

The “New List” of Categories: Peirce Refines the Short List of Categories

Introduction

In a very high altitude view of the central issues considered in the last lecture the outlines of Peirce’s anti-mechanistic world view may be seen. He embraced at once English, French, and German philosophy. Although a New Englander, he did not accept English philosophy without question. Instead, he became a believer in radical philosophical thought more closely associated with the Continent. He believed that the atomistic habit of thinking in psychology, metaphysics, and epistemology was based on a desire for a thoroughly unconditioned philosophical standpoint, a privileged Cartesian oasis for presuppositionless philosophical labor. However, even in his youth Peirce was aware that philosophy could not avoid the predicament of coping with the paradox presented by the particularity of the philosopher with the generality of philosophy itself. Was there a way to avoid the conclusion that either the philosopher was universal or philosophy itself always particular?

Let us summarize the main points of the previous lecture. First, it appears safe to say that Peirce embraced the view that not all forms of causation were mechanistic in nature; some were formal, others perhaps final. If knowing is not mirroring, it is because knowing never arises unless there is an engagement and intimacy between the knower and known. The relationship is dynamic; knowing is a resistant act involving effort and attention. Once this is realized philosophy is given the role of a trainer in physical education, disciplining the mind in order to understand and expand

its efforts. This is what Peirce called learning to put the soul in its active state. The activity he sought was not simply being conscious but being actively and critically conscious. Kant and Emerson are his main inspirations.

Second, by the early 1860s Peirce was convinced that there was something special about triadic relationships. As Max Fisch has observed, Peirce was moving from Unitarianism to Trinitarianism. From his study of Kant and Schiller primarily, he came away with the view that triadic bonds were strong bonds and more importantly were versatile bonds, capable of giving rise to a variety of manifestations. One such manifestation involved the creation of “subsidiary forms.” How are such forms created and what are their common elements? Epistemology seeks answers to these questions. Usually the focus is dyadic: what does the mind know? Qualia, sense data, impressions, abstractions, etc. Some philosophers attempt to define what is known in a fashion that diminishes the problem of adequacy. Epistemology then shades into a phenomenology. But the problem of adequacy is unavoidable in the endeavor. As soon as the question arises whether the objects of knowledge adequately represent what is known other questions are suggested regarding the manner in which representations represent. Peirce’s three general categories are just an attempt to speak generally about this latter question.

Third, Peirce’s attempt to follow out Kant’s plan for a long list of categories is based on the view, reflected in the ideas of Emerson quoted earlier regarding the scalability of nature, that reality is a hierarchy of isomorphic forms. This is a view that in some respects any given aspect of reality contains a kernel that reflects the most general truths of reality. This view creates two tasks: that of describing the kernel, as well as explaining how the hierarchy is constructed, in other words, a theory of the whole — the “Whole Sea.” In the previous lecture I suggested that the theory of the

“Whole Sea,” for Peirce, had something to do with the process whereby abstractions are formed and become concretized through a process of manifestation. What starts out as an analysis of the conditions of the adequacy of knowledge leads in the direction of a spiritual transcendentalism. It is not surprising that Peirce would be comfortable with this kind of spiritualism, a spiritualism that is based more on science than traditional religions. These views of cosmic spirituality were held by his father and likely were presented to his son on numerous occasions.

We may also see from the previous lecture that Peirce’s philosophical task was nothing short of overwhelming in scope. Even if he could have avoided the responsibilities of young adulthood it would have been impossible to create a perfect metaphysical work that would be sound in theory and fully practical in its explanatory power in the sciences. Peirce simply knew too much science to become a Leibniz or Hegel of his time. For this reason, I believe, his attention turned to the more manageable subject of logic and the history of logic and in particular to the notion of the sign relation. Here was a relation that appeared in many forms or manifestations, had a triadic structure akin to the I, IT and THOU, and had a transcendental quality insofar as logic itself could be analyzed in terms of signs. Thus, it could be possible that a theory of signs was at the same time a theory of everything about which signs could pertain; and then if it could be shown that to be is to be a sign, or to be signified, or to be significant, then a theory of signs could be a theory of being itself. Although between 1865 and 1870 Peirce was not of the habit of informing his readers of this higher altitude view, he was preparing the reader for the ascent at a later time.

I am convinced that by the early 1860s Peirce’s speculations had produced some sort of metaphysical vision depicting in a more or less diagrammatic fashion in his mind the fundamental structure of reality. I am also convinced that he never discarded that vision. It stayed with him his entire life, almost

haunting and enticing him to reveal its secrets. We have seen that Peirce used diagrams in his early metaphysical writings in order to depict the relationship among fundamental conceptions, and attempted in a crude fashion to produce a computational method of generating categories. These early efforts were carried forward later in life in his use of diagrams in his study of logic to invent new logical relationships and in his work on the logic of relatives and Boolean algebra. I also suspect that that vision was a source of frustration and a reason that Peirce was so impatient with himself in philosophical endeavors throughout his life. I cannot say that he had anything approaching a clear intuitive vision; rather, I suspect that his vision was vague but extremely suggestive. It was a model of sorts, analogous to a 'perfect gas' but much more complex. Once conceived this model served to distort Peirce's view of the reality commonly held to be true in the realms of science and ordinary life. It forced him to seek new vocabularies and probably made him less able or willing to conform to established intellectual orthodoxies of his day.

In the 1867 Peirce resumed writing in his *Logic Notebook*, and did so fraught with emotion:

I cannot explain the deep emotion with which I open this book again. Here I write but never after read what I have written for what I write is done in the process of forming a conception. Yet I cannot forget that here are the germs of the theory of the categories which is (if anything is) the gift I make to the world. That is my child. In it I shall live when oblivion has me — my body ((Writings of Charles S. Peirce: A Chronological Edition, Vol. 2 (1867-1871), p. 1. Hereafter, references to this work will appear in the text as 'W2' followed by the page reference.)).

Here is a pregnant philosopher, transformed by his vision, perhaps knowing of the daunting task in front of him to express in writing the many connections and implications of a glimmering vision of the whole. I do not mean to suggest that Peirce was subject to an occult influence or was first and foremost a mystic. Rather, I believe that if we look at Peirce's entire life we should not take it for granted that he just studied philosophy for the love of it. As a calling philosophy was not a good business decision for Peirce, since he could not gain acceptance in the higher circles of the Academy where he believed he belonged. Instead, he took up philosophy almost as a man relentlessly pursued by a philosophical muse to carry out a special purpose.

In this lecture I shall consider the following subjects: (1) Why the sign relation seemed a good place to begin; (2) The "New List" of categories; (3) the influence of Thomas of Erfurt.

What's Interesting About a Sign?

Peirce wanted the sign-relation to have a role in metaphysics. Therefore, he could not be satisfied with explaining signs as the products of human or animal minds. ((Peirce's parrot had a habit of summoning and jeering the family dog. See Joseph Brent, *Charles Sanders Peirce: A Life* (Bloomington, Ind.: Indiana University Press, 1993), pp. 46-47.)) Rather, he would be expected to distill what it is that makes a sign function in the most elementary conditions imaginable, and then explain the variations and elaborations of the elementary sign-relation in more complex situations. This does not make Peirce a foundationalist or atomist. He could adopt this approach as a good method of study and analysis the way the infant science of physical chemistry was using simplistic models to explain and predict the phenomena of real scientific experiments at the time.

The sign relationship implies two or more things connected in some manner other than in isolation or coexistence. Unrelated things cannot serve as signs; that is, unless they become related. Imagine two perfect identical spheres rolling around on an infinitely expansive frictionless two-dimensional surface. They might never interact. If they were perfectly elastic they might interact once and never again. Under what circumstances might we conceive that one would be a sign to the other. Let us cheat and postulate that an observer has a particular vantage point that affords a partial view of the surface. As the balls move around the observer would try to chart their course; as they move in and out of view the observer would try to tell them apart and distinguish their histories. It is not inconceivable that the observer would be able to make predictions about the future activity of the spheres even if they could not be distinguished. However, if the spheres behave in a purely random fashion the ability to predict successfully the future location of a particular sphere would diminish greatly or vanish altogether. Let us imagine that the observer is able to mark or label one of the spheres. The marked sphere is then distinguished by the mark. The observer is now able to distinguish its presence or absence, and the marked sphere becomes at once a sign of itself and a sign of the absence of the other sphere (of course the observer has no reason to know whether it is one or many identical spheres). The mark will also make possible the development of information about the frequency and pattern of spatio-temporal relationships between the spheres. If, for example, a mark was left on the surface of each sphere at impact, the pocked surface would become a sign of the history of impacts and of the 'age' of the sphere. Thus, effects produce marks; marks may become signs. We may assume without elaboration that further determinations or markings will generate more information about the state and past/future behavior of the two-body system.

Now, as the thought experiment makes clear, the observer is endowed with anthropomorphic characteristics of mind: an ability to mark, use of a spatio-temporal matrix, a recording language, memory, and so forth. One value to the experiment is that it reveals that a metaphysical use of the sign-relation would require either a progressive impoverishment of the observer's abilities or an enrichment of the two-sphere world without an observer. The convergence would produce the minimal conditions of sign activity. Let us consider the observerless world. Does it make sense at a certain point to say that the activity of the spheres could manifest sign activity? In asking that question I am aware of the obvious question: Are we not just being the observers ourselves in any case if we try to answer the first question? The latter question may not be a theoretical obstacle; only a practical one. If we observe objects interacting in such a way that we are able to say that no activity is observable, then our observation does not produce sign activity where there is none. If, on the other hand, we observe activity that looks like sign activity to us — such as sounds insects make before mating — then we may postulate that the activity we observe is sign activity. The trick here is to either broaden the use of the terms 'language' the way Peirce was doing in the material discussed in the previous lecture, or else develop new conceptions for what we observe.

What could we imagine that we could *observe* in the two-body world that could be sign activity? Suppose we observe predator-prey-like activity, and learning-like activity, and something that looks like evasive activity. This would suggest that sign activity was taking place. If one sphere appears to 'chase' another and the other appears to avoid the first, in a manner more complicated than the repulsion of similarly charged poles of a magnet, then we could verify that hypothesis by looking for evidence that the prey is reacting to signs given off by the behavior of the predator. The predator may have a 'hunting' technique that includes a faint, which at first is almost successful, but then the prey learns to read the faint and adapts

accordingly. Would it not make sense, then, to say that the prey considers the faint a sign? Once again, the illustration suggests something about the purpose of identifying signs: the endeavor to move from ignorance to knowledge. So we are not surprised that Peirce discusses signs between 1865 and 1870 in the context of the study of inference. He is not just talking about signs as they are consciously employed by us sign-users, e.g., as in scientific inference; he appears to be discussing the limits of sign activity of whatever sort.

In the *Logic Notebook* Peirce approaches this problem from the human side and tries to reduce sign activity to “a purely contentless principle.” (W2, p. 1) For something to be a sign it must represent (‘denote’, ‘stand for’) something qualitative about something substantial. But this is not possible if only one instance is given. Several instances are required. Peirce attempts to analyze the copula relation — ‘*S* is *P*’ — in terms of a reciprocal condition between a class and its members, or between the whole and its parts. Here ‘*S*’ is the substantial something, and ‘*P*’ the qualitative something’. I think his purpose is to find a common logic in the following relations: ‘*S* is *P*’ and ‘*S* represents *P*’. Both may be analyzed as approximations. ‘Lead is soft’ and ‘Lead represents something soft’ both involve generalities about what may be found in the class of soft things; but plainly the meaning of the two propositions are different. Peirce was frustrated in trying to specify in precise logical terms what the difference in meaning amounted to. (“This is horribly vague.” W2, p. 2) He distinguishes a subject from a ‘subject as symbol’, i.e., as a representing entity. Perhaps subjects are symbols used uncritically. When its function as representation is recognized, a dual reality emerges. Here is the “horribly vague” analysis Peirce gives:

For any subject or predicate we can substitute what? Only that which this subject or predicate represents — only that which fulfils the function of that

subject or predicate — only that which the subject or predicate represents to the proposition or to the other terms of it.

Now a subject is a direct symbol of its subject to its predicate and a predicate of its predicate to its subject.

But a subject is also an imperfect representation of that genus from which it has been taken — by which it is determined. It is not a semeion sign of it as I said — is an example of it.

The predicate is a representation of the thing of which it is a random character — a copy of it.

(W2, p. 2)

Peirce is correct; this is a horribly vague passage. He appears to be distinguishing a dual role for signs. A sign must simultaneously refer to its object and at the same time refer to something about the object. In the example given above, the statement 'lead is soft' is a statement about lead; here the emphasis is upon the subject. However, in the sign relation as generally understood the emphasis is on the predicate. Lead becomes a object/sign when it is about softness. This is purely a matter of attention or emphasis. To be a subject is also to be a subject to a particular predicate; but it is also an imperfect representation, as an example, of the class or genus also represented by the subject. Thus, as Peirce argues, there are no utterly singular subjects or objects. A subject may be singular only in the context of its function as a subject of which something is predicated. But as soon as attention is shifted to the predicate the subject becomes something more than the subject of predication. Now it's relationship with its entire scope of reference comes into view. If we were to try to link these notions up with the previous work of Peirce we could say that each subject or predicate is a 'subsidiary form' of a broader subject or predicate. A subject is a direct symbol of *its* subject to its predicate. Peirce emphasizes 'its' because he wants to call attention to the substantiality of the subject. A sign

involves being and relation simultaneously; that is how it seems to work on the most elemental level.

Also, in the *Logic Notebook* during this period Peirce linked up sign activity with notions of truth. Truth has something to do with the accuracy or correctness of something in relation to something else. Thus, truth may have a form similar to the notion of representation. Two things are related; they are not identical, but different in some respect. Yet it makes sense to say that one is true of the other. How is this possible, since it appears that truth is predicated on inaccuracy to some degree? The following passages from the Notebook take up this issue:

Let me consider a little about the nature of truth.

First, I notice that if we define an image to be a representation completely determined in content so that in it every attribute is affirmed were denied there is probably no image. And is not this what is requisite to make an image? What is an image? There is a good question for dialectical research.

. . . . Thus, if a representation is a mere likeness...which stands for nothing except what it happens fully to agree with in characters; it cannot be false of any thing because it only stands for whenever it fully agrees with. And therefore truth has no meaning in reference to it.

So if a representation merely points out certain things and implies nothing of them.

But if a representation at once indicates certain objects and independently implies certain characters, its truth or falsity depends on whether those characters can be predicated of those objects.

(W2, p. 4)

Clearly Peirce was aware that his research into the nature of sign activity had a dialectical characteristic. The more realistic an image becomes the

less 'imaginary' it is, and the closer it becomes its own object. On the other hand, the less realistic it becomes the less it is able to function as a sign of its object. Sign activity must operate between these limits. We also get from these passages the notion that sign activity must refer to and reveal something about its object; the sign must do more than point out certain things; it must 'imply' something as well.

So, what is interesting about signs? They are more complex than at first appears. They invariably involve generality. They have a substantial and relational reality, a duality that suggests the particle and wave nature of light. Thus, signs may be good candidates for a reconstruction of the short list of categories as presented by Kant and described by Peirce as I, It, and Thou.

The New List of Categories

In 1867 Peirce published an essay "On a New List of Categories" in the *Proceedings of the American Academy of Arts and Sciences*. He described it as the product of "three years of almost insanely concentrated thought, hardly interrupted even by sleep." (W2, p. 502). The editors of the *Writings* described this essay as "the culmination of a ten-year effort." (W2, p. 502) There is no doubt that the essay represents a refinement of Peirce's short list task, but it hardly touches upon the larger project of developing a long-list of categories and applying them to unzip and explode knowledge in the sciences.

At the very outset of the essay Peirce expresses some ideas whose meaning and scope could not have been fully appreciated by his readers at the time unfamiliar with Peirce's earlier work:

1. *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.*

2. *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.*

(W2, p. 49)

The ‘theory’, of course, is Kant’s view of the use of concepts to reduce the manifold of sensory experience to unity. Peirce does not seem to want to question this “already established” theory. But he seems to add a scalar dimension to the process of unification. Conceptions act as unifying agents, but in the process they have a relationship with each other. At this point it is well to remind ourselves that this is an extremely rationalist, anti-nominalist theory of knowledge. We are far from the realm where dumb sounds or shapes acquire meaning through constant conjunction. The transcendental approach — which tries to show that certain conceptions are indispensable, since one could not explain the possibility of knowledge without them — seems to assume a world in which structured algorithms operate like a computer program upon the data of experience to produce consciousness of subjects possessing qualities interacting in regular ways. Without retracing the thinking behind that argument in detail, its central feature is recognition that our common-sense experience contains knowledge and presuppositions not to be explained without a world containing conditions of real generality. The vehicles of generality in the present discussion are conceptions. But these conceptions are mental entities that specific persons think about. They are expressed in particular natural and conventional language forms. There is some sort of generality underlying them. The question then arises: What is the smallest unit of generality? Or:

what are the elemental building blocks of a reality containing generality? The “New List” essay can be seen as an attempt to answer these questions in a rigorous, quasi-deductive fashion.

Peirce begins his analysis with the “universal conception which is nearest to sense.” This is the experience of having something present — Peirce uses the term ‘it’ to describe this minimal object of attention — in consciousness, something barely distinguishable from the act of attention containing no content other than the attentive act itself. However, attention seems to contain a general content, a recognition of the present in general. The active attention always contains a minimal content that may be distinguished from the act itself. Subject and object approach identity; but are not identical because the present and attention are different conceptions. What has Peirce described in the first few paragraphs of the “New List”? The process seems to be one of replication. Each act of attention reveals an object through a subsequent act of attention: “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.” (W2, p. 49) Why cannot the mere present be made a predicate? Because it is always a feature of a particular act of attention, but at the same time is without distinguishing features. What is the category that we have discussed in the previous lecture that best describes the present? *Concrete generality*. Attention is the result of concrete generality operating in the world. Peirce does not use that such a concept. Instead, he uses the term ‘substance’.

Let us pause for a moment. The careful student is likely to be exhausted after reading even only a few paragraphs of the “New List.” What is Peirce’s subject in this essay? Is it a search for categories of the human

mind or of reality in general? If the latter: How can the philosopher be sure that the simple objects of his reflection correspond with the elemental characteristics of reality. Doesn't phenomenology suppose the historical standpoint of a well-educated philosopher? Thus, how can Peirce make the leap from the seeming convergence between subject and object in the act of attention to a conclusion about the general structure of knowledge and reality? Let us keep this question in mind as we proceed.

The next step in the argument is an ascent to the next level where the link between the attentive act and the merely present is recognized. This seems to occur through some process which is natural to the way we think. Probably with Kant in mind Peirce writes: "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; . . ." Can this assertion be deduced from the notion of something present to an attentive mind? As long as the attentive mind experiences the contentless substance it need not connect this substance with any other contentless subject. (And identity, as Peirce must have learned from the British philosophers, is a philosophically loaded term.) I think that Peirce would say more than that this is just happens not to be the way it is; he would say that it *cannot* be this way since we are a species that contains philosophers, who are manufacturers of highly refined of signs, and of language creators across the board. Here is where Peirce's practical New England temperament may enter the picture, which we see evidence of in his early writings on the 'futility' of transcendental arguments. There is no transcendental deduction of the categories of the new list; or at least the argument is not presented as such. Yet this is not a treatise in psychology. Peirce wanted to produce an unpsychological treatise in logic. So it is to be assumed that he wanted to produce an unpsychological derivation of the categories. In one of several of an essay on the unpsychological view of logic from the mid-1860 Peirce noted: "The method which ought to be adopted is one which derives

the categories from the functions of judgment but which has its starting point in pure being.” (MS. 720) How is this possible? And why is this method preferable? Why not begin with propositions such as ‘*This rose is red*’? Perhaps ‘pure being’ is just another name for a logical construct that allows the pure categories to be revealed.

I shall approach the issue in the following way. The substance (object) that is experienced in the attentive act (subject) may upon reflection be seen as an act-event in a subsequent act of reflection. This is a magic philosophical moment wherein the identity of subject and object are recognized in an act of attention reflected upon. (The Kantian ‘*I think*’, Fichte’s *Tathandlung* (Act) in the *Wissenschaftslehre*, and Schelling’s ‘intellectual intuition’ comes to mind.) At this point the dialectical method has something to sink its teeth into. A second magic moment occurs: the reflected-upon attentive act that experiences the present as a ‘something’ (substance) also presents a linkage of subject and substance, the ‘*I think this*’. The *this* is seen as a characteristic of my attentive state which is linked in propositional form: ‘*I am thinking this*’. The unity of subject and object is achieved through a copula, the ‘is’ in ‘*S is P*’. The assertion of existence, as used here, “plainly has no content.” (W2, p. 50) By this Peirce means that the act of attention reflected upon is an act of predication that does not concern objective reality or things in themselves. Predication is always successful and never false on this level of reflection. But predication is more complex than at first appears. Peirce writes: “Though *being* does not affect the subject, it implies an indefinite determinability of the predicate.” (W2, p. 50) Predicates are never entirely indeterminate; but neither are they entirely determinate. (Did Peirce have in mind Schiller’s “infinite determinableness” here?) They only function because they are neither.

Peirce appears to be saying that experience as we understand it is a process of identifying particulars and describing them by means of a

vocabulary of determining predicates. This process is the Kantian 'reduction to unity' process. The unity involved is not a reduction to something singular, but a unification through a process of classification. Thus, predication is, in some sense not yet clearly understood, the result of a classifying process. Predicates are not substances; they are inferior to substance and being. ("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." W2, p.50) Predication is the result of the application of concepts to sensory experience, which Peirce describes in the following manner:

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 addition to these latter; and elementary conceptions do not arise thus arbitrarily. 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.

(W2, p. 51)

Here Peirce seems to be saying that the application of concepts to sensory experience, at least on this level, is an automatic one. This, in turn, suggests that concepts in some manner pre-exist all our conscious life when using them. Another way of saying this is that concepts or predicates, which appear to be nearly the same thing, may be applied on certain occasions without thought or reflection. On those occasions they are purely inspirational products working their influences on the impressions of sense in some yet to be understood way. Put differently, some concepts embedded in a language can be explained in terms of other concepts according to some rational relationship known to the users of that

language. On the other hand, other concepts are “more immediate” and we start using them unconsciously, so to speak. It is these concepts that point to what I call an occult influence, acting according to a “general law, the condition of which is the existence of certain impressions.” (W2, p. 51) Reading this difficult passage, in its plainest meaning, suggests that Peirce is saying that if “certain impressions” are given, then a certain concept will be called into operation upon them according to a general law. This is rationalism of the highest degree.

Peirce reminds us that his New List discussion at this point has been preliminary and elementary:

6. 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. (W2, p. 51)

The method of testing how elementary a certain conception is, is to examine how it functions in a propositional relationship involving the conceptions: substance and being. Peirce continues to describe his method as follows:

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. . . . 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.” (W2, p 51)

Peirce further tells us that introspection is not part of this method. Logical or conceptual analysis is a better way to describe his approach.

In order to ascertain what the “next conception” is, Peirce continues with his analysis of the propositional form. If thinking arises through a process of positing something about something, this process cannot be achieved without the use of the concept of *quality*. When a conception reduces the manifold of experience to unity, the result is a judgment ‘*S is*’. However, when a conjunction of a substance and another conception occurs, the judgment takes the form ‘*S is P*’. What is joined in this case is a substance and quality. Now, by ‘quality’ Peirce does not mean a sensory impression, or any other thing-like or substance-like object. To be a predicate is to function in the role of a predicate and have a purely qualitative reality. This qualitative and insubstantial reality, however, is only identified from the perspective of an act of assertion predicating something about the subject or substance. On subsequent reflection the quality takes on a substantial reality of its own. Peirce gives the following example: “The same thing is meant by ‘the stove is black’, as by a ‘there is blackness in the stove’. (W2, p 52) Thus, something cannot function as a quality of a substance and be merely the quality of that substance; it must refer at the same time to something larger in scope than merely something that is the quality of that substance. What that larger something is Peirce describes as its *ground*.

At this point in the argument Peirce refers to a fact from “empirical psychology,” namely, “that we can know a quality only by means of its contrast with or similarity to another.” (W2, p 53) This means that whether we are speaking of a quality or its ground we may always also refer to something that is not, or is different from, the quality or ground. This something else Peirce calls its *correlate*. A correlate is identified through the act of comparison. What, Peirce asks, occurs when comparisons are made. For *A* to be compared with *B* a mediating representation must be

created “which represents the relate as standing for a correlate with which the mediating representation is itself in relation.” (W2, p.53) Peirce calls this mediating representation an *interpretant* “because it fulfills the office of an interpreter.” (W2, p. 54)

At this point Peirce has described three dyadic relationships:

Quality and its Ground

Ground and its Correlate

Representation and its Mediating Representation (Interpretant)

However when the entire process of propositional thinking is viewed dynamically these dyadic relationships have themselves additional relationships which allow the dynamic relationships to look like objects. This is where Peirce took us when he explained how qualities which are on first view purely relational, have a substantial reality through a connection with their ground. Relationships become objects, or may be regarded as such, when viewed in relation to other subjects. Thinking is not merely a blind concatenation of connections. There is a binding logic that governs the formation of judgments as expressed in propositions which Peirce believed to be triadic in form:

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.

(W2, p. 55).

Let us formalize what is being said. T is a third with respect to A and B , if A 's relation to B is equivalent to or isomorphic with (i.e., related “in the same way”) T 's relation with B . It follows then that T has a

relation with *A* that is the same or is similar with *T*'s relation with *B*. Now the terms 'equivalent' or 'isomorphic' or 'same' or 'similar' that I have been using amount to an introduction of a mediating representation, or interpretant. To use Peirce's illustration of an interpretant as an interpreter, the system of equivalences that link different languages may be found in three dictionaries, the dictionary in each language assigning synonyms and meanings using the vocabulary of each language, and the dictionary of word equivalences in both languages. The job of the interpreter is to identify the equivalences that apply to the particular linguistic facts to be explained/translated. The key to interpretation is simultaneity and reciprocity. In the first instance the meaning of terms must be remain fixed and stable during the translation process. If the meanings (dictionary entries) changed continuously while the dictionaries are being consulted *T*'s relevance to both *A* and *B* could not be established, and so *T* would not be a third to *both A* and *B*. In the second instance, the linking achieved by *T* must be based on an invariant property contained in the linking, viz., that if word-1 stands for word-2, the reverse is also true. In general, if *X* represents *Y*, *Y* may represents *X* under certain conditions. The key to reading the above passage is to place emphasis on the phrase "**which is so related** to two others, that one of these **must . . .**" Here Peirce makes clear that he is speaking of a third as having a relation to both others. He is also talking of a requirement that, given the relation of the third to the two others, the relation of each other to the other must be structured in a certain way. This is a very tight bond.

Peirce has now produced the following categories out of his analysis of substance and being, and shown the manner in which the categories have inherent references:

Quality (Reference to a Ground)

Relation(Reference to a Correlate)

Representation (Reference to an Interpretant)

These categories may be regarded from a substantial and relational perspective. This follows from the fact that they are generated from a dialectical process of thinking of entities as having relations and of relations of having entitative reality with respect to other relations. Thus, from a substantial perspective the above categories become:

Quale (that which refers to a ground)

Relate (that which refers to a ground and correlate [relation])

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

A representamen of a powerful relational entity because it is the embodiment of objects linked together according to some rule governing process capable of monitoring the process in order to maintain the linkage.

Must the kind of reference in each case differ? It would seem that the way a quale refers to a ground is not the same way that a representamen refers to a ground, correlate, and interpretant. The answer to this question involves the question of whether the categories are fundamental and exhaustive. Mostly with the benefit of Peirce's later work in mind, I think it is safe to say that he believed they are. In simple terms this means that we cannot avoid using these categories whenever we consider any subject matter and we cannot avoid using these categories whenever we are trying to determine what the most elemental categories imaginable are. Before trying to clarify this issue, I shall cheat once more and add to a remark Peirce wrote in 1898 about his thinking leading up to the New List:

*Even without Kant's categories, the recurrence of triads in logic was quite marked, and must be the croppings out of some fundamental conceptions. I now undertook to ascertain what the conceptions were. This search resulted in what I call my categories. I then named them Quality, Relation, and Representation. But I was not then aware that **undecomposable relations** may necessarily require more subjects than two; for this reason Reaction is a better term. Moreover, I did not then know enough about language to see that to attempt to make the word representation serve for an idea so much more general than any it habitually carried, was injudicious. The word mediation would be better. Quality, reaction, and mediation will do. But for scientific terms, Firstness, Secondness, and Thirdness, are to be preferred as being entirely new words without any false associations whatever. **How the conceptions are named makes, however, little difference.***

(Collected Papers, Vol. 4 par. 3; cited as CP. 4.3; emphasis added.)

What is important is whether the meanings of the terms used to refer to the categories are understood. When language does philosophical duty special terminology is desirable. At the time Peirce prepared the New List he did not devote a enough time to develop his vocabulary of representation. Nor had he spent a great deal of time on the more abstract 'logic of relatives' as he soon would. However, in the New List his intent to deduce undecomposable relations is clearly evident.

How may it be proven that the New List categories are complete and elementary? Peirce uses as a method of determining whether a conception is essential in analyzing or describing something — by no means the same— by asking whether the analysis or description could proceed without the conception. Here he used the notion of precision (to prescind), probably borrowed from his extensive studies of Medieval logic. In later years he wrote:

*But prescindion, if accurately analyzed, will be found not to be an affair of attention. We cannot prescind, but can only distinguish, color from figure. But we can prescind the geometrical figure from color; and the operation consists in imagining it to be so illuminated that its hue cannot be made out (which we easily can imagine, by an exaggeration of the familiar experience of the indistinctness of hues in the dusk of twilight). In general, prescindion is always accomplished by imagining ourselves in situations in which certain elements of fact cannot be ascertained. This is a different and more complicated operation than merely attending to one element and neglecting the rest.
(CP. 2.428)*

Does this mean that the quest for elementary categories must be based upon an assumption of massive ignorance about our knowledge of the world? In a sense, yes. Every living philosopher must confront the 'real world'. The difficulty is not knowing what to do with all the information about it when philosophic inquiry begins. If he or she decides that it is worthwhile to spend the kind of time Peirce put into the question of the categories a decision to bracket common-sense reality must be made. This is because the relationship of a proposed set of categories to the great body of knowledge we use in daily life "cannot be ascertained." without first 'emptying our minds' (Descartes) or 'examining our absolute presuppositions' (R.G. Collingwood). What should we imagine Peirce was doing all those many hours he was working on the categories? As he tells us, (C.P. 4.3) he was analyzing Kant's logic to see if the logical forms Kant described were actually fundamental. (He discovered they were not.) This was important to him because logic is just the study of how relations of relations may be structured and how relations may be set out in the first place. But we can also imagine that he was spending a great deal of time classifying things to see if the work of Kant, Aristotle, and probably others met the test of his experience. It is not surprising that the vast study of

words, 'words about words', called second-intention discourse by Peirce and others, manifested in Medieval logic should have attracted Peirce so much in his youth. If you are going to seek out and communicate about the fundamental categories you must be sensitive to how language functions as a vehicle of philosophic expression and as a medium of knowledge. This is a background fact and setting for the New List. But it is not what the New List is all about, or so Peirce would have believed. As he was often fond of saying, in different contexts, the argument would be the same no matter the language expressing it.

I shall try to describe the argument for completeness and primacy of the short-list categories in the following manner. Consider the following relations:

1. *A is unrelated to B.*
2. *A is related to B.*
3. *A is related to B in the following way, q .*

Here q may stand for 'is after', 'is before', 'is to the left of', 'is darker than', 'is a representation of', etc. One interesting question for philosophy is: What is the least amount of content for q ?

However, an obvious preliminary question is: What are A and B supposed to be? Obviously if A and B are particular historical individuals such as the reader's mother and father, then the set of all true attribute (qualities) of their relation is an empirical question, and would not directly shed light on the particular task of establishing universal relational categories. We get nowhere if we give A and B content to start off with. We are then just describing our world. And we are cheating because in hothouse metaphysical analysis we are trying to work with a few variables at a time.

A comparison of the propositions 1 and 2 reveals an interesting dialectical property about relations. They are contradictory and identical. If we imagine ourselves in a situation in which we know absolutely nothing about *A* and *B*, then, of course, we would not know whether or not they could be related in some way. In fact, we would not even be able to identify or label such substances as 'A' and 'B'. The statement 'There are unrelated things.' could conceivably be true but we could never know this. Hence, if knowledge is to be possible and if knowledge has a propositional form, then wherever is known is relatable. So *A* and *B* in proposition 1 are related by the relation 'is unrelated to'. Try as we might we cannot unrelate them in any general sense as is suggested by proposition 1. To think of them as absolutely and unconditionally unrelated is unthinkable. (This way of putting the issue reminds us of Peirce's earlier interest in the absolute and unthinkable as objects of thought ((See Peirce's remarks in an essay also written in 1867: "It may be observed that entity is so extremely general a name that it has no negative over against it. We may talk of a nonentity, but then as we have given it a name it is also an entity." ("Chapter I. One, Two, and Three"; W2, p. 103)

)).) There is another interesting feature of the problem of describing the most abstract relations. Quite obviously this cannot be done without expressing the manner in which something is related. A description of relations always suggests something more. (Recall Peirce's discussion of comparison here.) That something more contains generality of some sort — the generality of a matrix, or, to use the concepts of the previous lecture, the generality of a language. Now when that generality is referred to, the relation of instance or occurrence or manifestation to group or process or rule must be utilized. I have used a variety of terms for this relation which Peirce subsumes under 'representation'. In other words, reference to a third is unavoidable.

Now, consider the following relations:

4. *A represents B*
5. *C represents A representing B*
6. *D represents C representing A representing B.*

Proposition 5 may be expressed as:

7. *C represents A*

Proposition 7 may be expressed as:

8. *D represents C.*

The reason these propositions are equivalent is that *A* and *C* are given as representations, respectively, of *B* and of *A* representing *B*. Higher order representational relations may be expressed in the form of proposition 4. What is necessary is that expressions like '*A* representing *B*' and '*C* representing *A* representing *B*' must be capable of expression in a simpler relation. This short hand maneuver occurs frequently in natural and formal language. However, when a term is chosen for a string of complex representational relations it must contain as its meaning what is referred to by the string. To make that reference involves an interpretation.

I want to focus now on proposition 4. Is it more elemental than 5 or 6? I believe that Peirce's answer to this would be 'No'. Keep in mind that for *A* to be a representation of *B*, there must be some quality or character of *A* that is linked with a quality or character of *B*; and the linkage again involves interpretation. Reference to interpretation means that the relata in propositions 4-6 are inexhaustibly complex; their relative simplicity being a function of the language of interpretation. Thus, we may postulate two laws of interpretation:

1. *Interpretation may render complex relations into simple representations.*
2. *Interpretation may render simple relations into complex representations.*

Empirical science seems to follow the first course; the formal sciences the second. I am sure that Peirce understood this, which is why he continued throughout his life to study scientific explanation and logic with equal interest. They were unified processes when looked at from the perspective of the conditions of representability. This process of the simple revealing the complex and the complex revealing the simple, under the proper interpretations of course, suggests the circular structure of the system of categories discussed in the last lecture. The devil is in the interpretation. Ultimately, interpretations are what make representations possible. Once this is realized, the categories are regarded as elementary because they are the meta-language for all predication and interpretation, and they are complete because no additional elementary categories are required.

I have tried to elaborate on Peirce's New list argument. Unfortunately, after 12 he only gives the reader a brief and somewhat cryptic overview of some of the results of his derivation. Most of the remaining sections set forth a grand view of the uses and implications of the representation theory of categories. Peirce writes:

*15 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.*
(W2, p. 56; emphasis added.)

Peirce then speaks of ,

a trivium of conceivable sciences. The first would treat of the formal conditions of symbols having meaning, that is of the reference of symbols

in general to their grounds or imputed characters, and this might be called formal grammar; the second, logic, would treat of the formal conditions of the truth of symbols; and the third would treat of the formal conditions of the force of symbols, or their power of appealing to a mind, that is, of their reference in general to interpretants, and this might be called formal rhetoric.

(W2, p. 57)

In speaking of the force or power of symbols Peirce is continuing to link energy and symbolization the way he did in his “SPQR” essay written five or six years earlier. (See Lecture Two) A few lines later he speaks of symbols which “determine” their objects or interpretants. (W2, p. 57)

The *Grammatica Speculativa* of Thomas of Erfurt.

In 1869-1870 Peirce gave fourteen lectures on the history of logic, entitled “British Logicians,” at Harvard. These lectures included a discussion of the nominalism-realism controversy. In these lectures Peirce gives high praise to Duns Scotus and William Ockham: “the greatest speculative minds of the middle ages, as well as two of the profoundest metaphysicians that ever lived.” (W2, p. 311) Peirce was an avid historian of ideas. Anyone who doubts this should consult the “Dictionary of Logic” project compiled in 1867 (W2, p. 105-121) to get a flavor of his erudition in this area. Why did Peirce spend time on such subjects? He could not have believed that there was an eager audience for such ideas. One wonders: Who in Boston or Cambridge could have been in a position to know the subject well enough to come to his lectures and appreciate the work therein displayed? Suggested above, I suspect that intellectual curiosity aside Peirce wanted to study the classical logicians to see if he could detect unvarnished insights present at the creation of the subject.

In the nineteenth century one of the works attributed to Duns Scotus, *Grammatica Speculativa*, was in fact written by Thomas of Erfurt. This did not come to light until this century. In his lecture on William of Ockham Peirce quoted at great length from the *Grammatica Speculativa*, which he described as the earliest attempt at a Philosophy of Grammar. (W2, pp. 321-327) One of the questions considered by Thomas was: What is the origin of signifying? In other words, how are signs created? The first observation Thomas makes is that there are two modes of signifying, active and passive modes which are “equal factors.”

The active mode of signifying is the mode or property of the expression vouchsafed by the intellect to itself by means of which the expression signifies the property of the *thing*. The passive mode of signifying is the mode or property of the thing as signified by the expression. (W2, p. 322)

Does Thomas mean in this remark that active signifying is the recognition by the mind—“vouchsafed by the intellect to itself” — of a power to designate and signify using an expression that links that expression to its object as a property? Is passive signifying the recognition that the expression is really part of the object? In the first instance sounds (*vox*) are uttered in a designating context as expressions used to isolate various properties in experience, e.g., the appearance of a certain animal stimulating the speaker to say ‘dog’. Thereafter the expression becomes a part of speech and the collection of sounds a language. In a general sense the active and passive modes may be captured in the dichotomy: *to sign* and *a sign*.

Thomas wants to dig deeper. The active and passive mode of signifying derive from the active and passive mode of the understanding itself. When we notice that the intellect can signify in its active mode we are regarding

the active mode of signifying in a passive mode, otherwise we could never identify the process. This is the work of the passive (phenomenological) intellect. The active mode of understanding is “the faculty of conceptualizing by means of which the intellect signifies, conceives or comprehends the properties of the thing.” (W2, p. 324) The passive mode of understanding is “the property of the thing as comprehended by the mind.” So it seems that signification is at the very heart of thinking for Thomas as well.

Thomas next discusses the differences between the modes of being, understanding, and signifying. Although things, thoughts, and signs (expressions) differ materially, they are formally similar in that each may be regarded as ‘properties of’ reality, reflection, and signifying. Here the three modes differ materially, since their objects are judged to be different, but they are formally the same; they are either objects or properties of objects determined by processes.

Having analyzed the three modes in terms of the two medieval causes — formal and material — Thomas next considers the modes in light of the notion of final causality. By final causality I mean the notion as given to the Schoolmen by Aristotle, not so much as an explanation in terms of purpose or ‘for the sake of which’, but one that Peirce understood to mean ‘the influence of the future upon the past’. (CP, 6.66 and 8.128). Here signifying manifests final causality, as reflected in the following rather remarkable paragraph:

The active mode of signifying, since it may be a property of the significative expression, is materially existent within the significative expression even as it is empirically valuable[ut in subiecto]; moreover, it is materially existent in the property of the thing even as some effect is materially existent in the original and abstract cause which effects it in the first place; and it is

materially existent in the intellect even as an effect is materially existent in the most immediate cause that effects it; and it is materially existent in the construction [constructione], even as a cause capable of being effective is materially existent in its own particular effect.

(W2, p. 326)

The active mode of signifying, i.e., the act of signifying something in terms of something else, is capable of being a significative expression, e.g., as in the concept and phrase ‘the active mode of signifying’. In some way, then, it is ‘materially existent’ in what signifies it. Now Thomas expands this idea to include a causal connection. The signified contains what is signified, but in addition the signified causes what it signifies to make it a sign of what it signifies. The specific wording is:

the active mode of signifying . . . is materially existent in the property of the thing even as some effect is materially existent in the original and abstract cause which effects it in the first place

The same is true for what is in the intellect and is a ‘construction’ — just “as a cause capable of being effective is materially existent in its own particular effect.” The obvious model the ancients had in mind here is germinal growth. Final cause is a law governed process. It is a Third. But what is really being said about the conditions of semiosis here? First, that signs are not mere conventions; they are expressions, they have an indeterminate aesthetic dimension, they manifest power — to use some of the ideas raised heretofore. Second, that signs influence the factors which bring them about. It is almost as if to say that the general or abstract form of the music Mozart created produced Mozart’s musical mind so that he could produce such music in specific forms.

I think it is significant that Peirce would spend so much time telling his audience about the “complex theory” of Scotus/Thomas, whom he says he leans a little towards. (W2, p. 327) The theory is complex, in contrast to Ockham’s simple theory with its “intimate connection” to the philosophy of Locke, Berkeley, Hume, Hartley, Brown, the two Mills, and Bain.’ (W2, p. 336) But what does that complex theory come down to? The questions Thomas suggests are: (1) What is the nature of reality if signs are actually irreducible triads? (2) What is the nature of mind if signs also exist? (3) What is the nature of the person if mind and signs may be impersonal? Other questions come to mind. In the context of the lecture just discussed, Peirce appeared to raise some of them as part of the debate between nominalism and realism. (W2, p. 336) I believe his interest in that debate is not a musty nostalgic interest in old conflicts among the greats, but precisely because it touches on the central question of how signs signify, how representations represent. The work of Thomas of Erfurt confirms the interesting dynamism of semiosis and suggests a route for future studies of the subject.

We shall continue to develop these ideas in the lectures to come.