Ideas, Stray or Stolen, about Scientific Writing, No. 1.

(An unpublished manuscript)*

Charles Sanders Peirce

Bibliographic Note: Charles Sanders Peirce on Speculative Rhetoric

The following paper by the American philosopher and scientist Charles Sanders Peirce (1839-1914) has not been published before. In it he explicates his systematic ideas about rhetoric in a more programmatic way than in any of his previously published writings on the subject.¹ Peirce, who is best known as one of the founders of formal logic, a pioneer in the general theory of signs, and as the founder of Pragmatism, had a prolonged interest in rhetoric, especially the rhetoric of science. This area of his work has been little studied, despite recent interest in his theory of signs in which it constitutes the third and final division of study.² Peirce's theory of rhetoric is referred to in his writings as "speculative rhetoric" as well as "formal rhetoric," "pure rhet-oric," and "methodeutic." This varying terminology resulted from Peirce's search for the best way to communicate his ideas and is an example of the way he conceived rhetoric and science to belong together. He presented his ideas on this subject under the heading of the "Ethics of Terminology," an area which must also be counted as an aspect of his theory of rhetoric.³ The other branches of the general theory of signs, referred to in the following paper as "speculative grammar" and "speculative critic," also have different designations in his writings, the former being sometimes "formal grammar," "pure grammar," or "stoicheiology," i. e., the "doctrine of elements," and the latter sometimes being "critical logic," "logic proper," or simply "Critic." Peirce retained this triadic division of his science of signs through the years even while seeking to work out each part with more completeness.4

A few comments on the three divisions of the general theory of signs might be helpful to the reader. Peirce saw each division within an architectonic whole. Thus speculative grammar, the first division, provided the groundwork for the next two divisions, with the third relying on both previous divisions. Speculative grammar describes the way in which something can be a sign which means that it elaborates signs' general structure and meaning. Peirce's well-known analyses and divisions of signs belong to this study. Because it explicates the presuppositions of assertions of any kind Peirce equated speculative grammar with

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epistemology (2.206). The second branch of the theory of signs explicates the way a sign can (and cannot) be related to objects by classifying arguments and determining their validity and force. It is, Peirce says, "the formal science of the conditions of the truth of representations" (2.229) and is equivalent to logic in the usual sense of the term. The actual truth of assertions is established in situations such as exneriment. Scientific reasoning here demands more than Critic because, Peirce points out, any hypothesis is justified from the standpoint of Critic if it explains the facts.⁵ Hence Peirce developed the idea of speculative rhetoric, which studies the methods that ought to be followed in the pursuit, exposition, and application of truth. In broader terms this third branch of the theory of signs is the "general doctrine of methods of attaining purposes, in general" (2.108). These purposes could be directed to scientific, moral, or aesthetic ends. Here speculative rhetoric meets with Peirce's theory of norms and the normative sciences.⁶ The problem of ends became an overriding concern in the period of Peirce's life after around 1900; the following paper bears no date but was almost certainly written about 1904.

Currently, a new edition in chronological order of Peirce's writings is in preparation which will include the following paper as well as other related writings. It is hoped that publication of this paper here will help to introduce Peirce's theory to a wider circle of philosophers and rhetoricians at a time when interest in the rhetoric of science is growing. The manuscript is numbered 774 in Robin's catalogue. The pages of this manuscript are numbered consecutively "Rh. Sc. 1" through "Rh. Sc. 16." These pages are indicated below by slashes (/) inserted in the text. The title is Peirce's own.

I wish to thank the Department of Philosophy at Harvard University for granting permission to publish this manuscript, and the editors of the Peirce Edition Project for their friendly support in this effort. I wish especially to thank Professor Max H. Fisch, Peirce Edition Project, Indiana University-Purdue University at Indianapolis for his help in checking the manuscript.

John Michael Krois

Ideas, stray or stolen, about scientific writing. No. 1.

Scientific journals are publishing, nowadays, many discussions concerning two matters which the late enormous multiplication of true scientific workers has raised to vital importance; namely, the best vocabulary for one or another branch of knowledge, and the best types of titles for scientific papers. Both are plainly questions of rhetoric. To a good many persons of literary culture it has hitherto seemed that there was little or no room in scien-

ific writings for any other rule of rhetoric than that of expressng oneself in the simplest and directest manner, and that to talk of the style of a scientific communication was somewhat like alking of the moral character of a fish. Nor can one fairly say hat this view of the humanists has been a particularly narrow /iew, since by a good many persons trained to the scientific life t coupling of the ideas of rhetoric and of science would hitherto equally have been regarded as a typical example / of incongruty. Yet now and here we come upon this phenomenon of two juestions of rhetoric agitating the surface of the scientific deep; ind looking a little beneath, we surprise the severest sciences loing homage to rules of expression as stringent and strange as inv of those by which the excellence of compositions in Chinese or in Urduw is judged. A proposition of geometry, a definition of a botanical species, a description of a crystal or of a telescopic rebula is subjected to a mandatory form of statement that is artificial in the extreme. Evidently, our conception of rhetoric has got to be generalized; and while we are about it, why not remove the restriction of rhetoric to speech? What is the principal virtue ascribed to algebraical notation, if it be not the rhetorical virtue of perspicuity? Has not many a picture, many a sculpture the very same fault which in a poem we analyze as being "too rhetorical." Let us cut short such objections by acknowledging at once, as an ens in posse, a universal art of thetoric, which shall be the general secret of rendering signs effective, / including under the term "sign" every picture, diagram, natural cry, pointing finger, wink, knot in one's handkerchief, memory, dream, fancy, concept, indication, token, symptom, letter, numeral, word, sentence, chapter, book, library, and in short whatever, be it in the physical universe, be it in the world of thought, that, whether embodying an idea of any kind (and permit us throughout to use this term to cover purposes and feelings), or being connected with some existing object, or referring to future events through a general rule, causes something else, its interpreting sign, to be determined to a corresponding relation to the same idea, existing thing, or law. Whether there can be such a universal art or not, there ought, at any rate to be (and indeed there is, if students do not wonder-

fully deceive themselves) a science to which should be referable the fundamental principles of everything like rhetoric.--a speculative rhetoric, the science of the essential conditions under which a sign may determine an interpretant sign / of itself and of whatever it signifies, or may, as a sign bring about a physical result. Yes, a physical result; for though we often speak with just contempt of "mere" words, inasmuch as signs by themselves can exert no brute force, nevertheless it has always been agreed, by nominalist and realist alike, that general ideas are words,---or ideas, or signs of some sort. Now, by whatever machinery it may be accomplished, certain it is that somehow and in some true and proper sense general ideas do produce stupendous physical effects. For it would be a miserable logomachy to deny that a man's purpose of going down to his office causes him to go there; well, a purpose is a general idea. and his going is a physical fact. If it be objected that it is not the general ideas, but the men who believe in them, that cause the physical events, the answer is that it is the ideas that prompt men to champion them, that inspire those champions with courage, that develope their characters, and that confer upon them a magical sway over other men. It is necessary to insist upon the point for the reason that ideas cannot be / communicated at all except through their physical effects. Our photographs, telephones, and wireless telegraphs, as well as the sum total of all the work that steam engines have ever done, are, in sober common sense and literal truth, the outcome of the general ideas that are expressed in the first book of the 'Novum Organum.'

The speculative rhetoric that we are speaking of is a branch of the analytical study of the essential conditions to which all signs are subject,—a science named *semeiotics*, though identified by many thinkers with logic. In the Roman schools, grammar, logic, and rhetoric were felt to be akin and to make up a rounded whole called the *trivium*. This feeling was just; for the three disciplines named correspond to the three essential branches of semeiotic, of which the first, called *speculative grammar* by Duns Scotus, studies the ways in which an object can be a sign: the second, the leading part of logic, best termed / *speculative critic*, studies the ways in which a sign can be related to the bject independent of it that it represents; while the third is the speculative rhetoric just mentioned.

In a publication like this, all scientifically thorough discussion of any but the smallest points would be out of place. We have no room for more, nor has the average reader .-- reading the journal luring his journey up-town, let us suppose,-leisure for anything more than such ideas, serious or light, as might be struck out in conversation between two clever, but two probably tired and hungry, companions. Of the writer it is to be expected that he should have carried through as exhaustive a study as possible of every point he touches; and certes he should not make a secret of any truth merely because its study is difficult. Only, when he comes to deliver his ideas, good manners require that he should dismount from any high horse, and submit his conclusions as views that the reader is free to accept or reject, as may seem good to him. If the proposition that the circle cannot be squared happens to be pertinent to the matter in hand. / by all means let him enunciate it. But, seeing that he cannot demonstrate it here, let him not have the air of denving the reader's perfect logical right to entertain the contrary hypothesis. Nor should the writer aver his own belief in the theorem, since the peculiar notions of an anonymous individual have no interest for the public. He may, at most, report that the impossibility of the circle's being squared is a proposition that has recommended itself to men generally esteemed competent: whereupon the reader of good sense will feel sure, as well he may, that no such intimation would have appeared in these columns unless the proposition had been a fruit ripened under the blaze of arduous investigation. But the day of editorial omniscience is past.

Of the three branches of semeiotics, the two first, the speculative grammar and critic have been greatly elaborated. The speculative rhetoric has been comparatively neglected; yet enough has been / done by two or three analysts to give results comparable in extent and value with the pure scientific contents of an ordinary text book on logic,—enough, therefore, to afford no little guidance in forming opinions about ordinary rhetoric, and to give a notion of what the general character of its influence upon ordinary rhetoric is likely to be. It must not be supposed that there is anything of the nature of metaphysical speculation in this speculative rhetoric. 'Speculative' is merely the Latin form corresponding to the Greek word 'theoretical,' and is here intended to signify that the study is of the *purely* scientific kind, not a practical science, still less an art. Its most essential business is to ascertain by logical analysis, greatly facilitated by the development of the other branches of semeiotics, what are the indispensible conditions of a sign's acting to determine another sign nearly / equivalent to itself. A few examples have been remarked of artificial signs automatically reproducing themselves without being intended to do so. An engraving may make a vague copy of itself upon the tissue-paper guard placed over it. But these are confined to too narrow a class to illustrate anything more than the possibility of such a thing. The reproduction of signs in intended ways is, of course, common enough, but is as mysterious as the reciprocal action of mind and matter. Some of the requisites of communication which analysis has signalized are obvious enough; others are not so. Thus, it is said to be a necessary result of the analysis that the object represented by the sign, and whose characters are independent of such representation, should itself be of the nature of a sign, so that its characters are not independent of all representation. This is intelligible from the point of view of pragmatism, according to which / the objects of which ordinary general propositions have to be true, if they are to be true at all, are the body of future percepts. But percepts are themselves signs, whether veracious or not. The fact that the characters of the future percepts are independent of what they have been expected to be does not in the least prevent their being signs. This result of analysis, that every object represented must be of the nature of a sign, is important (if accepted as true) for certain kinds of composition. Another remarkable result is that an entirely new sign can never be created by an act of communication, but that the utmost possible is that a sign already existing should be filled out and corrected. Thus, tell me that there is a diamond mine at a place I never heard of and of whose whereabouts I have not the slightest idea, and you tell me nothing; but tell me that I can find it by / following out a path, the entrance to which I know

well, and you are simply filling out my knowledge of that path. So you can convey no idea of colors to a man born blind; yet a certain optical investigator of high repute, domestic and foreign, is color-blind; and although the word red cannot have the same meaning to him that it has to the rest of us, yet he really knows more about the sensation than you and I are likely to do, in that he knows very exactly its relations to the sensations that he does possess. A writer who should lose sight of this principle would be in danger of becoming quite unintelligible. It is needless to go further to show that the sort of help that one who wishes to learn to write well can promise himself from the study of speculative rhetoric will not consist in any hitherto unheard of devices for conveying ideas to the reader's mind, but rather in clearer notions of the lineage and relationship of the / different maxims of rhetoric, such notions carrying with them juster judgments of the several extents and limitations of those maxims.

It would be needless, we trust, to interpose any warning against inferring that a theory of rhetoric is false because a given advocate of it exhibits little grace, dexterity, or tact in the handling of language. For we all know how seldom an author treating of a particular kind of skill is found to be remarkably endowed himself with the skill he discourses about. Many a time, it has been precisely his consciousness of natural deficiency in that respect that has led him to study the art.

The general trend of the modifications that would be introduced into ordinary rhetoric by regarding it as a structure reared upon the foundation of the abstract study aforesaid would be determined in great part by the circumstance that the immediate basis of this / ordinary rhetoric would be conceived to be merely one of a large number of special studies, or rather as one group of a large number of groups of special studies. For the specialization would be of three modes; first, according to the special nature of the ideas to be conveyed; secondly, according to the special class of signs to be interpreted,—the special medium of communication; and thirdly, according to the special nature of the class of signs into which the interpretation is to take place. The leading division of the first mode would be into a rhetoric of fine art, where the matter is of feeling mainly, a rhetoric of practical persuasion, where the chief matter is of the nature of a resolve; and a rhetoric of science, where the matter is knowledge. The rhetoric of science would be subdivided into a rhetoric of the communication of discoveries, a rhetoric of scientific digests and surveys, and a rhetoric of applications of science to special kinds of purposes. The rhetoric of communi-/ cations of discoveries will vary again according as the discoveries belong to mathematics, to philosophy, or to special science; and further varieties, by no means insignificant will result from the subdivision of the sciences. One principal kind of rhetoric resulting from the second mode of specialization would be the rhetoric of speech and language; and this again would differ for languages of different families. The rhetoric naturally adapted to a Shemitic tongue must be very different from a rhetoric well suited to Arvan speech. Moreover, each Arvan language has, or ought to have, its special rhetoric differing from that of even closely allied languages. German and English are marked instances of this. The rules of the common run of the books, based upon rules of Greek and Latin rhetoric, are adapted to English compositions of highly artificial styles alone. Fancy writing a fairy tale in periodic sentences! One effect of / basing rhetoric upon the abstract science would be to take down the pretensions of many of the rhetorical rules and to limit their application to a particular dialect among the dialects of literary English,-that one which is founded on classical studies. At the same time, it would emphasize the necessity of the studies of Greek and Latin as the only way of gaining a mastery of an extremely important dialect of our language. The principal kind of rhetoric resulting from the third mode of specialization is the rhetoric of signs to be translated into human thought; and one inevitable result of basic* rhetoric upon the abstract science that looks on human thought as a special kind of sign would be to bring into high relief the principle that in order to address the human mind effectively, one ought, in theory, to erect one's art upon the immediate base of a profound study of human physiology and psychology. One ought to know just what the processes are whereby an idea can be conveyed to a human mind and become embedded in its habits; and / according to this doctrine, all the rules of ordinary rhetoric ought to be hinged upon such considerations and not upon the gratuitous assumption that men can only think according to a certain syntax-type of sentence that happens to be very common in the languages most familiar to most of us, but into which other sentences can be jammed only by Procrustean barbarities.

NOTES

¹See the Collected Papers of Charles Sanders Peirce, 8 vols. (Cambridge: Harvard University Press, 1931–1958), e. g., 1.444, 1.559, 2.93, 2.105–111, 2.117, 2.229, 2.333, 3.430, 3.454, and 4.116–118. Here and in the text I follow the usual practice of citing the Collected Papers according to the volume and paragraph numbers. Comments on rhetoric can also be found in Charles S. Peirce, *The New Elements of Mathematics*, 4 vols., ed. Carolyn Eisele (The Hague: Mouton Publishers; Atlantic Highlands: Humanities Press, 1976). Unpublished manuscripts are available through the microfilm edition of Peirce's writings. For a guide to this edition see Richard S. Robin, *Annotated Catalogue of the Papers of Charles S. Peirce* (Amherst: The University of Massachusetts Press, 1967) and also Richard S. Robin, "The Papers: A Supplementary Catalogue," *Transactions of the Charles S. Peirce Society*, 7 (1971), 37–57.

²For a discussion of Peirce's theory of signs within his philosophy as a whole see John J. Fitzgerald, *Peirce's Theory of Signs as Foundation for Pragmatism* (The Hague: Mouton and Co., 1966).

³See, e. g., 2.219-226 and 5.413.

⁴Peirce set out this division in 1867 (1.559) and upheld it throughout his career; for example, as late as 1908 in a letter (8.342).

⁵Charles S. Peirce, The New Elements of Mathematics, IV, 62.

⁸See, e.g., 1.573-615 and 2.196-200. This area of Peirce's thought has been critically analyzed in Vincent G. Potter, S. J., *Charles S. Peirce On Norms and Ideals* (Amherst: The University of Massachusetts Press, 1967).

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