Charles Sanders Peirce (pronounced “purse”) has long been recognized as one of the principal figures in the history of modern symbolic logic, the first American pragmatist, and the principal originator of Semiotics. In all of these capacities, however, Peirce has been a problematic figure, in part because his philosophical position is exceptionally demanding, but also because he did not, in his lifetime, complete a comprehensive book that provides a continuous exposition of his thought. Peirce was an incisive historian of logic and metaphysics and one among the earliest American scientists to receive international recognition. In addition to more than 40,000 pages of published books, articles, reviews and encyclopedia entries, Peirce left a massive collection of unpublished papers still in the process of being edited and published. Peirce’s philosophical work was profoundly shaped early on by his intensive critical study of Kant (above, pp. ???), which led him to the study of Medieval realism, especially the writing of Duns Scotus.

Early scholarship on Peirce was understandably slow to grasp either the centrality of Peirce’s concern with logic as semiotic or the scope of the implications he drew from it, particularly in his sustained and sometimes sinuous following out of the links between logical reasoning and metaphysics. As Duns Scotus had recognized, the result of a theory of reality that could not account for what he had termed “formal universals” but assumed that reality was encompassed by such terms as Being and Substance, or Form and Matter, was that we could neither account for our ability to make valid generalizations nor prevent philosophical arguments from hopeless entanglements with paradox. Peirce’s approach to this problem, explored in precise detail in the first selection here, “On a New List of Categories,” was not to seek out or deduce, following Kant, a priori principles that are legislative for our conceptions, but to examine what conceptions were indispensable for making even the simplest predications (as in his example, “The stove is black”).

The difficulty that readers frequently have in reading Peirce’s philosophical essays (like Kant’s critiques) sometimes flows from the very simplicity of what he aims to do—a point that may well recall William Blake’s (above, pp. ???) aphorism concerning the gulf that separates the simple from the insipid. Recognizing that Kant’s greatest limitation may well have been the absence of any comprehensive theory of symbolic mediation, Peirce keeps attention strictly focused on the task of discerning how the concepts with which we think depend upon other concepts, without making the assumption that we could intuitively recognize which among our conceptions are primary or primitive. “On a New List of Categories” is both an extension of Kant’s deduction of his Categories, a return to Aristotle’s (above, pp. ???) first attempt to formulate categories as predicates, and a brilliant breaking of new ground in both method and result. Peirce’s account need not be confusing, so long as one recognizes that Peirce’s three categories, later reduced to First, Second, and Third, provide a way to locate the ground of a conception, the scope of its correlation with other instances, and the mediating representation (or “interpretant”) that allows us to acknowledge a dimension of reality that is neither matter nor form but a distinct relation as a mode of reality not reducible to either. The schema Peirce introduces in “On a New List of Categories” also makes it possible, in principle, to accommodate both the infinite extensibility of any signifier without falling into recursive paradoxes and contradictions, while keeping open a pathway back to the primary evidence from which any conception was formed.

This latter point is crucial for Peirce’s insistence on thinking of philosophy and logic as the essentially communal and collective work of inquiry. Peirce does not rely upon a traditional and dialectical conception of truth as a putative agreement of a representation with its object (a sure formula to precipitate paradoxes), but locates it in the concrete result of inquiry and argument that resolves doubt and fixes belief. The expectation that such a process would end absolutely entirely...
misses the point of how reasoning and inquiry both unfold as continuous processes. Historically, Peirce located his own work not simply in relation to his contemporaries, but to the historical problems of nominalism and realism, seeing the emergence of an ethos of scientific inquiry as working against the nominalism prevalent since Descartes, and toward a new critical realism.

The other selections reprinted here include writings on the history of philosophy, originally assembled from manuscript sources by the editors of Collected Papers, and selected material drawn from essays and courses of lectures, illustrating his own version of pragmatism, obviously quite distinct from the more familiar work of his friend William James and his one-time student, John Dewey. Indeed, one of the principal difficulties in the general reception of Peirce’s thought has been a tendency to identify him with a development of ideas original with him that, in their more popular form, are frequently contrary to his own thought, both in reference to pragmatism and to questions of semiotics, where the sharp differences between Peirce and James and Dewey on the one hand, and between Peirce and Saussure (below, pp. ???) on the other are frequently overlooked or ignored.1

Recognition of Peirce as a major philosophical innovator has been relatively slow, despite the obviousness of his genius, but a growing body of recent work, along with a major project to publish his writings in a chronological edition, discussed below, has contributed to a steady increase of interest in and understanding of his work.


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1 The conflation of Dewey, James, and Peirce as indifferently “pragmatists”, ignoring Peirce’s deliberate coinage of a term he characterized as “ugly enough to keep it safe from kidnappers (CP 2.414), pragmaticism, is a habit of long standing, reflected, for example, in the work of Richard Rorty and Richard Poirier, just as is the tendency to critique pragmatism for its instrumentalism as if it were a general fault, articulated by Horkheimer, Adorno, and Habermas. On the tendency to minimize the difference between Peirce and Saussure, see especially Paul de Man (“The Resistance to Theory” below, pp. ???) and Jonathan Culler’s The Pursuit of Signs: Semiotics, Literature and Deconstruction (1981).
ON A NEW LIST OF CATEGORIES (1868)


545. This paper is based upon the theory already established, that the function of conceptions is to reduce the manifold of sensuous impressions to unity and that the validity of a conception consists in the impossibility of reducing the content of consciousness to unity without the introduction of it.

546. This theory gives rise to a conception of gradation among those conceptions which are universal. For one such conception may unite the manifold of sense and yet another may be required to unite the conception and the manifold to which it is applied; and so on.

547. That universal conception which is nearest to sense is that of the present, in general. This is a conception, because it is universal. But as the act of attention has no connotation at all, but is the pure denotive power of the mind, that is to say, the power which directs the mind to an object, in contradistinction to the power of thinking any predicate of that object -- so the conception of what is present in general, which is nothing but the general recognition of what is contained in attention, has no connotation, and therefore no proper unity. This conception of the present in general, of IT in general, is rendered in philosophical language by the word "substance" in one of its meanings. Before any comparison or discrimination can be made between what is present, what is present must have been recognized as such, as it, and subsequently the metaphysical parts which are recognized by abstraction are attributed to this it, but the it cannot itself be made a predicate. This it is thus neither predicated of a subject, nor in a subject, and accordingly is identical with the conception of substance.

548. The unity to which the understanding reduces impressions is the unity of a proposition. This unity consists in the connection of the predicate with the subject; and, therefore, that which is implied in the copula, or the conception of being, is that which completes the work of conceptions of reducing the manifold to unity. The copula (or rather the verb which is copula in one of its senses) means either actually is or would be, as in the two propositions, "There is no griffin," and "A griffin is a

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2 Peirce refers to Kant’s argument in The Critique of Pure Reason, Transcendental Analytic, especially Book I, Analytic of Concepts. Peirce’s seemingly matter of fact statement is in actuality a remarkably concise interpretation of Kant’s aim in the deduction of the categories from the table of judgments. The passage in Kant that is closest in sense to Peirce’s claim here is Kant’s assertion, in distinguishing between sensible intuition dependent upon the presence of its object and concepts dependent upon their function: “By ‘function’ I mean the unity of the act of bringing various representations under one common representation. Concepts are based on the spontaneity of thought, sensible intuitions on the receptivity of impressions. Now the only use which the understanding can make of these concepts is to judge by means of them. Since no representation, save what is in an intuition, is in immediate relation to an object, no concept is ever related to an object immediately, but to some other representation of it, be that other representation an intuition, or itself a concept. Judgment is therefore the mediate knowledge of an object, that is, the representation of a representation of it. In every judgment there is a concept which holds of many representations, and among them of a given representation that is immediately related to an object.” CPR B 93, p. 105. (Kemp Smith translation).

3 Here, Peirce goes beyond Kant’s analysis by treating the present in general as a concept and not as the effect of the a priori unity of the apperception. Peirce evidently recognized that without this move, that there would be no way to distinguish between intuitions and concepts, just as it frees him, among other things, from the necessity of analyzing the problematic notion of the unity of the apperception.

4 Peirce adopts the language of Aristotle’s Categories, chapter V: 2a:11-13: “Substance in the truest and strictest, the primary sense of that term, is that which is neither asserted of nor can be found in a subject.”
winged quadruped." The conception of being contains only that junction of predicate to subject wherein these two verbs agree. The conception of being, therefore, plainly has no content.

If we say "The stove is black," the stove is the substance, from which its blackness has not been differentiated, and the is, while it leaves the substance just as it was seen, explains its confusedness, by the application to it of blackness as a predicate.

Though being does not affect the subject, it implies an indefinite determinability of the predicate. For if one could know the copula and predicate of any proposition, as "... is a tailed-man," he would know the predicate to be applicable to something supposable, at least. Accordingly, we have propositions whose subjects are entirely indefinite, as "There is a beautiful ellipse," where the subject is merely something actual or potential; but we have no propositions whose predicate is entirely indeterminate, for it would be quite senseless to say, "A has the common characters of all things," inasmuch as there are no such common characters.

Thus substance and being are the beginning and end of all conception. Substance is inapplicable to a predicate, and being is equally so to a subject.

549. The terms "precision" and "abstraction," which were formerly applied to every kind of separation, are now limited, not merely to mental separation, but to that which arises from attention to

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5 By thus identifying the “is” of being with the function of the copula in a proposition, Peirce avoids altogether the problem of empirical content that has, since Parmenides, led philosophers to assert a fundamental difference between the factual and the hypothetical (including the fictional). The issue here is not that one cannot tell the difference, only that it is never in itself a genuine problem. For Peirce, the conception of being is only its function of joining subject to predicate. Compare the difference of approach between Peirce here and Bertrand Russell in his theory of descriptions (see below, pp. ??).

6 I.e., if one predicate can be established, others could be, potentially without end. By this formulation, Peirce at once anticipates the process of signification as open-ended without making the error of assuming that an infinite chain of signifiers implies a state of indeterminacy.

7 This distinction is fundamental for Peirce’s sense that a scrupulous attention to logic leads to radical metaphysical clarifications—in this instance, by pointing out, without polemic, that much traditional metaphysical speculation is without content because it begins and ends by attempting either to conceive of predicates as if they could be conceived to be substances, or of subjects, as if they could be the focus of discourse concerning being—without recognizing (Scotus is an exception) the problem as an insufficiency pervading Western metaphysics. See below, Carnap (pp. ??), who makes a similar point by highly polemical, empirical, and ultimately self-contradictory means; and Heidegger (pp. ??) whose preoccupation with the question of Being leads to a counterproductive and ultimately mystifying dismissal of technical logic.

8 [Peirce, added after publication] Precision. (1) A high degree of approximation, only attainable by the thorough application of the most refined methods of science.

(2) Its earlier meaning, still more or less used by logicians, is derived from a meaning given to praecisio by Scotus and other scholastics: the act of supposing (whether with consciousness of fiction or not) something about one element of a percept, upon which the thought dwells, without paying any regard to other elements. Precision implies more than mere discrimination, which relates merely to the essence of a term. Thus I can, by an act of discrimination, separate color from extension; but I cannot do so by precision, since I cannot suppose that in any possible universe color (not color-sensation, but color as a quality of an object) exists without extension. So with triangularity and trilaterality. On the other hand, precision implies much less than dissociation, which, indeed, is not a term of logic, but of psychology. It is doubtful whether a person who is not devoid of the sense of sight can separate space from color by dissociation, or, at any rate, not without great difficulty; but he can, and, indeed, does do so, by precision, if he thinks a vacuum is uncolored. So it is, likewise, with space and tridimensionality.

Some writers called every description of abstraction by the name precision, dividing precision into the real and the mental, and the latter into the negative and the positive; but the better usage named these abstraction divided into real and intentional, and the latter into negative (in which character from which abstraction is made is imagined to be deniable of the subject prescinded) and into precise abstraction or precision, where the subject prescinded is supposed (in some hypothetical state of things) without any supposition, whether
one element and neglect of the other. Exclusive attention consists in a definite conception or supposition of one part of an object, without any supposition of the other. Abstraction or precision ought to be carefully distinguished from two other modes of mental separation, which may be termed discrimination and dissociation. Discrimination has to do merely with the senses of terms, and only draws a distinction in meaning. Dissociation is that separation which, in the absence of a constant association, is permitted by the law of association of images. It is the consciousness of one thing, without the necessary simultaneous consciousness of the other. Abstraction or precision, therefore, supposes a greater separation than discrimination, but a less separation than dissociation. Thus I can discriminate red from blue, space from color, and color from space, but not red from color. I can prescind red from blue, and space from color (as is manifest from the fact that I actually believe there is an uncolored space between my face and the wall); but I cannot prescind color from space, nor red from color. I can dissociate red from blue, but not space from color, color from space, nor red from color.9

Precision is not a reciprocal process. It is frequently the case, that, while A cannot be prescinded from B, B can be prescinded from A. This circumstance is accounted for as follows. Elementary conceptions only arise upon the occasion of experience; that is, they are produced for the first time according to a general law, the condition of which is the existence of certain impressions. Now if a conception does not reduce the impressions upon which it follows to unity, it is a mere arbitrary affirmative or negative, in respect to the character abstracted. Hence, the brocard: abstrahentium non est mendacium [abstraction is not falsehood] (generally enunciated in connection with the De Anima, III, VII, 7). Scotus (in II Physic., Expositio 20 textus 18) says: "Et si aliquis dicat, quod Mathematici tunc faciunt mendacium: quia considerant ista, quasi essent abstracta a motu, et materia; quae tamen sunt coniuncta materiae. Respondet, quod non faciunt mendacium: quia Mathematicus non considerat, utrum id, de quo demonstrat suas passiones, sit coniunctum materiae, vel abstructum a materia." This is not the place to treat of the many interesting logical, as well as psychological, discussions which have taken place concerning precision, which is one of the subjects which the scholastics treated in a comparatively modern way, although it leads directly to the question of nominalism and realism. It may, however, be mentioned that Scotus in many places draws a certain distinction variously designated by him and his followers (its nature and application is perhaps made as clear as anywhere in the Opus Oxon. III, xxii. qu. unica, "Utrum Christus fuerit homo in triduo," i.e. between the crucifixion and the resurrection), which the Thomists mostly dispute. There is some account of the matter in Chauvinus, Lexicon (2d ed.), under "Praecisio" . . . Dictionary of Philosophy and Psychology, vol. 2, pp. 323-4, Macmillan Co., New York, edition of 1911.

9 In an earlier draft of this essay (cf. Writings 2) Peirce provided the following very useful table, depicting the distinctions in this paragraph in graphical form:

<table>
<thead>
<tr>
<th>Blue w/o</th>
<th>Space w/o</th>
<th>Color w/o</th>
<th>Red w/o</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
<tr>
<td>Space</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
<tr>
<td>Color</td>
<td>0</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

θ = what it is possible to think
X = what it is NOT possible to think
addition to these latter; and elementary conceptions do not arise thus arbitrarily. But if the impressions could be definitely comprehended without the conception, this latter would not reduce them to unity. Hence, the impressions (or more immediate conceptions) cannot be definitely conceived or attended to, to the neglect of an elementary conception which reduces them to unity. On the other hand, when such a conception has once been obtained, there is, in general, no reason why the premisses which have occasioned it should not be neglected, and therefore the explaining conception may frequently be prescinded from the more immediate ones and from the impressions.

550. The facts now collected afford the basis for a systematic method of searching out whatever universal elementary conceptions there may be intermediate between the manifold of substance and the unity of being. It has been shown that the occasion of the introduction of a universal elementary conception is either the reduction of the manifold of substance to unity, or else the conjunction to substance of another conception. And it has further been shown that the elements conjoined cannot be supposed without the conception, whereas the conception can generally be supposed without these elements. Now, empirical psychology discovers the occasion of the introduction of a conception, and we have only to ascertain what conception already lies in the data which is united to that of substance by the first conception, but which cannot be supposed without this first conception, to have the next conception in order in passing from being to substance.

It may be noticed that, throughout this process, introspection is not resorted to. Nothing is assumed respecting the subjective elements of consciousness which cannot be securely inferred from the objective elements.

551. The conception of being arises upon the formation of a proposition. A proposition always has, besides a term to express the substance, another to express the quality of that substance; and the function of the conception of being is to unite the quality to the substance. Quality, therefore, in its very widest sense, is the first conception in order in passing from being to substance.

Quality seems at first sight to be given in the impression. Such results of introspection are untrustworthy. A proposition asserts the applicability of a mediate conception to a more immediate one. Since this is asserted, the more mediate conception is clearly regarded independently of this circumstance, for otherwise the two conceptions would not be distinguished, but one would be thought through the other, without this latter being an object of thought, at all. The mediate conception, then, in order to be asserted to be applicable to the other, must first be considered without regard to this circumstance, and taken immediately. But, taken immediately, it transcends what is given (the more immediate conception), and its applicability to the latter is hypothetical. Take, for example, the proposition, "This stove is black." Here the conception of this stove is the more mediate, that of black the more mediate, which latter, to be predicated of the former, must be discriminated from it and considered in itself, not as applied to an object, but simply as embodying a quality, blackness. Now this blackness is a pure species or abstraction, and its application to this stove is entirely hypothetical. 10 The same thing is meant by "the stove is black," as by "there is

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10 While this paragraph requires very close attention, Peirce’s point is simple: the substance (the stove) is the more immediate in experience, but since the proposition, “The stove is black” does unify the contents of consciousness (is apprehended as meaningful), the assertion that the predicate does belong to the substance implies that the predicate, the quality, is first, in any theory of reality sufficient to permit such simple and seemingly mundane assertions. But there is no need to posit something like a Platonic Idea of blackness, as if it were eidos (form), or ousia (substance). It is what it is, a pure abstraction, without reference to anything else, and what is given in intuition is a specific sensation or feeling. But our sense of reality absolutely depends on such pure abstractions: if anything is real, they must be.
Embodying blackness is the equivalent of black. The proof is this. These conceptions are applied indifferently to precisely the same facts. If, therefore, they were different, the one which was first applied would fulfill every function of the other; so that one of them would be superfluous. Now a superfluous conception is an arbitrary fiction, whereas elementary conceptions arise only upon the requirement of experience; so that a superfluous elementary conception is impossible. Moreover, the conception of a pure abstraction is indispensable, because we cannot comprehend an agreement of two things, except as an agreement in some respect, and this respect is such a pure abstraction as blackness. Such a pure abstraction, reference to which constitutes a quality or general attribute, may be termed a ground.

Reference to a ground cannot be prescinded from being, but being can be prescinded from it.

Empirical psychology has established the fact that we can know a quality only by means of its contrast with or similarity to another. By contrast and agreement a thing is referred to a correlate, if this term may be used in a wider sense than usual. The occasion of the introduction of the conception of reference to a ground is the reference to a correlate, and this is, therefore, the next conception in order.

Reference to a correlate cannot be prescinded from reference to a ground; but reference to a ground may be prescinded from reference to a correlate.

The occasion of reference to a correlate is obviously by comparison. This act has not been sufficiently studied by the psychologists, and it will, therefore, be necessary to adduce some examples to show in what it consists. Suppose we wish to compare the letters p and b. We may imagine one of them to be turned over on the line of writing as an axis, then laid upon the other, and finally to become transparent so that the other can be seen through it. In this way we shall form a new image which mediates between the images of the two letters, inasmuch as it represents one of them to be (when turned over) the likeness of the other. Again, suppose we think of a murderer as being in relation to a murdered person; in this case we conceive the act of the murder, and in this conception it is represented that corresponding to every murderer (as well as to every murder) there is a murdered person; and thus we resort again to a mediating representation which represents the relate as standing for a correlate with which the mediating representation is itself in relation. Again, suppose we look up the word *homme* in a French dictionary; we shall find opposite to it the word *man*, which, so placed, represents *homme* as representing the same two-legged creature which *man* itself represents. By a further accumulation of instances, it would be found that every comparison requires, besides the related thing, the ground, and the correlate, also a mediating representation which represents the relate to be a representation of the same correlate which this mediating representation itself represents. Such a mediating representation may be termed an interpretant, because it fulfils the

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11 [Peirce] This agrees with the author of *De Generibus et Speciebus, Ouvrages Inedits d’Abélard* (Paris, 1836), p. 528. *(Of Genus and Species, Unedited Works of Abelard; author unidentified.)*

12 This is the first of three similar principles, in an ascending hierarchy. In this case, being can be thought alone, but reference to a ground cannot be thought with also thinking being.

13 Kloesel and Houser note Peirce’s comment on this statement in MS 785: “It may be doubted whether it was philosophical to rest this matter on empirical psychology. The question is extremely difficult.” *(Writings 2:94).*

14 The examples Peirce offers below all look forward to the introduction of his third category, the “interpretant”, thereby passing perhaps too quickly over the second, the reference to a correlate, which consists in the comparison of one instance (e.g. the color of the stove) with another (e.g. the color of my shoes). The same (with the same psychological difficulty) applies to the comparison of on instance of the color of the stove (say, on Tuesday) and another, on another day or at a different time, thereby involving memory. In either case, or rather, in both, the comparison is still crucial since it is what gives occasion for the introduction of the conception of the interpretant.
office of an interpreter, who says that a foreigner says the same thing which he himself says. The term representation is here to be understood in a very extended sense, which can be explained by instances better than by a definition.\textsuperscript{15} In this sense, a word represents a thing to the conception in the mind of the hearer, a portrait represents the person for whom it is intended to the conception of recognition, a weathercock represents the direction of the wind to the conception of him who understands it, a barrister represents his client to the judge and jury whom he influences.

Every reference to a correlate, then, conjoins to the substance the conception of a reference to an interpretant; and this is, therefore, the next conception in order in passing from being to substance.

Reference to an interpretant cannot be prescinded from reference to a correlate; but the latter can be prescinded from the former.

554. Reference to an interpretant is rendered possible and justified by that which renders possible and justifies comparison. But that is clearly the diversity of impressions. If we had but one impression, it would not require to be reduced to unity, and would therefore not need to be thought of as referred to an interpretant, and the conception of reference to an interpretant would not arise. But since there is a manifold of impressions, we have a feeling of complication or confusion, which leads us to differentiate this impression from that, and then, having been differentiated, they require to be brought to unity. Now they are not brought to unity until we conceive them together as being ours, that is, until we refer them to a conception as their interpretant. Thus, the reference to an interpretant arises upon the holding together of diverse impressions, and therefore it does not join a conception to the substance, as the other two references do, but unites directly the manifold of the substance itself. It is, therefore, the last conception in order in passing from being to substance.

555. The five conceptions thus obtained, for reasons which will be sufficiently obvious, may be termed categories. That is,

\textbf{Being}

- Quality (reference to a ground)
- Relation (reference to a correlate)
- Representation (reference to an interpretant)

\textbf{Substance}

\textsuperscript{15} This notoriously difficult concept, as in the case of Thomas Kuhn’s use of the term “paradigm” (see below, pp. ??), is not only understood in an extended sense, it cannot be (given what Peirce has already argued) understood without examples, since the mediating representation is emphatically \textit{not} the concept as signified, linked to the acoustic image as signifier in Saussure (see below, pp. ??). Hence Peirce’s confusing definition, placing the mediating representation between \textit{relate} and \textit{correlate} as an assertion: what the relate represents is the same as what the correlate represents. Note that Peirce thereby carefully avoids saying what it is, since it depends upon a reference to \textit{specific} correlates. This also confers upon this conception the possibility of indefinite extension, just as the identification of one predicate opens the possibility of indefinite predictability. The “meaning” of an interpretant, that is, can grow and develop without losing its identity or integrity, so long as it can be traced back to the correlates which occasioned and propelled it. In a later essay, ”The Law of Mind” (\textit{CP} 6:106-63) Peirce articulates the principle in these terms: “Logical analysis applied to mental phenomena shows that there is but one law of mind, namely, that ideas tend to spread continuously and to affect certain others which stand to them in a peculiar relation of affectability. In this spreading they lose intensity and become welded with other ideas.”
556. This passage from the many to the one is numerical. The conception of a *third* is that of an object which is so related to two others, that one of these must be related to the other in the same way in which the third is related to that other. Now this coincides with the conception of an interpretant. An other is plainly equivalent to a *correlate*. The conception of second differs from that of other, in implying the possibility of a third. In the same way, the conception of *self* implies the possibility of an *other*. The *ground* is the self abstracted from the concreteness which implies the possibility of another.

557. Since no one of the categories can be prescinded from those above it, the list of supposable objects which they afford is,

**What is.**

Quale (that which refers to a ground)
Relate (that which refers to ground and correlate)
Representamen (that which refers to ground, correlate, and interpretant)

**It**

558. A quality may have a special determination which prevents its being prescinded from reference to a correlate. Hence there are two kinds of relation.

First. That of relates whose reference to a ground is a prescindible or internal quality.

Second. That of relates whose reference to a ground is an unprescindible or relative quality.

In the former case, the relation is a mere concurrence of the correlates in one character, and the relate and correlate are not distinguished. In the latter case the correlate is set over against the relate, and there is in some sense an opposition.

Relates of the first kind are brought into relation simply by their agreement. But mere disagreement (unrecognized) does not constitute relation, and therefore relates of the second kind are only brought into relation by correspondence in fact.

A reference to a ground may also be such that it cannot be prescinded from a reference to an interpretant. In this case it may be termed an *imputed* quality. If the reference of a relate to its ground can be prescinded from reference to an interpretant, its relation to its correlate is a mere concurrence or community in the possession of a quality, and therefore the reference to a correlate can be prescinded from reference to an interpretant. It follows that there are three kinds of representations.

First. Those whose relation to their objects is a mere community in some quality, and these representations may be termed *likenesses*.17

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16 In later work, Peirce simplified this schema to three categories, *First, Second, Third*, generally following the outlines of the discussion below. For its basis in the triad, ground, object, interpretant, cf. *CP* 2.227-229.; for a fuller exposition of the categories, cf. *CP* 1.300-353. See also “What Pragmatism Is”, below pp. ???

17 [CP eds] In later writings called "icons."
Second. Those whose relation to their objects consists in a correspondence in fact, and these may be termed \textit{indices} or \textit{signs}.\footnote{[CP eds] In later writings an index is always taken to be but one of many kinds of signs; a sign being understood in some sense similar to that given in 540.}

Third. Those the ground of whose relation to their objects is an imputed character, which are the same as general signs, and these may be termed \textit{symbols}.\footnote{[CP eds] See Peirce's definition in the \textit{Century Dictionary} (1889) Intention 8; also Albertus Magnus, \textit{Meta.} I, 1, 1, and Th. Aquinas, \textit{Meta.} IV, 4, f. 43 v. A.}

559. I shall now show how the three conceptions of reference to a ground, reference to an object, and reference to an interpretant are the fundamental ones of at least one universal science, that of logic. Logic is said to treat of second intentions as applied to first.\footnote{[CP eds] See Peirce's definition in the \textit{Century Dictionary} (1889) Intention 8; also Albertus Magnus, \textit{Meta.} I, 1, 1, and Th. Aquinas, \textit{Meta.} IV, 4, f. 43 v. A.} It would lead me too far away from the matter in hand to discuss the truth of this statement; I shall simply adopt it as one which seems to me to afford a good definition of the subject-genus of this science. 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 of those which are thought. They have no immediate application to likenesses or indices, because no arguments can be constructed of these alone, but do apply to all symbols. All symbols, indeed, are in one sense relative to the understanding, but only in the sense in which also all things are relative to the understanding. On this account, therefore, the relation to the understanding need not be expressed in the definition of the sphere of logic, since it determines no limitation of that sphere. But a distinction can be made between concepts which are supposed to have no existence except so far as they are actually present to the understanding, and external symbols which still retain their character of symbols so long as they are only \textit{capable} of being understood. And as the rules of logic apply to these latter as much as to the former (and though only through the former, yet this character, since it belongs to all things, is no limitation), it follows that logic has for its subject-genus all symbols and not merely concepts.\footnote{[Peirce] Herbart says “Unsre sämmtlichen Gedanken lassen sich von zwei Seiten betrachten; theils als Thätigkeiten unseres Geistes, theils in Hinsicht dessen, was durch sie gedacht wird. In letzterer Beziehung heissen sie Begreffe, weches Wort, indem es das Begriffene bezeichnet, zu abstrahiren gebietet von der Art und Weise, wie wir den Gedanken empfangen, producieren, oder reproducieren mögen.” [All of our thoughts may be regarded from two views points, partly as activities of our mind, partly as what is thought through them. In the latter, we call them concepts, the term signifying that what is thought is abstracted from the mode and manner in which we may receive, produce, or reproduce the thought.] From Johann Friedrich Herbart, \textit{Lehrbuch zur Einleitung in die Philosophie} (vol. I of \textit{Sämtliche Werke} [Leipzig, 1850] But the whole difference between a concept and an external sign lies in these respects which logic ought, according to Herbart, to abstract from.}

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;\footnote{[CP eds] Later called Speculative Grammar or Stechiology.} the second, logic,\footnote{[CP eds] Later called Critical Logic or Critic.} 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.\footnote{[CP eds] Later called Speculative Rhetoric or Methodeutic.}
1. Symbols which directly determine only their *grounds* or imputed qualities, and are thus but sums of marks or terms;

2. Symbols which also independently determine their *objects* by means of other term or terms, and thus, expressing their own objective validity, become capable of truth or falsehood, that is, are *propositions*; and,

3. Symbols which also independently determine their *interpretants*, and thus the minds to which they appeal, by premissing a proposition or propositions which such a mind is to admit. These are *arguments*.

And it is remarkable that, among all the definitions of the proposition, for example, as the *oratio indicativa*, as the subsumption of an object under a concept, as the expression of the relation of two concepts, and as the indication of the mutable ground of appearance, there is, perhaps, not one in which the conception of reference to an object or correlate is not the important one. In the same way, the conception of reference to an interpretant or third, is always prominent in the definitions of argument.

In a proposition, the term which separately indicates the object of the symbol is termed the subject, and that which indicates the ground is termed the predicate. The objects indicated by the subject (which are always potentially a plurality -- at least, of phases or appearances) are therefore stated by the proposition to be related to one another on the ground of the character indicated by the predicate. Now this relation may be either a concurrence or an opposition. Propositions of concurrence are those which are usually considered in logic; but I have shown in a paper upon the classification of arguments that it is also necessary to consider separately propositions of opposition, if we are to take account of such arguments as the following:

Whatever is the half of anything is less than that of which it is the half:

A is half of B;
A is less than B.

The subject of such a proposition is separated into two terms, a "subject nominative" and an "object accusative."

In an argument, the premisses form a representation of the conclusion, because they indicate the interpretant of the argument, or representation representing it to represent its object. The premisses may afford a likeness, index, or symbol of the conclusion. In deductive argument, the conclusion is represented by the premisses as by a general sign under which it is contained. In hypotheses, something like the conclusion is proved, that is, the premisses form a likeness of the conclusion. Take, for example, the following argument:

M is, for instance, PI, PII, PIII, and PIV;
S is PI, PII, PIII, and PIV:
\[ \therefore S \text{ is } M \]

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24 "indicative speech."

Here the first premiss amounts to this, that "PI, PII, PIII, and PIV" is a likeness of M, and thus the premisses are or represent a likeness of the conclusion. That it is different with induction another example will show.

SI, SII, SIII, and SIV are taken as samples of the collection M;
SI, SII, SIII, and SIV are P:
\[\therefore\] All M is P.

Hence the first premiss amounts to saying that "SI, SII, SIII, and SIV" is an index of M. Hence the premisses are an index of the conclusion.

The other divisions of terms, propositions, and arguments arise from the distinction of extension and comprehension. I propose to treat this subject in a subsequent paper. But I will so far anticipate that as to say that there is, first, the direct reference of a symbol to its objects, or its denotation; second, the reference of the symbol to its ground, through its object, that is, its reference to the common characters of its objects, or its connotation; and third, its reference to its interpretants through its object, that is, its reference to all the synthetical propositions in which its objects in common are subject or predicate, and this I term the information it embodies. And as every addition to what it denotes, or to what it connotes, is effected by means of a distinct proposition of this kind, it follows that the extension and comprehension of a term are in an inverse relation, as long as the information remains the same, and that every increase of information is accompanied by an increase of one or other of these two quantities. It may be observed that extension and comprehension are very often taken in other senses in which this last proposition is not true.

This is an imperfect view of the application which the conceptions which, according to our analysis, are the most fundamental ones find in the sphere of logic. It is believed, however, that it is sufficient to show that at least something may be usefully suggested by considering this science in this light.

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26 “Upon Logical Comprehension and Extension” *Writings* 2:70-86.
LESSONS FROM THE HISTORY OF PHILOSOPHY

LESSONS FROM THE HISTORY OF SCIENCE is a collection of comments written at diverse times, but assembled by the original editors of Collected Papers at the start of the first volume. From Collected Papers 1.15-42. The final entry added here is from A GUESS AT THE RIDDLE consisting of notes and manuscripts for an uncompleted, unpublished book, composed c. 1890. All passages are reprinted from Collected Papers (Cambridge, MA: Harvard University Press, 1931). For convenience of reference, paragraph numbers from Collected Papers have been retained.

§1. NOMINALISM [1903]

15. Very early in my studies of logic, before I had really been devoting myself to it more than four or five years, it became quite manifest to me that this science was in a bad condition, entirely unworthy of the general state of intellectual development of our age; and in consequence of this, every other branch of philosophy except ethics -- for it was already clear that psychology was a special science and no part of philosophy -- was in a similar disgraceful state. About that time -- say the date of [Henry L.] Mansel's Prolegomena Logica [1851] -- Logic touched bottom. There was no room for it to become more degraded. It had been sinking steadily, and relatively to the advance of physical science, by no means slowly from the time of the revival of learning -- say from the date of the last fall of Constantinople [1453]. One important addition to the subject had been made early in the eighteenth century, the Doctrine of Chances. But this had not come from the professed logicians, who knew nothing about it. Whewell, it is true, had been doing some fine work; but it was not of a fundamental character. De Morgan and Boole2 had laid the foundations for modern exact logic, but they can hardly be said to have begun the erection of the edifice itself. Under these circumstances, I naturally opened the dusty folios of the scholastic doctors. Thought generally was, of course, in a somewhat low condition under the Plantagenets.3 You can appraise it very well by the impression that Dante, Chaucer, Marco Polo, Froissart, and the great cathedrals make upon us. But [their] logic, relatively to the general condition of thought, was marvellously exact and critical. They can tell us nothing concerning methods of reasoning since their own reasoning was puerile; but their analyses of thought and their discussions of all those questions of logic that almost trench upon metaphysics are very instructive as well as very good discipline in that subtle kind of thinking that is required in logic.

16. In the days of which I am speaking, the age of Robert of Lincoln, Roger Bacon, St. Thomas Aquinas, and Duns Scotus, the question of nominalism and realism was regarded as definitively and conclusively settled in favor of realism. You know what the question was. It was whether laws and general types are figments of the mind or are real. If this be understood to mean whether there really are any laws and types, it is strictly speaking a question of metaphysics and not of logic. But as a first step toward its solution, it is proper to ask whether, granting that our common-sense beliefs are true, the analysis of the meaning of those beliefs shows that, according to those beliefs, laws and types are objective or subjective. This is a question of logic rather than of metaphysics -- and as soon as this is answered the reply to the other question immediately follows after.

1 From the "Lowell Lectures of 1903," Lecture IIIa.
2 Thomas Whewell (1794-1866), British philosopher, historian, and philosopher of science; Augustus de Morgan (1806-71), British logician and mathematician; George Boole (1816-64), self taught English mathematician, inventor of binary or Boolean algebra, appointed Professor of Mathematics at Queen's College in Ireland in 1849.
3 Royal house in England, 1154 to 1485, also called the House of Anjou or the Anjevin dynasty, representing both the houses of Lancaster and York (cf. “War of the Roses”), producing 14 kings from Henry I to Richard III.
17. Notwithstanding a great outburst of nominalism in the fourteenth century which was connected with politics, the nominalists being generally opposed to the excessive powers of the pope and in favor of civil government, a connection that lent to the philosophical doctrine a factitious following, the Scotists, who were realists, were in most places the predominant party, and retained possession of the universities. At the revival of learning they stubbornly opposed the new studies; and thus the word Duns, the proper name of their master, came to mean an adversary of learning. The word originally further implied that the person so called was a master of subtle thought with which the humanists were unable to cope. But in another generation the disputations by which that power of thought was kept in training had lost their liveliness; and the consequence was that Scotism died out when the strong Scotists died. It was a mere change of fashion.

18. The humanists were weak thinkers. Some of them no doubt might have been trained to be strong thinkers; but they had no severe training in thought. All their energies went to writing a classical language and an artistic style of expression. They went to the ancients for their philosophy; and mostly took up the three easiest of the ancient sects of philosophy, Epicureanism, Stoicism, and Scepticism. Epicureanism was a doctrine extremely like that of John Stuart Mill. The Epicureans alone of the later ancient schools believed in inductive reasoning, which they grounded upon the uniformity of nature, although they made the uniformity of nature to consist in somewhat different characters from those Stuart Mill emphasizes. Like Mill, the Epicureans were extreme nominalists. The Stoics advocated the flattest materialism, which nobody any longer has any need of doing since the new invention of Monism enables a man to be perfectly materialist in substance, and as idealistic as he likes in words. Of course the Stoics could not but be nominalists. They took no stock in inductive reasoning. They held it to be a transparent fallacy. The Sceptics of the Renaissance were something like the agnostics of the generation now passing away, except that they went much further. Our agnostics contented themselves with declaring everything beyond ordinary generalizations of experience to be unknowable, while the Sceptics did not think any scientific knowledge of any description to be possible. If you turn over the pages, for example, of Cornelius Agrippa's book *De incertitudine et vanitate scientiarum et artium* [1531], you will find he takes up every science in succession, arithmetic, geometry, mechanics, optics, and after examination pronounces each to be altogether beyond the power of the human mind. Of course, therefore, as far as they believed in anything at all, the Sceptics were nominalists.

19. In short, there was a tidal wave of nominalism. Descartes was a nominalist. Locke and all his following, Berkeley, Hartley, Hume, and even Reid, were nominalists. Leibniz was an extreme nominalist, and Rémusat [C. F. M.?] who has lately made an attempt to repair the edifice of Leibnizian monadology, does so by cutting away every part which leans at all toward realism. Kant was a nominalist; although his philosophy would have been rendered compacter, more consistent, and stronger if its author had taken up realism, as he certainly would have done if he had read Scotus. Hegel was a nominalist of realistic yearnings. I might continue the list much further. Thus, in one word, all modern philosophy of every sect has been nominalistic.

20. In a long notice of *Frazer's Berkeley*, in the *North American Review* for October, 1871, I declared for realism. I have since very carefully and thoroughly revised my philosophical opinions more than half a dozen times, and have modified them more or less on most topics; but I have never been able to think differently on that question of nominalism and realism. In that paper I acknowledged that the tendency of science has been toward nominalism; but the late Dr. Francis Ellingwood Abbot in the very remarkable introduction to his book entitled "*Scientific Theism*" [1885], showed on the contrary, quite conclusively, that science has always been at heart realistic, and always

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4 I. e., “Dunce.”
5 In *Writings* 2:462-87.
must be so; and upon comparing his writings with mine, it is easily seen that these features of nominalism which I pointed out in science are merely superficial and transient.

21. The heart of the dispute lies in this. The modern philosophers—one and all, unless Schelling⁶ be an exception—recognize but one mode of being, the being of an individual thing or fact, the being which consists in the object's crowding out a place for itself in the universe, so to speak, and reacting by brute force of fact, against all other things. I call that existence.

22. Aristotle, on the other hand, whose system, like all the greatest systems, was evolutionary, recognized besides an embryonic kind of being, like the being of a tree in its seed, or like the being of a future contingent event, depending on how a man shall decide to act. In a few passages Aristotle seems to have a dim aperçue of a third mode of being in the entelechy.⁷ The embryonic being for Aristotle was the being he called matter, which is alike in all things, and which in the course of its development took on form. Form is an element having a different mode of being. The whole philosophy of the scholastic doctors is an attempt to mould this doctrine of Aristotle into harmony with christian truth. This harmony the different doctors attempted to bring about in different ways. But all the realists agree in reversing the order of Aristotle's evolution by making the form come first, and the individuation of that form come later. Thus, they too recognized two modes of being; but they were not the two modes of being of Aristotle.

23. My view is that there are three modes of being. I hold that we can directly observe them in elements of whatever is at any time before the mind in any way. They are the being of positive qualitative possibility, the being of actual fact, and the being of law that will govern facts in the future.

24. Let us begin with considering actuality, and try to make out just what it consists in. If I ask you what the actuality of an event consists in, you will tell me that it consists in its happening then and there. The specifications then and there involve all its relations to other existents. The actuality of the event seems to lie in its relations to the universe of existents. A court may issue injunctions and judgments against me and I not care a snap of my finger for them. I may think them idle vapor. But when I feel the sheriff's hand on my shoulder, I shall begin to have a sense of actuality. Actuality is something brute. There is no reason in it. I instance putting your shoulder against a door and trying to force it open against an unseen, silent, and unknown resistance. We have a two-sided consciousness of effort and resistance, which seems to me to come tolerably near to a pure sense of actuality. On the whole, I think we have here a mode of being of one thing which consists in how a second object is. I call that Secondness.

25. Besides this, there are two modes of being that I call Firstness and Thirdness. Firstness is the mode of being which consists in its subject's being positively such as it is regardless of aught else. That can only be a possibility. For as long as things do not act upon one another there is no sense or meaning in saying that they have any being, unless it be that they are such in themselves that they may perhaps come into relation with others. The mode of being a redness, before anything in the universe was yet red, was nevertheless a positive qualitative possibility. And redness in itself, even if it be embodied, is something positive and sui generis. That I call Firstness. We naturally attribute Firstness to outward objects, that is we suppose they have capacities in themselves which may or may not be already actualized, which may or may not ever be actualized, although we can know nothing of such possibilities [except] so far as they are actualized.

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⁶ Friedrich Schelling (1775-1854), Post-Kantian German philosopher.
⁷ The realized expression of a potential.
26. Now for Thirdness. Five minutes of our waking life will hardly pass without our making some kind of prediction; and in the majority of cases these predictions are fulfilled in the event. Yet a prediction is essentially of a general nature, and cannot ever be completely fulfilled. To say that a prediction has a decided tendency to be fulfilled, is to say that the future events are in a measure really governed by a law. If a pair of dice turns up sixes five times running, that is a mere uniformity. The dice might happen fortuitously to turn up sixes a thousand times running. But that would not afford the slightest security for a prediction that they would turn up sixes the next time. If the prediction has a tendency to be fulfilled, it must be that future events have a tendency to conform to a general rule. "Oh," but say the nominalists, "this general rule is nothing but a mere word or couple of words!" I reply, "Nobody ever dreamed of denying that what is general is of the nature of a general sign; but the question is whether future events will conform to it or not. If they will, your adjective 'mere' seems to be ill-placed." A rule to which future events have a tendency to conform is ipso facto an important thing, an important element in the happening of those events. This mode of being which consists, mind my word if you please, the mode of being which consists in the fact that future facts of Secondness will take on a determinate general character, I call a Thirdness.

§2. CONCEPTUALISM [1909] 8

27. Many philosophers call their variety of nominalism, "conceptualism"; but it is essentially the same thing; and their not seeing that it is so is but another example of that loose and slapdash style of thinking that has made it possible for them to remain nominalists. Their calling their "conceptualism" a middle term between realism and nominalism is itself an example in the very matter to which nominalism relates. For while the question between nominalism and realism is, in its nature, susceptible of but two answers: yes and no, they make an idle and irrelevant point which had been thoroughly considered by all the great realists; and instead of drawing a valid distinction, as they suppose, only repeat the very same confusion of thought which made them nominalists. The question was whether all properties, laws of nature, and predicates of more than an actually existent subject are, without exception, mere figments or not. 9 The conceptualists seek to wedge in a third position conflicting with the principle of excluded middle. They say, "Those universals are real, indeed; but they are only real thoughts." So much may be said of the philosopher's stone. To give that answer constitutes a man a nominalist. Are the laws of nature, and that property of gold by which it will yield the purple of Cassius, 10 no more real than the philosopher's stone? No, the conceptualists admit that there is a difference; but they say that the laws of nature and the properties of chemical species are results of thinking. The great realists had brought out all the truth there is in that much more

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9 [Peirce] It must not be imagined that any notable realist of the thirteenth or fourteenth century took the ground that any "universal" was what we in English should call a "thing," as it seems that, in an earlier age, some realists and some nominalists, too, had done; though perhaps it is not quite certain that they did so, their writings being lost. Their very definition of a "universal" admits that it is of the same generic nature as a word, namely, is: "Quod natum optum est praedicari de pluribus."["That which is intended to be predicated of many things"] Neither was it their doctrine that any "universal" itself is real. They might, indeed, some of them, think so; but their realism did not consist in that opinion, but in holding that what the word signifies, in contradistinction to what it can be truly said of, is real. Anybody may happen to opine that "the" is a real English word; but that will not constitute him a realist. But if he thinks that, whether the word "hard" itself be real or not, the property, the character, the predicate, hardness, is not invented by men, but is really and truly in the hard things and is one in them all, as a description of habit, disposition, or behavior, then he is a realist.
10 A pigment formed of certain salts of gold, used to paint porcelain. Named after A. Cassius, 17th century German physician.
distinctly long before modern conceptualism appeared in the world. They showed that the general is not capable of full actualization in the world of action and reaction but is of the nature of what is thought, but that our thinking only apprehends and does not create thought, and that that thought may and does as much govern outward things as it does our thinking. But those realists did not fall into any confusion between the real fact of having a dream and the illusory object dreamed. The conceptualist doctrine is an undisputed truism about thinking, while the question between nominalists and realists relates to thoughts, that is, to the objects which thinking enables us to know.

§4. KANT AND HIS REFUTATION OF IDEALISM 11

35. Kant's whole philosophy turns upon his logic. He gives the name of logic to the greater part of his *Critic of the Pure Reason*, and it is a result of the great fault of his logical theory that he does not extend that name to the whole work. This greatest fault was at the same time the greatest merit of his doctrine: it lay in his sharp discrimination of the intuitive and the discursive processes of the mind. The distinction itself is not only familiar to everybody but it had long played a part in philosophy. Nevertheless, it is on such obvious distinctions that the greater systems have been founded, and [Kant] saw far more clearly than any predecessor had done the whole philosophical import of this distinction. This was what emancipated him from Leibnizianism, and at the same time turned him against sensationalism. It was also what enabled him to see that no general description of existence is possible, which is perhaps the most valuable proposition that the *Critic* contains. But he drew too hard a line between the operations of observation and of ratiocination. He allows himself to fall into the habit of thinking that the latter only begins after the former is complete; and wholly fails to see that even the simplest syllogistic conclusion can only be drawn by observing the relations of the terms in the premisses and conclusion. His doctrine of the schemata can only have been an afterthought, an addition to his system after it was substantially complete. For if the schemata had been considered early enough, they would have overgrown his whole work.

36. Kant's refutation of idealism in the second edition of the *Critic of the Pure Reason* has been often held to be inconsistent with his main position or even to be knowingly sophistical. It appears to me to be one of the numerous passages in that work which betray an elaborated and vigorous analysis, marred in the exposition by the attempt to state the argument more abstractly and demonstratively than the thought would warrant.

In "Note 1,"12 Kant says that his argument beats idealism at its own game. How is that? The idealist says that all that we know immediately, that is, otherwise than inferentially, is what is present in the mind; and things out of the mind are not so present. The whole idealist position turns upon this conception of the present.

37. The idealistic argument turns upon the assumption that certain things are absolutely "present," namely what we have in mind at the moment, and that nothing else can be immediately, that is, otherwise than inferentially known. When this is once granted, the idealist has no difficulty in showing that that external existence which we cannot know immediately we cannot know, at all. Some of the arguments used for this purpose are of little value, because they only go to show that our knowledge of an external world is fallible; now there is a world of difference between fallible

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11 [CP eds] 35 is an unpublished, uncompleted review of T. K. Abbott's translation of Kant's Introduction to Logic, etc. Longmans Green & Co., 1885. 37-38 is "Notes on the Question of the Existence of an External World," c. 1890. 36 and 39 are from fragmentary alternative mss. of that same date.

12 Cf, *Critique of Pure Reason* [Kemp Smith trans], Transcendental Analytic, p. 245.
knowledge and no knowledge. However, I think it would have to be admitted as a matter of logic that if we have no immediate perception of a non-ego, we can have no reason to admit the supposition of an existence so contrary to all experience as that would in that case be.

38. But what evidence is there that we can immediately know only what is "present" to the mind? The idealists generally treat this as self-evident; but, as Clifford\textsuperscript{13} jestingly says, "it is evident" is a phrase which only means "we do not know how to prove." The proposition that we can immediately perceive only what is present seems to me parallel to that other vulgar prejudice that "a thing cannot act where it is not." An opinion which can only defend itself by such a sounding phrase is pretty sure to be wrong. That a thing cannot act where it is not is plainly an induction from ordinary experience, which shows no forces except such as act through the resistance of materials, with the exception of gravity which, owing to its being the same for all bodies, does not appear in ordinary experience like a force. But further experience shows that attractions and repulsions are the universal types of forces. A thing may be said to be wherever it acts; but the notion that a particle is absolutely present in one part of space and absolutely absent from all the rest of space is devoid of all foundation. In like manner, the idea that we can immediately perceive only what is present seems to be founded on our ordinary experience that we cannot recall and reexamine the events of yesterday nor know otherwise than by inference what is to happen tomorrow. Obviously, then, the first move toward beating idealism at its own game is to remark that we apprehend our own ideas only as flowing in time, and since neither the future nor the past, however near they may be, is present, there is as much difficulty in conceiving our perception of what passes within us as in conceiving external perception. If so, replies the idealist, instead of giving up idealism we must go still further to nihilism. Kant does not notice this retort; but it is clear from his footnote that he would have said: Not so; for it is impossible we should so much as think we think in time unless we do think in time; or rather, dismissing blind impossibility, the mere imagination of time is a clear perception of the past. Hamilton\textsuperscript{14} stupidly objects to Reid's\textsuperscript{15} phrase "immediate memory"; but an immediate, intuitive consciousness of time clearly exists wherever time exists. But once grant immediate knowledge in time, and what becomes of the idealist theory that we immediately know only the present? For the present can contain no time.

39. But Kant does not pursue this line of thought along the straight road to its natural result; because he is a sort of idealist himself. Namely, though not idealistic as to the substance of things, he is partially so in regard to their accidents. Accordingly, he introduces his distinction of the variable and the persistent (\textit{beharrlich}), and seeks to show that the only way we can apprehend our own flow of ideas, binding them together as a connected flow, is by attaching them to an immediately perceived persistent externality. He refuses to inquire how that immediate external consciousness is possible, though such an inquiry might have probed the foundations of his system.

§5. HEGELISM\textsuperscript{16}

40. The critical logicians have been much affiliated to the theological seminaries. About the thinking that goes on in laboratories they have known nothing. Now the seminarists and religionists generally have at all times and places set their faces against the idea of continuous growth. That

\begin{itemize}
\item\textsuperscript{13} William Clifford [1845-79], English mathematician and philosopher. Exact source not traced.
\item\textsuperscript{14} [CP eds] Sir William Hamilton's \textit{Discussions on Philosophy and Literature}, ch. 2, p. 55. What Hamilton objects to is "immediate knowledge of the past" as a definition of memory.
\item\textsuperscript{15} Thomas Reid [1710-1796], Scottish Philosopher, principal figure in the development of the philosophy of common sense.
\item\textsuperscript{16} [CP eds] 40 and 41-2 are from separate unidentified fragments, c. 1892.
\end{itemize}
disposition of intellect is the most catholic element of religion. Religious truth having been once defined is never to be altered in the most minute particular; and theology being held as queen of the sciences, the religionists have bitterly fought by fire and tortures all great advances in the true sciences; and if there be no true continuous growth in men's ideas where else in the world should it be looked for? Thence, we find this folk setting up hard lines of demarcation, or great gulfs, contrary to all observation, between good men and bad, between the wise and foolish, between the spirit and the flesh, between all the different kinds of objects, between one quantity and the next. So shut up are they in this conception of the world that when the seminarist Hegel discovered that the universe is everywhere permeated with continuous growth (for that, and nothing else, is the "Secret of Hegel") it was supposed to be an entirely new idea, a century and a half after the differential calculus had been in working order.

41. Hegel, while regarding scientific men with disdain, has for his chief topic the importance of continuity, which was the very idea the mathematicians and physicists had been chiefly engaged in following out for three centuries. This made Hegel's work less correct and excellent in itself than it might have been; and at the same time hid its true mode of affinity with the scientific thought into which the life of the race had been chiefly laid up. It was a misfortune for Hegelism, a misfortune for "philosophy," and a misfortune (in lesser degree) for science.

42. My philosophy resuscitates Hegel, though in a strange costume

From A GUESS AT THE RIDDLE (c. 1890)17

3.368 . . . My whole method will be found to be in profound contrast with that of Hegel; I reject his philosophy in toto. Nevertheless, I have a certain sympathy with it, and fancy that if its author had only noticed a very few circumstances he would himself have been led to revolutionize his system. One of these is the double division or dichotomy of the second idea of the triad. He has usually overlooked external Secondness, altogether. In other words, he has committed the trifling oversight of forgetting that there is a real world with real actions and reactions. Rather a serious oversight that. Then Hegel had the misfortune to be unusually deficient in mathematics. He shows this in the very elementary character of his reasoning. Worse still, while the whole burden of his song is that philosophers have neglected to take Thirdness into account, which is true enough of the theological kind, with whom alone he was acquainted (for I do not call it acquaintance to look into a book without comprehending it), he unfortunately did not know, what it would have been of the utmost consequence for him to know, that the mathematical analysts had in great measure escaped this great fault, and that the thorough-going pursuit of the ideas and methods of the differential calculus would be sure to cure it altogether. Hegel's dialectical method is only a feeble and rudimentary application of the principles of the calculus to metaphysics. Finally Hegel's plan of evolving everything out of the abstractest conception by a dialectical procedure, though far from being so absurd as the experientialists think, but on the contrary representing one of the indispensable parts of the course of science, overlooks the weakness of individual man, who wants the strength to wield such a weapon as that.

17 From CP 3.368. [CP eds.] c. 1890. One of the drafts of this work is headed: "Notes for a Book, to be entitled 'A Guess at the Riddle,' with a Vignette of the Sphynx below the Title." This caption is followed by the remark, "And this book, if ever written, as it soon will be if I am in a situation to do it, will be one of the births of time."
THE FIRST RULE OF LOGIC


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

**Do not block the way of inquiry.**

136. Although it is better to be methodical in our investigations, and to consider the economics of research, yet there is no positive sin against logic in trying any theory which may come into our heads, so long as it is adopted in such a sense as to permit the investigation to go on unimpeded and undiscouraged. On the other hand, to set up a philosophy which barricades the road of further advance toward the truth is the one unpardonable offence in reasoning, as it is also the one to which metaphysicians have in all ages shown themselves the most addicted.

Let me call your attention to four familiar shapes in which this venomous error assails our knowledge:

137. The first is the shape of absolute assertion. That we can be sure of nothing in science is an ancient truth. The Academy taught it. Yet science has been infested with overconfident assertion, especially on the part of the third-rate and fourth-rate men, who have been more concerned with teaching than with learning, at all times. No doubt some of the geometries still teach as a self-evident truth the proposition that if two straight lines in one plane meet a third straight line so as to make the sum of the internal angles on one side less than two right angles those two lines will meet on that side if sufficiently prolonged. Euclid, whose logic was more careful, only reckoned this proposition as a Postulate, or arbitrary Hypothesis. Yet even he places among his axioms the proposition that a part is less than its whole, and falls into several conflicts with our most modern geometry in consequence. But why need we stop to consider cases where some subtlety of thought is required to see that the assertion is not warranted when every book which applies philosophy to the conduct of life lays down as positive certainty propositions which it is quite as easy to doubt as to believe?

138. The second bar which philosophers often set up across the roadway of inquiry lies in maintaining that this, that, and the other never can be known. When Auguste Comte was pressed to specify any matter of positive fact to the knowledge of which no man could by any possibility attain, he instanced the knowledge of the chemical composition of the fixed stars; and you may see his answer set down in the *Philosophie positive*. But the ink was scarcely dry upon the printed page before the spectroscope was discovered and that which he had deemed absolutely unknowable was well on the way of getting ascertained. It is easy enough to mention a question the answer to which is not known to me today. But to aver that that answer will not be known tomorrow is somewhat risky; for oftentimes it is precisely the least expected truth which is turned up under the ploughshare of research. And when it comes to positive assertion that the truth never will be found out, that, in the

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1 (Peirce) 19me leçon. Auguste Comte (1798-1857), French philosopher; founder of sociology and philosophical Positivism.
light of the history of our time, seems to me more hazardous than the venture of Andrée.²

139. The third philosophical stratagem for cutting off inquiry consists in maintaining that this, that, or the other element of science is basic, ultimate, independent of aught else, and utterly inexplicable -- not so much from any defect in our knowing as because there is nothing beneath it to know. The only type of reasoning by which such a conclusion could possibly be reached is retroduction. Now nothing justifies a retroductive inference except its affording an explanation of the facts. It is, however, no explanation at all of a fact to pronounce it inexplicable. That, therefore, is a conclusion which no reasoning can ever justify or excuse.

140. The last philosophical obstacle to the advance of knowledge which I intend to mention is the holding that this or that law or truth has found its last and perfect formulation -- and especially that the ordinary and usual course of nature never can be broken through. "Stones do not fall from heaven," said Laplace,³ although they had been falling upon inhabited ground every day from the earliest times. But there is no kind of inference which can lend the slightest probability to any such absolute denial of an unusual phenomenon.

² (CP eds) In 1897 Salomon August Andrée attempted to fly over the polar regions in a balloon. He died in the attempt.
³ Pierre-Simon de Laplace (1749-1827), French mathematician and astronomer.
Since the vogue in this country of the Herbartian pedagogy\(^1\), . . . the old ideas which used to cluster about the phrase *Liberal Education* have become scattered. One of those ideas was that the matter of instruction in the common education was of less concern than the training of men's powers. The pedagogists of today sneer at this as an antiquated and crude conception. But for my part I continue to believe that the welfare of the commonwealth depends far less on the assent of all the citizens to any definite propositions, - such, we will say, as the doctrine of the independence of the executive, legislative, and judiciary functions, which, after all are easily made handles for bosses, than it does in the power of recognizing the sort of thought and the sort of methods in which it will be well for the government and public opinion to put their trust. In the last analysis it comes to this, that the very focus and centre of common education should be placed in the art of thinking, *ad omnium methodorum principia viam habens* [which contains a path to the principles of all methods]. I do not know why a man should not devote himself to the training of his reasoning powers with as much assiduity as to corporal athletics.

There [are] a good many books that bear upon the subject. . . . But neither reading books nor working exercises, - whether they be trivial or serious, - will suffice to develop the reasoning powers. An analytical method of procedure is requisite which shall perfect one by one our performance of the different mental operations that enter into the business of inquiry. Now the mental operations concerned in reasoning are three. The first is Observation; the second is Experimentation; and the third is Habituation.

Observation consists of two parts which though theoretically they have much in common yet practically are of almost contrary natures. The first is a sort of subconscious induction, by which upon repeatedly reviewing an object of perception a certain element of it acquires great associational potency, - that is, has a magnified tendency to call up other ideas. For example, I cast my eyes let us say upon an impressionist marine picture, one of those things in which the wet pastels are affixed in blotches nearly as large as the end of your little finger. It has a very disagreeable look and seems very meaningless. But as I gaze upon it I detect myself sniffing the salt-air and holding up my cheek to the sea breeze. That subconscious element of observation is I am strongly inclined to think the very most important of all the constituents of practical reasoning. The other part of observation consists in moulding in the upper consciousness a more or less skeletonized idea until it is felt to respond to [the] object of observation. This last element is quite indispensable if one is trying to form a theory of the object in hand, or even to describe it in words; but it goes a long way toward breaking down, denying, and pooh-poohing away, all the fineness of the subconscious observation. It is, therefore, a great art to be able to suppress it and put it into its proper place in cases where it attempts impertinent intermeddling. Do not allow yourself to be imposed upon by the egotism and conceit of the upper consciousness.

Observation may also be divided into three nearly independent genera according to the different

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\(^1\) Johann Friedrich Herbart [1776-1841], German philosopher and educator, proposing that education could be a science, based on applied psychology. After some vogue in the United States, where it tended to become a rigid formalism, it was later supplanted by ideas of “progressive education,” particularly as championed by John Dewey.
natures of the elements observed. Namely, it may be directed to the qualities of objects or to experiential facts of relation, or to the relations between the parts of an image one's own phantasy has created. These are all observations, composed of the two elements I have mentioned. Nevertheless, they are so far different that in training one kind you do not necessarily strengthen either of the others in any sensible measure. It consequently becomes necessary to train each of these three modes of observation separately.

The qualities which we observe may, in the first place, be sensible qualities, colors, sounds, sizes, shapes, etc. Or, in the second place, they may be secondary, or emotional, qualities, such as the esthetic qualities. A training in discrimination of sensible qualities will affect the power of discriminating emotional qualities in no inconsiderable measure, and *vice versa*. Thirdly, there is observational discrimination of mental states, which in my experience has been found associated with sensediscrimination much more frequently than I should have anticipated that it would be.

All these powers are most important in seasoning; and I need hardly say that just as a person who has not frequented a gymnasium or its equivalent can in a single month amazingly bring up the strength of a given set of muscles by means of systematic exercise, so a person whose powers of observational discrimination have been neglected can by analogous exercises attain results quite as surprising.
From WHAT PRAGMATISM IS (1905)\(^1\)


\[\ldots\]

411. The writer of this article has been led by much experience to believe that every physicist, and every chemist, and, in short, every master in any department of experimental science, has had his mind moulded by his life in the laboratory to a degree that is little suspected. \[\ldots\]

412. That laboratory life did not prevent the writer (who here and in what follows simply exemplifies the experimentalist type) from becoming interested in methods of thinking; and when he came to read metaphysics, although much of it seemed to him loosely reasoned and determined by accidental prepossessions, yet in the writings of some philosophers, especially Kant, Berkeley, and Spinoza, he sometimes came upon strains of thought that recalled the ways of thinking of the laboratory, so that he felt he might trust to them; all of which has been true of other laboratory-men.

Endeavoring, as a man of that type naturally would, to formulate what he so approved, he framed the theory that a conception, that is, the rational purport of a word or other expression, lies exclusively in its conceivable bearing upon the conduct of life; so that, since obviously nothing that might not result from experiment can have any direct bearing upon conduct, if one can define accurately all the conceivable experimental phenomena which the affirmation or denial of a concept could imply, one will have therein a complete definition of the concept, and **there is absolutely nothing more in it**. For this doctrine he invented the name **pragmatism**. Some of his friends wished him to call it **practicism** or **practicalism** (perhaps on the ground that \{praktikos\} is better Greek than \{pragmatikos\}. But for one who had learned philosophy out of Kant, as the writer, along with nineteen out of every twenty experimentalists who have turned to philosophy, had done, and who still thought in Kantian terms most readily, **praktisch** and **pragmatisch** were as far apart as the two poles, the former belonging in a region of thought where no mind of the experimentalist type can ever make sure of solid ground under his feet, the latter expressing relation to some definite human purpose. Now quite the most striking feature of the new theory was its recognition of an inseparable connection between rational cognition and rational purpose; and that consideration it was which determined the preference for the name pragmatism.

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§3. PRAGMATICISM

414. After awaiting in vain, for a good many years, some particularly opportune conjuncture of circumstances that might serve to recommend his notions of the ethics of terminology, the writer has now, at last, dragged them in over head and shoulders, on an occasion when he has no specific proposal to offer nor any feeling but satisfaction at the course usage has run without any canons or resolutions of a congress. His word "pragmatism" has gained general recognition in a generalized sense that seems to argue power of growth and vitality. The famed psychologist, James, first took it up,\(^2\) seeing that his "radical empiricism" substantially answered to the writer's definition of pragmatism, albeit with a certain difference in the point of view. Next, the admirably clear and

\(^1\) *The Monist*, vol. 15(1905), pp. 161-181.

brilliant thinker, Mr. Ferdinand C.S. Schiller,\(^3\) casting about for a more attractive name for the "anthropomorphism" of his *Riddle of the Sphinx*, lit, in that most remarkable paper of his on *Axioms as Postulates*,\(^4\) upon the same designation "pragmatism," which in its original sense was in generic agreement with his own doctrine, for which he has since found the more appropriate specification "humanism," while he still retains "pragmatism" in a somewhat wider sense. So far all went happily. But at present, the word begins to be met with occasionally in the literary journals, where it gets abused in the merciless way that words have to expect when they fall into literary clutches. . . .So then, the writer, finding his bantling "pragmatism" so promoted, feels that it is time to kiss his child good-by and relinquish it to its higher destiny; while to serve the precise purpose of expressing the original definition, he begs to announce the birth of the word "pragmaticism," which is ugly enough to be safe from kidnappers.\(^5\)

415. Much as the writer has gained from the perusal of what other pragmatists have written, he still thinks there is a decisive advantage in his original conception of the doctrine. From this original form every truth that follows from any of the other forms can be deduced, while some errors can be avoided into which other pragmatists have fallen. The original view appears, too, to be a more compact and unitary conception than the others. But its capital merit, in the writer's eyes, is that it more readily connects itself with a critical proof of its truth. . . .

416. The bare definition of pragmaticism could convey no satisfactory comprehension of it to the most apprehensive of minds, but requires the commentary to be given below. Moreover, this definition takes no notice of one or two other doctrines without the previous acceptance (or virtual acceptance) of which pragmaticism itself would be a nullity. They are included as a part of the pragmatism of Schiller, but the present writer prefers not to mingle different propositions. The preliminary propositions had better be stated forthwith.

The difficulty in doing this is that no formal list of them has ever been made. They might all be included under the vague maxim, "Dismiss make-believes." Philosophers of very diverse stripes propose that philosophy shall take its start from one or another state of mind in which no man, least of all a beginner in philosophy, actually is. One proposes that you shall begin by doubting everything, and says that there is only one thing that you cannot doubt, as if doubting were "as easy as lying." Another proposes that we should begin by observing "the first impressions of sense," forgetting that our very percepts are the results of cognitive elaboration. But in truth, there is but one state of mind from which you can "set out," namely, the very state of mind in which you actually find yourself at the time you do "set out" -- a state in which you are laden with an immense mass of cognition already formed, of which you cannot divest yourself if you would; and who knows whether, if you could, you would not have made all knowledge impossible to yourself? Do you call it doubting to write down on a piece of paper that you doubt? If so, doubt has nothing to do with any serious business. But do not make believe; if pedantry has not eaten all the reality out of you, recognize, as you must, that there is much that you do not doubt, in the least. Now that which you do not at all doubt, you must and do regard as infallible, absolute truth. Here breaks in Mr. Make Believe: "What! Do you mean to say that one is to believe what is not true, or that what a man does not doubt is ipso facto true?" No, but unless he can make a thing white and black at once, he has to regard what he does not doubt as

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3 Ferdinand C. S. Schiller [1864-1937], British philosopher.
5 [Peirce] To show how recent the general use of the word "pragmatism" is, the writer may mention that, to the best of his belief, he never used it in copy for the press before today, except by particular request, in *Baldwin's Dictionary*. [See 1-4.] Toward the end of 1890, when this part of the *Century Dictionary* appeared, he did not deem that the word had sufficient status to appear in that work. [But see 13n.] But he has used it continually in philosophical conversation since, perhaps, the mid-seventies.
absolutely true. Now you, per hypothesiu, are that man. "But you tell me there are scores of things I do not doubt. I really cannot persuade myself that there is not some one of them about which I am mistaken." You are adducing one of your make-believe facts, which, even if it were established, would only go to show that doubt has a limen, that is, is only called into being by a certain finite stimulus. You only puzzle yourself by talking of this metaphysical "truth" and metaphysical "falsity," that you know nothing about. All you have any dealings with are your doubts and beliefs, with the course of life that forces new beliefs upon you and gives you power to doubt old beliefs. If your terms "truth" and "falsity" are taken in such senses as to be definable in terms of doubt and belief and the course of experience (as for example they would be, if you were to define the "truth" as that to a belief in which belief would tend if it were to tend indefinitely toward absolute fixity), well and good: in that case, you are only talking about doubt and belief. But if by truth and falsity you mean something not definable in terms of doubt and belief in any way, then you are talking of entities of whose existence you can know nothing, and which Ockham's razor would clean shave off. Your problems would be greatly simplified, if, instead of saying that you want to know the "Truth," you were simply to say that you want to attain a state of belief unassailable by doubt.

417. Belief is not a momentary mode of consciousness; it is a habit of mind essentially enduring for some time, and mostly (at least) unconscious; and like other habits, it is (until it meets with some surprise that begins its dissolution) perfectly self-satisfied. Doubt is of an altogether contrary genus. It is not a habit, but the privation of a habit. Now a privation of a habit, in order to be anything at all, must be a condition of erratic activity that in some way must get superseded by a habit.

418. Among the things which the reader, as a rational person, does not doubt, is that he not merely has habits, but also can exert a measure of self-control over his future actions; which means, however, not that he can impart to them any arbitrarily assignable character, but, on the contrary, that a process of self-preparation will tend to impart to action (when the occasion for it shall arise), one fixed character, which is indicated and perhaps roughly measured by the absence (or slightness) of the feeling of self-reproach, which subsequent reflection will induce. Now, this subsequent reflection is part of the self-preparation for action on the next occasion. Consequently, there is a tendency, as action is repeated again and again, for the action to approximate indefinitely toward the perfection of that fixed character, which would be marked by entire absence of self-reproach. The more closely this is approached, the less room for self-control there will be; and where no self-control is possible there will be no self-reproach.

419. These phenomena seem to be the fundamental characteristics which distinguish a rational being. Blame, in every case, appears to be a modification, often accomplished by a transference, or "projection," of the primary feeling of self-reproach. Accordingly, we never blame anybody for what had been beyond his power of previous self-control. Now, thinking is a species of conduct which is largely subject to self-control. In all their features (which there is no room to describe here), logical self-control is a perfect mirror of ethical self-control -- unless it be rather a species under that genus. In accordance with this, what you cannot in the least help believing is not, justly speaking, wrong belief. In other words, for you it is the absolute truth. True, it is conceivable that what you cannot help believing today, you might find you thoroughly disbelieve tomorrow. But then there is a certain distinction between things you "cannot" do, merely in the sense that nothing stimulates you to the great effort and endeavors that would be required, and things you cannot do because in their own nature they are insusceptible of being put into practice. In every stage of your excogitations, there is something of which you can only say, "I cannot think otherwise," and your experientially based hypothesis is that the impossibility is of the second kind.

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6 [Peirce] It is necessary to say that "belief" is throughout used merely as the name of the contrary to doubt, without regard to grades of certainty nor to the nature of the proposition held for true, i.e., "believed."
420. There is no reason why "thought," in what has just been said, should be taken in that narrow sense in which silence and darkness are favorable to thought. It should rather be understood as covering all rational life, so that an experiment shall be an operation of thought. Of course, that ultimate state of habit to which the action of self-control ultimately tends, where no room is left for further self-control, is, in the case of thought, the state of fixed belief, or perfect knowledge.

421. Two things here are all-important to assure oneself of and to remember. The first is that a person is not absolutely an individual. His thoughts are what he is "saying to himself," that is, is saying to that other self that is just coming into life in the flow of time. When one reasons, it is that critical self that one is trying to persuade; and all thought whatsoever is a sign, and is mostly of the nature of language. The second thing to remember is that the man's circle of society (however widely or narrowly this phrase may be understood), is a sort of loosely compacted person, in some respects of higher rank than the person of an individual organism. It is these two things alone that render it possible for you -- but only in the abstract, and in a Pickwickian sense\(^7\) -- to distinguish between absolute truth and what you do not doubt.

422. Let us now hasten to the exposition of pragmaticism itself. Here it will be convenient to imagine that somebody to whom the doctrine is new, but of rather preternatural perspicacity, asks questions of a pragmaticist. Everything that might give a dramatic illusion must be stripped off, so that the result will be a sort of cross between a dialogue and a catechism, but a good deal liker the latter -- something rather painfully reminiscent of Mangnall's *Historical Questions*.\(^8\)

*Questioner*: I am astounded at your definition of your pragmatism, because only last year I was assured by a person above all suspicion of warping the truth -- himself a pragmatist -- that your doctrine precisely was "that a conception is to be tested by its practical effects." You must surely, then, have entirely changed your definition very recently.

*Pragmatist*: If you will turn to Vols. VI and VII of the *Revue Philosophique*, or to the *Popular Science Monthly* for November 1877 and January 1878 [Papers No. IV and V], you will be able to judge for yourself whether the interpretation you mention was not then clearly excluded. The exact wording of the English enunciation, (changing only the first person into the second), was: "Consider what effects that might conceivably have practical bearing you conceive the object of your conception to have. Then your conception of those effects is the WHOLE of your conception of the object."\(^9\)

*Questioner*: Well, what reason have you for asserting that this is so?

*Pragmatist*: That is what I specially desire to tell you. But the question had better be postponed until you clearly understand what those reasons profess to prove.

423. *Questioner*: What, then, is the *raison d'être* of the doctrine? What advantage is expected from it?

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\(^7\) An expression meant in an idiosyncratic or unusual way, after Mr. Pickwick, in Charles Dickens' *The Pickwick Papers* (1837)

\(^8\) Peirce is most likely referring to *Historical Questions from the Bible, with Answers. Written for the Mendip Schools* (1798)

\(^9\) Cf. *CP* 5.402.
Pragmatist: It will serve to show that almost every proposition of ontological metaphysics is either meaningless gibberish — one word being defined by other words, and they by still others, without any real conception ever being reached — or else is downright absurd; so that all such rubbish being swept away, what will remain of philosophy will be a series of problems capable of investigation by the observational methods of the true sciences -- the truth about which can be reached without those interminable misunderstandings and disputes which have made the highest of the positive sciences a mere amusement for idle intellects, a sort of chess -- idle pleasure its purpose, and reading out of a book its method. In this regard, pragmaticism is a species of prope-positivism. But what distinguishes it from other species is, first, its retention of a purified philosophy; secondly, its full acceptance of the main body of our instinctive beliefs; and thirdly, its strenuous insistence upon the truth of scholastic realism (or a close approximation to that, well-stated by the late Dr. Francis Ellingwood Abbot\(^1\) in the Introduction to his *Scientific Theism*). So, instead of merely jeering at metaphysics, like other prope-positivists, whether by long drawn-out parodies or otherwise, the pragmaticist extracts from it a precious essence, which will serve to give life and light to cosmology and physics. At the same time, the moral applications of the doctrine are positive and potent; and there are many other uses of it not easily classed. On another occasion, instances may be given to show that it really has these effects.

424. Questioner: I hardly need to be convinced that your doctrine would wipe out metaphysics. Is it not as obvious that it must wipe out every proposition of science and everything that bears on the conduct of life? For you say that the only meaning that, for you, any assertion bears is that a certain experiment has resulted in a certain way: Nothing else but an experiment enters into the meaning. Tell me, then, how can an experiment, in itself, reveal anything more than that something once happened to an individual object and that subsequently some other individual event occurred?

Pragmatist: That question is, indeed, to the purpose -- the purpose being to correct any misapprehensions of pragmaticism. You speak of an experiment in itself, emphasising "in itself." You evidently think of each experiment as isolated from every other. It has not, for example, occurred to you, one might venture to surmise, that every connected series of experiments constitutes a single collective experiment. What are the essential ingredients of an experiment? First, of course, an experimenter of flesh and blood. Secondly, a verifiable hypothesis. This is a proposition\(^12\) relating to the universe environing the experimenter, or to some well-known part of it and affirming or denying of this only some experimental possibility or impossibility. The third indispensable ingredient is a sincere doubt in the experimenter's mind as to the truth of that hypothesis.

Passing over several ingredients on which we need not dwell, the purpose, the plan, and the resolve, we come to the act of choice by which the experimenter singles out certain identifiable objects to be operated upon. The next is the external (or quasi-external) ACT by which he modifies those objects. Next, comes the subsequent reaction of the world upon the experimenter in a perception; and finally, his recognition of the teaching of the experiment. While the two chief parts of

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10 Cf. Carnap, below pp. ???
11 Francis Ellingwood Abbot [1836-1903], American philosopher and Doctor of Divinity from Harvard; associated with Free Religionist movement, and forced to leave his Unitarian ministry in Dover, New Hampshire..
12 [Peirce] The writer, like most English logicians, invariably uses the word proposition not as the Germans define their equivalent, Satz, as the language-expression of a judgment (*Urtheil*), but as that which is related to any assertion, whether mental and self-addressed or outwardly expressed, just as any possibility is related to its actualisation. The difficulty of the, at best, difficult problem of the essential nature of a Proposition has been increased, for the Germans, by their *Urtheil*, confounding, under one designation, the mental assertion with the assertible [cf. *CP* 2.315].
the event itself are the action and the reaction, yet the unity of essence of the experiment lies in its purpose and plan, the ingredients passed over in the enumeration.

425. Another thing: in representing the pragmaticist as making rational meaning to consist in an experiment (which you speak of as an event in the past), you strikingly fail to catch his attitude of mind. Indeed, it is not in an experiment, but in experimental phenomena, that rational meaning is said to consist. When an experimentalist speaks of a phenomenon, such as "Hall's phenomenon,"\(^{13}\) "Zeemann's phenomenon"\(^{14}\) and its modification, "Michelson's phenomenon,"\(^{15}\) or "the chessboard phenomenon," he does not mean any particular event that did happen to somebody in the dead past, but what surely will happen to everybody in the living future who shall fulfill certain conditions. The phenomenon consists in the fact that when an experimentalist shall come to act according to a certain scheme that he has in mind, then will something else happen, and shatter the doubts of sceptics, like the celestial fire upon the altar of Elijah.

426. And do not overlook the fact that the pragmaticist maxim says nothing of single experiments or of single experimental phenomena (for what is conditionally true in futuro can hardly be singular), but only speaks of general kinds of experimental phenomena. Its adherent does not shrink from speaking of general objects as real, since whatever is true represents a real. Now the laws of nature are true.

427. The rational meaning of every proposition lies in the future. How so? The meaning of a proposition is itself a proposition. Indeed, it is no other than the very proposition of which it is the meaning: it is a translation of it. But of the myriads of forms into which a proposition may be translated, what is that one which is to be called its very meaning? It is, according to the pragmaticist, that form in which the proposition becomes applicable to human conduct, not in these or those special circumstances, nor when one entertains this or that special design, but that form which is most directly applicable to self-control under every situation, and to every purpose. This is why he locates the meaning in future time; for future conduct is the only conduct that is subject to self-control. But in order that that form of the proposition which is to be taken as its meaning should be applicable to every situation and to every purpose upon which the proposition has any bearing, it must be simply the general description of all the experimental phenomena which the assertion of the proposition virtually predicts. For an experimental phenomenon is the fact asserted by the proposition that action of a certain description will have a certain kind of experimental result; and experimental results are the only results that can affect human conduct. No doubt, some unchanging idea may come to influence a man more than it had done; but only because some experience equivalent to an experiment has brought its truth home to him more intimately than before. Whenever a man acts purposively, he acts under a belief in some experimental phenomenon. Consequently, the sum of the experimental phenomena that a proposition implies makes up its entire bearing upon human conduct. Your question, then, of how a pragmaticist can attribute any meaning to any assertion other than that of a single occurrence is substantially answered. . . .

\(^{13}\) The “Hall effect”, discovered in 1879 by Edwin Herbert Hall, American physicist, designates the development of a transverse electrical field in a solid conductor when exposed to a magnetic field perpendicular to the current flow.

\(^{14}\) Or the “Zeeman effect,” named after Pieter Zeeman [1865-1943], awarded the Nobel Prize for physics in 1902 with Hendrik A. Lorentz. The Zeeman effect was the discovery that each of the lines of the spectrum of emitted light subjected to a magnetic field split into several lines of slightly different frequency.

\(^{15}\) Refers to experiments with the interferometer, developed by Albert A. Michelson [1852-1931], for measuring the speed of light; cf. The Michelson-Morley experiment in 1887, proving that there was no movement of the earth relative to the celestial ether—hence proving that there was no ether.