines of division which are most obvious to the vulgar understanding. And whenever an understanding of greater acuteness or a more diligent observation would alter those lines to suit the true divisions of nature, words stand in the way and resist the change. Whence it comes to pass that the high and formal discussions of learned men end oft times in disputes about words and names; with which (according to the use and wisdom of the mathematicians) it would be more prudent to begin, and so by means of definitions reduce them to order. (*Novum Organum*, p. 40)

In this passage are several themes we shall meet again in Peirce: words and men mutually influence each other; good thought requires a good language; arbitrariness and sophistry in terminology produce arbitrariness and sophistry in an entire subject field; a good terminology is not a natural language but is a created language descriptive of real facts or relations. Elsewhere, Bacon surely employed a version of the pragmaticistic maxim in speaking of ways in which a good system of concepts (an objective terminology) can be distinguished from inadequate, arbitrary systems.

Wherefore, as in religion we are warned to show our faith by works, so in philosophy by the same rule the system should be judged by its fruits, and pronounced frivolous if it be barren; more especially so if, in place of fruits of grape and olive, it bear thorns and briars of dispute and contention . . . Signs are to be drawn from the increase and progress of systems and sciences. For what is founded on nature grows and increases; while what is founded on opinion varies but increases not. (*Novum Organum*, p. 52)

No doubt the religious reference is to that early pragmaticist, Jesus the Epistemologist, who is reported to have said: "Beware of false prophets, which come to you in sheep's clothing, but inwardly they are ravening wolves. Ye shall know them by their fruits." (Saint Matthew, 7:15-16, King James Version.) In addition to exhibiting a pragmaticistic tendency, we also see evidence of Bacon's antinominalism.

The next seventeenth century man we wish to consider is John Locke, in many ways a scientist-philosopher similar to Peirce's experience and outlook. Locke's *Essay Concerning Human Understanding*, published in 1690, was one of Peirce's favorite works. In Book III, we find Chapter X entitled "Of the Abuse of Words." This entire chapter, with the notes to be found in Alexander Campbell Fraser's edition of 1894, bears many similarities to Peirce's Ethics of Terminology, especially if one also considers Chapter XI entitled "Of the Remedies of the Foregoing Imperfections and Abuses of Words." Locke's diagnosis resembles that of Bacon before, and of Peirce's yet to come. Locke goes beyond Bacon by providing a more extensive listing of rules for correcting "abuses of words." I shall not summarize Locke's position, for many of its principal points are presented in better form by Peirce. But it is important to

note that Locke added one item that is not found in Bacon, which is much further developed in Peirce. It is quite likely that Peirce received some inspiration from Locke in this matter, which is neatly given in this passage from the *Essay*.

For language being the great conduit, whereby men convey their discoveries, reasonings, and knowledge, from one to the other, he that makes an ill use of it, though he does not corrupt the fountains of knowledge, which are things in themselves, yet he does, as much as in him lies, break or stop the pipes whereby it is distributed to the public use and advantage of mankind. He that uses words without any clear and steady meaning, what does he but lead himself and others into errors? And he that designedly does it, ought to be looked on as an enemy to truth and knowledge. And yet who can wonder that all the sciences and parts of knowledge have been so overcharged with obscure and equivocal terms . . . . (*Essay*, pp. 149-150)

The new element here is Locke's charge that an intentional misuser of terminology is guilty of a serious moral error — that is, here Locke has put his hand on an ethical aspect of terminology and of science. Since Peirce saw the same thing about scientific terminology, but since he also saw terminology and associated matters as semioses, we may be able to conclude that Peirce improved upon Locke's insight on this point by showing us that there is a moral dimension in semiotic, the objective (scientific) study of semioses. Peirce's improvement can be understood as the claim that there is a crucial moral component in the type of semiosis known as scientific.

In seeking lessons from the history of science for developing his *Ethics of Terminology*, Peirce looked into what had happened in geography, medicine, mineralogy, but especially biology and chemistry. Peirce had studied with the great biological taxonomist Agassiz at Harvard, and at the same institution he took the first summa cum laude graduate degree in chemistry. Throughout his life he continued often to identify his profession as that of "chemist."

What chief steps had happened in biological and chemical science that caused Peirce to think that the history of the development of terminology in these studies could provide important lessons for logic? I have already

mentioned the chaotic state of early chemical discourse — the same condition existed in biology before the terminological reforms proposed by Carl Linne (Linnaeus) early in the eighteenth century. In his work Linnaeus proscribed names of sentimental association, adopted Latin terms descriptive of organisms, and regarded it as a “religious duty” to preserve in generic terms the names of famous biologists (Crosland 139-140). The work of Linnaeus was an inspiration to the first important work proposing terminological reform in chemistry: the *Methode de nomenclature chimique*, by Lavoisier, Guyton, and Fourcroy. We note that this work was also influenced by Condillac, a contemporary French philosopher, who in turn had received a lot of inspiration from the ubiquitous John Locke. In his introduction to this book Lavoisier listed the principles of the reforms it recommended and the philosophical thinking behind these ideas (much of which derived from Condillac’s book on logic, a piece Lavoisier warmly recommended to young men who wanted to study the sciences). Lavoisier stressed that languages were not simply means of expressing ideas, but were analytical tools by means of which men went from the known to the unknown. Since languages were indeed instruments of thought, he thought it important that the instrument be the best possible. An imperfect language could transmit false ideas, while a language well made for the purposes of science would stay close to the “march of nature.” Creating such a perfected language would consist in expressing truthful results of inquiry in words. As Fourcroy stated later in the *Methode*, “This nomenclature might therefore be regarded as in some way an inventory of the contemporary state of chemical knowledge.” (Crosland, pp. 177, 184)

That a fairly elaborated scientific philosophy accompanied the proposals of the *Methode* can be observed in this comment by Lavoisier.

If languages are really instruments fashioned by men to make thinking easier, they should be of the best kind; and to strive to perfect them is indeed to work for the advancement of science . . . this method which must be introduced into the teaching of chemistry is closely connected with the reform of its nomenclature. A well-composed language adapted to the natural and successive order of ideas will bring in its train a necessary and immediate revolution in the method of teaching . . . we shall have three things to distinguish in every physical science: the series of facts that constitute the science,

the ideas that call the facts to mind, and the words that express them. The word should give birth to the idea; the idea should depict the fact. (Hogben, p. 28)

Notice that these principles call for a constructed language, not use of a living or natural language. Hence, it is clear that one of the reasons that Linneaus and Lavoisier chose Latin (aside from its fairly universal scholarly use, already containing some viable well-formed terminology) was to be found in its status as a "dead" language. This meant that it was relatively free of emotive associations, and that since it was not evolving, as natural languages do according to various principles, it would stay in place more readily once constructed meanings and term-formation principles were developed to standardize nomenclature.

Another important benchmark in the further development of chemical terminology was the Karlsruhe Congress of 1860, hosted by the Technische Hochschule of that city (the home institution of Peirce's colleague in logic, Schroeder). This assembly dealt with the problem of creating a more rational nomenclature for organic chemistry. There no problems were solved but a vigorous discussion was initiated which was a good beginning for the Geneva Congress of 1889 where considerable advances concerning nomenclature were made. The American, Remsen, had been a representative to a commission that was to present recommendations to the Geneva meeting, although in Geneva there was no representative from the United States. Further decisions were made at yet another congress in Geneva, again in 1892. (Crosland, pp. 342, 347)

Similar measures of terminological reform continued in biology during Peirce's life. Here we shall notice some developments in zoology. Although various proposals for additional steps in nomenclature were proposed after Linne's work, no single code had attained international acceptance until in 1889 the First International Zoological Congress, meeting in Paris, adopted a formal code proposed by Raphael Blanchard, a French zoologist. Even this met with further objections. In 1901, at the Fifth Congress in Berlin, a fifteen-person committee submitted a terminological code that is essentially the one in use today. That committee was continued as a permanent body known as the International Commission on Zoological Nomenclature. It is empowered to recommend changes in the Code to the International Congress of Zoology, to render opinions (since 1907) on questions of nomenclature submitted by zoolo-

gists, to compile lists of official names in zoology, or (since 1913) to exercise plenary powers to suspend the rules under certain conditions (Schenk and McMasters, p. 30).

Notice that the experience of both chemistry and biology have the common factors that their terminologies were not created overnight through arbitrary decisions or votes, but are the results of an objective discussion process requiring sustained effort of scientific intelligences usually spanning more than one generation of scholars.

In what follows, it will be abundantly clear that Peirce was well-informed about these terminological reforms and procedures, particularly those in chemistry and biology, and that he proposed to profit from these lessons in logic.

## II. Development of the Ethics of Terminology in Peirce's Works

With the preceding necessary overview of some relevant steps in the development of terminology for biology and chemistry, we can now outline Peirce's further refinement of these ideas. I shall give a chronological review of this theme as it developed in Peirce's thought. In order to conserve space, I can give only brief descriptions of all but the most important passages. For further study a long, but still less than complete, listing of locations of this theme in Peirce's writings is appended at the end.

That the principal parts of the doctrine are present early in Peirce's career is confirmed in two places: in a *Nation* review of 1869 (Porter's book), and in the "Questions" series of three articles published in the *Journal of Speculative Philosophy* in 1868-1869 (P 26-27, P 41). In the third paper of this series (P 41) the long footnote on 'supposito' (p. 194, in the *Journal*) displayed some principles Peirce later elaborated in more detail. Also in this sequence one finds mention of some consequences of the theory of Thought-Signs, many of which are but principles of the Ethics of Terminology in slight disguise. Some samples are: (1) The mind equals a sign developing according to the laws of inference. (2) This revealing lesson from the history of science — "Does not electricity mean more now than it did in the days of Franklin? Man makes the word and the word means nothing which the man has not made it mean, and that only to some man." (3) The word or sign which man uses equals the man himself and thus one's language is the sum total of one's self, for any particular person equals that person's thoughts.



(That is, if any man equals that man's thought-signs, and scientists are men, then as Peirce was to say later, a science equals its language, or its thought-sign flow.) It would be possible to trace out the development of these themes in other early publications and MSS, but that task must be postponed for a later occasion.

Another preliminary echo of the phrase "Ethics of Terminology" can be obtained by looking into the *Century Dictionary* (P 373) to which Peirce contributed thousands of definitions. He wrote the following under the heading of "Ethics":

The science of right conduct and character; the science which treats of the nature and grounds of moral obligation and of the rules which ought to determine conduct in accordance with this obligation; the doctrine of man's duty in respect to himself and the rights of others. (p. 2017)

Although Peirce was not its author, the definition for "Terminology" in the same work might well have been noticed by him — it reads in part:

The doctrine or science of technical terms; teaching or theory regarding the *proper* [emphasis added] use of terms . . . . It is sometimes restricted to the terms employed to describe the characters of things, as distinguished from their names, or *nomenclature*. (p. 6243)

The *Century* appeared in 1889. An extended account of Peirce's Ethics of Terminology was first published in 1903, but some important outcroppings, worthy of brief mention, can be found in the interim period. In a review of Schroeder's book on logic in the *Monist* for 1897 (see P 637), Peirce scolded Schroeder for "wanton disregard of the admirable traditional terminology of logic," a principle which if widely followed would result in "utter uncertainty as to what any writer on logic might mean to say, and would thus be utterly fatal to all our efforts to render logic exact." (P 637: p. 173 n.) Later in the same review Peirce gave several reasons for rejecting Schroeder's proposed new notation for the logic of relatives, and in so doing, came close to later detailed accounts of the Ethics of Terminology. Peirce noted that Schroeder could not *arbitrarily* produce notational reforms (that step

requires objective "general consent" of scientific intelligences working on these problems); he claimed that Schroeder ignored the "principle of priority" that, when ignored, produces only "confusion thrice confounded," as the experience of biologists has shown. (One lesson of biology for logic is to proceed in logic by adopting the convention or sign for an operation or relative recommended by the person introducing it, unless there are substantial reasons against such a proposal.) In MS 951 Peirce presented, for the first time I detected, a set of rules for "philosophical terminology that seem to me to recommend themselves at once to the logic of science and to the ethics of science." This set of four rules contains the following themes. (1) Every scientific conception must have its own name, preferably not a name appropriated for unscientific use. (2) The medieval terminology for logic and philosophy should be preferred if at all possible because in general it was a good terminology. (3) The author or discoverer of a scientific conception has the first right to give it a name, which should be used by all once established. Why did Peirce wish to retain medieval terminology generally? He urged this not because he was romantic about that era (a charismatic or arbitrary, or nominalist reason), but because to reject a fairly well developed terminology, created by a working body of scientific intelligences (as the medievals were in logic) would involve a later generation of scholars in arbitrarily throwing away the results of earlier scientific study, and hence would be a major moral sin against the development of a science.

In a manuscript written on Crane's 1899 Japanese Linen paper (MS 1573 X: ISP 31-34; cf. MS 1573 X: ISP 35 which is non-continuous with ISP 31-34) Peirce showed that the Ethics of Terminology is but an instance of a more general thesis concerning the role of axiological matters in semiotic. It will be necessary to cite the entire passage (I date it as circa 1900) because it shows this more general version of the matter better than any other account I have seen.

And it would seem that every human being, once philosophy can put itself beyond dispute like optics and chemistry, must be more deeply interested, as human being, in that than in any other pure science. When that day comes it will be curious to see whether the philosophers will show their belief in their own love by inviting their own three directive sciences, Logic, Esthetics, and Ethics to guide their deliberation about

terminology. A logic of scientific lingo may be acceptable enough. But the notion of an esthetics of it may provoke a grin. It is of course incompatible with the purpose of terms of science that they should exercise those subtle and unaccountable suggestions that make the chorus of words we love. Yet one might possibly conceive that a system of nomenclature should have a certain classical precision akin to beauty. At any rate, no good writer that nobody who without being a good writer has given any thought to the subject, can deny that there is an ethics of words, and especially of scientific words. Words have their rights as well as their duties, which must not be trampled upon. There is an ethics of words, because words are a social institution. Science, too, is a social business, and cannot prosper without a common understanding as to how words shall be used. But how shall that accord be brought about. There is nothing in which men allow themselves more favoritism than in the use of words. They will not be persuaded to sacrifice their pet words to the whimsies of others. To induce them to yield you must show them that some rational principle is at stake. Such a principle is that of just acknowledgement of their obligations to the man who first imparted to a conception sufficient scientific precision to render it valuable to science and to entitle it to a recognized name and title. The experience of the classificatory sciences of botany and zoology is that the principle of historical priority is the only one that will in practice effect uniformity of usage. The precise formulation of this principle no doubt presents some difficulties; but they are matters of detail. The principle itself is commanded by right feeling, and will receive the assent of every worthy student who once bestows sufficient thought upon the matter. The phrase "sufficient reason," for example, must mean precisely what Leibniz defined it as meaning, and to call that conception by any other name is a high crime and misdemeanor, an offense to science and a stumbling block. The deepest and most powerful causes of the success of the modern physical and natural sciences have been of a moral nature. The greatest of all has been that students of those sciences have sought the truth in perfect singleness of heart. They have never aimed at a foregone

conclusion; and they have always stood ready to dump their entire load of theory as soon as it was fairly and fully contradicted by fact. Another moral factor of their success has been their self-confidence. In place of the ancient *acatalepsy*, a feeling of being so unequal to the task of solving Nature's riddles that it was all worthwhile seriously to attempt it, the modern scientist has been animated by an unwavering faith that whatever natural problem he had in hand would turn out to have a humanly comprehensible solution. But the philosophers have been strikingly lacking in these virtues.

In a review of an ethics book by Sidney Mezes ( in *The Nation*, see P 796 or N III, p. 50) Peirce noted that the terminology used by Mezes was not "reformed," that is, it wasn't a scientific language objectively created to function as such. Then Peirce again presented an outline of a "code of rules" which is quite similar to the comments just quoted at length.

The first of what I consider to be the well-developed lists of rules for the Ethics of Terminology occurred as a very long footnote in MSS 433-434, a chapter in the "Minute Logic" written in 1902. The chapter began with a discussion of the relation between logic and moral matters. That discussion is very pertinent to the question of the relationship of axiology to Peirce's overall account of semiotic, but it is much too complex to summarize in this already over-burdened synopsis. Persons interested in the topic of this paper would be well served to study it and similar writings at length. But for now, I must be content with an account of the Rules for the Ethics of Terminology, as particularly applied to terms in logic, found in this long footnote.

Rule I. Unambiguous Latin terms in which accurate definitions were universally accepted in the scholastic middle ages are to be restricted to those meanings, except as hereinafter provided. For terms of Greek form, the Greek authorities should be followed.

Peirce made this proposal because he believed that a great deal of positive work in providing a sound terminology for logic had already been done by the scholastics, and this work could quickly be reclaimed. He came to this conclusion on the basis of being a very accomplished student of the middle ages, especially in logical aspects.

Rule II. For all philosophical conceptions which the scholastic terminology leaves unsignified additional terms should be provided; and the terms first proposed with adequate definitions, should be acknowledged as terms of philosophy with those definitions . . . .

In this rule Peirce suggested a procedure that would involve objective consent about terms among a community of scientific intelligences embarked upon the study of logic. It is that institution, he assumed, which will "acknowledge" a term and place it under its moral protection, as specifically provided in the next rule.

Rule III. To use as a term of philosophy in one sense an expression which is a term of philosophy in a conflicting sense should be stigmatized as wrong-doing.

Philosophy in particular, but other sciences as well, may be troubled by terms having become ambiguous through having moved from a status as a scientific term into that of a more loosely used vernacular conception. Such terms must also be "reformed," brought back into a well-constructed and non-ambiguous condition. Additional rules given were:

Rule IV. When a conception of philosophy is generalized, a philosophical term signifying it, and consisting of a single word, may be correspondingly generalized, a limiting word being provided to mark the old conception . . . .

Rule V. A system of terms, marking the relations of a system of old conceptions is not superfluous, in case no other such system exists to mark the same relations.

Rule VI. If an existing term of philosophy is so inappropriate as to be a positive hindrance to philosophical study, a new term to replace it will not be superfluous.

Rule VII. Since these rules are intended to further the advance of philosophy, they must not be allowed to stand in the

way of any unmistakable and urgent need of philosophy. But this rule is not to be used as an excuse for evading the spirit of the other rules.

#### Rule VIII. Ambiguous terms should be reformed.

Peirce went on to give an example of applying these rules to the term 'conscience,' tracing its development from the Greeks through the middle ages, to the most recent book on ethics by Professor Mezes which Peirce had just reviewed! He applied the principles of the Ethics of Terminology to Mezes' discussion of 'conscience' showing that Mezes had in fact been immoral in his misuse of this term.

The next complete account to appear came in 1902-1903 in a Syllabus for the Lowell Lectures of 1903. The manuscript for this document (MS 478), which is quite lengthy, did not see print in its entirety (small parts of it did, until Peirce ran out of money for the printer). The Ethics of Terminology was featured in one of the sections printed and distributed (see P 1035) — indeed a copy made its way to Lady Welby eventually. The *Collected Papers* included the section on Ethics of Terminology from the printed Syllabus, but although other excerpts from MS 478 were included, the editors broke the piece into parts and scattered them throughout these volumes, thus ruining the continuity of MS 478, which should now be studied in Peirce's manuscripts as a unit.

The section on Ethics of Terminology in P 1035, the limited printed selections for the Syllabus for the 1903 Lowell Lectures, begins with a solid justification for the need of a scientific terminology in philosophy if that discipline is to develop as a science. This repeats themes we have already discussed, so I proceed directly to the rules for creating and maintaining a scientific terminology in philosophy.

First. To take pains to avoid following any recommendations of an arbitrary nature as to the use of philosophical terminology.

Second. To avoid using words and phrases of vernacular origin as technical terms of philosophy.

Third. To use the scholastic terms in their anglicized forms for philosophical conceptions, so far as they are strictly applicable; and never to use them in other than their proper senses.

Fourth. For ancient philosophical conceptions overlooked by the scholastics, to imitate, as well as I can, the ancient expression.

Fifth. For precise philosophical conceptions introduced into philosophy since the middle ages, to use the anglicized form of the original expression, if not positively unsuitable, but only in its precise original sense.

Sixth. For philosophical conceptions which vary by a hair's breadth from those for which suitable terms exist, to invent terms with a due regard for the usages of philosophical terminology and those of the English language but yet with a distinctly technical appearance. Before proposing a term, notation, or other symbol, to consider maturely whether it perfectly suits the conception and will lend itself to every occasion, whether it interferes with any existing term, and whether it may not create an inconvenience by interfering with the expression of some conception that may hereafter be introduced into philosophy. Having once introduced a symbol, to consider myself almost as bound by it as if it had been introduced by somebody else; and after others have accepted it, to consider myself more bound to it than anybody else.

Seventh. To regard it as needful to introduce new systems of expression when new conceptions of importance between conceptions come to be made out, or when such systems can, in any way, positively subserve the purposes of philosophical study.

### III. Contemporary Implications and Consequences of the Ethics of Terminology

Peirce often asserted that there was no gulf between science and philosophy, perhaps most prominently in his essay of 1901 (P 779) on the nineteenth century's great men of science.

The word *science* was one often in those men's mouths, and I am quite sure they did not mean by it "systematized knowledge," as former ages had defined it, nor anything set down in a book, but, on the contrary, a mode of life; not

knowledge, but the devoted, well-considered life-pursuit of knowledge; devotion to Truth — not “devotion to truth as one sees it,” for that is no devotion to truth at all, but only to party — no, far from that, devotion to the truth that the man is not yet able to see but is striving to attain. The word was thus, from the etymological point of view, already a misnomer. And so it remains with the scientists of today. What they meant, and still mean, by “science” ought, etymologically, to be called *philosophy*. But during the nineteenth century it was only a metaphysical professor of a now obsolescent type, as I hope, who could sit in his academic chair, puffed up with his “systematized knowledge” — no true philosopher, but a mere philodoxer . . . .

It is the man of science, eager to have his every opinion regenerated, his every idea rationalized, by drinking at the fountain of fact, and devoting all his energies of his life to the cult of Truth, not as he understands it, but as he does not yet understand it, that ought properly to be called a philosopher. To an earlier age knowledge was power, merely that and nothing more: to us it is life and the *summum bonum*. Emancipation from the bonds of self, of one’s own prepossessions, importunately sought at the hands of that rational power before which all must ultimately bow — this is the characteristic that distinguishes all the great figures of nineteenth-century science from those of former periods.

If Peirce is taken to be correct on this point, then it implies that many younger contemporary sciences, particularly the human sciences, presently still comparatively undeveloped, can learn from the developmental history of more established sciences. Perhaps the most basic lesson is that to be scientific is to employ objective methods, with all that entails. A large part of this entailment, on Peirce’s view, is the necessity for a carefully constructed objective terminology which is maintained and extended under the moral protection of each community of scientific intelligences, according to the principles presented in the accounts summarized above. To accomplish this end, each discipline should establish institutions such as commissions or codes in order to provide a functional social basis for preservation, creation, and main-



tenance of an objective terminology. Does this begin to sound like a totalitarian arrangement? It surely is to be a selfless one, on Peirce's account. Philodoxy is a form of lack of self-control (self not under control) whereas philosophy or science is a form of self-control (self under control) — at least, Peirce regarded the matter in that way. Thus we see that contemporary disciplines, particularly the human sciences, including semiotics, have an opportunity to learn a major lesson in logic, through Peirce's work, from some "chief steps in science."

A consequence of this essay is that we may be able to use what has been learned here in order to better interpret Peirce's works in philosophy, which were produced (throughout his career) in accord with these principles and procedures. Readers of Peirce have often remarked that he *seems* to have a somewhat dark and complicated terminology. Probably one of the first such objectors was William James. Peirce replied to just such a complaint in a letter to James dated 3 October 1904 (CP 8.286 ff.).

Now I will speak first of my meaning of which you "don't understand a word" and then of what you say.

It is very vexatious to be told at every turn that I am utterly incomprehensible, notwithstanding my careful study of language.

Toward the end of the same letter, Peirce chides James for improper terminological procedures.

[continuing at CP 8.301] It is downright bad morals so to misuse words, for it prevents philosophy from becoming a science [prevents philodoxy from becoming philosophy!]. One of the things I urge in my forthcoming *Monist* paper is that it is an indispensable requisite of science that it should have a recognized technical vocabulary composed of words so unattractive that loose thinkers are not tempted to use them, and a recognized and legitimated way of making up new words freely when a new conception is introduced, and that it is vital for science that he who introduces a new conception should be held to have a *duty* imposed upon him to invent a sufficiently disagreeable series of words to express it. I wish you would reflect seriously upon the moral aspect of terminology.

I suggest that if we can understand Peirce's moral convictions about the very significant place terminology has in science, we may begin to see that *his* terms, like older terms of science, and chemistry in particular, were formed according to well-conceived procedures, with the hope that the terminology may be objective and completely transparent to anyone who knows the subject matter, and the Latin or Greek words, and the system for forming these into terms. Thus, as in chemistry the term 'sulphuric acid' through its pattern of formation, describes, in effect, the real chemical composition of its object, so also Peirce wanted terms that would similarly describe (for well-informed readers) the real observable objects to be found in philosophy in general.

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## REFERENCES

Parts of this essay were presented before the International Congress on Semiotic Terminology, Budapest, Hungary and the Second Congress of the International Association for Semiotic Studies, Vienna, Austria, in the summer of 1979. Participation in these meetings was made possible through a grant from the National Endowment for the Humanities and the American Council of Learned Societies, for which I am grateful. I am also grateful to the Department of Philosophy, Harvard University, for permission to publish the Peirce MSS used in this article. Claude V. Bridges assisted me in locating many of the references used.

Citations of Peirce's published works will follow a method employed in *A Comprehensive Bibliography and Index of the Published Works of Charles Sanders Peirce with a Bibliography of Secondary Studies*, ed. Kenneth Laine Ketner, Christian J. W. Kloesel, Joseph M. Ransdell, Max H. Fisch, and Charles S. Hardwick, Johnson Associates: Greenwich, Connecticut, 1977.

In that bibliography, each work Peirce published is assigned an alphanumeric label: for instance, P 120 is the third paper of the 1878 *Popular Science* series. Since the sequence is chronological, numbers increase as years advance. Numbers preceded by 0 indicate publications by authors other than Peirce occurring roughly during Peirce's life (1839-1914) which are relevant to his work. Numbers preceded by S indicate items from the secondary bibliography which lists studies principally after Peirce's death through 1977. The *Comprehensive Bibliography* also indexes a microfiche edition of Peirce's numerous lifetime publications (available also from Johnson Associates).

Citations of Peirce's works that remained in manuscript or typescript form at the time of his death will follow the numbering system employed in *Annotated Catalogue of the Papers of Charles S. Peirce*, by Richard S. Robin, University of Massachusetts Press: Amherst, 1967, as supplemented by "The Peirce Papers: A Supplementary Catalogue," by Richard S. Robin, in *Transactions of the Charles S.*

*Peirce Society*, 7 (1971), 37-57. The Institute for Studies in Pragmaticism has developed an additional numbering system that facilitates more exact reference to individual pages in each manuscript. The Institute's copy of the Peirce Papers at Harvard University was laboriously checked, with annotations added to the copy to make it contain all the information found in the originals. Each physical sheet in the copy has been given an arbitrary number, consecutive within each separate MS, so that a reference of the form MS 28: ISP 3, would mean the third sheet in the twenty-eighth manuscript identified by Robin. Peirce's manuscripts are readily available for study through their publication in a microfilm set by Harvard University as *The Charles S. Peirce Papers*, Harvard University Library, Photographic Service: Cambridge, 1966, 32 reels. An additional 12 reel set of professional correspondence is also available from the same source.

References to standard editions of Peirce works will employ the following conventions. The initials NEM followed by a number (for volume and page) refers to Carolyn Eisele's edition of *The New Elements of Mathematics by Charles S. Peirce*, Mouton: The Hague, 1976. The initial N followed by a number (for volume and page) refers to *Charles Sanders Peirce: Contributions to the Nation*, ed. Kenneth Laine Ketner and James Edward Cook, Graduate Studies, Texas Tech University: Lubbock, 1975-1979, in three volumes. I shall employ the initials SS, followed by a number for page, to refer to *Semiotic and Significs: The Correspondence between Charles S. Peirce and Victoria Lady Welby*, ed. Charles S. Hardwick, Indiana University Press: Bloomington, 1977. References to *The Collected Papers of Charles Sanders Peirce*, Harvard University Press: Cambridge, 1935, 1958, are by volume and paragraph number. A complete account of the recent availability of several major new tools of Peirce scholarship may be found in *Peirce Studies* number one, *Studies in Peirce's Semiotic*, Institute for Studies in Pragmaticism, P.O. Box 4530, Lubbock, Texas 79409, 1979.

References to "Ethics of Terminology" and related themes in Peirce's Corpus.

Manuscript and published items:

1869

P 41 "Grounds of Validity of the Laws of Logic"

1889

P 373 relevant definitions by Peirce in the *Century Dictionary* ("Ethics" and related words)

1897

P 637 "The Logic of Relatives"

1898

MS 951: ISP 21-23

Circa 1900

MS 1573 X: ISP 31-34

MS 1573 S: ISP 35 (noncontinuous with preceding item)

1901

P 779 "The Century's Great Men in Science," *The Evening Post*

P 796 review of a book on ethics by Mezes (in N at III: 50)

1902

MS 434 (including parts of MS 433) long note on Ethics of Terminology

MS 478 long manuscript draft of a syllabus for 1903 Lowell Lectures (CP breaks this unified MS into many pieces which are scattered in different volumes)  
NEM, III: 273-274 (From MS 431a: ISP 60-61)

## 1903

P 1016 review of Baldwin's *Dictionary*, vol. II, (in N at III: 127) see also a draft of this review at MS 1469: ISP 16-17

MS 881: ISP 45-46

MS 492A: ISP 34-42

MS 479: ISP 23

P 1035 the limited portions of MS 478 that Peirce could afford to have printed for his Lowell lectures of 1903

P 1028 review of V. Welby's book on meaning (in N at III: 143); also in SS at pp. 157-159

SS, p. 14

## 1904

MS 530: ISP 5-6

MS 1476: ISP 6-10

CP 8.287 ff. a letter to William James (this is MS L 224, letter of 3 October 1904)

SS, p. 23

MS 515: ISP 11-14

MS 137

## 1905

P 1078 article on pragmatism in *Monist*

MS 291: ISP 4-5

P 1080 article on pragmaticism for *Monist*

MS 318: particularly ISP 129-131

MS 1589

MS 280

## 1906

P 1124-1125 a discussion article on terminology (see also a partial draft, with significantly different language, at MS 1573: ISP 117-120)

## 1908

SS, p. 69

## 1909

SS, pp. 88-90

MS 200: ISP 25-28

## 1910

Peirce's biographical entry (presumably prepared by Peirce) in *American Men of Science*, ed. J. M. Cattell, The Science Press: New York, p. 364, lists some surprising areas to which Peirce contributed, among them "code of terminology"

Peirce's Reviews of relevant works in *The Nation*:

## 1869

N I, 23: Porter's *Human Intellect*

## 1870

N I, 38: Bain's *Logic*

1879

N I, 58: Rood's *Chromatics*

1889

N I, 75: On the *Century Dictionary*

1890

N I, 83: Ribot's *Psychology*

N I, 97: William's *Our Dictionaries*

1894

N II, 39: Funk's *Dictionary*

N II, 61: Johnson's *Cyclopaedia*

N II, 62: *Basal Concepts*

1899

N II, 184: Holman's *Matter, Energy, Force and Work*

1901

N III, 23: Webster's *Dictionary*

N III, 34: Goblot's *Vocabulaire*

1903

N III, 127: Baldwin's *Dictionary*

Other references cited or used:

Agassiz, Louis. *Essay on Classification*, London, 1859.

Bacon, Francis. *Novum Organum*, 1620. Edition used: *The English Philosophers from Bacon to Mill*, ed. E. A. Burt, Modern Library: New York, 1939.

*The Holy Bible*, King James Version.

Crosland, Maurice P. *Historical Studies in the Language of Chemistry*, Harvard University Press: Cambridge, 1962.

Eisele, Carolyn. *Studies in the Scientific and Mathematical Philosophy of Charles S. Peirce*, Mouton: The Hague, 1979.

Hogben, Lancelot. *The Vocabulary of Science*, Stein and Day: New York, 1970.

Locke, John. *An Essay Concerning Human Understanding*, 1690. Edition used: that edited by A. C. Fraser, Dover reprint: New York, 1959.

Schenk, Edward T., and McMasters, John H. *Procedure in Taxonomy*, Stanford University Press: Stanford, 1956.

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