

67-9367

RANSDELL, Joseph Morton, 1931-  
CHARLES PEIRCE: THE IDEA OF REPRESENTATION.

Columbia University, Ph.D., 1966  
Philosophy

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1967

CHARLES PEIRCE: THE IDEA OF REPRESENTATION

By

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Submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy,  
in the Faculty of Philosophy,  
Columbia University

1966

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ABSTRACT

CHARLES PEIRCE: THE IDEA OF REPRESENTATION

JOSEPH MORTON RANDELL

This study is concerned with a central conception in the philosophy of Charles Peirce, the conception of a sign. It is suggested that a sign is best understood simply as a term of the triadic relation of representation, and the emphasis in the study falls upon the explication of that relation in its generic character, as Peirce understood it. The study is primarily interpretive rather than evaluative, and two complementary approaches are utilized conjointly throughout. First, some significant connections between Peirce's conception and a number of more familiar and traditional philosophical conceptions are suggested. For this purpose, the leading assumption is that the concept of a sign is a generalization of the traditional concept of appearance (provided this latter term is understood primarily in the sense of a manifestation of reality rather than in the sense of an illusion or deception). Second, the conception of representation is approached in a structural or formal way, with the intent of showing the relation between this generic conception and the formal categorial analysis which Peirce initiated in 1867. For this purpose, the leading assumption is that the representation relation is thought of by Peirce as being identical with the fundamental inference relation, and that the categorial

analysis is in turn an analysis of this latter relation.

The study is divided into eight chapters. The first five chapters are directed primarily toward explicating the formal or structural features of the generic relation. The last three chapters consider, respectively, iconic, symbolic, and indexical representations, and are primarily concerned with connections with traditional philosophical issues. Chapter I is introductory. Chapter II is concerned with establishing an initial orientation towards Peirce's logical point of view, for which purpose the distinction between "first intentions" and "second intentions" is utilized. Chapter III is concerned with the sense in which the logical or semiotical point of view is concerned with the reasoning process. Chapter IV is an analysis of the major line of argument in Peirce's 1867 essay on the categories. Chapter V is a continuation of the analysis of Chapter IV, and it concludes with an attempt to clarify the meaning of some of Peirce's definitions of "sign" in the light of foregoing considerations. In Chapter VI the iconic sign is discussed in connection with Peirce's problem of reconciling the doctrines of representative perception and immediate perception. In Chapter VII the symbolic sign is discussed in connection with the traditional problem of accounting for the generality of ideas or words. In Chapter VIII the indexical sign is discussed in connection with the import of the Kantian dictum that "existence is not a real predicate."

## NOTE ON CITATIONS

In accordance with standard practice, all references to, and quotations from, The Collected Papers of Charles Sanders Peirce, Vols. I-VI, ed. Charles Hartshorne and Paul Weiss, Vols. VII-VIII, ed. Arthur Burks (Cambridge: Harvard University Press, 1931-35 and 1958), are cited as follows: the number to the left of the decimal point designates the volume number; the number to the right of the decimal point designates the paragraph number.

Since there is also frequent reference to Charles S. Peirce's Letters to Lady Welby, ed. Irwin C. Lieb (New Haven: Whitlock's, Inc., 1953), I have used a suitable convention here as well: the letters "LW" refer to this volume and the number immediately following refers to the page number.

Citations to these volumes are usually embodied parenthetically in appropriate places in the text itself, except where they are relegated to footnotes for some special reason. All other citations in this study are made in the usual way. It should also be noted that I have not corrected irregularities of spelling, punctuation or grammar, in quotations from Peirce, except where explicitly indicated by brackets.

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## CHAPTER I

### INTRODUCTION

In a letter to Lady Welby, written late in his philosophical career, Charles Peirce remarked:

. . . from the day when at the age of 12 or 13 I took up in my older brother's room a copy of Whately's "Logic," and asked him what Logic was, and getting some simple answer, flung myself on the floor and buried myself in it, it has never been in my power to study anything, -- mathematics, ethics, metaphysics, gravitation, thermodynamics, optics, chemistry, comparative anatomy, astronomy, psychology, phonetics, economic, the history of science, whist, men and women, wine, metrology, except as a study of semeiotic. . . .  
(LW 32)

Making due allowance for the characteristic hyperbole, most students of the Collected Papers would agree, I am sure, that Peirce is to be taken seriously on this. One of the earliest, and perhaps singly the most important of Peirce's published essays, the 1867 paper on the categories,<sup>1</sup> is essentially an analysis of the basic semiotic relation (i.e. the sign relation or relation of representation); and in the speculations of his later years the conception of a sign had so far developed as to suggest to him that the classificatory part of his semiotic would logically

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<sup>1</sup>"On a New List of Categories" (1.545-59). This judgment of its importance may seem a bit strong, but I think it will ultimately be borne out by Peirce scholarship. I shall discuss certain aspects of this essay in Chapter IV of this study.



require a division of signs into no less than sixty-six different types.<sup>2</sup> And then, of course, no proposition recurs more often throughout his writings, from first to last, than his well-known dictum that "all thought is in signs."<sup>3</sup>

The purpose of this study is to discuss the basic idea of Peirce's semiotic or theory of signs, namely, the concept of representation, or the concept of a sign, as such.<sup>4</sup> I say "as such" in order to indicate that I shall be concerned with the concept primarily in its generic character, and shall not attempt even a limited presentation of the complex taxonomical system to which I referred above. Therefore, if by "Peirce's theory of signs" is meant that system of classification (and this does in fact seem often to be what is meant by the phrase), then this

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<sup>2</sup>See the letter (December 23, 1908) from which the above quote is taken (esp. LW 31). See also appendix B of the Letters (LW 51-55), where the editor has attempted to schematize these divisions. For a slightly different account see Paul Weiss and Arthur Burks, "Peirce's Sixty-Six Signs," The Journal of Philosophy, XLIII (1945), pp. 383-88.

<sup>3</sup>For references on this see Chapter II, footnote I, this study. I attempt in Chapter II to forestall a possible misinterpretation of this dictum.

<sup>4</sup>The term "representation" is sometimes used by Peirce as synonymous with "sign," and it is sometimes used to designate the triadic relation of which the sign is the first correlate. (The term "representamen" is also sometimes used as a technical substitute for the term "sign.") See 1.540-41 for an interesting and clear statement on the relation between these terms. For convenience, I use the words "sign" and "representation" synonymously here in the Introduction, though I distinguish them in Chapter II of this study.

essay is not about Peirce's theory of signs, except in a very limited way. For my own part, I think it a mistake to regard Peirce's semiotic primarily from the point of view of the sign-classification: first, because it tends to isolate the import of the sign concept from the rest of his thought, to the detriment of our understanding in both respects; and, second, because it tends to give rise to the bootless notion that the chief way to understand what Peirce means by "sign" is to concentrate on the different kinds of signs which he distinguishes. But, however this may be, I shall here be directing myself primarily to the question "What is a sign, as such, as Peirce conceived it?", rather than to the question of what sorts of signs he found it necessary to distinguish.

Now the answer which I give to this might be summarized in its most general form by saying that the idea of a sign is the idea of manifestation, that is, the idea of appearance.<sup>5</sup> The world appears or manifests itself to us through signs: for Peirce, it is a mere tautology to say this. For that is what is meant by a sign, viz. that through which the world manifests itself. The various kinds of signs are, then, the various ways in which this

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<sup>5</sup>"But the idea of manifestation is the idea of a sign." (1.346) I should remark, though, that this approach to understanding the nature of a sign, as Peirce conceived it, occurred to me prior to finding any explicit textual verification; and I would prefer to put the burden of proof upon the plausibility of my interpretation as a whole rather than upon any such isolated passage.

can occur. As mentioned, I do not attempt here to catalogue these modes of appearance, since it seems to me far more important to concentrate on the basic idea of manifestation or appearance itself. However, I do make one important exception to this in that I devote a chapter apiece to the well-known -- though not very well understood -- division of signs into "icons," "indices," and "symbols," since I do not believe that the generic concept is in fact comprehensible apart from this particular trichotomy, and also because the latter throws a very special light on Peirce's philosophy generally. The content of this study may be regarded simply as an elaboration or explanation of the thesis indicated at the beginning of this paragraph.

The study makes no claim to adequacy: such explanation as I can give of my central thesis is at best only a partial one. Circumstances permitting, I hope to be able to enlarge and improve upon it, and perhaps substantiate it better, in the future. I do, of course, believe it to be correct as far as it goes. It does not go far enough, but I would be satisfied if it were thought at least to be a definite step in the right direction. In general, I have not attempted to present a "safe" interpretation of Peirce, and I have not hesitated to impute ideas and intent to him in a number of places where I would find it impossible to point out explicit textual verification. I think it will be clear enough to the reader when this occurs. It should also be mentioned

that I have assumed throughout that, in respect to the particular subjectmatter in question, Peirce's ideas underwent no radical change during the course of his philosophical career.<sup>6</sup> (This is not, of course, to deny a real development in his thought.) Consequently, while I have taken his earlier writings as basic for my purpose -- especially the papers of 1867 and 1868<sup>7</sup> -- I have not hesitated to draw

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<sup>6</sup>Murray Murphey, in his recent and influential study The Development of Peirce's Philosophy (Cambridge: Harvard University Press, 1961), argues for a succession of radical changes -- revolutions, really -- in the fundamental ideas of Peirce's philosophy. The title of his book is thus something of a misnomer. Professor Murphey's study is excellent in many ways, and it is certainly one of the best we have -- especially with regard to his careful analyses of many special problems of interpretation. But I should also add that I do not regard his central thesis as established or even made likely. It would not be feasible to enter here into a detailed critique of this thesis, and nothing less would do justice to his study or would be of any real use for present purposes. But in case any objections from this source should be urged against my own interpretation, I would suggest that the objector regard the present study as concerned primarily with what Professor Murphey refers to as Peirce's "second phase" or "second system," i.e. Peirce's philosophy from 1866 to 1869 or 1870 (See Murphey, p. 3). As I remark above, though, I have not hesitated to utilize material from Peirce's later writings whenever I thought it helpful or necessary. For my own part, I do not think Peirce's "final" system differs essentially from his earlier work in its foundational ideas. (Peirce's "first system," by the way, is something Professor Murphey has reconstructed from manuscript material written prior to any of his published work, viz. from 1857 -- when Peirce was eighteen -- until 1865 or 1866.)

<sup>7</sup>This includes the following papers: "On the Natural Classification of Arguments," (2.461-516); "On a New List of Categories," (1.545-59); "Upon Logical Comprehension and Extension," (2.391-426); "Questions Concerning Certain Faculties Claimed for Man," (5.213-63); "Some Consequences of Four Incapacities," (5.264-317); and "Grounds of Validity of the Laws of Logic: Further Consequences of Four Incapacities," (5.318-57). It may be noted that, with minor corrections of 1893 (such as are either indicated or

upon later material for reference and verification. I have included, as an appendix, a brief discussion of the three branches of semiotic (or "logic," if this term is taken in a broad sense), for the benefit of a reader not well-acquainted with the general structure of Peirce's philosophy. But, for the most part, I have presupposed a reader with some prior knowledge of Peirce. There seems no good reason to reproduce material here which has already been covered many times in the secondary literature.

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made by the editors of the Collected Papers), these papers were to form the first six chapters in Peirce's projected but unpublished book Search for a Method. (See the General Bibliography of Peirce's works in Vol. 8 of the Collected Papers, p. 280.)

## CHAPTER II

### THE LOGICAL POINT OF VIEW

Peirce's dictum that "all thought is in signs"<sup>1</sup> is a proposition especially prone to misinterpretation within the current philosophical climate, and it may therefore be desirable to begin with some remarks designed to forestall this possibility. Since it is widely held at present that the immediate subjectmatter of philosophy is language or language-use, and the proper method that of linguistic analysis, it would be natural to see in Peirce's dictum a precursory attempt to take that "linguistic turn" which is often said to have produced something of a "revolution" in contemporary philosophy. But, for good or ill, this is not its meaning. For one thing, linguistic signs are but one type of sign, on Peirce's view;<sup>2</sup> and, though they may be in certain respects the

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<sup>1</sup>This proposition is established as a hypothesis in his Questions Concerning Certain Faculties Claimed for Man" (5.250-53), and is argued from in "Some Consequences of Four Incapacities." (5.283ff) Both papers are from 1868. The dictum is already more or less explicit in the 1867 paper "On a New List of Categories." (1.545-59) It appears in one and another form many times in the Collected Papers, e.g. 1.191, 1.538, 2.302, 4.6, 4.551, 5.253, 5.314, 5.421, 5.447, 5.470, 5.534, 5.594, 6.481, 8.191.

<sup>2</sup>Linguistic signs are of the type which Peirce calls "symbols," possibly following Aristotle's discussion in De Interpretatione, 16a20ff, where the notion of establishment by convention is stressed. The other two

most important type of sign, it is of the essence of Peirce's theory that the functioning of other sorts of signs must be taken into account for philosophical purposes. More to the immediate point, however, are some fundamental considerations bearing both on assumed subject-matter and analytic perspective which I should like briefly to remark upon.

First as to subjectmatter. In his recent study of Wittgenstein's Tractatus Logico-Philosophicus, Max Black makes a comment which, I believe, may fairly be taken as representative or indicative of a view underlying much current philosophical practice. Professor Black says:

It was one of Wittgenstein's distinctive innovations to consider thoughts only as embodied in what he calls the 'significant proposition' and so to transform the question of the relation of thought to reality. . . into the more promising question of the relation of language to reality. No move in the Tractatus has proved more influential; here if anywhere we can see the beginning of the 'linguistic turn' in modern philosophy.<sup>3</sup>

And, in the prior paragraph, Professor Black speaks of the "important shift of interest from thought to language" which this represents. It will be noted that there is some inclarity here. On the one hand, Professor Black could be supposing that thought is quite literally one

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major types of signs are "indices" and "icons," neither of which are conventionally established. Chapters VI, VII, and VIII of this study deal with these major types of signs and their relations.

<sup>3</sup>Black, Max, A Companion to Wittgenstein's Tractatus (Cornell University Press, 1964), p. 7.

sort of thing and language another, and that there is or could be such a thing as unembodied or non-linguistic thought; but that, as it happens, some or all of thought is, some or all of the time, embodied in some or all of language. (There are obviously a large number of sub-alternatives here.) Or, on the other hand, he could be supposing that thought and language are extensionally the same, though regarded from different points of view and/or described under different terminologies, and hence intensionally distinct.<sup>4</sup> I do not know which of these alternatives Professor Black (or whomever else the philosophical shoe might fit) would opt for here. But, however this may be, it seems clear that he at least supposes that there is some real and obvious difference between considering the relation of thought to reality and considering the relation of language to reality, that the "linguistic turn" thus involves a definite shift in philosophical subject-matter, and that consideration of the language-reality relation is more profitable than consideration of the thought-reality relation. The following comments may help to clarify Peirce's position in this respect.

Passages can be found in Peirce's writings which might seem, prima facie, to give support to the idea that he held a view similar to that expressed by

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<sup>4</sup>That is, in terms of the sense-reference distinction, the referent of "thought" and "language" might be supposed to be the same, though the sense of these terms (and their cognates) would be supposed to be different.



Professor Black. Thus, for example, he remarks in one place that he could never admit "that logic is primarily conversant with unexpressed thought and only secondarily with language." (2.461n) And, in another place, he says that "it is wrong to say that a good language is important to good thought, merely; for it is of the essence of it." (2.220) But these remarks -- and, I would suggest, any similar ones which might be found -- are made in contexts in which it is clear that Peirce is not concerned with "thought" in its most general sense, i.e. as is intended in the dictum that "all thought is in signs," but rather with the special case of symbols.<sup>5</sup> Thus, in the first example, the remark is apropos of the representation of arguments, for the purposes of critical logic,<sup>6</sup> and such representation is necessarily symbolic or of the nature of language. (See 1.559) And, in the second example, the context is that of a discussion of scientific terminology. The point is that in neither case is Peirce to be construed either as equating thought in general with language, or with suggesting that philosophy is concerned with thought only insofar as it receives "embodiment" in language.

There is, however, a more basic issue than this involved here. Peirce's point of view differs significantly

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<sup>5</sup>See footnote 2, this chapter. Symbolic signs are discussed in Chapter VII.

<sup>6</sup>That is, logic in the narrow or more traditional sense of the term. Critical logic is concerned primarily with the classification of arguments. See the appendix to this study.

from the notion, which I take to be implicit in Professor Black's statement, that language constitutes a special existential domain for philosophical analysis. There can be little doubt that one of the reasons for the enthusiasm with which the "linguistic turn" has been taken is that it seems to furnish philosophy with its own special subject-matter, thereby assuaging the fear felt by some that it may really have no proper subjectmatter at all and is thus a pseudo-science. Whatever the rights or wrongs of this may be, it is quite alien to Peirce's interest in language. For language in no sense constitutes the special subject-matter of philosophy, on his view: in fact, philosophy is precisely that science which has no special subjectmatter, on his view. On the contrary, it is the business of philosophy "to unravel the tangled skein [of] all that in any sense appears and wind it into distinct forms. . ."; that is, "to make the ultimate analysis of all experiences [is] the first task to which philosophy has to apply itself."<sup>7</sup>

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<sup>7</sup>This is, strictly speaking, the definition of phenomenology. But, according to Peirce (in his later writings), phenomenology is the basic or first part of philosophy. Hence, this also defines the subjectmatter of philosophy in general. The order of the philosophical sciences, as Peirce conceived it, goes as follows. Phenomenology is the basic part, followed by the three normative sciences of esthetics, ethics, and semiotic (i.e. logic in the broad sense). The "phenomenon," i.e. experience in general, is found to have three basic elements, which are Peirce's categories of "firstness," "secondness," and "thirdness." (If the reader does not already have some sense for what Peirce means by these terms I can only refer him to the many discussions in Volume I of the Collected Papers.) The business of phenomenology is to discriminate or establish the general distinction between these three

(1.280, italics mine) Thus philosophy is characterized as "coenosopic"<sup>8</sup> in order to indicate that it looks to the

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elements. The three normative sciences, then, each devote themselves to studying the nature of one of these three elements. Thus esthetics is concerned with the element of firstness in the phenomenon, i.e. with phenomena in their qualitative aspect; ethics is concerned with the element of secondness in the phenomenon, i.e. with phenomena as involving action and reaction; and semiotic is concerned with the element of thirdness in the phenomenon, i.e. with phenomena as involving representation (the sign-relation). Now the categories have this peculiarity, that while firstness can be prescindend from secondness, the converse does not hold; and while secondness can be prescindend from thirdness, the converse again does not hold. Consequently, ethics presupposes and in some sense is based upon the results of esthetics; and semiotic presupposes and in some sense is based upon ethics (and hence upon esthetics as well). Therefore, the subjectmatter of semiotic or logic is, as it turns out, the same as that of phenomenology and, hence, of philosophy in general. This is why it will be found that Peirce gives substantially the same definitions of the subjectmatter of philosophy in general, of phenomenology, and of semiotic. For philosophy see, for example, 1.126, 1.184, 1.241, 1.246, 1.273, 3.428, 5.120, 7.526, 7.538. For phenomenology see, for example, 1.186, 1.280, 1.284-287, 2.197, 5.121. For logic or semiotic see, for example, 2.65, 2.75, 2.84, 2.214, 2.432, 7.524, 7.526. The remaining philosophical science is metaphysics (with its sub-divisions), with which we are not concerned here. However, it should be pointed out that it presupposes semiotic and is in some sense based upon it (and hence upon all the rest of philosophy). Since I have not been able to arrive at any satisfactory general understanding of what Peirce means by "metaphysics," I will say no more about it. His major discussion of the classification and ordering of the sciences is to be found in Volume I, Book II, of the Collected Papers (1.176-283). It can be seen that, in accordance with Peirce's scheme, the various parts of philosophy are much more intimately related than many philosophers conceive them to be.

<sup>8</sup>Peirce contrasts the "coenosopic" nature of philosophy with the "idioscopic" nature of the special sciences. The editors of the Collected Papers (1.241n) cite the following passages from Jeremy Bentham: "Coenosopic. . . from two Greek words, one of which signifies common -- things belonging to others in common; the other looking to." "Idioscopic. . . from two Greek words, the first of which signifies peculiar." The Works of Jeremy Bentham (Edinburgh, 1843), viii, p. 83, footnote.

common elements of experience, contenting itself "with observations such as come within the range of every man's normal experience, and for the most part in every waking hour of his life." (1.241) And so: "If philosophy glances now and then at the results of special sciences, it is only as a sort of condiment to excite its own proper observations." (1.241) Over and again, Peirce's definitions or characterizations of philosophy make essentially the same points: that it is an experiential or positive science, that it differs from the special sciences in that it utilizes no special observational techniques, and that its data are what lie open to any man at any time. Such a characterization may seem puzzling, and I shall try to clarify its import later in this chapter; but, for the moment, the point which I wish to make is simply that there is no limited existential or experiential domain with which philosophy, as such, is peculiarly concerned, on Peirce's view.

On the other hand, although language is not the special (i.e. peculiar) domain for philosophical analysis, it is nevertheless true that philosophy does have a special interest in language: both in the sense that the philosopher's interest is of a different sort than, say, that of the linguist, the psychologist, or the sociologist, and in the sense that language does constitute an especially important domain for philosophical inquiry. For the subjectmatter of semiotic is experience in its significative

or representative aspect;<sup>9</sup> and the special case of language signs, i.e. of representation through symbols, is therefore of major -- though not exclusive -- importance. I indicated in Chapter I that the generic idea of a sign is that of manifestation, i.e. that through or by which the world (i.e. any object) becomes manifest to us. Now this can occur in various ways, e.g. through immediate perception of the object, or indirectly through evidence, clues, symptoms, etc. But it can also become manifest to us symbolically, i.e. through language, as indeed the larger part of any literate person's knowledge has in fact come to him. Hence, there is no question but that language has a very special importance for the philosopher. But I take it that there is a great deal of difference between this conception of the relevance of language to philosophy and that which is assumed by the proponents of the "linguistic turn."

Now as to analytic perspective. A highly influential analogy in much recent philosophy of language, cutting across otherwise deeply hostile points of view, is that in accordance with which language is regarded as a tool.<sup>10</sup>

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<sup>9</sup>That is, experience in its "thirdness." See footnote 7, this chapter.

<sup>10</sup>I refer to this as an analogy, but it is rarely clear in practice whether it is thought of as an analogy or as the literal truth. Thus I also refer to it as the tool or use conception. Justus Buchler's critique of the tool analogy should be read in this connection. Buchler says, for example: "To call language an 'instrument' of communication may be colloquially defensible, and perhaps practically tenable in a broad philological account. But

Everything will depend, of course, upon how the notion of a tool or instrument is to be understood. If it merely carries the very highly general sense of a means, then signs (including language signs) are no doubt in that sense tools or instruments, on Peirce's view. But then I take it that this highly general sense is not normally what is intended when the tool-analogy is invoked. Consider, for example, Ludwig Wittgenstein's statement that, for a large class of cases, "the meaning of a word is its use in language,"<sup>11</sup> and his comparison of words with the tools in a tool box.<sup>12</sup> Taken as suggesting or defining

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it is as misleading as to call an institution an instrument of culture or the church an instrument of religion. An institution is culture in one of its forms, the church is religion in one of its forms, and language is communication in one of its forms." Nature and Judgment (New York: Columbia University Press, 1955), pp. 43f. Professor Buchler has referred to his own general theory as a "metaphysics of utterance" (in the Preface to Toward a General Theory of Judgment, New York: Columbia University Press, 1951). In what is perhaps a like spirit, Peirce might be thought of as developing a "logic of ontological expression."

<sup>11</sup>Ludwig Wittgenstein, Philosophical Investigations, trans. G. E. M. Anscombe (Oxford: Basil Blackwell, 1958), Part I, Section 43. The translation reads in such a way as definitely to deny that all words are to be regarded in this way, but the German is not so clear-cut: "Man kann für eine grosse Klasse von Fällen der Benutzung des Wortes "Bedeutung" -- wenn auch nicht für alle Fälle seiner Benutzung -- dieses Wort so erklären: Die Bedeutung eines Wortes ist sein Gebrauch in der Sprache." Perhaps the translator feared that an essence might be insinuating itself here.

<sup>12</sup>Ibid., Part I, Section 11. See also Sections 11, 23, 360, and especially 569, where he says: "Language is an instrument. Its concepts are instruments." Wittgenstein uses other analogies or comparisons in the Investigations. For example, there is the formalist notion of language as

a viewpoint for analytic purposes, the emphasis is here definitely put upon a language-user and the use which he makes of it. Or, from an otherwise opposed camp, consider Rudolf Carnap's informal characterization of language as "a system of sounds, or rather of the habits of producing them by the speaking organs, for the purpose of communicating with other persons, i.e. of influencing their actions, decisions, thought, etc."<sup>13</sup> Or, in a slightly different version, he says:

A language as, e.g., English, is a system of activities or, rather, of habits, i.e., dispositions to certain activities, serving mainly for the purposes of communication and of co-ordination of activities among the members of a group. The elements of the language are signs, e.g. sounds or written marks, produced by members of the group in order to be perceived by other members and to influence their behavior.<sup>14</sup>

It is not clear precisely what language is supposed to be a system of, since sounds or written marks, activities, and habits or dispositions would appear to be rather different sorts of things, but it is clear enough that

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a game, which is too well-known and ubiquitous in the Investigations to require special reference here. There is the notion of language as a Lebensform, for which see e.g. Part I, Sections 19, 23, 199, 241 and p. 174 in Part II. And there is also language as a skill (Technik or Praxis), as in Part I, Sections 199 and 202.

<sup>13</sup>Rudolf Carnap, Introduction to Semantics and Formalization of Logic (Cambridge, Mass: Harvard University Press, 1959), p. 3.

<sup>14</sup>Rudolf Carnap, "Foundations of Logic and Mathematics," in the International Encyclopedia of Unified Science (Chicago: University of Chicago Press, 1939), p. 145.

Professor Carnap here thinks of language as a tool to be used primarily for influencing the behavior of others, which use he equates with communication.<sup>15</sup>

The tool-analogy no doubt has its merits for this and that purpose, and it is likely that passages can be found in Peirce's writings in which he utilizes it, but taken as constitutive of a basic point of view for analytical purposes it is not to be identified with that of Peirce. I think it especially important to stress this, first, because of the current prevalence of one or another version of the "use" theory of meaning, and, second, because Peirce's pragmatism might naturally be thought to involve an "instrumentalist" theory in this sense.<sup>16</sup> But Peirce's approach to philosophy in general, and semiotic in particular, is antipathetic to this in the most funda-

<sup>15</sup>In another place he says: "Every situation in which a language is employed involves three principal factors: (1) the speaker, an organism in a determinate condition within a determinate environment; (2) the linguistic expressions used, these being sounds or shapes (e.g. written characters) produced by the speaker . . .; and (3) the objects, properties, states of affairs, or the like, which the speaker intends to designate by the expressions he produces -- and which we term the designata of the expressions. . . ." Introduction to Symbolic Logic and its Applications (New York: Dover Publications, 1958), p. 78. Here the use of language is that of "designating," with no mention made of "influencing the behavior of others." See also Introduction to Semantics, p. 9.

<sup>16</sup>Perhaps I should state explicitly that I do not mean to set Peirce off against Dewey here, for I do not believe that Dewey had an instrumentalist view of language in the present sense either. It seems to me that Dewey and Bentley's Knowing and the Known makes this clear. John Dewey and Arthur F. Bentley, Knowing and the Known (Boston: The Beacon Press, 1949).



mental way, I believe. For example, one of the best known things about Peirce is his insistence upon what he called his "scholastic realism."<sup>17</sup> And it is also well-known that he tended, especially in his later writings, to see almost all basic philosophical disagreements as instances of the realist-nominalist antithesis. The reader who interprets this issue in terms of the "problem of universals," at least as the latter is usually conceived today,<sup>18</sup> cannot but be puzzled by the extraordinary form it often seems to take in Peirce's discussions of it; but if I may be allowed to make a suggestion going beyond what can be justified in this study, then I would say that the best sense for what Peirce understood by this can probably be gotten by recognizing that, for him, this is essentially the same

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<sup>17</sup>The indispensable book for understanding what, in the broad sense, Peirce meant by "realism" is Francis Ellingwood Abbot's Scientific Theism (Boston: Little Brown, and Company, 1886). See also Daniel D. O'Connor's "Peirce's Debt to F. E. Abbot," Journal of the History of Ideas, 25 (1964), pp. 543ff, and Section 36 of Justus Buchler's Charles Peirce's Empiricism (London: Kegan Paul, Trench, Trubner & Co., Ltd., 1939), pp. 123ff. A recent full length study of the technical aspect of Peirce's realism, with special reference to Duns Scotus, is John F. Boler's Charles Peirce and Scholastic Realism (Seattle, University of Washington Press, 1963).

<sup>18</sup>According to D. F. Pears, for example, the problem of universals is: "Why are we able to name things as we do?" That is, it is an attempt to give a theory of naming, which attempt is, on his view, bound to come to nothing. Pears notes, though he does not fully subscribe to, the common notion that the problem of universals is really just a pseudo-problem, based on a confusion between proper names and general terms. D. F. Pears, "Universals," in Logic and Language, Second Series (Oxford: Basil Blackwell, 1959), pp. 51ff.

issue as the classic dispute between nature and convention which divided the philosophers of ancient Greece -- the issue which might fairly be said to have produced philosophy in the full sense.<sup>19</sup> If this is correct then the "problem of universals," narrowly conceived, is but a relatively minor manifestation of this protean issue, and it is not surprising that Peirce should have found it present in so many philosophical forms. Now, I should like to suggest that an outstanding contemporary form of

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<sup>19</sup>The reference is, of course, to the Socratic-Platonic reaction to the conventionalism represented by the Sophists in the Platonic Dialogues. In the most general sense pertinent to the present context, I understand by "conventionalism" the notion that the normative principles or rules governing a given area of human thought or action are ultimately arbitrary. By "arbitrary" I mean "not justified by a normative rule." Suppose, for example, the accepted manners and morals of a community to be codified; then to the extent that the elements of this code are not themselves justified by any further set of normative rules -- e.g. a set of universal moral rules -- it is conventional or arbitrary. This need not be an all or none affair: one part of a given code might be conventional while another part might not be. Also, the justifying normative rules need not be of the same general type as the justified ones: e.g. it might be claimed that moral rules (universal or special) fall under logical rules, or even under esthetic rules.

Thrasymachus' intended position in the Republic is, as I understand it, a form of conventionalism; for he was attempting to account for the origin of the rules of political right while denying that they have any justification. The claim that moral principles are based on the will of God is, in effect, a form of conventionalism; for it is tantamount to the claim that there is no justification for them in terms of further rules. Social contract theories of political right may or may not be conventional, depending upon whether or not the clauses of the "contract" are thought to be themselves justifiable (e.g. by "natural law"). The claim that the rules constitutive of a language (artificial or "natural") are not themselves further justifiable would be a form of conventionalism. (One would want to distinguish here between language as such and a particular language, of course.)

what Peirce would understand to be a nominalistic position is precisely that view which Professor Carnap holds as to the nature of language. This will not be apparent merely from the above quotes. But it is, I believe, one of the merits of Carnap's work that he has seen and made wonderfully explicit what is implicit in the tool or use conception, and has given clear expression to it in his famous "Principle of Tolerance."

The original statement of the Principle is as follows:

In logic, there are no morals. Everyone is at liberty to build up his own logic, i.e. his own form of language, as he wishes. All that is required of him is that, if he wishes to discuss it, he must state his methods clearly, and give syntactical rules instead of philosophical arguments.<sup>20</sup>

The import of this is perhaps brought out most clearly in his classic article "Empiricism, Semantics, and Ontology,"<sup>21</sup> in which he argues that what have traditionally passed as ontological questions are, in reality, questions about the logical structure of a language and/or the advisability of adopting it, and that the reasons for adoption are extra-philosophical.<sup>22</sup> The acceptance of a given linguistic

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<sup>20</sup>Rudolf Carnap, The Logical Syntax of Language (Paterson: Littlefield, Adams, & Co., 1959), p. 52.

<sup>21</sup>Reprinted in: Rudolf Carnap, Meaning and Necessity (Chicago: University of Chicago Press, Phoenix Books, 1956), pp. 205ff.

<sup>22</sup>That is, the reasons are practical rather than theoretical. Precisely what this means I do not know. But Carnap makes it clear that the question whether or not to "accept" a given language-form is "not of a cognitive nature." ("Empiricism, Semantics, and Ontology,"

framework cannot be decided in terms of truth or falsity but rather "can only be judged as being more or less expedient, fruitful, conducive to the aim for which the language is intended."<sup>23</sup> Professor Carnap conceives himself thereby to have transcended such issues as that of realism vs. nominalism altogether, through his willingness to "tolerate" any sort of linguistic framework whatever (realist, nominalist, or what have you), provided only that it is made clear precisely what that framework is and what

p. 208) In his intellectual autobiography in the Schilpp volume Carnap says: "But then I pointed out that for these [ontological] questions no interpretation as theoretical questions has been given by the philosophers. I proposed to the philosophers who discuss such questions that they interpret them as practical questions, i.e., as questions about the decision whether or not to accept a language containing expressions for the particular kind of entities. Various reasons may influence the decision about the acceptance or non-acceptance of the framework for such expressions. My main point is the rejection of the customary view that the introduction of a linguistic framework is legitimate only if the affirmative answer to the external question of existence (e.g., "there are natural numbers") can be shown to be true. In my view, the introduction of the framework is legitimate in any case. Whether or not this introduction is advisable for certain purposes is a practical question of language engineering, to be decided on the basis of convenience, fruitfulness, simplicity, and the like." The Philosophy of Rudolf Carnap, ed. P. A. Schilpp (La Salle: Open Court Publishing Co., 1963), p. 66. What is the difference between "legitimacy" and "advisability"? How can something be "legitimate in any case"? (One would suppose this violates the very notion of legitimacy.) It might be said that Carnap espouses a theoretical conventionalism but not a practical conventionalism, since he grants that the acceptance of linguistic frameworks is in some way based on practical considerations. But do these practical considerations involve practical rules? I find no indication of this in Carnap and it seems reasonable to conclude that his is an absolute conventionalism.

<sup>23</sup>Meaning and Necessity, p. 214.

job it is supposed to do. "Everyone is at liberty to build up his own logic, i.e. his own form of language, as he desires," i.e. every man his own metaphysics, if he so desires.

Now I think it is fair to say that Peirce would have seen, in this belief of Carnap's that the realism-nominalism issue (or any other metaphysical issue) can be transcended by pure convention, simply an instance of nominalism in its purest form. And if it is correct to say that the Principle of Tolerance is, indeed, an extraordinarily explicit statement of the import of the tool or use conception of language, then it can be seen how profoundly antipathetic Peirce would be to this general approach, and how important it is not to read Peirce from that point of view ourselves if we wish to understand him.<sup>24</sup> I submit these considerations in the spirit of suggestion rather than proof, however. Nothing in what follows depends upon their correctness, though I shall have more to say on the question of conventionalism in the next chapter. I should like now to try to characterize Peirce's approach in a more positive way.

Semiotic, or logic in the broad sense, is the science of signs, i.e. of the relation of signification or representation. I indicated in the introductory

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<sup>24</sup>It might be objected that Carnap and Peirce do not mean the same thing by "nominalism." This may be true but it makes no difference to the point at issue, which is that Carnap's conventionalism is what Peirce would identify as nominalism.

chapter that I understand this to be the relation of being taken as a manifestation or appearance of something. Now Peirce gives a large number of somewhat varying characterizations or definitions of this relation, and I shall discuss several of them in the course of this study. But none of them could be said to bear their meaning very clearly on their face, and I quote one of them at this point primarily for reference purposes and to indicate the appropriate terminology:

. . . as to my terminology, I confine the word representation to the operation of a sign or its relation to the object for the interpreter of the representation. The concrete subject that represents I call a sign or a representamen. I use these two words, sign and representamen, differently. By a sign I mean anything which conveys any definite notion of an object in any way, as such conveyers of thought are familiarly known to us. Now I start with this familiar idea and make the best analysis I can of what is essential to a sign, and I define a representamen as being whatever that analysis applies to. If therefore I have committed an error in my analysis, part of what I say about signs will be false. For in that case a sign may not be a representamen. The analysis is certainly true of the representamen, since that is all that word means. . . . (1.540)

My definition of a representamen is as follows:  
 A REPRESENTAMEN is a subject of a triadic relation TO a second, called its OBJECT, FOR a third, called its INTERPRETANT, this triadic relation being such that the REPRESENTAMEN determines its interpretant to stand in the same triadic relation to the same object for some interpretant. (1.541, capitals in the original, italics omitted)

The distinction between "sign" and "representamen" is merely that between the common term and the technical term which will replace or "explicate"<sup>25</sup> it for theoretical

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<sup>25</sup>See Rudolf Carnap, Logical Foundations of Probability (Chicago: University of Chicago Press, 1950), p. 3, for the use of the term "explication." See also

purposes. Since Peirce does not himself adhere rigorously to this, and since his usage of "sign" might fairly be said to be a technical one in any case, I shall myself usually use "sign" throughout. More important than this is the distinction between "sign" and "representation." I have so far been treating these terms as synonymous, but in a careful usage the latter should be reserved for the generic triadic relation itself, and the former for the first term or correlate of that relation. The second and third correlates of that relation are, respectively, the "object" and the "interpretant." Now it is tempting to suppose that "object" and "interpretant" are here used, with the help of "determines," to define the word "sign." But I would suggest that there is no profit in supposing this. Peirce intends, of course, that his notion of "object" should bear some similarity to what is ordinarily meant by "object" (whatever that may be), and that his term "interpretant" should bear some similarity to what is ordinarily meant by "interpretation." But his theory is intended to be as much a theoretical clarification of these terms as it is of the term "sign," and there is actually no more reason to take any one of the three as definiendum than there is to take any other.<sup>26</sup> Moreover,

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8.332 in the Collected Papers, where Peirce says: "If the question were simply what we do mean by a sign, it might soon be resolved. But that is not the point. We are in the situation of a zoologist who wants to know what ought to be the meaning of "fish" in order to make fishes one of the great classes of vertebrates." And see also 1.443.

<sup>26</sup>The fact that it would be fruitless to do so

it should be apparent that the meaning of the word "determines" is not one whit clearer prima facie than any of the others, and can scarcely be relied upon as a defining term without some investigation of what it may actually mean for Peirce.

The point here is not to suggest that it is impossible to understand Peirce, but to urge rather that it is the generic relation itself which is to be understood, and that it is therefore best to begin by thinking of the sign simply as first correlate of that relation, the object as second correlate, and the interpretant as third correlate. And, indeed, Peirce himself defines the terms precisely in this highly abstract way in one place:

A Representamen is the First Correlate of a triadic relation, the Second Correlate being termed its Object, and the possible Third Correlate being termed its Interpretant, by which triadic relation the possible Interpretant is determined to be the First Correlate of the same triadic relation to the same Object, and for some possible Interpretant. (2.242)

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becomes apparent when it turns out that the interpretant is also a sign, as can be inferred from the above quoted definition (or see 2.228 for an explicit statement of this), and that even the object is also a sign (see 1.339). However, in 8.332 (from a 1904 letter to Lady Welby) Peirce says that: "Taking sign in its broadest sense, its interpretant is not necessarily a sign. Any concept is a sign, of course. Ockham, Hobbes, and Leibniz have sufficiently said that. But we may take a sign in so broad a sense that the interpretant of it is not a thought, but an action or experience, or we may even so enlarge the meaning of sign that its interpretant is a mere quality of feeling." I ignore this extended sense of "interpretant" here. To take account of it would involve going into the ramified system adumbrated in the Letters to Lady Welby, and I wish to restrict myself to the earlier and perhaps narrower sense here.



Now, I would like to suggest that it would be further conducive to understanding Peirce, once this step is taken, to recognize that we are free to reverse ourselves, as it were, and to think of the generic relation in three different ways, depending upon which of the three correlates is emphasized: thus if the first correlate is emphasized the relation may be thought of as that of signification or representation; if the third correlate is emphasized then it may be thought of as interpretation; and, finally, if the second correlate is emphasized it may be thought of as objectification. Though Peirce himself usually stresses the first correlate and names the relation accordingly, I believe that it is quite as legitimate to think of it in any of these ways -- and, indeed, it is perhaps essential to do so in order to get a sense for what he is talking about.

In particular, the notion of objectification may be helpful in a preliminary orientation, because it suggests that the semiotic or logical point of view, for Peirce, is akin to the Kantian "transcendental" point of view. Kant says: "I entitle transcendental all knowledge which is occupied not so much with objects as with the mode of our knowledge of objects in so far as this mode of knowledge is to be possible a priori."<sup>27</sup> The

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<sup>27</sup> Immanuel Kant, Critique of Pure Reason, trans. Norman Kemp Smith (London: Macmillan & Co. Ltd., 1961) A12-B25. Peirce's Speculative Grammar is supposed to be roughly equivalent to Kant's "Transzendentaler Elementarlehre" (i.e. Part I of the Critique), and his Speculative Rhetoric is supposed to be roughly equivalent to Kant's

a priori aspect of Peirce's thought will be discussed shortly and qualified in a certain way, and there is no warrant for a blanket identification of Peirce's and Kant's approaches. But there is certainly this similarity, that they both are concerned with what is logically involved in something becoming an object for us, i.e. becoming an object of our cognitive awareness. And in both cases this clearly involves a point of view quite distinct from that employed by any special science which demarcates a special existential domain as its subject-matter.

Now Peirce's "coenosopic" characterization of philosophy, referred to earlier in this chapter, which says that it "contents itself with observations such as come within the range of every man's normal experience, and for the most part in every waking hour of his life," (1.241) can be quite misleading if it is thought to mean that philosophy differs from the special sciences only in the ubiquity of its subjectmatter. This requires to be supplemented by a consideration of the fact that, for Peirce, logic is a second intentional enterprise.<sup>28</sup> I

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"Transzendente Methodenlehre" (i.e. Part II of the Critique). See the appendix to this study.

<sup>28</sup>In 3.490 Peirce says: "By logical reflexion, I mean the observation of thoughts in their expressions [i.e. of thought in signs]. Aquinas remarked that this sort of reflexion is requisite to furnish us with those ideas which, from lack of contrast, ordinary external experience fails to bring into prominence. He called such ideas second intentions." This indicates that the categories are second intentions since it is characteristic of

use this term as Peirce himself seems to have understood it, with Thomas Aquinas as his source. According to Peirce:

First intentions are those concepts which are derived by comparing percepts, such as ordinary concepts of classes, relations, etc. Second intentions are those which are formed by observing and comparing first intentions. Thus the concept "class" is formed by observing class-concepts and other objects. The special concept, ens, or what is, in the sense of including figments as well as realities, can only have originated in that way. . . . Aquinas defined logic as the science of second intentions applied to first. (2.548)

In his 1867 essay on the categories, Peirce explicitly concurs with Aquinas' definition of logic and says further:

Now, second intentions are the objects of the understanding considered as representations, and the first intentions to which they apply are the objects of those representations. The objects of the understanding, considered as representations, are symbols, that is, signs which are at least potentially general. But the rules of logic hold good of any symbols, of those which are written or spoken as well as those which are thought. They have no immediate application to likenesses [i.e. icons] or indices, because no arguments can be constructed of these alone, but do apply to all symbols. . . . We come, therefore, to this, that logic treats of the reference of symbols in general to their objects. In this view it is one of a trivium of conceivable sciences. The first would treat of the formal conditions of symbols having meaning, that is, of the reference of symbols in general to their grounds or imputed characters, and this might be called formal grammar; the second, logic, would treat of the formal conditions of the truth of symbols; and the third would treat of the formal conditions of the force of symbols, or their power of appealing to a mind, that is, of their reference in general to interpretants, and this might be called formal rhetoric. (1.559)

Several points of clarification are required here. First, in 1.559, Peirce is using the term "logic" in its narrower sense to refer only to the second member of the semiotic

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them that, being exemplified in every experience, they lack the contrast which he mentions.

trivium, whereas in his later writings he commonly used it to refer to the whole trivium and thus as synonymous with "semiotic."<sup>29</sup> I shall use the term in the broader sense myself, unless otherwise noted. Second, in 1.559, he treats even the trivium as though it applied -- at least immediately -- only to symbols, and not also to icons and indices. However, he makes it clear in a letter of 1908 to Lady Welby that it was only later that he realized that logic in the narrower sense ought to be investigated in conjunction with a full-scale study of signs of all types and in all their essential relations, i.e. as a part of semiotic in the full sense of the term. (LW29) In other words, even though in the 1867 paper he had worked out his general characterization of the sign relation, and had even made his major division of signs into icons, indices, and symbols, he had not yet conceived the theory of signs in its full generality nor seen the desirability of integrating logic in the traditional or narrower sense into this broader enterprise. This makes no difference to the characterization of logic as second-intentional, however.<sup>30</sup>

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<sup>29</sup>See the appendix to this study.

<sup>30</sup>Because the triadic sign-relation is indecomposable, i.e. not reducible to any combination of dyadic relations (e.g. see 3.144), the consideration of the relation of sign to object implicitly involves a consideration of the whole triadic relation. Logic in the narrow sense is defined as being concerned with the relation of signs to their objects (1.559), and hence if it is second-intentional then logic in the broader sense would be so as well. The use of the traditional term "second intention"

Third, the term "object of the understanding," as used in 1.559, may be misleading at first reading. Peirce does not here mean "the object understood" but simply "a thought." This is clear both from what is required to make sense of the passage, and also from the quotation from Herbart which Peirce gives and comments on in a footnote to 1.559. This quotation reads: "Unsre s  mmtlichen Gedanken lassen sich von zwei Seiten betrachten; theils als Th  tigkeiten unseres Geistes, theils in Hinsicht dessen, was durch sie gedacht wird. In letzterer Beziehung heissen sie Begriffe. . . ." (1.559nl) In other words, the phrase "object of the understanding" is equivalent to Herbart's "Gedanke," and Peirce is simply saying that second intentions are thoughts regarded in their representative capacity, and that their objects, i.e. that which they represent, are first intentions.

But, fourth, there is an apparent contradiction in the two accounts quoted concerning what would count as a first and as a second intention. In the passage from 2.548, Peirce clearly treats "second intention" as meaning "second intentional concept." Thus the concept "class" is given as an instance of a second intention, whereas something like, say, the concept "stone" would be an instance of a first intention. But then in 1.559 it seems equally clear

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does become somewhat questionable, however, once this broader view is taken. This may be why Peirce made relatively little use of it in his later writings. I introduce it here because it seems to me to provide a helpful orientation to Peirce's logical point of view.

that by "second intention" he does not mean the second intentional concept but rather that of which it is the concept. Thus a class itself would be the second intention rather than the concept "class." Since it is clear from 2.548 that Peirce equates classes and class-concepts, this would imply, in the context of 1.559, that a class-concept like "stone" would be a second-intention. So interpreted, an apparent contradiction between the two accounts is generated. However, I believe the contradiction is only apparent. The source of the difficulty lies in the fact which Herbart points out in the quotation above, viz. that a representational thought can be considered from two sides: (1) in its objective reference, or (2) as an "action of our mind" which has an objective reference. In other words, the term "intention" has the same essential ambiguity as have many such "mentalistic" terms as e.g. "purpose," "end," "ideal," "memory," etc.<sup>31</sup> I doubt that this ambiguity can be eliminated from all contexts by any single device, but it can at least be controlled by distinguishing between the intention qua concept and the intentional object.<sup>32</sup> Thus a first intentional object would be,

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<sup>31</sup>For example, is the memory the remembering of the event or is it the event remembered? Is the end which a person pursues (i.e. his "end-in-view," to use Dewey's term) an actual state of affairs or is it his idea of a state of affairs? The ambiguity of such terms is surely not "merely verbal," but rather is connected in an intimate way with philosophical problems of modality.

<sup>32</sup>The traditional way of making this distinction is to talk of the formal as opposed to the objective being of a concept. The translators of The Material Logic of

say, a stone; a first intentional concept would be "stone"; "stone" would also be a second intentional object; but "class" would be a second intentional concept. It can be seen that the contradiction between 2.548 and 1.559 is eliminated if we suppose Peirce to be speaking of first and second intentional concepts in the former passage, and first and second intentional objects in the latter. Since this dual use of "intention" is common I think it reasonable to assume that this is the case here.

The medieval distinction between first and second intention is not currently a familiar one (i.e. outside of neo-scholastic philosophy), and Peirce's account in 2.548 does not give a very clear idea of what it involves. The following characterization, from John of St. Thomas, is as clear a brief statement as any I have seen:

Some categorematical terms are of first intention, others of second intention. A term of first intention is one that signifies something according to what it has in reality or in its own proper status, i.e. independently of the status it has in the intellect and as having been conceived -- such as white, man as they are in reality. A term of second intention is one that signifies something according to

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John of St. Thomas (see note 33 of this chapter) give this brief account of the distinction: "A formal concept is the psychological reality designated by the word "concept"; it is an accident, a quality or disposition by reason of which the intellect is able to know a certain object. An objective concept is the object of a concept; it is an aspect of the thing known: it is that aspect of the thing known which is delivered to the intellect by a certain (formal) concept," p. 588. Two well-known uses of this distinction are by Descartes, in his argument for the existence of God in the Third Meditation, and by Spinoza, in his On the Improvement of the Understanding. The "formal concept" is what I am calling the "intention qua concept," and the "objective concept" is what I am calling the "intentional object."

what it has from being a concept of the mind and in its intellectualized status, e.g. species, genus and other like things that the logician deals with. And terms are called "of first and second intention" because what fits a thing because of itself is, in a sense, primary to it and its proper status; but what fits a thing because of its being understood is, in a sense, secondary and a secondary status coming to the first. And therefore it is called "of second intention" as a kind of second status.<sup>33</sup>

It will be noted that, in this account, the first and the second intention would both seem to apply to the same object, though in different respects. This is consistent with what was said in the foregoing paragraph, and it may help to clarify what was involved there. The object of a second intentional concept is a first intention in its intentional character, i.e. in its reference to its object. Or, to put it another way, the object of a second intentional concept is the intentional relation between first intentional concept and its object. Hence, the second intentional concept can be thought of in alternative ways: (1) as referring to the relation between first

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<sup>33</sup>John of St. Thomas, Outlines of Formal Logic, trans. Francis C. Wade (Milwaukee: Marquette University Press, 1955), p. 36. John of St. Thomas (whose real name was Jean Poinsot) was a 17th Century scholastic, whose Ars Logica is purportedly a reliable presentation of the logic implicit or explicit in the writings of Thomas Aquinas. His writings are widely referred to in neo-scholastic literature, presumably because it presents Thomistic logic in an especially clear and methodical way. The Outlines is from the first part of the Ars Logica. There is also a translation of parts of the second part of the Ars Logica under the title of The Material Logic of John of St. Thomas, trans. Y. R. Simon, J. J. Glanville, and G. D. Hollenhorst, with a preface by Jacques Maritain (Chicago: University of Chicago Press, 1955). Reference to the latter was made in note 32 of this chapter.



intentional concept and object, (2) as referring to the concept as term of that relation, or (3) as referring to to the object as term of that relation. John of St. Thomas, in the above quotation, utilizes the last of these alternatives, but it is by no means necessary to do so. Thus, in the following passage from Thomas Aquinas, for example, the emphasis is put on the second (or perhaps the first) alternative:<sup>34</sup>

What is first known (prima intellecta) are things outside the soul, the things which first draw the intellect to knowledge. But the intentions which follow on our mode of knowing are said to be secondly known (secunda intellecta); for the intellect comes to know them by reflecting on itself, by knowing that it knows and the mode of knowing.

The relation between first intentional object, first intentional concept, and second intentional concept is not, therefore, to be thought of on the order of a simple vertical linearity, in analogy with, say, a three-storied house. The scholastics did not, so far as I know, recognize any higher orders of intentionality;<sup>35</sup> but even if

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<sup>34</sup>Aquinas, Thomas, Quaestiones Disputatae: De potentia Dei, q. 7, a. 9, c. The translation of this passage is from Aquinas on Being and Essence, a translation and interpretation by Joseph Bobik (Notre Dame: University of Notre Dame Press, 1965), p. 17. This passage also indicates the close relation between the "reflective" or second-intentional point of view and Kant's "critical" or transcendental point of view. (It might also be noted that Thomas uses "intention" here in the sense of "that which is intended" rather than "the intending," i.e. as what I have called the "intentional object" rather than the "intentional concept." That is, he uses it as Peirce does in 1.559.)

<sup>35</sup>John of St. Thomas says that no higher orders of intentionality are recognized. See his discussion of this in The Material Logic, pp. 73f. However, there is

they had this would not have resulted in a removal of reference to the first intentional object. That is, consistent with the rationale of this scheme, a third intention would have to be a concept whose object was a relation, one term of which would be the first intentional object; and similarly for a possible fourth, fifth, or still higher order of intention. Each higher order of intention would be of correspondingly more complex relational structure, but would always be about first intentional objects nonetheless.

The reason for bringing these matters to the fore is to clarify the import of Peirce's "coenosopic" characterization of the subjectmatter of philosophy in general, and of semiotic in particular. The ubiquitous subjectmatter of semiotic to which Peirce is referring in his characterization is, I would suggest, simply the generic representation relation, which is a feature of every experience involving a cognitive structure, i.e. of objective

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one passage in Peirce (written in 1906) in which third intentions are mentioned. It runs as follows: "That wonderful operation of hypostatic abstraction by which we seem to create entia rationis that are, nevertheless, sometimes real, furnishes us the means of turning predicates from being signs that we think or think through, into being subjects thought of. We thus think of the thought-sign itself, making it the object of another thought-sign. Thereupon, we can repeat the operation of hypostatic abstraction, and from these second intentions derive third intentions. Does this series proceed endlessly? I think not. What then are the characters of its different members? My thoughts on this subject are not yet harvested." (4.549) Since there is no other mention of this in the Collected Papers, since Peirce says that his thoughts were "not yet harvested" on this, and since I do not myself understand just what this would involve, I will not pursue it here.

experience in general.<sup>36</sup> As I shall try to explain in Chapters III through V, the generic representation relation is identical with the generic logical relation, regardless of whether "logical" is taken in the broad or narrow sense of the term. It is thus by definition second intentional. And, as I shall explain toward the end of Chapter IV, it is an essential part of Peirce's theory that all cognitive or objective experience involves second-intentionality. Thus the generic representation is present in all such experience. This does not mean that the concept "representation" (or "sign" or "object" or "interpretant") is a part of the subjectmatter of every experience; it means rather that every experience contains a sign, an object, and an interpretant, i.e. contains the representation relation. That is, what we experience is not a second intentional concept but a second intentional object. But if what was said in the preceding paragraph is correct, concerning the three alternative ways of regarding the reference of second intentions, then the second intentional object is the same as the first intentional object of that experience. Hence, the claim that every experience involves second intentions does not mean that there are

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<sup>36</sup>Since the categories are supposed to be universally present in the phenomenon (1.186), the representation relation (which is the category of thirdness) is in fact a feature of every experience. This implies that every experience has a cognitive structure or objective dimension. Perhaps a word of caution should be introduced here, however. "Objective" does not mean "veridical," i.e. the object can be fictional. Also, "cognition" is always used here in the sense in which "false cognition" is a legitimate locution.

objects in addition to the first intentional objects, but only that the first intentional objects are regarded in a second intentional aspect as well. The field of second intentional objects is therefore co-extensive with the field of all possible first intentional objects: for, on the one hand, there is no objective experience without the second intentional point of view; and, on the other hand, there is no second intentionality without the first intentionality which serves as its foundation. The latter follows from the definition of second intentionality; the former follows from considerations which are discussed later (in Chapter IV). I suggest this to be the most profitable way to understand Peirce's "coenosopic" definition of philosophy and logic.

I should like now to return to the question of whether semiotic is an a priori enterprise, on Peirce's view. In likening it earlier to Kant's notion of transcendental inquiry this seemed to be implied. However, this has to be qualified sharply -- and, in fact, I would suggest that this term is too misleading to be of any real use here. If "a priori" means "known prior to and independently of all experience," then it follows from the above considerations that semiotic is not an a priori enterprise: our access to the second intentional is the same as our access to the first intentional, viz. through concrete objective experience. On Peirce's view, the logician has no favored position over the natural scientist

in this respect, save in the fact that the objects of the former are ubiquitous in experience, whereas the objects of the latter usually have to be elicited through special investigative techniques.<sup>37</sup> But, on the other hand, Peirce does say that semiotic aims at finding out what must be and not merely what is; and if necessity is to be taken as a mark of the a priori, as it usually is, then it would seem that semiotic is in some sense an a priori enterprise after all. Let me present a very important passage from Peirce which bears on this problem:

Logic, in its general sense, is, as I believe I have shown, only another name for semiotic (σημειωτική), the quasi-necessary, or formal, doctrine of signs. By describing the doctrine as "quasi-necessary," or formal, I mean that we observe the characters of such signs as we know, and from such an observation, by a process which I will not object to naming Abstraction, we are led to statements, eminently fallible, and therefore in one sense by no means necessary, as to what must be the characters of all signs used by a "scientific" intelligence, that is to say, by an intelligence capable of learning by experience. . . . Now the whole process of development among the community of students of those [logical] formulations by abstractive observation and reasoning of the truths which must hold good of all signs used by a scientific intelligence is an observational science, like any other positive science, notwithstanding its contrast to all the special sciences which arises from its aiming to find out what must be and not merely what is in the actual world. (2.227)

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<sup>37</sup>Again, it has to be remembered that the second intentional object (the first intentional concept) can be fictive. That is, the logician is not concerned with whether or not the first intentions are veridical. Hence, imaginary cases can be as useful in developing a logical point as a real case would be. This does, of course, constitute an advantage of sorts which the logician has over the natural scientist; for the latter is concerned primarily (though not exclusively) with the character of the real world. This is one reason why logic is an "arm-chair" enterprise, whereas natural science is not.

Now the process of being led to "eminently fallible" statements, through observation and abstraction, is simply the process of hypothesis formation and need not especially concern us here. The characterization of semiotic as an "observational" or "positive" science is, of course, consistent with what I said above about the logician having no favored position over the natural scientist in respect to subjectmatter. The question is, how can it be that the logician is, by these means, to arrive at conclusions about what must be? I take it that the answer is simply that the logician is concerned, as Leibniz said, with all possible worlds. Or, as I put it in the paragraph previous to this one, the field of second intentional objects is co-extensive with the field of all possible first intentional objects. Logic is concerned with first intentional objects qua objects, in abstraction from whatever first intentional characters they may have. It presupposes that they have a first intentional character, for it is based upon the first intentional relation; but it is not based upon their having this or that first intentional character. Thus, unlike the special sciences, it is not concerned with those characters exemplified in the actual world but with those characters which would be exemplified in any world, viz. those characters which appertain to anything qua object. This I take to be the import of the "must be," and of the sense in which semiotic is "quasi-necessary" or "formal." Now the reader may have noted

that whereas Peirce speaks in the quote of the necessary characters of signs, I have been speaking of the necessary characters of objects. But I pointed out earlier that what is really in question in semiotic is the representation relation as such, and that it is a matter of emphasis whether one speaks in terms of objectification, representation, or interpretation. I have concentrated on the objectification aspect because this lends itself well to the use of the jargon of "intentionality," and I think this throws a helpful -- if only a partial -- light on Peirce's point of view. But an object is simply the second correlate of the indecomposably triadic relation of representation, and it is always the latter which is really being discussed. Therefore, semiotic can equally be said to be the science of the necessary characters of objects qua objects, or of signs qua signs, or of interpretants qua interpretants.

The sense in which Peirce's theory is -- and is not -- an a priori doctrine has been indicated, and I should think the conclusion would be that this is not really an apt term as applied to Peirce. It is true that a doctrine true about any possible world is a priori true of the actual one, but this is rarely all that is meant when there is talk of the a priori. The usual implication is that the doctrine itself is arrived at through special a priori means, and this Peirce unquestionably denies.

## CHAPTER III

### LOGIC AND REASONING

The purpose of this chapter is to discuss certain aspects of the relation between logic<sup>1</sup> and the reasoning process, as Peirce conceived it. The first question this raises concerns the relation between logic and psychology. Now, no one has insisted more emphatically than Peirce on the necessity of de-psychologizing logic. For example, in his projected Minute Logic (of 1902), after remarking that "considerable controversy has taken place as to whether scientific results of psychology ought or ought not to be admitted among the premisses from which logical principles are to be deduced," he goes on to say that "nobody will do injustice to the present treatise by describing its position as extremely unfavorable to the use of psychology in logic." (2.39) And, in another place, he says: "My principles absolutely debar me from making the least use of psychology in logic." (5.157) Yet it is far from clear that Peirce does, in practice, separate the two enterprises as sharply as such remarks would seem to require. This perhaps show most markedly in his doubt-belief theory

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<sup>1</sup>The term "logic" is used here and throughout this chapter somewhat ambiguously as regards the broader and narrower senses, but with the emphasis more on the former.



of inquiry,<sup>2</sup> but in fact there are passages in many different contexts in the Collected Papers which may make one suspect that, as Justus Buchler put it, "in spite of himself he sometimes was tinged with a strain of psychologism in matters logical."<sup>3</sup> The doubt-belief theory of inquiry, as such, falls outside the scope of this study, and I shall not consider the special problems which it raises;<sup>4</sup> but there are some important points concerning the relation between psychology and logic which do require to be discussed here.

One important difference between the logical and the psychological points of view is brought out by Peirce's contention that, psychologically considered, thought is a continuous process, whereas, logically considered, it is broken up into discrete units of premisses and conclusions. This is in fact what underlies the resolution of the apparent paradox generated by his dictum that every cognition is determined by a previous cognition of the same object, i.e. that there is no "intuition."<sup>5</sup> On the one hand, the

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<sup>2</sup>That is, the theory of inquiry sketched out in Peirce's classic article "The Fixation of Belief." (5.358-87, esp. 5.365-76)

<sup>3</sup>Charles Peirce's Empiricism, p. 109.

<sup>4</sup>It should be noted, though, that Peirce himself did not regard the concepts of "doubt" and "belief" as psychologistic. See 2.210 for an explicit statement on this.

<sup>5</sup>Peirce defines "intuition" as follows: "Throughout this paper, the term intuition will be taken as signifying a cognition not determined by a previous cognition of the same object, and therefore so determined by something

dictum would seem to imply that an infinite series of cognitions precedes any given cognition; but, on the other hand, there must surely have been some time prior to the whole series and therefore there must have been a first cognition which was a premiss not itself a conclusion.

(5.263) The solution is that, as a continuous psychological process, there is no limit to the number of discriminations that can be made within thought for logical purposes. The paradox is generated only by supposing that the discrete units composing an argument represent discrete mental actions, which is precisely what Peirce denies.

(5.181)

I find two discussions in Peirce especially interesting in this connection. The first is in his 1868 essay on the grounds of validity of the laws of logic.<sup>6</sup> A hypothetical objector has there urged that a syllogism, being a purely mechanical matter, cannot truly represent the

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out of the consciousness. Let me request the reader to note this. Intuition here will be nearly the same as "premiss not itself a conclusion"; the only difference being that premisses and conclusions are judgments, whereas an intuition may, as far as its definition states, be any kind of cognition whatever. But just as a conclusion (good or bad) is determined in the mind of the reasoner by its premiss, so cognitions not judgments may be determined by previous cognitions; and a cognition not so determined, and therefore determined directly by the transcendental object, is to be termed an intuition." (5.213) This is the first paragraph of "Questions Concerning Certain Faculties Claimed for Man."

<sup>6</sup>"Grounds of Validity of the Laws of Logic: Further Consequences of Four Incapacities" (5.318-57). The passage discussed above is from 5.329.

continuous course of mental action: "A syllogism is a dead formula, while thinking is a living process." In reply to this, Peirce readily grants that "no number of syllogisms can constitute the sum total of any mental action," but then points out that it does not follow that it does not represent the mental action at all; for it "is not intended to represent the mind, as to its life or deadness, but only as to the relation of its different judgments concerning the same thing." The point is clarified by a comparison of the relation of argument to thought with the relation of a surveyor's map to the land he is surveying: the map is not the land, but that does not prevent it from truly representing the land as far as it goes. The map "cannot, indeed, represent every blade of grass; but it does not represent that there is not a blade of grass where there is." Echoing the scholastic slogan "abstrahentium non est mendacium," he remarks that "to abstract from a circumstance is not to deny it." In any case, he concludes:

The relation between syllogism and thought does not spring from considerations of formal logic, but from those of psychology. All that the formal logician has to say is, that if facts capable of expression in such and such forms of words are true, another fact whose expression is related in a certain way to the expression of these others is also true. (5.329)

The point is perhaps made in a better way in a later discussion (in the Minute Logic), where he says that it is only the "self-defence" of the process that is broken up into discrete arguments. (2.27) The paragraph from which

this comes is too long to quote in full here, but the following is an extract from it:

There is no necessity for supposing that the process of thought, as it takes place in the mind, is always cut up into distinct arguments. A man goes through a process of thought. Who shall say what the nature of that process was? He cannot; for during the process he was occupied with the object about which he was thinking, not with himself or his motions. . . . Practically, when a man endeavors to state what the process of his thought had been, after the process has come to an end, he first asks himself to what conclusion he has come. That result he formulates in an assertion, which, we will assume, has some sort of likeness -- I am inclined to think only a conventionalized one -- with the attitude of his thought at the cessation of the motion. That having been ascertained, he next asks himself how he is justified in being so confident of it; and he proceeds to cast about for a sentence expressed in words which shall strike him as resembling some previous attitude of his thought, and which at the same time shall be logically related to the sentence representing his conclusion, in such a way that if the premiss-proposition be true, the conclusion-proposition necessarily or naturally would be true. . . . But the self-observer has absolutely no warrant whatever for assuming that that premiss represented an attitude in which thought remained stock-still, even for an instant. . . . The logical argument only represents the last part of thought, for the reason that it supposes a premiss which represents some attitude of thought which can only have resulted from thinking.  
(2.27)

I do not think any detailed comment is required on this, but the last sentence in the quotation should be especially noted, for it is a way of saying that the logical argument always supposes a premiss which is itself a conclusion. But why should this be so? Assuming that we have some proposition set up as conclusion, and some other(s) set up as premiss(es) for that conclusion, are we not exclusively concerned with the latter qua premiss(es)? Is not the question whether the premiss is itself capable

of being a conclusion logically irrelevant in any given case? The answer is that it is not irrelevant, because: (a) in logical evaluation we are concerned with determining whether the truth of the premisses would provide any sort of warrant for the truth of the conclusion; (b) we therefore presuppose that the truth-value of the premisses is in principle ascertainable;<sup>7</sup> (c) the truth-value of no non-trivial proposition can be ascertained by mere inspection of the proposition itself; (d) there is no intuition (in the sense indicated above) by which we can ascertain its truth-value; and, therefore, (e) the premisses must be at least capable of being made the conclusion of some further premisses.

The idea is not that, in evaluating any given argument, we are logically obligated to embark upon an endless series of regressive evaluations, but rather that we are logically committed to the assumption that the premisses are capable of being so evaluated -- this being implicit (given Peirce's other assumptions) in the characterization of logical validity in terms of preservation of truth-value. We are not obligated actually to make any such evaluation in any given case, and a fortiori not in all. I suggest that this is also the way in which we are

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<sup>7</sup>In assuming that the premisses have a truth-value we are assuming that they have a certain character; but all real characters are ascertainable characters, for Peirce denies the reality of the incognizable. (5.254-58) Hence, in assuming that they have a truth-value we are assuming that it is ascertainable. Of course, this doesn't mean ascertainable then and there or at any given time.

to understand the dictum that every cognition is determined by a previous cognition of the same object. This is a logical maxim, and the logical point of view requires that we regard every proposition as a potential conclusion (i.e. as "determined by a previous cognition").

An objection which might be raised at this point would run as follows. Since logical evaluation is a determination of the logical dependency of the truth-value of one proposition on some logically prior one(s), and since it is claimed that this logical priority has no limit (there being no logically first premisses), it would seem to follow that the truth-value of no given proposition could ever be determined, as this would involve an infinitely regressive evaluation. This would then seem to imply that, on Peirce's own principles, no proposition (with the possible exception of a tautology) has any truth-value at all; for, in accordance with the principle of the unreality of the incognizable,<sup>8</sup> an unknowable truth-value would be no truth-value at all. I do not know that Peirce ever explicitly considers such an objection, but I would suggest that we can see here one reason -- and perhaps the chief reason -- why he defines truth in terms of fixed belief.<sup>9</sup> Peirce's theory of truth is, again, an aspect of his thought which I have found it necessary to

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<sup>8</sup>See footnote 7, this chapter.

<sup>9</sup>Again, see "The Fixation of Belief," esp. 5.375

exclude from the scope of this study. But a part of its import appears in the point made above, that there is no logical obligation to make an infinitely regressive series of logical evaluations. To hold some proposition as a premiss is, from the logical point of view, to treat it precisely as if there were no question about it, i.e. as if one's belief in it were "fixed"; and a proposition always so treated would in fact represent a fixed belief and would ipso facto be true. Since there is no general logical obligation to call all (or any) of our beliefs into question,<sup>10</sup> i.e. no obligation to treat every premiss as if it were itself a conclusion, it follows that there may be any number of true propositions.<sup>11</sup> On the other hand, once a genuine question is raised about a proposition there is no rational recourse<sup>12</sup> save to treat it (or perhaps its contradictory) as a possible conclusion and seek appropriate premisses.

It would seem, then, that one important difference between the psychological and the logical point of view

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<sup>10</sup>Clearly, on Peirce's view, it would be intellectual suicide to do so. This is why the rejection of Cartesian doubt (5.265) and the closely related doctrine of common-sensism (5.439ff, 5.504ff) are so important in Peirce's philosophy.

<sup>11</sup>In fact, Peirce remarks that "upon innumerable questions we have already reached the final opinion."  
(8.43)

<sup>12</sup>It will be recalled that the method of reason (scientific method) is only one of four methods of fixing belief which Peirce discusses in "The Fixation of Belief." Logic is the theory of that method.

consists in the fact that, whereas the former regards thought as a continuous process, the latter must regard it rather as if composed of (potentially infinite) series of discrete units. Does this imply that, for Peirce, terms like "mind" and "thought" mean something different when used in psychological contexts than when used in logical contexts? I am unable to give any straightforward answer to this. It is not necessary to do so here, in any case, since we are concerned with "mind" and "thought" in their logical sense regardless of what sense they may have in psychology. But it is important to note that the continuous character of the mental process is of essential import from the strictly logical point of view, i.e. is directly implied by the latter. For only if thought is continuous can the dictum that every cognition is determined by a previous cognition of the same object be made consistent with the fact that there must have been a time prior to any thought about the object. Thus it would seem that Peirce's logical theory has at least one psychological implication. And this is disturbing, at least prima facie, for it would seem to involve an illicit traffic between the second and first intentional levels, i.e. it would mean that what is supposedly a formal consideration has definite material consequences.

The resolution of this difficulty is to be found, I believe, in the fact that, although Peirce denied the dependency of logic on psychology, he did not think that



psychology is altogether independent of logic. It will be recalled that, according to Peirce's classification of the sciences, the special sciences follow philosophy in the schematic order and (in accordance with the principles of that order) thereby presuppose philosophy.<sup>13</sup>

The following statement by Peirce, which follows upon a discussion of some of the ways in which, on his view, the physical and biological sciences involve philosophical issues, is directly to our point:

The dependence of the psychical sciences upon philosophy is no less manifest [than that of the physical and biological sciences]. A few years ago, indeed, regenerate psychology, in the flush of her first success, not very wisely proposed to do without metaphysics; but I think that today [i.e. in 1902] psychologists generally perceive the impossibility of such a thing. It is true that the psychical sciences are not quite so dependent upon metaphysics as are the physical sciences; but, by way of compensation, they must lean more upon logic. The mind works by final causation, and final causation is logical causation.  
(1.250)

Whatever the psychologists of 1902 may have felt, it may well be doubted that those of 1966 "perceive the impossibility" of psychology without philosophy. However, I do not think that we should take the question to be closed on that account, and simply write Peirce's notion off without further ado. One has only to inspect some of the efforts which have been made in psychology to arrive at

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<sup>13</sup>See 1.180-202 and 1.238-82. Briefly, the order runs as follows, each successive science presupposing the preceding one(s): mathematics, phenomenology, esthetics, ethics, logic, metaphysics, and the special sciences. Each in turn may have many subdivisions. See also footnote 7, chapter II, of the present study. And see also the appendix to this study.

an account of distinctively human thought-processes, symbolic thought, etc., to see that Peirce might after all be right.<sup>14</sup> There are certainly a great many matters of psychological interest which would seem to have little or no relation to logic, but so far as the characterization of the conceptualization process itself goes, it is surely far from clear at present that this can be made out independently of logical considerations, if not metaphysical ones. But, however that may be, Peirce goes on to say that:

Moreover, everything in the psychical sciences is inferential. Not the smallest fact about the mind can be directly perceived as psychical. An emotion is directly felt as a bodily state, or else it is only known inferentially. That a thing is agreeable appears to direct observation as a character of an object, and it is only by inference that it is referred to the mind. If this statement be disputed (and some will dispute it), all the more need is there for the intervention of logic. Very difficult problems of inference are continually emerging in the psychical sciences. (1.250)

Now, part of what Peirce is saying here is simply that psychology makes inferences, and since logic is the critique of inference psychology therefore presupposes logic as organon. This, however, is not to our point. What is to our point is the claim that everything in psychology is

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<sup>14</sup>See, for example: J. S. Bruner, J. J. Goodnow, and G. A. Austin, A Study of Thinking (New York: Science Editions, Inc., 1962); Heinz Werner and Bernard Kaplan, Symbol Formation (New York: John Wiley & Sons, Inc., 1963); George A. Kelly, The Psychology of Personal Constructs (New York: W. W. Norton & Co., Inc., 1955); George Humphrey, Thinking: An Introduction to its Experimental Psychology (New York: Science Editions, Inc., 1963); and Donald W. Taylor, "Thinking," in Theories in Contemporary Psychology, ed. Melvin H. Marx (New York: The Macmillan Company, 1964), pp. 475-93.

inferential because no fact about mind can be directly perceived as psychological. This harks back to his argument against introspection in "Questions Concerning Certain Faculties claimed for Man." (5.244-49) Now his argument there -- and in fact his general stand against introspection -- can easily be misconstrued as an argument for behaviorism. However, while Peirce's position is no doubt congenial with at least some form of the behavioral approach, his point there is not that mind is behavior but that mind is in a certain sense objective, viz. in the sense that it is originally found, so to speak, as the characters of objects.<sup>15</sup> The characterization of certain characters as "mental" is a hypothetical inference required in order to account for the fact of error, ignorance, and social disagreement. (5.233-35) The point here is that, through our experience of error and ignorance, we come to realize that there is a possible difference between what we think to be the case and what really is the case: a distinction is thus instituted between what appears to be and what really is. But appearance and reality -- what is thought to be and what is -- do not constitute an exclusive disjunction: what we think to be the case often is the case. The relation is rather that of part-whole:

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<sup>15</sup>That is, Peirce has a basically Aristotelian conception of mind. This point will be elaborated to some extent in Chapters VI and VII of this study. The sense in which mind is both subjective and objective will be somewhat clearer after the notions of sign and interpretant are discussed in Chapters IV and V of this study.

the discovery of the possibility of error and ignorance is precisely the discovery that the whole of experience is mind-conditioned or self-conditioned or ideal, a part of which is also real, veridical, or objectively valid. This is putting it genetically, but the point is a logical one, viz. that all objective experience must be regarded as containing an ideal or "subjective" element if we are to account for error and ignorance, and that subjective aspect of the objective is what we mean by "mind." That's why Peirce says that "not the smallest fact about the mind can be directly perceived as psychical": the concept of mind is an explanatory hypothesis introduced to explain the fact of fallibility.

This is also at least a part of the point behind his argument that all thought is in signs, in Question 5 of "Questions Concerning Certain Faculties Claimed for Man." (5.250-53) His rather terse argument there is as follows:

If we seek the light of external facts, the only cases of thought which we can find are of thought in signs. Plainly, no other thought can be evidenced by external facts. But we have seen that only by external facts can thought be known at all. The only thought, then, which can possibly be cognized is thought in signs. But thought which cannot be cognized does not exist. All thought, therefore, must necessarily be in signs. (5.251)

It would be natural to interpret this to mean that, since the only thought we observe is that of people talking or otherwise using signs, that is therefore the only way in which we can conceive thought. This would then be a sort

of argument for behaviorism, with sign-use construed as thought-behavior, and vice versa. Whatever independent merit there may be in this notion, I submit that this is not the real gist of Peirce's point here. What he means is rather that the very notion of thought is the notion that things are manifest by signs or appearances, a notion consequent upon the awareness of the possibility of error. To be sure, the manifestation of thought through language-signs is a very important case, but to interpret this as primarily an argument for behaviorism disrupts the continuity of the general line of argument in the article in question. For what Peirce is doing in general in this article represents a very instructive and significant use of the pragmatic method, notwithstanding the fact that he had not at that time actually formulated the method as a doctrine: he is simply asking what the point is to the notion of mind to begin with. What are the phenomena which the notion of thought is introduced to explain and which thus provide the justification for its introduction? The question of what "faculties" we have is to be answered only by seeing why the hypothesis of mind is required. Thus, if all the relevant phenomena can be explained in terms of a single, generic notion of mind as a process of sign-interpretation, then there is no need and indeed no warrant for positing the various forms of intuition against which he argues in this article. Now the notion of the mind as a process of sign-interpretation is the notion of

the world as a process of appearances of objects. It is simply experience regarded from the logical point of view: the object appears through signs, which is to say, a sign is an appearance of an object. The notion of a sign does add something to the notion of appearance, viz. it puts it explicitly into the context of logical discussion -- a context which will be elaborated upon in what follows. But it should be noted that the question whether we can think without signs is simply the question of intuition over again; for to think an object without a sign would be to apprehend the Ding an sich -- and there is no Ding an sich.

Let us turn now to a discussion of Peirce's doctrine of leading principles. Since this particular topic is already a familiar one to Peirce students, having been discussed in several previous studies,<sup>16</sup> I shall cover only the most pertinent points here and express them somewhat more freely than would otherwise be permissible. The notion of a leading principle has to be understood in connection with the notion of an argument.<sup>17</sup> An argument is essentially a claim of a certain sort, viz. that the

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<sup>16</sup>See, for example, Buchler, Charles Peirce's Empiricism, secs. 45-46; T. A. Goudge, The Thought of C. S. Peirce (Toronto: University of Toronto Press, 1950), pp. 130ff; and Manley Thompson, The Pragmatic Philosophy of C. S. Peirce (Chicago: The University of Chicago Press, Phoenix Books, 1963) pp. 5ff.

<sup>17</sup>See, in particular, 2.461-74 for the background on which the account above is based.

asserted truth of a given conjunctive set of explicitly formulated propositions (the premisses) would suffice to determine the truth of a further explicitly formulated proposition (the conclusion), either necessarily or with probability (depending upon the type of argument which it is). The validity of this claim depends upon the truth of whatever proposition would justify this claim. The justifying proposition is, of course, the leading principle of the argument. Thus, Peirce says, "a valid argument is one whose leading principle is true." (2.463) The argument thus includes both the leading principle and the premisses qua premisses for a given conclusion. The leading principle is in a conditional or if-then form, whereas the argument form is constituted by the conjunction of premisses to conclusion via a "hence" (or a cognate term), and the latter is not, therefore, conditional. One important point implied by this is that the premisses must be understood as being definitely asserted (though the universe of discourse of which they are asserted may of course be hypothetical, fictitious, imaginary, or whatever). Thus, while the import of the "hence" is that there is a justificatory and true leading principle, the "hence" also presupposes the actual assertion of the premiss and conclusion propositions. It is not necessary, on the other hand, for the premisses to be true for the argument to be valid; for while the argument includes the premisses, its claim to validity concerns the conditional, i.e. is a claim that

there is a true conditional proposition of the requisite sort.

The implied conditional proposition, or leading principle, is, as Peirce says, "whatever is considered requisite besides the premisses to determine the necessary or probably truth of the conclusion." (2.465) Further, he says:

No fact, not superfluous, can be omitted from the premisses without being thereby added to the leading principle, and nothing can be eliminated from the leading principle except by being expressed in the premisses. Matter may thus be transferred from the premisses to the leading principle, and vice versa. (2.465)

Now, there must be both premisses and a leading principle. For suppose everything were put into the premisses. In that case the "hence" would mean nothing, i.e. would make no claim not already made by the mere conjoint assertion of the propositions constituting (what would otherwise be) the premisses and conclusion; but mere conjoint assertion does not in itself constitute an argument. On the other hand, the "hence" must conjoin something in order to make any claim about the justification for that conjunction. This leads to the distinction between, and the criterion for distinguishing between, material and logical leading principles. Any leading principle such as is ineliminable as a leading principle (by transference to the premisses) is a logical leading principle. That is to say, logical leading principles are those which, even if they should be formulated explicitly as premisses, would nevertheless have to remain as leading principles. (2.466) All other



leading principles are material.

Let us see if we can get clearer on the point to this. An argument is a claim about matters of fact (real or supposed), not merely about words or symbols. It takes certain things to be matters of fact, viz. those things which are asserted to be facts by the premisses, and claims that, given these facts, and because of these facts, that which is asserted by the conclusion to be a fact is a fact (necessarily or probably). Now Peirce remarked that "every logical principle considered as an assertion will be found to be quite empty. The only thing it really enunciates is a rule of inference; considered as expressing truth, it is nothing." (2.467) Said another way:

Logical principles of inference are merely rules for the illative transformation of the symbols of the particular system employed. If the system is essentially changed, they will be quite different. (2.599)

And, again:

A logical principle is said to be an empty or merely formal proposition, because it can add nothing to the premisses of the argument it governs, although it is relevant; so that it implies no fact except such as is presupposed in all discourse. . . . (3.168)

It might be thought that this means that the argument can not be about matters of fact, in contradiction to what I have just suggested above; for once all material content has been transferred to the premisses the claim implicit in the "hence" is in fact reduced to the purely formal claim embodied in the logical leading principle, which as he says, concerns "the illative transformation of the symbols of the particular system employed." Further, it

might be supposed that Peirce is here espousing a kind of logical conventionalism through the relativization of logical principles to particular symbol systems. I suggest that neither of these would be correct, however.

In a letter to Lady Welby, Peirce explains how a proposition may be analyzed for logical purposes, and this account gives an indication of what is at stake in our present discussion, though the particular proposition which he analyzes happens not to be of the special sort with which we are here concerned:

When we have analyzed a proposition so as to throw into the subject everything that can be removed from the predicate, all that it remains for the predicate to represent is the form of connection between the different subjects as expressed in the propositional form. What I mean by "everything that can be removed from the predicate" is best explained by giving an example of something not so removable. But first take something removable. "Cain kills Abel." Here the predicate appears as "\_\_\_\_\_ kills \_\_\_\_\_." But we can remove killing from the predicate and make the latter "\_\_\_\_\_ stands in the relation \_\_\_\_\_ to \_\_\_\_\_." Suppose we attempt to remove more from the predicate and put the last into the form "\_\_\_\_\_ exercises the function of relate of the relation \_\_\_\_\_ to \_\_\_\_\_" and then putting 'the function of relate to the relation' into another subject leaves as predicate "\_\_\_\_\_ exercises \_\_\_\_\_ in respect to \_\_\_\_\_ to \_\_\_\_\_." But this "exercises" express "exercises the function." Nay more, it expresses "exercises the function of relate," so that we find that though we may put this into a separate subject, it continues in the predicate just the same.  
(LW 25)

The analytic transition here is from:

(1) Cain kills Abel.

to

(2) (Cain) kills (Abel)

to

(3) (Cain) stands in the relation (killer of) to  
 (Abel).

to

(4) (Cain) exercises the function of relate of the  
 relation (killer of) to (Abel).

The fifth transition need not be set down because, as Peirce says, the transition to the fourth was not in fact necessary; for (4) says nothing different than (3) says: To stand in a certain relation is not different from exercising the function of being a relate of that relation, and vice versa. When we come to the purely formal we come to the end of the analytic road, as it were. But now, let us note that though the predicate of (3) is purely formal -- and a fortiori the predicate of (4) and any further analytic restatements -- it does not follow that (3) is purely formal; for (3) is simply (1) expressed in a different way, and (1) manifestly is not purely formal. The point is that every proposition contains, or can be regarded as containing for logical purposes, a material and a formal element; and what we have here is simply an analytic technique for isolating the formal element. Now an argument may be regarded as a complex proposition, and the same analytic technique is applicable to it. When applied it results in the discrimination of a logical leading principle from the material elements which it contains, viz. the premisses. But just as (1) does not cease to be concerned with matters of fact simply because it can

be analyzed into (3), so similarly an argument does not cease to be concerned with matters of fact simply because it can be analyzed into a logical leading principle and the material premisses which it concerns. The argument may be said to have a subject, its premisses and conclusion; and to have a predicate, its leading principle; and the latter can be expressed purely formally -- can be converted into a logical leading principle -- by transferrance of all material content to the premisses.<sup>18</sup>

Now when Peirce relativizes logical principles to particular symbol systems this is not to be construed as meaning that every such system has "its own logic." There is no Carnapian "principle of tolerance" in Peirce's approach to logic, i.e. no notion that one can freely take on and off various logical (and/or metaphysical) hats simply by freely assuming first one and then the other symbolic system. For it is assumed that these are all languages within which the same thing can receive varying symbolic expressions. A given argument can be expressed in any genuine language, provided it contains suitable conventional signs, but it is the same argument because it is concerned with the same matters of fact. Naturally, the conventions for expression are going to

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<sup>18</sup>Augustus De Morgan remarks that "a syllogism is a proposition; for it affirms that a certain proposition is the necessary consequence of certain others. An affirmation is not the less an affirmation because it affirms about other affirmations." On the Syllogism, and other Logical Writings, ed. Peter Heath (New Haven: Yale University Press, 1166), p. 318n.

vary from language to language, symbol system to symbol system, and this is why "if the system is essentially changed, [logical principles] will be quite different." (2:599) However, the varying expressions of these principles all alike express the same facts, viz. those such as are presupposed in all discourse.<sup>19</sup>

What are these facts? Regarded in the most formal way they are, I believe, what Peirce tried to epitomize in his many statements of the fundamental and generic triadic representation relation. Since the representation relation and its connection with inference will be discussed in some detail in the next chapter, let me simply state at present what I believe that connection is supposed

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<sup>19</sup>"A logical principle is said to be an empty or merely formal proposition, because it can add nothing to the premisses of the argument it governs, although it is relevant; so that it implies no fact except such as is presupposed in all discourse, as we have seen in section 1 that certain facts are implied." (3.168) This was quoted earlier in the text above, but with the final clause of the last sentence elided. If we turn to section 1 of that article we find Peirce giving a physiological version (in terms of nervous action, etc.) of the doubt-belief theory of inquiry. Since there will be no direct consideration here of the doubt-belief theory, as such, I treat the presupposed facts to which Peirce alludes only in their most formal way. My assumption is that the doubt-belief theory is translatable into formal talk in terms of the generic sign-relation. I hope to be able to show how this is to be done at some later time, but it was not feasible to go into it here. I might point out, however, that in 5.435 Peirce virtually identifies the pragmatic maxim with the dictum de omni. If the former can be taken as a kind of epitome of the doubt-belief theory, and if the latter is identified with the generic sign relation (which is what I assume in what follows above), then my interpretive strategy here must be correct, at least in a general way. I have no doubt that it is. But the relation between the doubt-belief theory and the semiotic theory is terra incognita as far as Peirce scholarship goes at this time, and I have to bridge this gap here by a rather large assumption.

to be. It is, namely, identity: Peirce intends to identify representation and inference. A strong hint that this is so can be gotten by noting a certain prima facie formal similarity between the traditional nota notae inference principle and some of his characterizations of the sign relation, such as the following one:

[A sign is] anything which, being determined by an object, determines an interpretation to determination, through it, by the same object. (4.531)

Nota notae est nota rei ipsius: the mark of the mark is a mark of the thing itself; the sign of the sign is the sign of the object itself; the predicate of the predicate is a predicate of the subject. Peirce indicates in several places that he regards the nota notae as the generic inference principle.<sup>20</sup> Further, he identifies this with the dictum de omni (4.77), and with what De Morgan called the principle of the transitiveness of the copula. (2.591-92) The latter is in turn identified with the illative relation (3.175), and this, again, is explicitly said to be the "primary and paramount semiotic relation." (2.444nl) I suggest, therefore, that all of Peirce's statements of the representation relation may thus be taken as so many variant expressions of what he understands to be expressed by the nota notae, the dictum de omni, the notion of the transitivity of the copula, or the principle of illation.<sup>21, 22</sup>

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<sup>20</sup>See esp. 5.320 and 3.183, but see also 2.590-92, 3.166, 4.76, and 4.561nl.

<sup>21</sup>Some other passages relevant here are: 2.604 2.365, 2.369, 2.710, 4.79, 5.320, and esp. 6.320

The formal predicate of every argument -- the generic logical leading principle -- is thus the fundamental semiotic or representation relation. This relation will be discussed directly in the next chapter.

Let us now consider the distinction between what Peirce, following the medieval tradition, called "logica utens" and "logica docens." According to Peirce, reasoning is essentially a self-controlled, self-conscious, or reflexive active.

Now a person cannot perform the least reasoning without some general ideal of good reasoning; for reasoning involves deliberate approval of one's reasoning; and approval cannot be deliberate unless it is based upon the comparison of the thing approved with some idea of how such a thing ought to appear. Every reasoner, then, has some general idea of what good reasoning is. This constitutes a theory of logic: the scholastics called it the reasoner's logica utens. (2.186)

Logica docens, on the other hand, is a theoretical logic, i.e. the theoretical development of what is only implicitly

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In the latter he states that the dictum de omni is "essentially the pattern of reasoning itself."

<sup>22</sup>I think it is important to look at this from the right direction, so to speak. Rather than starting with an assumption about what the nota notae or dictum de omni mean and then understanding Peirce from that, we should rather assume that Peirce was as competent as anyone to understand what these dicta mean and that they are to be understood from an understanding of Peirce. That is, this is the point of view we should take as interpreters of Peirce. In any case, the identification should be taken as suggestive rather than as definitive at this point. It would probably be more correct to say that the basic semiotic relation is a generalization from the nota notae and cognate principles. But then everything hinges on what these principles mean to begin with, and this is surely a moot point. In any case, the next two chapters will be concerned with discussing, in part, what these principles mean for Peirce.

involved in one's logica utens.<sup>23</sup> There is a close connection between one's logica utens and the material leading principles which one accepts, and between logica docens and logical leading principles of inference. Peirce's point is that to reason at all is to recognize a conclusion as a conclusion from some premisses, and hence to recognize that there is some more general principle which warrants the acceptance of the one on the basis of the acceptance of the other. Thus, if I reason from the fact that Socrates is a man to the fact that he is mortal, then it is a reasoning insofar and only insofar as I recognize that this transition is warranted by some more general principle, such as e.g. that all men are mortal. The proposition "All men are mortal", accepted as a basis for such thought-transitions is a material leading principle and is ipso facto a part of my logica utens. A logica docens develops, however, only insofar as one tries to get clearer on precisely what is involved in taking such material propositions as leading principles. Thus I accept, say, Socrates' mortality as a fact on the basis of the fact that he is human. But what is it to accept one fact on the

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<sup>23</sup>In all reasoning . . . there is a more or less conscious reference to a general method, implying some commencement of such a classification of arguments as the logician attempts. Such a classification of arguments, antecedent to any systematic study of the subject, is called the reasoner's logica utens, in contradistinction to the result of the scientific study, which is called logica docens." (2.204) For an interesting discussion of this distinction, within the scholastic framework, see The Material Logic of John of St. Thomas, pp. 47-59.



basis of another? It is to assume that there is some further fact relating those two facts in some way which I also accept as a fact, e.g. it may be the fact that whatever is human is mortal. This further fact need not be that particular fact just named; it could be any fact which I conceive (rightly or wrongly) to in some way constitute a basis for acceptance. But the very notion of "basis for acceptance" implies that there is some further fact of this sort. I thus have a logica utens precisely insofar as I have any awareness that I accept some facts as providing a warrant in this way. But now I may go further and ask what justifies my -- or anybody else's -- logica utens; which is to say, I may ask why the acceptance of a general fact such as that all men are mortal should warrant the acceptance of some particular person's mortality on the basis of the acceptance of their humanity. This is the theoretical step which constitutes the beginning of the development of a logica docens, and what it seeks to formulate are the logical leading principles implicit in the material principles.

The development of a logica docens thus presupposes the acceptance of some logica utens, though not any particular one. Perhaps an analogy could be made here with, for example, the relation between microscopic physics and the domain of macroscopic objects. Clearly, the physicist cannot deny the existence of the macroscopic domain from which he necessarily sets out and which in some sense constitutes his ultimate subjectmatter, regardless of what the

character of the microscopic structures which he discovers may turn out to be. Thus, for example, he cannot deny the existence of the macroscopic objects which function as his instruments (e.g. his microscope) in favor of the microscopic entities which these very macroscopic objects reveal to him. On the other hand, it does not follow (as some might have it) that all the physicist is concerned with is macroscopic objects as macroscopic; nor does it follow that his theoretical inquiries cannot alter in important ways his conception of macroscopic objects. The case is similar with the theoretical logician. The subjectmatter with which he begins is necessarily some logica utens or other, and the results of his inquiry cannot possibly bring into question the assumptions implicit in any logica utens as such, since that is precisely what he is inquiring into. It can, however, eventuate in a reformed conception of what any given logica utens is. More generally, the logician doesn't invent his subjectmatter; he articulates it -- as does any scientist.<sup>24</sup>

A final matter which I wish to consider briefly in this chapter is the fact that Peirce holds that, although all thought is inferential, not all inference is reasoning. Reasoning is self-critical inference; it is the self-defense of inference, as it were; but not all inference involves

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<sup>24</sup>Or, in John Locke's famous phrase: "But God has not been so sparing to men to make them barely two-legged creatures, and left it to Aristotle to make them rational, . . ." An Essay Concerning Human Understanding, ed. A. C. Fraser (New York: Dover Publications, Inc., 1959), Vol. II, p. 391.

this. Another way of putting this is to say that reasoning is conscious inference and that there is also such thing as unconscious inference.<sup>25</sup> Now, from the logical point of view, the notion of unconscious inference (i.e. inference which is not reasoning) is, I believe, not distinct from the notion discussed earlier in this chapter that, while all thought need not actually be evaluated in terms of evidence for its claim, there is nevertheless no thought which in principle could not be. This is, as it were, the pragmatic import (in the logical sphere) of the notion of unconscious inference. There is, however, another point which I think should be borne in mind in this connection, though I do not recall Peirce himself ever discussing it. This is the fact that we are not necessarily aware, at any given time, of all of our reasonings. That is, while our logical theorizing begins with the acceptance of an existent logica utens, we are not necessarily able to produce and formulate the complete contents of it. For what is that content except all of those general beliefs which we hold which we are willing to utilize as material leading principles in the acceptance of further beliefs?

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<sup>25</sup>"Reasoning, properly speaking, cannot be unconsciously performed. A mental operation may be precisely like reasoning in every other respect except that it is performed unconsciously. But that one circumstance will deprive it of the title of reasoning. For reasoning is deliberate, voluntary, critical, controlled, all of which it can only be if it is done consciously." (2.182) The rest of this paragraph and several following ones are especially worth consulting here. See also 2.773, 4.476, 5.108, 5.181ff, 5.194, 5.440, and 7.444-50.

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In order to be a part of our logica utens a given belief must be recognized as such and accepted as a possible justifying principle; but it is one thing to recognize and utilize a given belief in this way at one time, and it is quite another thing to be able, at some given time, to be aware of all of the beliefs which we would, at some time, so recognize and so utilize. In brief, our logica utens cannot be supposed to be identical with what we suppose it to be at a given time. This is simply another way of saying that we really have no certain way of knowing at any given time how much of our experience does involve reasoning. Hence, I think we should distinguish between unconscious inference and unconscious reasoning. By the former would be meant judgments which, while not in fact reasonings, must nevertheless be regarded -- if they are to be logically regarded at all -- as potential conclusions. By the latter would be meant reasonings which we are not, upon some given occasion (e.g. upon some later reflection), aware of as having been reasonings. The reason for suggesting this distinction is that it might prove useful in dealing with such matters as, for example, the inferential character of perceptual judgments. The distinction is not essential for our purposes here, however.