2. LOGIC

We are now prepared to directly address the question of the standing of symbolic logic in natural language. From the point of view of linguistics, once its position of empirical autonomy has been cleared of theoretically unwarranted and divisive contaminating intrusions from ordinary language and from other disciplines of study, and thereby coherently solidified, there is little that needs to be said on this question. As I mentioned at the beginning of this essay, from the linguistic point of view, the rejection of symbolic logic as the one and only logic of natural language is a \textit{fait accompli}. In principle, all that remains is to pursue the implications of this rejection.

However, in practice, those implication have not been systematically pursued. As I also mentioned at the beginning, linguists have rejected symbolic logic as the logic which governs natural language, if only by ignoring it, but they continue to labor under the unwanted dominance of symbolic logic because of the mistaken belief that the logical and practical dilemma created by symbolic logic is inescapable. But the first step in escaping that dilemma is to realize that the dilemma is a function of the laws of symbolic logic itself. Then, having come to the conclusion that symbolic logic is not the law which governs language, we must realize that from its privileged position of conventionally presupposed dominance, it continues to govern our thinking. Therefore, having rejected it on empirical grounds as the logic which governs natural language, we must follow out the immediate implications of that rejection, which are that it must be rejected as the logic which governs linguistic theory and it must be rejected as the logic which governs our thinking about language.

That these are the implications should be obvious, especially to linguists. Language and thinking are not different phenomena. They are called by different names, because language is ordinarily spoken out loud whereas thinking is spoken subliminally. What is normally meant by “thinking” does not, of course, include every kind of mental phenomenon. But what it does include is precisely the kind of mental conversational dialogue which is the inaudible counterpart of language. In that language does not consist of sound, but is rather a system of conventional law, there is no reason to suppose thinking is a categorically distinct phenomenon. In essence they are the same mode of symbolic transaction under the same system of conventional law, differing only in the overtness their physical manifestation. Consequently, the laws which operate in the government of thinking are the laws which can be seen overtly manifest in language. Therefore, if the laws of symbolic logic do not govern the effective and practical use of language, then they do not govern effective and practical thinking about language, or anything else.

If, then, symbolic logic has been rejected as the one and only logic of natural language, why has it not been rejected as the logic of linguistic theory and the logic of thinking in general? There are two reasons, corresponding to the two kinds of authority through which it governs. First, the rejection of symbolic logic in the theory of language by linguists has been motivated by the force of empirical fact, but the authority which symbolic logic holds in the overall scheme of things is thought to be that of \textit{a priori} validity, and from that position, it is impossible to unseat it through the direct force of empirical argument. Empirical fact does not in principle have any bearing on the validity of the \textit{a priori}. This is a difficulty which we can address, and though it will remain
impossible in principle to directly attack its \textit{a priori} validity, it is possible to indirectly attack it on practical grounds, and to allow it to remain holding its untouchable authority vacuously. We will speak to its \textit{a priori} authority in a moment.

The second difficulty in rejecting the government of symbolic logic is that it is incorporated into the conventional fabric of our language, and, as I discussed in the introduction, in its conventional guise, like all conventions, it is deeply embedded in automatic habitual unconscious structures, it is shrouded in the veil of conventional confusion, and its conventional position is protected, like all conventions, by the force of inertial resistance. The conventional authority and strength of symbolic logic is not different from that of any other convention of language, except for the fact that symbolic logic is such a primitive and general system of law that it pervades every dimension of language. But at bottom, as established in the ground of conventional authority, it is still nothing more than conventional authority. It has the same degree and quality of force as the law that the word "dog" begins with the letter "d". This essay is in general addressed to the difficult and pervasive problem of the conventional authority of symbolic logic. Let us turn now to the less intractable problem of its \textit{a priori} authority. And, allow me to repeat that what is at issue here is not whether there is such a thing as the one and only logic, but rather the question of whether symbolic logic is that one and only logic.

In keeping with the terminological usage of the polemic in philosophy, we will refer to the position that holds symbolic logic to be valid \textit{a priori}, as opposed to \textit{a posteriori}, as logical positivism. To say that it is valid \textit{a priori} means that it is based on a set of axioms whose validity is taken for granted. The authority and force of those axioms is not derived from any other principle or fact. They are considered to be self-contained and of self-evident truth, or at least of intuitively obvious truth.

An axiom is a string of symbols, and, in logical terms, is called a proposition or a sentence, using the same terms which are used of ordinary language sentences. What logicians do with these axioms is to derive other sentences from them by deduction. The laws of deduction are also sentences. Thus logic consists of a set of axioms, which are sentences, the principles of deduction, which are sentences, and the set of other propositions which can be derived from the axioms by the principle of deduction, which are sentences. In short, it consists of sentences.

The position of symbolic logic as it is held by logical positivism is by its very nature inaccessible from the linguistic point of view, or that of any other system of thought or mode of investigation which is \textit{a posteriori}. And, for that matter, it is also inaccessible from the point of view of any other \textit{a priori} system of thought which one might posit. That is, one could take for granted as being self-evident any system of axioms, and do what you like with them, and whatever you do, it would have no bearing on the taken-for-granted validity of symbolic logic. Thus, the position of symbolic logic, in so far as it holds the validity of the \textit{a priori}, it is literally untouchable in any way whatsoever by hand or fact or idea.

By contrast, linguistics is established on an assumed epistemology and consists of the body of fact and theory which has developed from that epistemology. What linguistics does is to inductively hypothecate theoretical propositions which explain those facts. "Explain" here means that the facts can be deduced from those theoretical hypotheses. In principle, there is no common ground on which to evaluate the
relationship between the empirical ground of linguistics and the taken-for-granted ground of symbolic logic.

There are however two points of commonality, upon which one can exert pressure in order to bring logic within the sphere of linguistics: They both make use of sentences and they both make use of deductive reasoning. Although the *a priori* position will in principle remains untouchable and untouched from the lowly ground of empirical fact, it is possible to deprive that position of any value or force, unless it moves onto linguistic territory. And, as we will see in Section 3, it is also possible to propose an empirically grounded explanation in terms of linguistic theory for the felicity with which the axioms of symbolic logic are taken for granted, which in effect deprives it of its claimed *a priori* status entirely, and thereby depriving it of its *a priori* authority.
2.1 SYMBOLIC LOGIC

Let us begin with the question of what symbolic logic is about. It consists of a set of laws, in the form of sentences, so it would seem reasonable to ask what those laws are laws of. This is a question which logicians typically say we cannot ask, because logic, being a deductive system of thought, does not justify itself by being about anything. But let us ask the question anyway, and answer it for ourselves.

In its origins, the word "logic" was borrowed into English from Greek, where it was used in a way that we would consider to be ambiguous to refer to speech, to the word, and to reason. However, although we might think of that usage as being ambiguous, it is not necessarily so, and it was not considered to be ambiguous by the Greeks who used it. The word was used in this way and was intended to indicate by this usage that the act of speaking, the structure of language, and correct and effective reasoning are not different things, but are merely different manifestations of the same thing, namely, logic. Thus in its original sense, the laws of logic were considered to be the laws of language.

It is reasonable to suppose that from this original sense of the word, the purpose of the study of logic was to extract those laws from the vast, confusing, and complex ordinary everyday manifestations of language in action, to distill them into the essential principles that underlie the cluttered surface of language and reason, in order to understand them more easily and in order to be able to use them more effectively as a guide to speaking, thinking, and reasoning along correct and, thus, effective lines. However, as can be seen in ordinary usage, the word "correct" is sometimes used to refer to natural correctness and sometimes used to refer to conventional correctness. We say both, "The correct way to grab a snake is behind the head and not by the tail" and "The correct way to eat is with a fork and not with your hands", using the same word in quite different senses. In the former sense of correctness, it correlates with effectiveness. But in the latter sense of correctness, it may or may not correlate with effectiveness. Thus there are two questions before us: Is symbolic logic correct and, if so, in which sense is it correct? And, if it is correct in the former sense, what is it correct about? And, remember also that what is in question here is not logic per se, but the claim that symbolic logic is the one and only logic.

Leaving aside the question of its correctness, let us return to the question of what it is about. Ostensibly, as in its original sense in Greek, and in its ordinary sense in English, it is about language, thought, and reasoning. This is certainly what most people think logic is, and it is my contention that this is what logicians really think way down deep, although they usually deny it when pressed. In fact, we non-logicians are led to think that symbolic logic is about language, thinking, and argument by the manner in which logicians talk about what they are doing when they are teaching and doing logic. But just when we reach out to grasp the offer of this valuable and promising possibility, it is instantly withdrawn.

Consider a typical example of the handling of this issue in an introductory textbook of logic, which I happen to have at hand, Elementary Logic (Mates, 1965). He begins with what he hopes is disarming frankness by pointing out the greatest weakness of symbolic logic on the very first page, though he does not call it that.
it is necessary to acknowledge the fact that logicians do not agree among themselves on how to answer the seemingly fundamental questions.

*He goes on in his completely candid manner to specify those questions, though they are not phrased in the clearest possible manner.*

*Is logic about the way people think, the way they ought to think, or neither of these? Is it principally concerned with language or with the extralinguistic world? Are the logician's artificial languages to be regarded as simplified but essentially faithful models of natural languages, or are they to be thought of as proposed replacements for natural languages, or is their utility to be explained in some other way? (emphasis in original)*

He does not answer these fundamental questions immediately, nor anywhere else in the book. He deals with them thus: "no doubt issues like these must eventually be faced, despite their vagueness" and advises the student to wait until he understands what logicians do and then he can decide for himself.

Consider the implications of these remarks. First, since even logicians do not agree, these questions must be of a very lofty order indeed, certainly beyond the mere beginning student. Therefore the student should not be so presumptuous as to ask, especially at this point where he does not even know what logicians do. If he really wants an answer to these questions, he should first become a logician, then he would be as well equipped to answer them as other logicians are. Second, the questions are only "seemingly" fundamental. In other words, not really fundamental at all. Third, notice that the way the questions are put directs one's attention to language and thinking, and thus they implicitly suggest that logic is related in some way to language and/or thinking. Fourth, what is the "extralinguistic world"? Is that not a peculiar way of referring to the real world? Why does he use such an inverted expression, defining the real world by opposition to language, unless to suggest that logic gets at the real world through language? Fifth, the question of whether logic is a model or a replacement of language implies that the third choice should be of the same order - a (something) of language - hence whatever it is, it must be in relation to language. Sixth, the expression "or is their utility to be explained in some other way" presupposes that "logician's artificial languages" do have utility, hence implying that it is true that logic has utility whatever the answers to these questions might be. And finally, he dismisses these questions once again, this time for their "vagueness".

What is at issue here is the utility of logic; what it is about. Given the above manner of addressing this issue, what would a reasonable cooperative interested person conclude? 

*He would conclude that he should not pursue such vague and advanced questions and he would conclude that logic is about natural language and the way people think. That is what is conveyed by implication, though it is not asserted.*

To continue with this typical logic text, for a short while, the first section on the next page begins like this:

1. **What logic is about.** Logic investigates the relations of consequence that holds between the premises and the conclusion of a sound argument.

This suggests that logic is about argument. We all know what an argument is. We all argue about things and we are interested in winning arguments. Thus it is suggested that logic is about the way in which people argue about things and that it will help you to argue correctly and effectively, or in short, to win arguments. These implications are derived from the meaning of the word "argument" in its ordinary usage, and although we
soon find out that it a technical term in logic which does not mean the same thing, the fact that the technical term also refers to something that is very much like what we mean in ordinary language suggests that even in the technical sense it ought to have some relationship with argument in the ordinary sense. In other words, ordinary words are used in the technical language of logic with the overt intention that they do not mean what they mean in ordinary language, but the way they are used as technical terms implicitly suggests that they retain something of their ordinary sense. The same is true of almost all technical terms in logic, such as "sentence", "conclusion", "truth", "symbol", etc. But in the technical sense of all of these words in logic, they are carefully redefined in such a way that they have nothing at all to do either with their ordinary usage or the real world.

We shortly see this in our text, as he gets around to the analytic/synthetic distinction. He points out on page 5, that an analytic argument or sentence, is one which is true "if and only if there are no conceivable circumstances in which it would be false" and he cites as an example,

Socrates died in 399 B.C. or Socrates did not die in 399 B.C.

noting, correctly, that this sentence "is true independently of the facts about Socrates or about anything else." He goes on to state that such analytic sentences are true of all possible worlds, including the real world, and that they are sometimes called "necessary truths' or even 'eternal truths'."

What does this mean? On the face of it, it seems to mean that analytic truth, the kind of truth symbolic logic transacts in, is really strong truth, the strongest possible, even necessary and eternal truth. And, better yet, this sentence is not only true of the real world, it is also true of all possible worlds. What more could you ask for?

But he also noted that "it is true independently of the facts about Socrates or about anything else." If it is true independently of any fact, then it is not true of any fact, except by chance. And, the same can be said of almost any sentence which asserts a fact, such as "Tomorrow I will win the lottery". The analytically true sentence above, can only be held to be true unconditionally because it is not about anything at all. Since it is not about anything, it is not possible to falsify it. But at the same time, it is not usefully true of anything. At least my sentence, though almost certain to be falsified in the near future, can foster delusions of satisfaction for the moment. One can get absolutely nothing from analytic sentences, not even hallucinatory satisfaction.

From the above sentence we do not know, and cannot come to know, anything that we did not know before. This sentence would be just as true in the logical sense of analytic truth, if we changed the date or the name or any of the content of the sentence. "Socrates died in 1989 A.D. or Socrates did not die in 1989 A.D" is just as true as the example above.

So, what does it mean? It does not mean anything or refer to anything at all, at least not in the ordinary sense of "mean" and "refer". Given the premises and the technical redefinitions of the words that are used in symbolic logic, the sentences, and arguments of logic have no relationship whatsoever with the world in which we live. The kind of sentences we are ordinarily interested in are called in logic "synthetic", and are explicitly excluded from the realm of logic.
What conclusion can we draw from these observations, assuming, as I have claimed, that this is a representative example of the manner in which logicians deal with the question of what logic is about? First, in the style of its dialogue, including the choice of ordinary words to be used in technical senses, the examples it chooses, and in its suggestive evasions of the question of what it is about, it claims implicitly to be about language and/or thinking. Second, in its overt statement of what it is about, it asserts, in effect, that it is not about anything.

Why do they indulge in the apparently gratuitous complexity of this conflicting double message? Because, they want to say that it is about something and at the same time they do not. And they also want to say that it is not about anything and at the same time they do not. They are caught in a dilemma. If they state unambiguously that logic is about natural language, or thinking, or the real world, that would pose a serious problem, because it is easy to show that the laws of logic do not in fact govern any of these phenomena. And if they say that it is not about anything, that would pose a problem too, because it would seem to render symbolic logic vacuous.

I will suggest that this dilemma correlates with and has its conceptual origins in the desire to separate the form of the logic of natural language from its content. As the content has been more and more completely extracted, one might say cooked, out of the form, the remaining skeleton of purely formal logic has become more and more vacuous, and it has become more and more distant from the laws which actually govern language. This split came about because in language it is not form which governs content, but content which governs form. It is in general the case that there can be no purely formal language, but to the extent that language does come under the government of form, it is vacuous. One can see this in the vacuity of formal greetings, for example, where questions such as "How are you?" do not mean what they appear to mean and are not intended to elicit an answer. This line of reasoning leads to the implication that whereas formal logic cannot in principle be the law which governs language, it could be the law of form which language governs.

No doubt this terse statement is not very illuminating, so I will put in different terms. The expression, "symbolic logic", is ambiguous in at least the two following senses: The logic which governs the use of symbols, or the logic which symbols govern the use of. I am suggesting that "symbolic logic" ought to be taken in the second sense, and that it is correct in the second sense of "correct" mentioned above. Symbolic logic is not the cause or explanation of what happens in language, it is a statement of what language causes to happen.

Another way to state this is that symbolic logic is the logic by which the symbol functions. What has been extracted from language as the laws of symbolic logic is a skeletal characterization of the laws of the form which are manifest in the conventions of language. They are not the laws which govern language, but the laws that are prescribed by language. Thus the laws of symbolic logic, although more general, are on the same footing as the law that one should say "Please, give it to me", but people often do not obey that law. People do say "Gimme", in contravention to the laws of proper formal English. And, in exactly the same sense, the laws of logic proscribe contradiction, but people do it anyway. The intuitive judgments of correctness and incorrectness in terms

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11 Essentially the same argument, and the following observations as well, though in quite different terms, was made by Hilary Putnam (1980) in his presidential address to the Association for Symbolic Logic.
of the laws of symbolic logic can be explained as an instance of the recognition of the correctness of the forms of language, just as an English speaker would intuitively feel that "blik" could be a well formed word of English, but that a word like "bnik" is an ill-formed word in English.

But I am getting ahead of myself here. When we get to Section 3, we will be able to locate symbolic logic in its appropriate position more coherently. But whatever we are going to do with it, its position is not that of the logic which governs language, or effective thinking and reasoning.

Returning to the dilemma in which we left symbolic logic, let us consider the options. Either it is about something or it is about nothing. If it is about something, there are apparently three choices: Language, thinking, or the world. I do not think anyone would want to defend the claim that it is about the world, so I will dismiss that possibility. I will assume that thinking, in the sense intended here, is internal silent speaking, and hence is the same as language. Thus, if it is about anything, it is about language, and it is in the territory of linguistics. If it is supposed to be about language, in the sense of being laws which govern language, it is easy to show that it is invalid, which we will get to in a moment.

If it is not about anything, then what? There are important and valuable enterprises which are not about anything, in the normal sense. For example, art is a valuable and meaningful enterprise which does not rely on being about anything in particular for its value. Perhaps one might suggest that the utility of logic lies in this direction. Art has its value in the experience of aesthetic satisfaction, a feeling that is sometimes described as a kind of wholeness, a self-contained validity and intrinsic correctness that is produced by a great work of art. There is a similar objective in logic: Seeking coherent and non-contradictory systems of thought. But the problem is that in doing logic one cannot attain its sought for coherence by means of symbolic logic, because Russell and Whitehead proved logically that symbolic logic is illogical.

Nevertheless, there is a certain kind of satisfaction in developing a well-formed proof, even if it is not proof of anything. But isn't this a lot like a cross-word puzzle? Perhaps, instead of art, logic really is a game, in the technical sense. The game of manipulating symbolic forms. This possibility makes a lot of sense in terms of the concept of language as a system of game-like law. Symbolic logic is the basic laws of form in the symbolic game. For linguistics, a law of a language is not an explanation, but a fact that needs an explanation. For example, it is a law of English that the plural of "dog" is "dogs". This is not an explanation, but a fact. What we want to know is why the plural is marked and not the singular, and why it is marked with a suffix and not a prefix, and why it is "s" instead of "k".

If, contrary to this assertion, the laws of symbolic logic are taken as being explanatory laws, then we can incorporate them into linguistic theory by considering its laws as hypothetical theoretical propositions from which we can deduce claims about the facts of language, and we can ask the question: Do the laws of logic explain the facts of natural language?

Once the question is considered, anyone can easily see that its predictions are false: It is a blatant and obvious fact that the laws of symbolic logic do not fact govern the structure or function of natural language. It does not require technological sophistication in the science of linguistics to see that it is false. The logical
inconsistencies, contradictions, and incoherences in natural language are patently obvious to anyone who bothers to look.

Moreover, within the technical framework of linguistics, the entire history of linguistics can be seen both in its failures and in its successes as an accumulation of hard empirical evidence that its laws are false. I do not intend here to make an extensive survey of arguments in support of this claim, because I think it is unnecessary. As I said before, virtually all practicing linguists today already agree.\textsuperscript{12} The literature of linguistics and related fields, such as the philosophy of language and logic, especially in the last 20 years, is full of empirical observations which contravene the laws of symbolic logic and of corresponding attempts to patch up the theory of language based on the premise of logical positivism that symbolic logic is the one and only logic.

Preeminent among these \textit{ad hoc} devices, both historically and conceptually, is the theory of types, a device proposed by Bertrand Russell to get out of logical contradictions inherent in the foundation of symbolic logic itself. Isomorphic with this device and motivated by isomorphic logical problems in other areas of language, we have seen the historical multiplication of typological distinctions between phonetics and phonology, phonology and morphology, morphology and syntax, syntax and semantics, and semantics and pragmatics, which have resulted in the dividing of the theory of language into isolated bureaucratic departments with the implicit absurd claim that the structure and function of each department has nothing to do with the others. Other logical problems have been recognized and have given rise to a wide variety of \textit{ad hoc} attempts at saving this premise or getting around it, such as Grice's conversational postulates, frame analysis, fuzzy set theory, and the recent spate of interest in trying to make use of the illogical concept of metaphor as a theoretical device.

During the course of these developments, each problem which has come to the attention of linguists has been considered from a point of view within the premise of the validity of symbolic logic, with the natural result that each problem has been judged to be an isolated instance of logical incoherence. Considered from a point of view outside of this premise, however, the collective force of evidence is overwhelming and decisive that symbolic logic is not valid as a hypothesis for the explanation of natural language.

In order to illustrate the force and directness of the contravention of those laws more concretely, I will briefly outline two simple arguments, the first on the basis of particular facts of language, the second on the basis of the basic logic of the symbol.

Among the primitive laws of symbolic logic is the following.

\[ p = \neg \neg p \]

It has been observed, at least as early as Otto Jesperson, that according to this law, 1. and 2. should be equivalent, but in ordinary English they are not.

1. He is happy.

2. He is not unhappy.

\textsuperscript{12} For a comprehensive review of linguists who have explicitly argued against the premises of symbolic logic and of the arguments see Lakoff, 1987.
2. means that he is less than unhappy, and, although it logically should mean that he is happy, it does not. If one wanted to say that he was happy, one would say 1.

Further, since 3. and 4. are both negations of 1. they should be equivalent to each other, under the law of the excluded middle (p or -p).

3. He is unhappy.

4. He is not happy.

But, once again, in natural language they are not equivalent. To be unhappy is to have an unpleasant feeling. While 4. could be used to indirectly refer to that state of unpleasantness, in itself it does not convey any assertion about feeling. 4. denies that he is happy, which is not the same as asserting that he is unhappy. Perhaps one might intend to say with 4. that rather than being happy, he is amused or contented, which are similar to being happy, and thus in actual use 4. is in a certain way the opposite of 3.

Further, 5., which is logically equivalent to 2., both being double negatives, is barely acceptable as a sentence of English at all, but if it is taken as acceptable, it can only be as a kind of quotative rejoinder to the prior denial, "He is not happy". It would have to be a denial of that denial, equivalent to saying, "It is false to say that he is not happy", or, more precisely, as written in 5a., and is not equivalent to 1.

5. He is not not happy.

5a He is not "not happy".

Also, since 5. is a double negation like 2., it too should be logically equivalent to 1., but it does not mean the same thing in ordinary English either.

It is quite obvious that what is going on here is that there are three different types of negation: the prefixal negation of "un-", the ordinary negation, and the quotative negation. In natural language, and in the writing system of natural language, there are ad hoc provisions for marking the differences between these types of negation by which it can be made clear that they are not logically equivalent. But in symbolic logic, there is no principle by which to typologically distinguish between types of negation. One could, of course, use the same devices in logic, but then they would be extrinsic to the laws of logic. But this is not the end of elementary negation problems.

Further, 6. is logically equivalent to 7. and 8., from which it follows that 9. and 10. should have the same meaning as 1. and 6. respectively.

6. He is sad.

7. He is unhappy.

8. He is not happy.

9. *He is unsad.
10. *He is not unsad.

But not only do they not have the same meaning as 1., 9. and 10. are flatly unacceptable sentences of English, and I will cite evidence at the end of Section 4. proving that the semantically equivalent sentences are flatly unacceptable in every natural language, even though the logically isomorphic 7. and 8. are acceptable sentences.

Finally, by substituting "-p" for "p" in the law (p = --p), we get 11. as a corollary, which predicts that 12. and 13. should be possible sentences of English, equivalent in meaning to 6., 7., and 8.

11. \(- p = - - - p\)

12. *He is not not unhappy.

13. *He is not not not happy.

But once again the prediction of symbolic logic is contradicted by the fact that these sentences are not well-formed sentences in English. Note that they are not merely unacceptable, but that, although their logical structure is simple, they are intuitive gibberish, and can only be interpreted as meaning anything at all with the aid of a pencil and paper.

It is interesting, and significant, to point out the similarity between these sentences, in regard to both formal structure and the collapse of sense into gibberish, and the famous sentences of Yngve's, which I reproduce here from memory.

14. That that it is clear is obvious is true.

15. What what it cost would buy in Germany is amazing.

The collapse of sense in these sentences is similar to that found in violations of Ross's movement constraints, but cannot be attributed to movement, unquestionably in the case of 14., since there is no movement, and, on the contrary, the problem can be cleared up by extraposing the embedded clauses.

16. It is true that it is obvious that it is clear.

These are all problems of logical type. In general, the mixing of different logical types creates a collapse of semantic coherence. The mixing of types includes physically putting part of one type in another and the inappropriate subordination of a higher type to a lower type and the representation of different types as being the same type. Ross's concept of "island" defines the boundaries of a logical type, as the term implies in the relation between the land of the island and the surrounding water. For example a relative clause is a different semantic type from the asserted part of a sentence, and thus to move something out of that clause into the higher structure is to mix the hierarchy of types. In a similar way, the difference between 14. and 16. is that in 14. there is nothing in the surface structure of the sentence to indicate the typological relations of embedding, so the
syntagmatic sequence of the words is taken as the representation of typological organization, in which case it is nonsense, but in 16. there is no embedded structure, and the syntagmatic sequence represents the typological categorizations of semantic relations correctly, so it is relatively easy to grasp its sense. Notice how much more intelligible 14. becomes if we add punctuation to mark and separate types.

17. That, "that it is clear is obvious", is true.

Notice that in the same way 5. is difficult to compute, but 5a., with punctuation added to distinguish between the first type of negation and the second, is relatively easy to grasp. In the same way, 18. makes 13. nearly intelligible.

18. He is not "not 'not unhappy'".

The difficulty with 5. and 13., as well as 9., 10. and 12., is that they represent different logical types of negation as being of the same type, and thus are all unacceptable semantically in ordinary language, though predicted by symbolic logic to be all equally valid as well-formed sentences, since there is no provision in symbolic logic for typological distinctions.

Of course, it would be possible to try to fix up these problems by adding two or three more ad hoc principles, though I would not like to try to think of how to state them so as to capture the several different kinds of logical typing problems we have just seen. And, even if one could come up with some new patches, they would be nothing more than patches to try to preserve what is a fundamentally flawed frame of reference. And moreover, new patches would be required every time one turned up a new fact.

In terms of symbolic logic it is impossible to explain in a principled way why it should be the case that you cannot get more than two negations of the same predicate. Nor is symbolic logic capable of explaining why it should be possible to negate "happy" to get "unhappy", but not "sad" to get "unsad". And, it would be impossible to explain how these limitations are related to Ross's movement constraints, compulsory movements, such as those seen in 13., and why punctuation helps. And finally, it would be impossible to explain why these structural violations lead to instant semantic gibberish, rather than just gradually fading off into incoherence as you add more negations. These and other such facts want an independently motivated explanation, and not merely the invention of an arbitrary rule on a case by case basis.

The above argument is developed from the premises of symbolic logic and shows that the problems are not marginal, but rather go right to its most fundamental principles. Now I would like to look at the problems with symbolic logic in terms of the general idea of the symbol, under the assumption that the symbol is the essential building block of language.

If we consider the function of a symbol in the abstract, we might come up with a generally acceptable representation of that function like 19.

19. \( a \Leftrightarrow b \)
which we can read as saying that "a" represents "b". In order to keep track of what is going on here we must posit two distinct points of view, one of which is the symbolic point of view within which this rule holds, inside the language defined by this rule. The other is a non-symbolic point of view, outside of the language, from which it can be seen that 'a' is 'a' and 'b' is 'b'. That is, to the extent which the perception of a person in the language community is absorbed in the symbolic point of view, he does not see 'a' as 'a', but rather as 'b', which is what it means to say that 'b' is symbolic.

Now, if we consider the logic of this symbolic representation without any regard to these two points of view, it would be necessary to hold that the following propositions would all be true.

\[
\begin{align*}
\text{a is a} \\
\text{b is b} \\
\text{a is -a} \\
\text{b is -b} \\
\text{a is b}
\end{align*}
\]

This is of course a logically impossible knot of contradictions. And one might suggest that the way to get out of it is to separate these propositions out into two classes as distinguished from the two points of view which I mentioned above. If we were to do that, the first two of these propositions would belong to the point of view from outside of the symbolic system, that of a foreigner who, not being influenced by the convention of substitution, would see 'a' as 'a' and 'b' as 'b'. This much is nice and neat. We have got rid of two of the offending propositions, though it should be noted that these two are the only ones that are logically true and noncontradictory. Within the symbolic point of view we are left with the last three, each of which is logically problematic in itself. We might get rid of all but the last one by claiming that from the symbolic point of view one is not actively aware that 'a is -a' and 'b is -b'. When one is in the symbolic frame of mind, so the argument might go, one is only aware that 'a is b'.

Then we would only be left with the last proposition, which is nearly identical with the principle of representation that we started with. The only difference remaining is the difference between the verbs 'is' and 'represents'. But isn't this difference the whole point? What is the difference between a symbol and a thing, if not that a symbol 'represents' and a thing 'is'? I do not see any way that it would be possible to study the symbol and the logic of representation without admitting the fact that the logic of representation is inherently contradictory. If there is a representation, there must necessarily be, from the symbolic point of view, an 'a' that is 'b' and at the same time is 'a', a proposition which flies in the teeth of the laws of symbolic logic.

From the foregoing arguments it can be seen that the inadequacy of symbolic logic as a frame of reference for the study of language is not an occasional lapse or a matter of marginal phenomena which perversely evades its rigorous strictures. Symbolic logic is inherently incapable of comprehending and explaining any single piece of natural language.
2.2 TYPOLOGICAL LOGIC

I believe the typological logic which C. S. Peirce extensively explored is the one and only logic which is presupposed in natural language. In this section, I will outline the essential features of this logic in relation to the question at hand, concentrating on the first and second types in this section, and focusing on the third type in Section 2.2. I will attempt to convey a coherent sense of the logic as a whole, but for a more complete picture one should consult Peirce's work directly.

As seen from the point of view of linguistics, Peirce's investigations have been ignored according to two patterns. First, while Peirce's general theory of signs is widely known, the typological logic which underlies and motivates that theory of signs has been almost entirely ignored. Second, while his theory of signs has been influential in a wide variety of academic disciplines, and has led to the development of the cross-discipline discipline of semiotics, within the discipline of linguistics, especially in America, it too has also been almost entirely ignored. Many linguists have come across the names of his three sign types - icon, index, symbol - but know little more than that about Peirce's thinking.

There are exceptions to this rule. Probably the most innovative, productive, and well known, among linguists at least, is Roman Jakobson. I do not know exactly when he discovered Peirce, but for the last thirty years Jakobson's thinking about language has been explicitly established on the foundation of Peirce's theory of signs and he has continuously lauded Peirce's work in the highest possible terms as

\textit{perhaps the most inventive and versatile among American thinkers. (1971, p. 346)}

In view of his enthusiastic interest in Peirce's thinking, it is all the more remarkable to note that while Jakobson is an exception among linguists to the second rule mentioned above, in that he embraced Peirce's theory of signs, he is not an exception to the first rule, in that he too has ignored and actually discounted Peirce's typological logic in ways which we shall see. Or, more precisely, although Jakobson embraced the theory of signs, he was unable to reconcile the typological logic which is inherent in that theory with the conventionally predominant symbolic logic to which he implicitly subscribed, and which he gave commanding prominence in his thinking. Jakobson's work is consequently characterized by a logical conflict between the theory of signs which he made use of in practice and symbolic logic which he assumed in theory. We will return to discuss this conflict in Jakobson's work explicitly at the end of Section 3, but we will see an example of it shortly.

When one looks a Peirce's voluminous works for the first time and considers the possibility of investing time and effort in trying to understand what he is talking about and trying to figure out how to bring his theory to bear on the concrete problems which occupy linguists, the question inevitably arises as to why it has had so little influence. Or, rather, one is inclined to doubt that it could have much value, seeing that it has had little influence in linguistics. One might be inclined to take the democratic view that, since his work has been ignored for so long by so many, the vote is overwhelmingly against investing in his theory. But, aside from the fact that such democratic decision making has no place in the theory of linguistics, the question one must consider is why it has been ignored.

It is possible that it has been discounted because it actually is of little value, but in this case, one could only make such a judgement after becoming familiar enough with his
thinking to evaluate it. But the fact is, at least according to my observation, that very few linguists have actually investigated the matter in order to make such a decision.

It cannot be attributed to the supposition that his work has never come to the attention of linguists, because it has been the focus of a great deal of attention, though as I mentioned, mostly outside of main-stream American linguistics. In addition, Jakobson, who is highly respected within linguistics, has continuously praised, recommended, and demonstrated the usefulness Peirce's theory in the analysis and explanation of language phenomena. In view of the attention it has been afforded, it is impossible to explain its persistent lack of influence in linguistics as a function of accidental oversight.

Nevertheless, Jakobson seems to attribute the ignoring of Peirce's work to historical accident.

*Half a century of Peirce's semiotic drafts are of epochal significance, and if they had not remained for the most part unpublished until the 1930's, or if at least the printed works had been known to linguists, they would certainly have exerted an unparalleled influence upon the international development of linguistic theory.* (p. 346)

This explanation is not very convincing, since it is now almost 60 years after their publication, and his work still has had only marginal influence in linguistics. In fact, since Jakobson made this observation in 1965, it is hard to believe that he could have been entirely serious about this explanation himself. I suspect it is offered in an ironic register.

It must be admitted that Peirce's style is somewhat off-putting to the modern ear. It is tendentious, as opposed to being objective in tone. In some places it is dripping with obscure metaphysical terminology. His use of threefold divisions is tainted in the modern mind by association with the many vacuous and fruitless ruminations on numerology. And, his theory of logic bears a superficial resemblance to the tripartite dialectical logic of Hegel, whose style is despised by those of a scientific bent. Peirce himself was aware of the dubious appearance of his theory.

*I should have discerned in it too strong a resemblance to many a crack-brained book that I had laughed over. A deeper study has taught me that even out of the mouths of babes and sucklings strength may be brought forth, and that weak metaphysical trash has sometimes contained the germs of conceptions capable of growing up into important and positive doctrines. (1.364)*

In order to apprehend Peirce's theory of signs and the underlying theory of logic, one must be willing to overlook these superficial stylistic judgments and penetrate into the ideas which he is describing.

In regard to the negative evaluation of his style, it is important to note that such judgments are not a matter of objective fact; they follow from an attitude toward logic which is a function of the assumption that symbolic logic sets the standard for logic and, indeed, all philosophical dialogue. To whom is tendentious argument, metaphysical language, numerology, and the logic of Hegel offensive, if not logical positivists? I shall always treasure the appraisal of Hegel by Caird which I found quoted in Durant's *The Story of Philosophy* (p. 272-273).

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13 This refers to Peirce's works, volume 1 and section 364.
But the height of audacity in serving up pure nonsense, in stringing together senseless mazes of words, such as had previously been known only in madhouses, was finally reached in Hegel, and became the instrument of the most bare-faced general mystification that has ever taken place, with a result which will appear fabulous to posterity, and will remain as a monument to German stupidity.

As is always the case in any communication, but especially such vituperation, this statement gives more information about the author of the quote than it does about Hegel's logic. First, it is clear that he does not understand Hegel at all. Second, in the author's mind, Hegel's work is not merely incorrect or vacuous or foolish, which would be bad enough, but he considers it to be criminal. Since Hegel did not actually do anything to anyone, since he just wrote some books about logic, it is not obvious on the face of it, why Caird should be so deeply and personally offended. What is the offense that moves him? How is Caird damaged by Hegel's supposed crime?

I suggest that Hegel's crime is that he violates the purity of the laws of symbolic logic, which are held by Caird, and by logical positivism in general, in the absolute sanctity of the a priori. Caird sees Hegel as a violator of his most precious standards of decent human behavior. And, Caird is so offended by this supposed a priori crime that he is not willing to afford Hegel the civilized courtesy of a fair and impartial hearing. In Caird's eyes the mere fact that Hegel's thinking appears to violate and thus bring into question the a priori validity of laws of symbolic logic is sufficient grounds for condemning him without any trial at all.

This example is more overtly vituperative than most, but it does convey the tone of the reaction of logical positivism to Hegel and to others who evidence a Hegel-like approach to logic. Just what it is that qualifies a theory of logic as being Hegel-like is of course never positively specified, though it would seem to be a function of the premise that symbolic logic is the one and only logic, from which it would follow that if a theory of logic is not symbolic logic, then it is Hegel-like. I suggest that a superficial judgmental standard such as this is responsible for the ignoring of Peirce's thinking, even though it is totally different from that of Hegel. Peirce says of Hegel,

> 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 few circumstances he would himself have been able to revolutionize his system...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. (1.368)

Though Peirce's logic is the same as Hegel's in its tripartite character, it would be a grave disservice to Peirce to equate his logic with that of Hegel, or any of the descendants of Hegel's logic. Not all non-symbolic logics are Hegel-like.

It is still true, however, that Peirce's entire attitude toward language and logic is antithetical to the prevailing logical premise of linguistics, namely, that the only logic is symbolic logic. Thus, from that point of view, his style as well as his theory is perceived as illogical and incoherent, and thus from that point of view it is impossible to understand it or to see any practical use for it, except in the most superficial way.

If this is the explanation for the ignoring of Peirce's work, it would explain the pattern of his being ignored. First, his work has received a much more cordial acceptance in continental Europe than in England or America; the dominance of logical positivism in England and America is in complementary distribution with the acceptance of his thinking.
Second, the fact that his theory of signs has been accepted widely, but his logic not at all, would follow from the fact that the latter is overtly and directly in conflict with symbolic logic where the former is only indirectly in conflict. Third, there are some American linguists who are interested in his theory of signs and in the discipline of semiotics, but none of them, so far as I am aware, are logicians. Fourth, the fact that Jakobson, in particular, embraced Peirce's theory so whole-heartedly, would be expected because he was not educated originally in the American mold of rigid logical positivism.

I must not try to push this explanation too far on the basis of impressionistic facts, but whether this is the correct explanation for the ignoring of Peirce's work or not, there is no doubt that there is a fundamental conflict between the premise of logical positivism that symbolic logic is the one and only logic and Peirce's logic. As a result, stylistic and material conflict is certain to arise in the course of investigating Peirce's logic, and therefore, if one wants to understand and appreciate its utility, it will be necessary to put one's critical logical faculties in abeyance and to forestall a priori condemnation, until the course of the discussion has a chance to mature.

2.2.1 Firstness and Secondness

Let us begin to examine Peirce's typological logic in terms of his typology of signs. I offer the following as only a superficial presentation of the theory of signs by way of introduction. We will have an opportunity to deepen it as we proceed through the discussion.

Peirce distinguishes three types of signs.

1. An icon is something that refers to something else by the mere fact of resemblance or similarity. In that resemblance or similarity is in the eye of the beholder, the fact that something functions as an iconic sign is entirely incidental to the nature of the thing itself. He says, suppose

   *I surmise that zebras are likely to be obstinate, or otherwise disagreeable animals, because they seem to have a general resemblance to donkeys, and donkeys are self-willed. Here the donkey serves precisely as a probably likeness of the zebra.* (2.281)

   An icon denotes merely by virtue of characters of its own, and which it possesses, just the same, whether any such Object actually exists or not. It is true that unless there is really such an object, the Icon does not act as a sign; but this has nothing to do with its character as a sign. (2.247)

   A simple example of iconic denotation can be seen in language constructions where the order of words conveys the order of events. Jakobson cites Caesar's famous statement, *Veni, vidi, vici*. There is no independent form which has the function of signifying which is first, it is an iconic function.

2. An index functions as a sign by being in some physical relation with the object to which it refers. For example, a sundial indicates the time indexically. Smoke is an index of fire. A footprint of a deer is an indexical sign referring to a deer. Pointing is an indexical sign. In language, "that", as in "What is that?", is an indexical word which can be uttered only in some physical relation of contiguity with its referent. Jakobson usually uses the terms
“similarity” and "contiguity" to designate the iconic and indexical sign functions respectively.

3. "A symbol is a sign which refers to the Object that it denotes by virtue of a law." The kind of law that is relevant here is not natural physical law, but man-made conventional law which stipulates the relation between sign and object, and thus must be learned. A word is a symbol, as is every other unit of language. A dove is a symbol of peace.

   It is important to note that a symbol is an abstract, general, idea, and not any kind of concrete object at all. That is why we say "the word 'dog'" and not "a word 'dog'"; A symbol is an inherently generic concept, in opposition to the inherently particular reference of an index.

   We speak of writing or pronouncing the word "man"; but it is only a replica, or embodiment of the word, that is pronounced or written. The word itself has no existence although it has a real being, consisting in the fact that existents will conform to it. (2.291)

He means a word "has no existence" in the physical sense; a word exists as a law by which a form and meaning are united and the embodiment of the form will conform to that form.

   In relation to the reference of a symbol:

   A symbol...cannot indicate any particular thing; it denotes a kind of thing. Not only that, but it is itself a kind and not a single thing. (2.301)

   It is important to take note of the fact that in ordinary English the words "sign" and "symbol" are used more or less interchangeably. In Peirce's usage, "sign" is the general class of types, and "symbol" is only the third type.

There is a large body of literature which makes use of the theory of signs in the analysis of human language, animal language, music, economic systems of exchange, and other systems of communication, known as "semiotics". We are not so much interested in this system of signs for its own use, but rather as one dimension in which Peirce's typological logic is manifest in language. It is not by any means the only manifestation of his logic in language, as we shall see.

   In regard to typological logic, the most important point to take note of is the relationship between the different types of signs. Jakobson speaks of Peirce's

   shrewd recognition that the difference between the three basic classes of signs is merely the difference in relative hierarchy. It is not the presence or absence of similarity or contiguity... not the purely factual or purely imputed, habitual connection between the two constituents which underlies the division of signs into icons, indices and symbols, but merely the predominance of one of these factors over the others. (1971, p. 349)

Jakobson's stated motivation for characterizing their relationship in this way is that in normal usage a given sign is almost never a pure sign type. The implication is that they are the opposite of pure, that is, "mixed". He quotes Peirce as saying that "it would be difficult, if not impossible, to instance an absolutely pure index, or to find any sign absolutely devoid of the indexical quality". As an example, Jakobson mentions that the act of pointing is about the purest form of index one can find, but it is an act that is always tainted with non-indexical associations, such as condemnation or damning the object pointed at. Similarly, the above cited example of Veni, vide, vici consists of words, which are symbols, which convey an order of events in an iconic way.
While it is true that pure signs are rare or even impossible to find, the same is true of pure water or a pure vacuum. In the real world there is no absolutely pure water or an absolute vacuum. But this does not prevent scientific theory from positing the imperceptible "underlying" reality of pure substance or pure non-substance, and developing theories of chemistry and molecular behavior on the basis of those assumptions.

And furthermore, while *Veni, vide, vici* could be thought of as a mixture, it is easy to conceptually separate the purely iconic ordering function from the symbolic function of the words themselves. In the same way, the associations of condemnation and damning that are associated with pointing is a symbolic overlay easily separable from the indexical function of the act of pointing itself. And in the same way, when one uses a word metaphorically, it is easily distinguished from its literal usage and it is clear that its metaphorical use is a secondary iconic use of the stipulated symbolic value of the word. Thus, it is a serious error to think of these complex signs as being heterogeneous conglomerate "mixtures" or indissoluble solutions of various sign functions. Each of them is a coherently structured and organized complex sign into which the three conceptually distinct primitive sign functions are integrated.

To characterize the relationship between the three types of signs as "relative hierarchy" or relative predominance is also incorrect and misleading in regard to Peirce's theory of signs. Peirce's typological categories are not in a relation of relative dominance, nor are they related in the same way as departments in a bureaucracy. The essential difference is that the various departments in a bureaucracy are all of the same logical type, but Peirce's categories are not of the same type.\(^\text{14}\)

I suggest that Jakobson's underlying motivation for characterizing the sign types as not being "pure" and thus by implication "mixed" and as being in a "relative hierarchy" is his implicit assumption that sign systems must be organized according to the laws of symbolic logic. Structures of the bureaucratic type are in Peirce's terms, symbolic structures.

It is much more in accord with Peirce's thinking to characterize the relations among the three types of signs after the image of organic systems than after the image of the bureaucratic relationships among social institutions. The three types of signs are related as are chemical functions, vegetative functions, and animal functions. The vegetative order is built upon chemical functions and the animate order is built upon vegetative functions. Each type is established on and integrates the more primitive types.

It will be seen as we progress that this issue goes to the very heart of Peirce's logic and that it is impossible that he could have meant what Jakobson takes him to mean. In immediate support of this claim, consider the following passages from Peirce.

*The only way of directly communicating an idea is by means of an icon; and every indirect method of communicating an idea must depend for its establishment upon the use of an icon. Hence, every assertion must contain an icon or set of icons, or else must contain signs whose meaning is only explicable by icons.* (2.278)

The converse is not true: An icon need not contain and index or a symbol, and an index need not contain a symbol.

\(^{14}\) I mean "type" here in exactly the same sense as it is used in Russell's theory of types.
A regular progression of one, two, three may be remarked in the three orders of signs, Icon, Index, Symbol. The Icon has no dynamical connection with the object it represents; it simply happens that its qualities resemble those of that object, and excite analogous sensations in the mind for which it is a likeness. But it really stands unconnected with them. The Index is physically connected with its object; they make an organic pair, but the interpreting mind has nothing to do with this connection, except remarking it, after it is established. The Symbol is connected with its object by virtue of the idea of the symbol-using mind, without which no such connection would exist. (2.299)

And note the use of biological metaphors in this passage.

Symbols grow. They come into being by development out of other signs, particularly from icons, or from mixed signs partaking of the nature of icons and symbols. (2.301)

However, it is not the biological image upon which he relies for the intuitive foundation of either his theory of signs or his theory of logic. The conceptual basis for his typological logic, which is the foundation for the theory of signs, is the qualities of the relationships inherent in the ideas, one, two, three. In order to understand how he is thinking of these ideas, it is necessary to realize that he is looking at them as ideas, with internal content, rather than as numbers with only external values.

I mean no more than the ideas of first, second, third -ideas so broad that they may be looked upon rather as moods or tones of thought, than as definite notions, but which have a great significance for all that. Viewed as numerals, to be applied to what objects we like, they are indeed thin skeletons of thought, if not mere words. (1.356)

I believe that if my suggestions are followed out, the reader will grant that one, two, three, are more than mere count-words like "eeny, miny, mo," but carry vast, though vague ideas. (1.362)

As seen from the outside as a number, each number is the same type of thing as each other number, being different only in the relative externally defined position which it occupies in the endless hierarchical system of numbers. As seen from the inside, as an idea, each of the first three has a distinctive qualitative and dynamic conceptual character which is an inherent function of the fact that the first is first, the second is second, and the third is third. Hence, he calls his three logical types, firstness, secondness, and thirdness.

The question arises, why stop at three? Or why not stop at two? The answer is that two is not enough and four is more than enough; it is in the nature of the logic of numbers that three is sufficient and necessary to characterize the logic of the entire system.

while it is impossible to form a genuine three by any modification of the pair, without introducing something of a different nature from the unit and the pair, four, five and every higher number can be formed by mere complications of threes. (1.363)

He argues that a three-place predicate such as "sell" cannot be analyzed into two two-place predicates, but that any sentence with four nominals, such as, "A sells B to C for D amount of money", can, and to make semantic sense of it, must be analyzed as consisting of two underlying predicates. This fact is well known to all linguists. he gives further argument in the section cited above, and in other places as well.

There are many other universals of language which corroborate this claim. For example, it is a well-known fact that every language must have at least three vowels. And one of the most interesting correlations of his typology with language is the fact that every language has exactly three types of personal pronouns, called in linguistic terminology, not
coincidentally, first, second, and third person. And, there are many other threes in the typology of language, which we will see examples of as we go proceed.

One can also see the premise of threeness in the three primitives of symbolic logic - identity, negation, and conjunction - which are the symbolic counterparts of Peirce's three types, though not equivalent, because they are all of the same type, namely, the symbolic type.

In beginning to flesh out the idea of his typology, let us start with the critical point I mentioned above, which is the asymmetrical inclusive relation of priority between the types. If we take as our primitive model the idea of one, two, three, it can easily be seen that this kind of relationship between the three types is necessarily the case. If a class has three elements, then it necessarily has two elements, and if a class has two elements, then it necessarily has one element, but not vice versa; A class with one element may have another, but not necessarily, and a class with two elements may have another, but not necessarily. From this it follows that there is not only an asymmetrical relation of class inclusion, but also an inherent ordering: a class of three elements presupposes a class with two, and a class with two presupposes a class with one.

Thus there are three logical factors to consider: the nature of each element, the relations between the elements in each type, and the relation between the three types, the first two factors being a function of the third. That is, in the first type there is only one element, but in the second type another element appears and the fact that it is the second element is what determines its character and the relationship between the second and the first. And in the third type, yet another element appears, and its nature, and the resulting relationships among the elements is a function of the fact that it is the third element to appear. Peirce succinctly describes the three types as follows.

The first is that whose being is simply in itself, not referring to anything nor lying behind anything. The second is that which is what it is by force of something to which it is second. The third is that which is what it is owing to things between which it mediates and which it brings into relation to each other. (1.356)

For purposes of the present argument, we are particularly interested in the logic of secondness and thirdness, but it is impossible to begin with secondness, so let us look a little more closely at the character of firstness.

The idea of the absolutely first must be entirely separated from all conception of or reference to anything else; for what involves a second is itself a second to that second. The first must therefore be present and immediate, so as not to be second to a representation. It must be fresh and new, for if old it is a second to its former state...It precedes all synthesis and all differentiation...It cannot be articulately thought; assert it, and it has already lost its characteristic innocence; for assertion always implies a denial of something else...every description of it must be false to it. (1.356)

This description of firstness might seem to put it beyond apprehension, which it does in the literal sense of "apprehension" as grasping or capturing. It is not possible to physically apprehend firstness, nor to apprehend firstness by representation, which is no more than to say that firstness is neither secondness, the type of physical phenomena, nor thirdness, the type of representation proper. But firstness is not beyond experience and understanding. A machine or any other mode of physical or representational transaction could not possibly transact in firstness, but human beings, and even animals, can.

Notice that he is speaking of "the absolutely first" here. This implies that there are other firsts which are not absolutely first. For example, a metaphor, as I mentioned above,
is a kind of "second first", if you will permit me the illogical expression. It is a revivification of the feeling of firstness by using an already existing symbol iconically rather than referentially. The freshness and vitality of metaphor is the feeling of firstness.

Probably the clearest and most striking normal and common experience of firstness is the feeling of getting a joke. One can get a joke, but what one gets is not an idea or a reference to something else, but a direct and immediate experience with a very clear and precise quality of surging vitality and exuberance which might burst out in a laugh. The experience of firstness is what is called the "point" of the joke. The purpose in telling a joke and the structure of the joke itself is organized in relation to bringing about this direct and tangible experience of firstness.

There is nothing vague or mystical about it, but still one cannot describe or explain either the joke itself or the experience of getting it. A description cannot convey the phenomenal experience of getting it and an explanation cannot help someone to get it. On the contrary, an attempt at explanation usually ruins the joke, which is to say, it precludes one from having the experience of getting it. It is a phenomena and mode of interaction which inherently defies representation and exchange in the symbolic mode. Of course, one can tell a joke in the symbolic mode of thridness, but in order to get it one can only do so in the type of firstness, and what one gets is not a symbol.

What is more, the getting of a joke is not distinct in type from the phenomena of understanding in general. When one has the experience of understanding anything, one says, "I get it", indicating that it is a phenomena of firstness. When one exchanges mere symbols in a formal transaction, there is no "getting it" involved. Thus, we must distinguish between merely formal transactions, translations, interpretations, dialogues, etc., on one hand, and the actual experience of understanding or "getting it". In this sense, all transactions are parasitic upon firstness, for "getting it" is the final payoff, whether what one gets is understanding, or one gets home or one gets food or one gets rich, etc., because you can not get anything unless you understand. But many, probably most, transactions are merely symbolic and do not have any direct payoff at all. Discussing the menu might help to pass the time more enjoyably, but sooner or later one must actually get down to it and eat something, and consumption, or the direct immediate experience of consummation in general, is getting down to the type of firstness.

It is interesting, from the linguistic point of view, to try to understand what Peirce is getting at by examining the implications of the structure and meaning of the words he uses to describe firstness, particularly in relation to the claims I will be making in Section 4. For example, he says in the above quote that firstness is "present". What he means on the surface is that it is an actual experience, as opposed to a remembered or imagined or described or anticipated experience, since an actual experience can only take place in the present. But the statement that "firstness is present" can also be taken to describe the relationship between firstness and tense in language. And, in another place he says explicitly that firstness is present, secondness is past, and thirdness is future. And, it just so happens, as we will see in Section 4., that this ordering is presupposed in the markedness structure of tense in natural language.

He also says that the first must be "present...so as not to be second to a representation". Note that "representation" consists of "present" and the prefix "re-" meaning "again", and thus "to re-present something" implies that it must have been
"present" before it could be represented, hence whatever is represented could not possibly be first. Note also that formally "represent" is marked in relation to "present".

Another example is the use of the word "immediate" to describe firstness. This word means "not mediate" and "mediate" means "in the middle", which implies three things, and thus the relation of mediation cannot possibly be one of firstness.

This kind of seemingly coincidental correspondence between the characteristics of his logic, the description of those characteristics, and the structural and semantic characteristics of language in general, is a striking, and very joke-like, phenomena which one often encounters in the exploration of typological logic. And, of course, if something is repeated enough times, at some point, it ceases to be merely coincidence. There is a profound sense in which this kind of experience of firstness has the force of intrinsic and self-evident verification, quite independent of it repeatability, that has a validity and assuredness far exceeding that of the merely symbolic consistency of repetition. In fact, I would go so far as to assert that this kind of correspondence and the feeling of getting it which accompanies the realization of such correspondences is what underlies the implicit epistemology that linguistics is founded on.

One final point about firstness before we go on: Recall that he said in the above quote that absolute firstness cannot be asserted. I suggest that firstness should be considered to be presupposed in the technical linguistic sense. In so suggesting, I am taking his typology as also providing a framework for characterizing what he calls "mood", though it would be more in keeping with linguistic terminology to call it "force". He says that

> Icons and indices assert nothing. If an Icon could be interpreted by a sentence, that sentence must be in a "potential mood", that is, it would merely say, "Suppose a figure has three sides", etc. Were an Index so interpreted, the mood must be imperative, or exclamatory, as "See there!" or "Look out!"...(the symbol is) by nature, in the declarative mood. (1.291, parenthetical words added, emphasis his)

And, due to the fact that symbols can be used to represent iconic or indexical phenomena, though, of course, such representations are only representations, he goes on to point out that symbols

> can go to the expression of any other mood, since we may declare assertions to be doubtful, or mere interrogations, or imperatively requisite.

Thus one can assert the following:

Jakobson presupposes that symbolic logic is true.

but this is an assertion, not a supposition, nor a presupposition. And, in the same way, one can make an assertion which represents any other kind of force.

I command you to shut up.

I urge you to look behind you.

But, the first is not a command and the second is not an exclamation; they are both assertions which convey the representation of other kinds of force.
When we speak of force in language, then, there are three types of force: the force of presupposition, the force of exclamatory appeal, and the force of assertion. None of these are actual brute physical force, which, as we will discuss shortly, is of the phenomenal type of secondness. The so-called force of sentences such as these assertions is not real force, but the representation of force. And, of course, there are structural and functional properties of language which follow from the typological characteristics of force.

One of the consequences of the typology of force in language which we have already seen is that it is not possible to assert firstness. We will return in Section 4 to show that this property has far reaching implications for the structure of language, but here we can point out one immediate implication. The basic grammatical distinction among nouns is between subject and object. It can be seen in many ways that the subject is first. For example, a one-place predicate will have a subject only, and a two-place predicate will have a subject and an object, and a three-place predicate will have a subject, object, and indirect object. The subject has priority over the object. Given the fact that the subject is first, it follows from the property of firstness under discussion that the subject of a sentence holds the privileged position of being presupposed, which of course, it is. Because the subject is presupposed, it cannot be negated, and normally the negative cannot occur before the subject in the sentence.

As Peirce said, the absolute first cannot be asserted, described, or represented symbolically at all. There are other firsts which are not absolutely first, and they can be represented, for example, as I have done in the course of this essay by asserting that symbolic logic is commonly presupposed and that it is an incorrect presupposition. In doing so, one must carefully distinguish between the logical force of an assertion and a presupposition. The inability of symbolic logic to make these distinctions in a logically motivated way is the source of one kind of systematic failure of symbolic logic. The problem is manifest in sentences which are predicted by the laws of symbolic logic to be analytically true, but are not true, as in Russell's famous sentence.

The present king of France is bald or the present king of France is not bald.

Since this sentence has the form "p or not p", it should be analytically true, which one could claim it is. But there is also something false about it, because there is no present king of France, but the sentence conveys the claim that there is. The difficulty is easy enough to see: The proposition that there is a present king of France is presupposed by this sentence, but the negation only negates the asserted part of the sentence. Thus if the subject were empty of content, as in

He is bald or he is not bald.

it would be analytically true. To explain the sense in which the problematic sentence is false, one would have to distinguish between those parts of a sentence which are asserted and those parts which are presupposed and to limit the scope of negation to the asserted part of the sentence. This is easy enough to do, but the point is that there is nothing in the theory of symbolic logic to motivate or explain such a distinction or the limitation on the scope of negation. Why should anything be presupposed? Why should it be the subject that
is presupposed and not the object? Why should the scope of negation be limited at all? And, if it is limited, why should it be limited to assertion only, and not to presupposition only?

These principles are independently motivated and follow naturally from typological logic as being necessary and thus predicted and explained: The subject is presupposed because it is logically first, and negation is a phenomena that is limited to thirdness, as we will discuss more fully below, so its scope does not include firstness or secondness. Symbolic logic has had to add these principles as arbitrary patches on the theory, unexplained and unmotivated. And, furthermore, every time one encounters new typological problems it will be necessary to add another arbitrary principle.

For example, it follows from typological logic that not only can a presupposition not be negated, but a presupposition also cannot contain a negation. That is, whereas it is possible to construct a sentence which presupposes that there is a present king of France, it should be impossible to construct a sentence which presupposes that there is not a present king of France. To say,

There is no present king of France.

is, of course, an assertion. And a sentence like,

The present non-king of France is bald.

is simply incoherent. To say,

The present president of France is bald.

might be taken to imply that there is no present king of France, but only if it is assumed that "president" and "king" are mutually exclusive possibilities for the same position. And, even then, it does not presuppose it. To explain this further limitation of the scope of negation, symbolic logic would have to add another arbitrary principle.

Typological logic also predicts that there should be correlated restrictions and peculiarities in the assertion of a presupposition. It seems to me that

I presuppose that symbolic logic is not valid.

is a peculiar use of the word “presuppose” and that it really means "I hold" or "I suppose" or "I think" rather than exactly "presuppose".

In the same way, typological logic predicts that there will be peculiarities in the use of negation in sentences with the force of secondness or in assertions of sentences which represent the force of secondness. Thus one cannot utter the command, "Not!". Such an utterance can only be used as a denial, not as a command. One can command, "Don't do that!", but it is not possible to negate the force of a command.

I command you to not do that.
I do not command you to do that.
The first is a command, the second is not a command.

For the same reason, in general the negative can be prior to any verb in the sentence, except the first. In the case of modal verbs, it is just not possible to do it.

I could have not seen the duck.
I could not have seen the duck.
I couldn't have seen the duck.
*I not could have seen the duck.
*Not I could have seen the duck.

In the case of most verbs, in order to negate the highest verb it is necessary to introduce the "dummy" verb "do" in order to carry the negation.

I want to try to not see the duck.
I want to not try to see the duck.
I don't want to try to see the duck.
*I not want to try to see the duck.
*Not I want to try to see the duck.

And where the highest verb is a true performative verb, if the negation is prior to that verb, it cannot have the force of a performative.

I promise to try to not see the duck.
I promise to not try to see the duck.
I don't promise to try to see the duck.

The last is a grammatical sentence, but it is not a promise.

All of these peculiarities in the use of negation are predicted by typological logic, but each of them requires a new and separate unmotivated addition to a theory of language which is based on the assumption of symbolic logic.

Let us move on now to look directly at secondness, though we will not be leaving firstness behind, because secondness arises from and is established in the prior ground of firstness. Secondness is the way it is because it is second.

Secondness is, according to Peirce, the phenomenological type of brute physical being and brute force. The predominant character of secondness is that of tactical dynamics. We should note in passing that "tactical", "tactics", "tactile", etc. are borrowed into English from Latin and that the root meaning of this family of words is "touch". The idea is that secondness is the realm of brute physical "con-tact", and thus the logic of secondness is preeminently seen in the dynamic interplay of brute forces in brute contact.

The clearest, most explicit, and fullest description of the fundamental logical dynamics of secondness which I have seen was given by C. G. Jung. We will begin to examine the logic of secondness in terms of his description of the transition from firstness to secondness. 15

15 The text in the original (p. 180) is a continuous passage, but I have divided and numbered the various
1. ...one is not a number at all; the first number is two. Two is the first number because with it, separation and multiplication begin, which alone make counting possible.

2. With the appearance of the number two, another appears alongside the one, a happening which is so striking that in many languages "the other" and "the second" are expressed by the same word.

3. Also, associated with the number two is the idea of right and left, and remarkably enough, on favorable and unfavorable, good and bad. The "other" can have a "sinister\(^\text{16}\)" significance - or one feels it, at least, as something opposite and alien...

4. Two implies a one which is different and distinct from the "numberless" One. In other words, as soon as the number two appears, a unit is produced out of the original unity, and this unit is none other than the same unity split into two and turned into a "number".

5. The "One" and the "Other" form an opposition, but there is no opposition between one and two, for these are simple numbers which are distinguished by their arithmetical value and by nothing else.

6. The "One", however, seeks to hold to its one-and-alone existence, while the "Other" ever strives to be another opposed to the One. The One will not let go of the Other because, if it did, it would lose its character; and the Other pushes itself away from the One in order to exist at all. Thus there arises a tension of opposites between the One and the Other.

7. But every tension of opposites culminates in a release, out of which comes the "third". In the third, the tension is resolved and the lost unity is restored.

It is another of those remarkable coincidences how similar Jung's description of the relation between firstness and secondness is to that of Peirce, though there is no evidence of any relationship between them. We will look a Peirce's characterization of secondness shortly, but before we do, I would like to discuss some of the details of Jung's description. Points 1., 2., 4., and 5. concern the development of the relation "One/Other" into the relation "one/two", which is the development of the idea of number from the more logically primitive idea of otherness. I will examine this development in Section 3. Points 3. in Jung's description concerns the general alignment of oppositions in language on the basic pattern of the opposition between the first and the second, such that the first is good, favorable, right, and familiar, whereas the second is bad, unfavorable, left, and alien. This general patterning of oppositions will be evident throughout the following discussion, and we will return to consider it directly near the end of Section 4. Here, I will begin with a discussion of point 7. and then discuss point 6.

Although, as I noted, there is a striking similarity in their conception of secondness, Peirce would most emphatically disagree with Jung's description of the relation between thirdness and secondness in 7. above. Though this issue does not relate to secondness directly, as Jung's error is a very common error in characterizing the nature of thirdness, and as it is crucial to understanding the typology as a whole, we will take this opportunity to discuss it.

Jung says that "every tension culminates in a release". This is true; Sooner or later every tension culminates in one of two types of release: Death or consummation.

\(^{16}\) Lest it escape the reader, "sinister" in Latin means "on the left".
However, neither kind of release is experienced in the development of thirdness, but rather in the collapse of the structure of thirdness and the tension of secondness back to the oneness of firstness. The getting of a joke is the release of tension, and it is not a process of development, but precisely the opposite; it is a collapse of tensions that are created by the conflict which is inherent in the structure of a joke, and the surge of energy that is felt is the flood of energy that is released from its absorption in the conflict that has been resolved. The culmination of the tension of conflict is consummated (in the literal meaning of "brought together) in the feeling of oneness. The only possible culmination of conflict is in the consummation, in the real unity of firstness, not in the development of thirdness.

Jung’s statement that "the lost unity is restored" with the appearance of the third mediating element reveals the same assumption which underlies Kant's third category of synthetic unity, namely that thirdness is a state of unity which is of a higher order than the unity of firstness, and hence, that thirdness is the predominant and most desirable type of phenomena. This premise is equivalent to the premise that the symbolic type is prior to the other types. But it is in direct conflict with the inherent logical priority of firstness. For this reason, Peirce explicitly, and correctly, contradicted Kant in this regard.


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\text{in Kant's synthetic unity the idea of Thirdness is predominant. It is an attained unity; and would better have been called totality...In the idea of being, Firstness is predominant, not necessarily on account of the abstractness of that idea, but on account of its self-containedness. (1.302)}
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That Peirce is correct in his contradiction of Kant, and by implication, Jung, and that he is correct in his assertion that the unity of thirdness is an "attained unity" can be seen in several ways. Jung wrote about the "lost unity" of firstness, though in fact it is not lost at all, for firstness is underlying and necessary for the function of secondness and thirdness as well. One cannot imagine a set of two or three things, which does not also contain one thing. It would be as absurd to speak of the "lost present"; where it is possible to loose the past or to forget about the past, not possible to escape from the present. We could not loose the present if we tried. So too, we could not possibly loose the first or the unity of the first. The first is always present. So the unity of thirdness is an "attained unity" which is superimposed upon the prior and present unity of firstness.

Second, how does it make sense to suppose that you can arrive at oneness by dividing two into three? Can division create unity? The transition to thirdness is actually moving away from firstness and the state of unity.

Third, the "attained unity", that is, the artificiality of the unity of thirdness, is also implicit in the words used to describe it. "Synthetic" means literally, "to put together", which implies prior division. Thus “synthetic unity” is contradictory. Further, in the dictionary "synthetic" is defined as "not genuine; artificial; devised" and is used to mean something which is man-made rather than natural. A synthetic unity is precisely a man-made symbolic unity, which is not really unity at all, but merely the representation of unity. That is what the third element does; it mediates unity, and in doing so, it simultaneously represents division.

In the same way, the word "reunited" means "united again" which implies prior unity. Jung says "the lost unity is restored", the latter word coming from Latin restaurare, which means "to renew" or "make new again", which implies prior newness. He says the "tension is resolved", the latter word is borrowed from Latin re-solvere meaning "to untie or release again", here in the sense of release from the tension, and implies a prior freedom,
then a tension, and in the third element, a representation of synthetic resolution and synthetic unity.

This issue of the synthetic unity of thirdness will remain a constant theme throughout the rest of this essay, for the question of whether it is the logical type of thirdness or the logical type of firstness that is dominant is the essential issue at stake here. Let us now return to consider Jung's description of the development of secondness from firstness.

At the level of firstness, there is only one. In the transition to secondness, the second element must come from the first, since the first is the one and only one. Thus from the point of view of firstness, there are not two elements but two parts of the same original unity, like one's arm is part of one's natural self, but from the point of view of secondness, in fact, what constitutes secondness, is the struggle of the second to attain an existence independent from that the first, of which it is actually a part.

Jung correctly recognizes that we can call it "the second", since the name "the second" correctly attributes to that element the property of being second, or we can call it "the other", since that term necessarily presupposes that there is a prior "one" in relation to which "the other" is what it is because it is "the other". However, his use of these terms in part 2. seems to imply that they are of equal standing, whereas the term "the other" is logically prior to the term "the second", because the latter term is a concept of number and the concept of number is conceptually subsequent to that of otherness. Jung noted, as did Peirce also, that in many languages the same word is used for both concepts. Neither of them point out that the relationship is asymmetric, in that otherness is prior to secondness. It is not quite correct to say that "in many languages 'the other' and 'the second' are expressed by the same word", but more precisely, "the word for 'the other' is used for 'the second' until a distinct word is developed for the latter concept. There are many languages, such as English used to be, where the word for "other" is used to mean "second" and there is no word meaning exactly the "second". Then English borrowed a separate word, the word "second", from French to refer distinctly to the numerical concept of secondness. But, the opposite sequence does not happen. That is, there are no languages in which the numerical concept of "second" is used to refer to "otherness". And there can be no language which has a word for "second" without having a word for "other". We will discuss this relationship more fully in Section 3., but the point for now is that the essential underlying character of the second element is otherness, and not that of numerical sequence.

The relation of the second type consists of two elements in an orientation of opposition of a precise type, which will also be discussed at length in Section 3. This relation is enacted in the dynamic, which Jung called "tension" and Peirce called "struggle" and, as the phenomenological type of being in secondness is that of physical substance, it is a physical tension and physical struggle that we are talking about here, not abstract conceptual relations, but brute physical conflict.

It is this dynamic of opposition which most dramatically distinguishes secondness from firstness and thirdness. By contrast, in the natural state of firstness there is no struggle or tension, and no movement, in the sense that a state of satisfaction and wholeness does not necessitate movement. And, at the level of thirdness, there is also an absence of movement, but here it is in the character of rigidity and restraint, as a triangular structure is rigid and inflexible when compared with a linear one.
The characteristic dynamic of tension and struggle consists of several components. First, there is an exertion of force, and in the type of secondness, as Peirce puts it,

*The type of brute force is the exertion of animal strength. (1.429)*

Second, due to the orientation of opposition, as the terms "tension" and "struggle" imply, nothing seems to happen so long as the forces in opposition are equal. However, as Jung also said, "every tension culminates in a release". That is, sooner or later, one of the forces in conflict will be exhausted and collapse and a sudden, unpredictable, surprising, and more or less violent episode of movement will take place. Thus the dynamic of secondness consists of two phases: a phase in which the other prevails in sustaining its otherness in opposition to the unity of oneness, temporarily, in which there is a tense, static, struggle of conflicting forces; and, a phase in which the other becomes too exhausted to continue to exert the force by which it sustains its identity as an other, which consists then of a sudden violent collapse of the struggle to oppose, and with this collapse the conflict evaporates.

I probably should make it clear that what we are talking about here is not all types of tension and struggle, but about the type of secondness, as distinct from the type of thirdness. Obviously, if two men are fighting, the dynamics of that struggle will be considerably different, for the two elements in conflict in that case would be of the same type. But the struggle here is between two different types; it is a struggle between the first and the second. One must not confuse symmetrical struggle, which is of the type or thirdness, with asymmetrical struggle, which is of the type of secondness. Obviously they are related in that thirdness includes secondness. And from this it follows that the symmetric struggle of thirdness is governed by the underlying logic and the underlying dynamics of the asymmetric struggle of secondness, which is governed in turn by the logic and dynamics of firstness. To put it in other words, the logic of firstness is that of strategy, the logic of secondness is that of tactics, and the logic of thirdness is that of game-like drama. As is well known, strategy is a matter of position, which dominates tactics in the government of struggle. And, tactics is a matter of brute force, which dominates symbol governed game-like interactions.

Returning to our analysis of the dynamic of the type of secondness, that of struggle, note that Jung says in 6. that "the Other pushes itself away from the One". This is the only possibility available to the other. It cannot pull, because there is no other prior place to pull from. There is only the one from which it can push itself away. Now, in principle, a push away can be replied to with either an opposing pull toward or a complementary push away. In this case, it is obviously opposed by a pull toward. As Jung put it the "One will not let go". We thus have the picture of the other pushing away from the one and the one pulling toward the one. Notice that the orientation of the opposition is governed by the position of the one: the other pushes "away from the one" and the one pulls "toward the one". The one thus holds the strategic central position in regard to the orientation of the struggle, which invites us to describe these two forces as centrifugal and centripetal, moving away from and toward the center respectively. This then brings us to the image of the circle in terms of which we will describe the orientation of opposition in Section 3. as asymmetric radial opposition of secondness as opposed to the symmetric diametrical opposition of thirdness.

Perhaps one might think that it makes no sense in physical terms to speak of centripetal force as being prior to centrifugal force, but in typological logic it is necessarily so. Whether it makes sense in the scientific theory of physics has no bearing on the matter, because firstness is not within the realm of physics by definition, because physics is the
science of the physical, that is, the type of secondness. Therefore, that discipline of study is not in a position to judge the force of firstness. But in typological logic, the first is necessarily prior to the second, and the essence of firstness is unity, and thus, the nature of unity necessarily is prior to the nature of secondness, which is the urge for separateness. From this it follows that in the struggle of secondness the centripetal force must be prior to the centrifugal force.

It is interesting to consider the etymological origins of these two words. The latter word, centrifugal, was borrowed from Latin word which was composed of centrum meaning "center" and fugere meaning "to flee", thus it means "to flee the center". The former word, centripetal, also comes from Latin, the first part being the same, and the second part from petere, defined in the dictionary entry under "-petal" as "to seek", from the Indoeuropean root pet-1, which is said to have meant "to rush or fly". The same root appears also as the base form of Latin pro-pitius, which was borrowed into English as "propitious" and "propitiate". "Pro-" means "in favor of" as opposed to "con-" which means "against". It also means prior, according to my dictionary, in the sense of "before in time or position". Also according to my dictionary, the word propitious was "originally a religious term meaning 'falling or rushing forward,' hence 'eager,' 'well-disposed' (said of the gods)". The same root is in Greek potamos meaning "river" i.e., "rushing water" and in reduplicated form in piptein meaning "to fall". Thus in summary, the basic and original sense of "centripetal" is "to rush or fall (like water) to the center".

Jung says that the One "seeks to hold" and "will not let go of the Other". This might be thought to imply that the struggle is symmetrical, and it is not clear from his statement exactly what he has in mind about this crucial question, although he does distinguish them by saying that the One "seeks" and the Other "strives". However, in part 1. of the quote he says "another appears alongside the one". In this expression he is clearly suggesting that they are in the symmetrical relation of being side-by-side. We will explore the nature of these two forces further in terms of Peirce's description in a moment, but just to make the issue clear, in this prototypical struggle it is logically impossible that the struggle could be symmetrical. If the first is induced to struggle in order to maintain its unity by the dynamic thrust of the second, then the nature of the first would be contingent on the nature of the second, and it would no longer be the first, but another second. In other words, if the second can force the first to struggle to maintain its nature, then, since struggle is the nature of the second, the second can force the first to be a second, in which case, the first would not be the first.

To get a clear idea of the relationship, probably the best analogy to consider is the physical relationship between man and the earth. In a simple minded sense, the most natural position for a man or, an animal, is to be on the earth. It is from the earth that life grows and it is easiest and safest for a man to stay on the earth. Of course, a man, or an animal, can push his physical body up away from the earth, he can jump up in the air, or climb a tree to attain a secondary position of upness, but he attains his position of upness by exerting muscular force and in doing so he positions himself in conflict with the force of

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17 I am using The American Heritage Dictionary of the English Language, 1969 edition, because it is an ordinary non-specialized dictionary, it has extensive etymological information, and because I have it at hand. It should be noted that there is a good deal of cooking of the socially undesirable implications of words, as there is in all dictionaries. For this reason, it is sometimes necessary to dig a little to find the underlying sense of a word.
gravity, against which he must continually exert muscular force to maintain his secondary unnatural position of upness, and he must guard against the continuous possibility of falling back down to his original position on the earth. And there can be no end to the need for vigilance and exertion of muscular force until he returns to his original position on the earth. Sooner or later, as the saying has it, "Whatever goes up, must come down."

In this situation, it would be perfectly proper to say that a man "struggles" to attain and to maintain a position away from and separate from the earth, that is, to be one up. But it would be ridiculous to say that the earth "struggles" to pull him down. He struggles, but the earth does not struggle. Nevertheless, there is a tangible and powerful and practically inescapable force which propels him down. And if you look at the relationship in a large enough perspective, it is obvious that the geometrical orientation of force is centripital. And, it is also perfectly proper to say that this centripetal force of gravity is chronologically prior to the muscular force which opposes it. And, it is also proper to say that a man opposes and resists the law of gravity, but not that the law of gravity opposes and resists man. Man opposes and resists the prior nature of brute physical substance. Man resists nature, nature does not resist man. Thus in the type of secondness, in its characteristic of conflict and struggle, it is the subsequent which resists the prior, but that does not necessarily imply that the prior symmetrically resists the subsequent. The symmetrical implication is only a function of the logic of thirdness, and is obviously not consistent with the nature of physical dynamics.

In terms of the concept of gravity, it is not really the earth alone that is the locus of the centripetal force of gravity; the force is a relation between the physical body of a man as a physical mass and the earth as a physical mass, a force which propels them together. Thus, we can say that when a man strives to take a separate position away from the earth, the conflict that is set in motion is entirely within his own body; his muscles propel him up but his whole body, including his muscles, as a physical mass is propelling him down. So in the last analysis, he is struggling with himself.

Of course, man is capable of constructing structures by means of which he can attain a position of considerable height. And he is capable of building hot air balloons and airplanes in which he can attain positions of great height and move rapidly above and across the earth. And, it is quite possible for a man to jump off of one of them from a great height and to attain a short period of release from the demands of the law of gravity and be free of the earth for quite a long time before he finally comes down. But sooner or later he will come down one way or another. And all such structures and devices will also collapse and come down sooner or later, one way or another. Unless one attains some sort of hyperspace, which in physical terms would be the empty alienation and lifelessness of outer space, or in mental terms it would be the equally empty alienation and lifelessness of the inner outer space of catatonic schizophrenia. Of course, the ultimate escape is death.

In terms of the gravitational example of the relationship between firstness and secondness, it is clear that there is tension, struggle, and conflict in the brute being and brute force of the type of secondness, and yet the first, having been from the beginning in a position of typological priority, does not struggle. This type of orientation and dynamic is also clear in the ideas which Peirce uses to describe secondness, although in some places he does seem to imply that it is a symmetric struggle.

*We live in two worlds; a world of fact and a world of fancy. Each of us is accustomed to think that he is the creator of his world of fancy; that he has but to pronounce his fiat, and the thing exists, with no resistance and no effort...*(1.321)
But,

We are continually bumping up against hard fact. We expected one thing, or passively took it for granted, and had the image of it in our minds, but experience forces that idea into the background, and compels us to think quite differently. (1.324)

In the idea of reality, Secondness is predominant: for the real is that which insists upon forcing it way to recognition as something other than the mind’s creation. (1.326)

The second category of elements of phenomena comprises the actual facts...we feel facts resist our will. That is why facts are proverbially called brutal. (1.419)

The relation of secondness is a relation between two worlds, two points of view: The world of brute fact and the world of the imaginary. We sometimes are in one and sometimes are in the other. When we are absorbed in our imagination and thereby escape from the real world, a brute fact of the real world will sooner or later bump or strike against our senses to force us to realize it as something that is inconsistent with our imagination. This conflict and the on-going struggle between the world of the imaginary and the world of the real is the dynamic of secondness. The world of brute fact is the manifestation of firstness in the type of secondness and the world of the imaginary is the essence of secondness itself. In Peirce’s typology of signs, the prototypical sign is the perceptual image. It is obvious that the relation between a brute fact and a visual image is inherently asymmetrical. An image is in itself not a real phenomenon at all. It is an entirely dependent epiphenomenon consisting of no substance and having no force whatever. In its simplest manifestation, it is best exemplified in the concept of a mirror image, as when one looks at the image of one's self in a mirror. There is a real physical brute being on one side and a completely imaginary image on the other side. The image comes and goes as a function of the real brute being and is not even capable of manifesting itself as an image independently.

Thus an image in itself is not capable of bringing about any brute event or of having any effect in brute fact. It is when a person retains an image in his memory that it takes on a kind of independent existence. It is not, or course really independent, for it is now parasitic upon the brute existence of the self, but now it appears in the internal reflections of the memory rather than in the external mirror of actual brute perception. Now, when one wants to escape from the brute facts, one can call forth more pleasant images, more or less at will, and fix one's attention on those more pleasant images. However, in doing so, the mind's eye being occupied by those remembered images of absent objects, one is incapable of perceiving the real brute facts which are present, and one can bump into those brute facts, sometimes with great force.

The conflict is not, therefore, engendered by the image itself, but rather by the retention of images in the memory and the willful investment of one's present brute being in those images of the past at the expense of the brute being of the present. In short, the conflict is a function of the will to escape from firstness, and the will to escape from the prior is precisely the essential character of secondness.

So where Peirce says that "we feel facts resist our will" in the quote above, that is how it appears from the point of view of the imagination. The imaginary does not represent itself as the imaginary, but it rather puts itself foreword as the real, and must actually be taken as the real. If it were not taken as the real, there would be no point in dwelling on the imaginary in the first place. The ability to escape into the imaginary and to gain pleasure from that escape is technically a hallucinatory experience, and the pleasure so gained is hallucinatory pleasure, and the reality of the imaginary is hallucinatory reality.
Therefore, it is incorrect, except from an imaginary point of view, to say that "facts resist our will", for in fact it is our will which resists the facts.

Therefore, in so far as perception of brute fact is concerned, there are two possibilities. It is possible to perceive a fact as a spontaneous raw image, after the manner of a mirror, in which case there is no remarkable sensation of facticity in the experience. There is nothing striking about such a perception and consequently we would not even be inclined to call it an experience.

Normally, however, what we perceive in our mind's eye is more or less cooked, symbolically, and thus is more or less at odds with what is really there. And in addition, we are often more or less absorbed in sheerly alienated images of the past, and thus not in perceptual contact with our real physical environment at all. When the images that we are occupied with are in conflict with the brute facts, then those brute facts strike upon our senses with force which compels us to withdraw our interest from images of the past and recognize the brute facts of the present. It is from this point of view that Peirce describes perception as being an experience of external and alienated reality.

the sense of externality in perception consists in a sense of powerlessness before the overwhelming force of perception. Now the only way in which any force can be learned is by something like trying to oppose it. That we do something like this is shown by the shock we receive from any unexpected experience. It is the inertia of the mind which tends to remain in the state in which it is. (1.334)

It should be noted that when he says that this is "the only way any force can be learned", he is speaking of learning from the point of view of secondness. That is, when one is absorbed in the imaginary world, because of the inertia of a state of mind, the normal way change of the state of mind comes about is through opposition, which results in conflict, the striking effect of brute force, and the experience of shock. Such learning is not therefore a positive product of will, but rather on the contrary, the conflict and shock which typically accompany the recognition and learning of a brute fact is created by the willful position of oppositional orientation. Thus Peirce observes that

that which particularly characterizes sudden changes of perception is a shock. A shock is a volitional phenomenon. (1.366)

When anything strikes upon the senses, the mind's train of thought is always interrupted; for if it were not, nothing would distinguish the new observation from fancy. (1.431)

the fact fights its way into existence; for it exists by virtue of the opposition which it involves (1.432)

the existence of fact consists in fight (1.435)

Let me reemphasize that this striking character of fact is the experience of fact at the level of secondness. The character of fact as fighting for recognition is not an intrinsic property of fact in itself, but is a consequence of our willful flight from the world of fact into the world of the imaginary. The orientation of opposition is a function of the will to establish a separate existence. This is the essence of the second element, and it is this will which instigates the thrust of opposition, the resulting dynamic of conflict, and the striking shock of the realization which accompanies the break through of the brute fact into the world of the imaginary, and the collapse and flooding out of that world.

This shock and collapse is what gives the experience of "getting it", as in getting a joke, the sudden and dramatic effect that it has. This shock and collapse is not an inherent or necessary characteristic of knowledge in general, of the knowledge of brute physical fact...
of secondness, or of the phenomena of firstness, but as we all are already absorbed in the 
worlds of symbolic thirdness and imaginary secondness, it is practically impossible to 
avoid the shock and collapse which accompany the normal learning process. But, on the 
other hand, getting it is a very enjoyable experience.

As a final point about the nature of secondness, I would like to address the question 
of the position of the imaginary in relation to reality. It is commonly supposed that the 
imaginary is entirely unconnected with reality, with the consequence that it is totally 
ungoverned by any law. Under this assumption, one might speak of something outlandish 
and unintelligible as being "purely imaginary", as if it were out of this world. But in fact, 
there is no such thing a pure imagination; it is inherently anchored, though perhaps at some 
distance, in the prior grounding of the reality of brute fact.

In origin, every image is the product of raw perception. And in general, if one has 
not directly perceived a certain object, it is not possible for one to have an image of it. It is 
certainly possible to have an idea of something which one has never seen, but an idea is 
ot an image. An idea is a phenomenon of thirdness, the conceptual portion of a symbol 
and, although an image may be part of an idea, there are ideas which have no associated 
image, and correspond to nothing in the brute reality of secondness, such as negation for 
example. But, there can be no image which does not originate in the striking perception of 
an actual brute fact.

There are two apparent kinds of exception. One exception, is that one can have an 
image of something which one has never seen by seeing an image which has been 
externally reproduced in some physical medium. For example, one can have an image of a 
turtle from seeing a photograph or drawing or statue of a turtle. These third objects are 
externally reproduced representations of the perceptual image of a turtle. They are 
secondary images of a turtle reproduced from primary perceptual images of a turtle. Thus, 
the image which one derives from seeing an image of an image is still grounded in an 
original raw percept of a turtle.

If one tries to imagine something which one has not seen, what happens is that the 
images one comes up with are derived from prior images either by topological distortion or 
by cutting parts of different images and putting them together. For example, the image of a 
dragon was created by putting together parts of the images of a lizard, a snake, and a bird, 
and adding some fire. The image of a unicorn is that of a horse with a horn attached to its 
head. In ancient China, they had heard of the lion, but since they are not indigenous to that 
area, they had never seen one, so the traditional image of a lion was derived from that of a 
particular kind of dog. Peirce cites the example of a centaur, which "is a mixture of a man 
and a horse. Thus these "imagined" images, and all other images, are firmly grounded in 
the brute reality of secondness and therefore, as vehicles for the desire to escape from that 
brute reality, they are not very effective.

One might have observed, however, in the course of this discussion, that when an 
image becomes independent of the object of which it is an image, either through the 
exertions of memory, or through the exertion of creating external embodiments of images, 
or in the exertion of creating new images, the image has become a third element in the 
relation between the observer as the second and reality as the first. Yet no image can be 
completely independent, as I just explained, since to be an image it must be connected by 
actual perception of an actual brute fact. And, they are not genuine mediating elements, in 
that the image does not govern the relation between the second and the first, brute force
does. Peirce thus distinguishes the incipient thirdness of the function of the relatively independent image by calling them "degenerate thirds" or "analogical thirds". We will consider this intermediate analogical stage between secondness and thirdness below in several places.

The function of the imaginary in the logic of secondness is not necessarily as a semi-independent third element, as long as images remain purely epiphenomenal mirror-like perceptions. But when they become partially independent residents of the memory, they tend to engender conflict and the episodic phases of tense struggle and violent collapse which is the characteristic dynamic of secondness. This state of incipient thirdness is still anchored to the ground of firstness, above which it hovers in a kind of suspended animation, neither able to settle down to the ground of firstness, nor able to attain the symbolic independence of true thirdness. It is an inherently unstable transitional state, violent, and ungratifying, for which reason it is the fulcrum and turning point between the natural stability of firstness and the synthetic restabilization thirdness, which is finally attained in the logic of the independent element, the symbol.

2.2.2 Thirdness

In this section, we will move on to an examination of thirdness, though, of course, we will not be leaving firstness or secondness behind, because the character of thirdness is derived from the underlying foundation of the logically prior types of relations and it can consequently only be understood as it emerges in opposition from secondness.

Since the third type is developed from the prior type, the transition process extracts and divides out yet another element and thereby adds to the number and multiplies the complexity of relationships. The multiplication of complexity can be seen by considering the fact that each of the three elements has a distinct character: the first element (unity), the second (opposition and division), and the newly created third element, which symbolically mediates between the first and the second. In the type of secondness, there are only two elements and thus only one relationship; In the type of thirdness, there are three elements and thus four relationships.

Because of the escalating complexity of thirdness, and because an understanding of thirdness does not play a critical role in the argument I am pursuing here, I will not go into it as comprehensively as I have done in the case of secondness. I intend to follow out the implications of these properties of Peirce's typology for language in another place, but here I will just try to trace out the skeletal concept of thirdness in order to provide a sense of the organic coherence of his system of logic and to lend it some feeling of substance.

As we saw in Section 2.1, thirdness is the logical type of the symbolic sign, where the third element introduces and performs the symbolic role. Looking at thirdness with the idea of the symbol in mind, probably the most salient functions of thirdness are those of mediation and representation. I take it for granted that the sense of representation intended here is obvious, but the concept of mediation invites the image of spatial middleness, of being physically between the first and second, as "Philadelphia lies between New York and Washington". (1.367) It will be important to keep in mind and consistently distinguish this apparent relation of thirdness from the genuine relation of thirdness.

It is true that there are three elements in this example, and it is true that Philadelphia is more or less in the middle, but these facts are coincidental in so far as the character of the three elements as cities and the relationships between the elements as cities is concerned.
This is an example of the same kind of degenerate third which we saw in the end of Section 2.1, a relation which is only an analogy of thirdness, in superficial appearance. Technically speaking, it is a mere image of the relation of thirdness, as distinct from an actual instance of it. A simple and clear instance of the character of both mediation and representation in the type of genuine thirdness can be provided in terms of the relations between points in geometry, which is of course a representation of symbolic logic in hypothetical space, hence a creature of thirdness. Peirce observes that it takes at least three points to establish the idea of lawfulness. Any one point cannot possibly be lawful and can thus be interpreted as an accident. Any two points are said to define a line in geometric terms, but in terms of intent, since any two points define a line, the placement of two points might be coincidental. However, if two points do define a line, and one places a third point on that same line, then that third point converts the relation between the first two points from that of possible coincidence to an intentional and lawful relation. This is an example of how the third mediates, represents intent, and manifests lawfulness.

The third category of phenomena consists of what we call laws when we contemplate them from the outside, but which when we see both sides of the shield we call thoughts.

Peirce places great emphasis on the fact that the character of thirdness is law, as distinct from the brute fact character of secondness, and as distinct from the qualitative character of firstness. But in saying that thirdness consists of laws, he does not mean to imply that there is not lawfulness in secondness and in firstness. The point is that thirdness consists of laws of a particular kind, and nothing but those laws. There is lawfulness of both firstness and secondness also, thus there are laws of firstness and secondness, so these three senses of law must be sharply distinguished accordingly.

I would suppose that one thing is clear about these senses of law, and that is that the lawfulness of brute fact is the subject which concerns the hard sciences, for which reason it is felt appropriate to call them "hard" sciences, and that the laws of the hard sciences are thus about the phenomena of secondness, and thus those laws have the kind of force that is characteristic of secondness.

A systematic characterization of these three different senses of law can be seen clearly in terms of the distinction between modes of interpersonal transaction.

3. The game is the transactional type of thirdness. It is played out under the government of systems of game rules or conventional laws, in the currency of symbolic tokens of value as established by that law, and in symbolically defined fields of play (or frames of reference) according to that law, with the purpose of attaining symbolic victory as defined by that law. These systems of law define a hierarchical structure of games within games within games, until you get down to language, which is the core and the foundation of this type of law. All games, the laws of games, and systems of games, are of the same logical type, namely, the type of thirdness. All law of this type refers entirely to other elements of the same type. So characteristically, any given game is itself a symbolic representation of value as interpreted within the laws of and in reference to a different or more encompassing games. For example, one might play football for the purpose of getting money, even though money is undefined within the game of football, therefore the play of football in this case represents money. And, money is defined within the laws of the money game, but not in reference to other types of phenomena. To transform money into real brute value one must go outside of the system of game-like law, as to the market place, for example. Or, one...
might play football for the purpose of avenging a previous loss in basketball. But, one would not play football for the purpose of killing someone, for it is against the rules. One might use the playing of football as camouflage to hide that fact that one is killing someone, but using a game as camouflage is not playing the game. It is pretending. And killing is not the type of a game, because death in a game is not final death. You can always hope for overtime or a rematch.

2. **Tactics** is the transactional type of secondness. It is played out under the government of the physical laws of brute force, in the currency of brute strength, speed, blood, and other physical substance, and ultimately actual death, as standards of value and of victory. Here, victory is temporary and is rewarded in physical currency, but death is final. It is played out in the arena of physical space and time.

1. **Strategy** is the transactional type of firstness. It can hardly be called interaction or play in the usual sense, for which reason it is somewhat boring. There is only one dynamic, entirely a function of the priority and hence, superiority, of positional orientation, and directed entirely in one direction, toward the single object of bringing about the cessation of conflict through collapse of the structures of opposition, culminating in the consummation (or, with characteristic conventional ambiguity, consumption) of oneness, and the corresponding quality of satisfaction.

Thus the laws of thirdness are of the order of the laws of games. This does not at all imply that games are devoid of tactical and strategic content, any more than the third element in a class can be the third without the prior presence of the first and the second. However, in as much as the system of games is a structure which is imposed on the underlying dynamics of secondness and firstness, it has the inescapable effect of restricting, inhibiting, and debilitating those prior modes of transaction. This effect is not accidental, for the whole driving force of thirdness is to govern and symbolically mediate the brute forces of conflict which we saw are characteristic of secondness.

Of course, it is intrinsically impossible for a symbol to directly impede or deflect or manipulate or govern the brute forces of secondness. But the effect of the symbol is not entirely symbolic. The symbol is an indirect mechanism of control which can have an effect in the dimension of brute force through the intermediary function of the mind, and for the most part, only the human mind. The symbol can only affect the dimension of brute fact through the brute strength of the body of a human being by bringing about the voluntary subordination of that brute strength to the strictures and demands of the social contract, which consists of laws and conventions, which are physically manifest and embodied in the symbol itself.

The symbol strives to bring about the end of conflict by mediating between the first and second, literally, with the intention to eradicate the conflict. What I mean by this latter phrase is that the transition to thirdness is brought about by trying to eradicate the root of the conflict by substituting in its place of perception in the mind's eye a representation of the intention to make the conflict cease. In this way, one can only see the representation of

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18 From Latin *ex-radix*, "to pluck out the root", the root of the word being *radic*, as seen in English "radical" and "radius".
the intention, which is a more palatable object than the gross carnality of the actual brute conflict.

The symbolic type of relationship is derived from the state of secondness, first, by intending to eradicate, to banish, to cut off, to annihilate, or otherwise get rid of the living quality of firstness, which is seen as the root of the problem because it defies willful, or, perhaps better is, wishful and imaginary, manipulation and control. The aspect of firstness which is retained is the cooperative part, the tame part, the part that can be easily harnessed and manipulated at will, which is the raw images. These raw images must then be properly cooked to transmute them from mere raw images into completely independent ideas, then, voila, they can serve as substitute synthetic symbolic substance, much more in keeping with the idealized niceties of the dinning room of the mind, than the beastly, brutal, smelly and bloody stuff served up by nature. As the crux of the process of liberating an image from its relation to its original source and transmuting it into a proper idea, it is provided with a substitute embodiment, preeminently in the form of a sound image in language, and through this synthesis, it becomes a symbol.

In this way, the symbolic process brings about an apparent resolution of the conflict which was previously engendered by the move to secondness; it is a resolution to the extent that one's attention is absorbed by the symbolic representation of the conflict, which is to say, to the extent that one's attention and perception is absorbed in the games. However, the conflict does not really go away; it is just hidden below the surface of symbolic transaction which now intermediates between our mind's eye and the brute facts, from which place of hiding those unpleasant realities continually threaten the symbolic facade of intended resolution by their mere existence, and they intermittently burst through that facade with an unexpected and, consequently, all the more intense and striking violence.

Symbolic mediation does not resolve the conflict of secondness, but represents the intention to resolve that conflict. It declares that the conflict will be resolved, and in the meantime, it distracts our attention to the symbol which literally re-presents the conflict in symbolic form. This is the essence of the overall social contract, to which we all have subscribed and to which we will return shortly.

Let me try to show how these complex factors are interwoven in the fabric of thirdness in some examples. Some aspects of the transition from secondness to thirdness can be clearly seen in Peirce's discussion of what he calls "accidental thirds."

"How did I slay thy son?" asked the merchant, and the jinnee replied, "When thou threwest away the date-stone, it smote my son, who was passing at the time, on the breast, and he died forthright." Here there were two independent facts, first that the merchant threw away the date-stone, and second that the date-stone struck and killed the jinnee's son. Had it been aimed at him, the case would have been different; for then there would have been a relation of aiming which would have connected together the aimer, the thing aimed, and the object aimed at, in one fact. (1.366)

This example brings to light the critical element, intention, which is the third element, the one which constitutes the ground of the relationship between two facts and thereby elevates them to the order of a relationship of thirdness. He goes on to point out that

Nature herself often supplies the place of the intention of a rational agent in making a Thirdness genuine and not merely accidental; as when a spark, as a third, falling into a barrel of gunpowder, as a first, causes an explosion, as a second. But how does nature do this? By virtue of an intelligible law according to which she acts...Thus, intelligibility, or reason objectified, is what makes Thirdness genuine. (1.366)
In both of these examples we see the concept of law; in the former example social, or symbolic, law and in the latter the natural brute-fact law of the hard sciences. In the terminology of the hard sciences, the third element in terms of which the validity of law emerges, is "cause". The corresponding element in symbolic phenomena we call "intent." Thus, we say that a natural phenomenon is caused, but a symbolic phenomenon is intended.

It is the essence of thirdness to not only intend, but also to express intent through the form of symbolic embodiment. To be genuinely symbolic, an act must be intended, (in fact to be an act at all, it must be intended, for if it is not intended, then it is an event) and to achieve its end the intent must be conveyed, and to be conveyed it must be manifest in some tangible form or other. If one seeks to act symbolically, but fails to manifest or convey intent, then the act will fail as a symbolic act. Thus, corresponding to causality as the mode of force in secondness, the mode of symbolic force is that of intent, through the embodiment and representation of that intent.

Another characteristic of the symbolic is a persistent and systematic tendency to fuse, or con-fuse, intent with cause, even though cause is obviously and unquestionably a prior and distinct phenomenon of secondness. The intent of this confusion is to imbue intent with the force of cause, and thus to equate the law of thirdness with the law of secondness. But, of course, intent cannot possibly be anything more than the symbolic counterpart of cause, and cannot, in brute fact, have the force of cause.

Another difference is that nature does not represent causes independently of the events which the cause causes. The events are allowed to speak for themselves. They just happen and that's all there is to it; When we eat we become gratified, but the gratification is not independent of the eating; it is intrinsic to eating. But the symbolic is symbolic precisely because its job is not a function of what happens to the embodiment of the symbol, or of what the symbol does, but of what the symbol represents. The embodiment of the symbol is a dispensable object in so far as its intrinsic value and function is concerned; to be a symbol an object must be something the intrinsic value of which you are willing to dispose of and subject to the extrinsic symbolic function of representing something else.

Peirce points out that the word "symbol" comes from Greek symbolon, meaning "to throw together", and that it was used in Greek

very frequently to signify the making of a contract or convention (2.298)

It is very interesting to consider the conventional law of thirdness in terms of the concept of a contract. It is inherent in the concept of a contract, including the abstract and general social contract, as well as any more particular contract, such as a legal contract, that the two contracting parties must intend to enter into a contract with each other. The terms of the contract establish a commitment to undertake certain behavior or to bring about certain events in the future. This brings up in passing the fact that the dynamic thrust of thirdness is entirely in the future, just as that of a contract is.

The behavior or events which fulfill the terms of the contract, being in the future, are thus necessarily absent at the time the parties enter into the contract. And, since intent is by its nature not perceivable, the only elements of the contract which are necessarily present in tangible form are the two parties entering into the contract.

Now, the terms of the contract require the exchange of something of value, which necessitates a loss of something by one party to the corresponding gain of the other, and vice versa. This relation can be described as a contingent loss, being contingent on the
anticipated compensatory gain, which both parties judge to be in some way to their benefit in the end. But such contingency implies the possibility of failure, which would result in incurring the loss without realizing the hoped for compensatory gain. Thus there is an intrinsic element of risk of loss in entering into the contractual relationship. The extent of risk is a function of the parties’ intent to perform the terms of the contract.\(^\text{19}\) Therefore, given that both parties want to enter into the contract, in order to overcome the doubt of the intent of the other in relation to the inherent risk, it is in the interest of both parties to overtly manifest their intent in some tangible medium, which then is the third element, the tangible embodiment of intent.

In legal contracts, one can see that the ideal, fully developed expression of a contract is where there is a specific tangible expression of intent. In modern times, once again ideally, intent should be in the form of writing. However, even in our highly developed and formal law, though ideal, an explicit manifestation of intent is not necessary at all, because intent can be inferred from other acts as judged within the frame of reference of an implicit contractual relation.\(^\text{20}\)

One kind of exception to the ideal is this. If a person goes into a restaurant, orders and eats a meal, he would be held to have entered into a contract and be obliged to pay for the food he ate, even though he did not directly express his intent to do so, because the terms of the contract are implicit in the nature of a restaurant business, and a man who is not insane or otherwise exempted from knowing that, is held to have intended to have entered into the contractual relationship by having accepted and consumed his part of the contractual gain. In this case, he is assumed to have intended to eat, which, given the implicit conditions, constitutes tangible manifestation of intent.

However, strictly speaking, eating is not an expression of intent in this case, but rather it is the consummation of the terms of the contract by one party, i.e., enjoyment of gain.\(^\text{21}\) The food is a present tangible manifestation one of the terms of the contract and thus indirectly plays the role of the embodiment of intent, the eating of which consummates the contract and places the eater under obligation to reciprocate.

Another deviation from the ideal form of the contract can be seen in the concept of token payment. In this case, in the absence of an independent tangible representation of intent, the performance of a small part of the terms of the contract, even the smallest possible part, is taken as an indirect manifestation of intent. Thus, if one party pays even one dollar toward a future contractual obligation of a million dollars, that act implies intent. On the other hand, if he did not pay anything at all, it would not be proof of absence of intent, but it does cast the question of intent in doubt. And, conversely, if the other party accepts one dollar as a token payment, that acceptance is an indirect manifestation of his

\(^{19}\) I am disregarding ability, though it is obviously as important as intent, because intent without the corresponding ability is infelicitous intent.

\(^{20}\) I would like to mention that it is a nearly universal error to assume that all exchange must be contractual. For example, in the classic on exchange, The Gift by Mauss, he explicitly states that all gifts imply prestation, which means their acceptance necessarily implies intent, and hence obligates one to reciprocate. But, the implication of intent only holds at the level of thirdness, where everything is taken to be symbolic, which implies in turn that every gift is a token of contractual obligation. However, not everything is merely symbolic, even though the social contract obliges us to take them as such.

\(^{21}\) And for this reason, all enjoyment is exposed to symbolic evaluation and can be mitigated by the contractual obligation that is implicit in the very fact of enjoyment. But not all enjoyment is symbolic, though the social contract would like to have us think so. See note 3.
intent, and he will be obliged to reciprocate in the future. If he actually refused to accept payment, as for example, if he returned an offered check for one dollar, that would be a manifestation of his intent not to enter into the contract in question. Here the one dollar is the third element.

In the case of the general social contract, no one signs any contract, or is even asked about his intent, nor is it normally even a question to be considered. Every normal person is held to be obligated to obey the terms of the social contract. One can, however, consider the implications of this obligation in relation to the matter of intent. It seems evident that intent is manifest with respect to the social contract in both of the preceding ways. If someone who is not a child, or insane, or a foreigner, or otherwise exempted from the presumption of contractual knowledge, partakes of and enjoys any of the benefits offered by society, he can be taken as manifesting the intent to submit to the terms of the contract. And, if he performs any of the obligations of the contract, even in the smallest possible way, he is also taken as manifesting the intent to submit to the future demands imposed by that contract.

Thus in these two ways, every word that one speaks is a symbolic representation of intent to submit to the social contract. But, it must be made clear that we are not yet talking about a word as an independent representation of intent. Here a word is being taken as an indirect manifestation of intent in the two ways outlined above: A word is a small institution of society which we use for our advantage and pleasure, and at the same time, in that our use of the word conforms to the demand of the social contract, that conformity constitutes a payment of token obedience to the terms of the contract, the balance of which will be payable throughout the future. Here the word as a term of the contract is the third element, embodied in the physical substance of sound.

Returning to the consider the ideal case, where the terms of the contract are not physically manifest in the present in any way, the intent must be manifest independently. The expression of intent must be made manifest in an object which is independent of and extrinsic to the terms of the contract. This necessitates the introduction of a third entirely extrinsic object in the present, along with the presence of the two contracting parties, to serve as the third element, the embodiment of intent. Whatever object is chosen, will have to be a concrete physical entity or substance, which is already in existence at the time the contract is being made, and will of necessity have some natural intrinsic value of its own. In order to serve as the representation of intent, which is extrinsic to the nature of the object itself, its own nature must be discounted and disregarded. In short, its intrinsic value must be sacrificed so that it can function as the symbol of intent.

Ideally, as can be seen in traditional contracts, the dedication of the object to its symbolic function is enacted in its destruction in one form or another, by killing it, or at least cutting it so as to draw blood and leave a scar as a permanent mark of intent. The destruction enacts the irreversibility of the intent. The loss of the object betokens the loss of the contract. And often this sacrifice is also the substance of ceremonial consumption, which indicates the future gain, and which unites the physical being of the two parties to the contract in the substance of the symbol of intention.

Every culture has many overt and obvious conventionalized symbolic enactments of intention through the sacrifice of an extrinsic object. For the most part, however, the various elements of this contractual relation have been confused in various ways and/or have been buried beneath the symbolic surface. Nevertheless, the implication of the above
line of reasoning is that all symbols are the enactment of contractual intent, and thus are structured to include all of the characteristics which I have mentioned. This generalization follows from the fact that all conventions, as well as all social law, are contracts. Admittedly, it is not easy to see all of these characteristics in all symbols, but in principle they must be there. The prerequisite to seeing them is to look for them.

The components of the symbolic enactment of intent can be seen more easily in less literate societies, where writing has not yet taken the place of conceptually prior modes of expressing intent.

To make a trade pact in Morocco, you have to do certain things in certain ways (among others, cut, while chanting Quranic Arabic, the throat of a lamb before the assembled, undeformed, adult male members of your tribe) and to be possessed of certain psychological characteristics (among others, a desire for distant things). But a trade pact is neither the throat cutting nor the desire... (Geertz, 1973, p. 12)

Note that "a desire for distant things" speaks to the futurity of the contract. And note also that in Morocco it is normal for the two parties to cook and eat the sacrificial lamb. Of course, although this describes a business deal, all of its components have been borrowed and are replicated symbolically in religious rites of our own culture.

A vast variety of forms and degrees of sacrifice of objects or of self-sacrifice are found in the various cultures of the world, including the sacrificial killing of human beings and the symbolic incorporation of the contractual intent by eating their bodies. Such lesser sacrifices as ritual scaring and circumcision are also enactments of contractual intent.

Many other examples can also be seen, if distantly, in the secular areas of our culture. It is common for the parties to a contract to eat and drink together, not only in traditional contracts like marriage, but also in straight business deals. On such occasions the sacrificial component is especially overtly expressed in the ostentation of excess: The functional pointlessness and wastefulness is addressed to the manifestation in the present of sacrificial intent, in compensation for the absenting from the occasion of the killing, the blood, the removal of other natural marks of life, such as hair and eyes and ears, and the cooking. The drinking of wine or stronger spirits (as the name implies) also is freighted with symbolic intent, and is on more formal occasions overtly voiced in the traditional ceremony of the toast. And on some occasions, the vessel which conveys the drink is destroyed by throwing it away, ideally against a fire-place.

It is also noteworthy that the informal terminology of contractual negotiation and consummation are fraught with expressions of violence. Why do we say "to cut a check", but not "to cut a prescription", for example? What image does "cold hard cash" suggest, if not that of a deadly knife? What about "to strike a bargain"?

This brings us to the remarkable consistency with which the words for writing in English and related languages seem to have underlying etymological reference to various forms of violence. The word "write" itself comes from a common Germanic root, meaning "to tear, scratch", and in Old Saxon times "writan" still meant "to injure, cut". And the German word, though etymologically unrelated, "reissen", means "to injure, cut". The Greek word for writing comes from the root "grapho", which meant "to carve, cut"; "graptus" meant "a cut on the skin", and of course, the earliest medium in which writing appeared was the skin of humans and animals. And, finally, we can mention that the Latin root for writing is "scrib-" as seen in the English borrowings "inscribe", "scribe", "scribble", etc., which meant "to engrave, scratch".

Logic, Markedness, & Language
In another sense, Joan Didion spoke in an interview of the violence of writing, though in the sense she is speaking of, to a lesser degree, it is also true of speaking.

*Interviewer: You have said that writing is a hostile act; I have always wanted to ask you why.*

*Didion: It's hostile in that you're trying to make somebody see something the way you see it, trying to impose your idea, your picture. It's hostile to try to wrench around someone else's mind that way.* (Plimpton, p. 343)

When one considers the implications of the idea of force in language, it is obvious that it requires an object. And, the underlying sense of object is, as Peirce's graphic description of brute fact conveys, that the object is an object because it resists, it objects to being "imposed" on and "wrenched around".

As I have said, the symbolic mode of transaction induces a systematic confusion of these various elements, on which it relies for its appearance of effectiveness. Every object which is manipulated or manufactured by man is affected by the inclination to symbolize intent in order to cause something to become true. It is obvious that trees are sacrificed to make houses, furniture, etc. And that iron, rubber, plastic, and so on, are sacrificed to make cars, watches, blenders, etc. But we would not ordinarily speak of this as "sacrifice", but rather "use", because it is supposed that these objects are not the embodiment of intent, but rather essentially functional objects, with perhaps marginal features of a symbolic nature. However, it is obvious that a great deal of this stuff serves no important function at all, being exchanged, purchased, given, used for representational purposes.

Even something as seemingly functional as an automobile can be seen to represent a great sacrifice financially, which is usually not compensated for in terms of actual getting from place to place, which is its ostensible purpose. A great deal of going is merely a token, an expression of the intent to get somewhere, but usually an automobile cannot get us where we really want to get to. And the object itself is more or less overtly taken as a token of the personality of the owner and driver, expressing power, dominance, and control. Or, thrift, intelligence, and control. Or it can be a symbol of sloth, indifference, and lack of control. There is no question that the people who sell automobiles are convinced that people are more likely to buy them on the basis of their reputed symbolic values, far more than on their basic functional values.

The mentality that we might call the "marine theory" is a similar confusion of the sacrifice of intent with the effect of true cause. It is not the sacrifice of physical substance, such as the self-induction of pain, the loss of blood, or even death, which brings about the victory, or if it seems to, whatever victory is gained is at best mitigated victory, ultimately Pyrrhic victory. This is the confusion underlying the slogan, "No pain, no gain", which typifies this mentality today, but can be seen to be a persistent confusion which accompanies the symbolic frame of reference of thirdness. And there is generally predictable relation between level of self-sacrifice and level of social standing: The more sacrifice, the higher the social level and the higher the level of socialization. Delay of gratification, stiffness of demeanor, formality, and other modes of alienation of self are signs of degree of socialization and highly valued social behavior.

This generalization is manifest in language in the dimension of pragmatic indirectness and politeness.

*Shut up!*
is less polite, less indirect, less socially acceptable, and shorter, than,

Would you mind holding down the noise?

Compare also the relation between both form and meaning of pairs such as "guts" and "intestines", "eat" and "consume", "smart" and "educated", etc. This seems to suggest that speaking is a form of sacrifice.

In order to describe the sacrificial character of speaking, it will be useful to introduce a tripartite system of analytic concepts, implicit in Peirce's typology, but independently discovered and developed by Karl Buhler. Trubetzkoy borrowed these analytic concepts and incorporated them into his theory of phonology in his classic Principles of Phonology.

Since the prerequisites for human speech are always a speaker, one or several hearers, and a topic to be discussed, each linguistic utterance has three aspects; it is at once a manifestation (or an expression) of the speaker, and appeal to the hearer or hearers, and a representation of the topic. (p. 14)

This is obviously another application of Peirce's typology to the phenomena of language. Trubetzkoy argued that there should be a "phonology or expression and a phonology of appeal", in addition to the normal focus of attention on the phonology of representation. This implies that, in addition to the value of phonological elements as tokens of representation at the level of thirdness, they also have inherent value as instruments of appeal and expression. Although these inherent values have been almost entirely disregarded in linguistics, there can be no question that there are such values and that they play a significant role in the function of sound in language. Some of the direct functions of these dimensions of sound were explored at length in Jakobson and Waugh (1979).

The relation between sacrifice and referential intent in the function of sound, however, is most easily seen in the process of child language learning, as outlined in Jakobson (1968), which I follow here, though his focus of interest was on the demonstration of universal principles by which the phonological system of thirdness becomes stratified. Here, we are interested in focusing on the process of transition between secondness and thirdness, in Jakobson's terms, "the transition from babbling to language", rather than the development of the structures of thirdness.

The most primitive first order functions of sound are purely expressive. They are spontaneous, unintended, manifestations of the state of the utterer of the sound. Very soon in the life of an infant the same sounds take on an additional appeal function, but are still used spontaneously and unconventionally. Gradually those sounds are imbued with a kind of referential function, on the order of onomatopoeic usage, though their usage as such is mostly spontaneous and idiosyncratic, their value bearing little relation to the conventional values of the language community. These functions are still at the level of secondness, although referential, being instances of what Peirce called "intermediate thirds", which we have already encountered twice before, consisting of reference by analogical sound quality rather than by symbolic law. This is the babbling stage of secondness.

Up to this point, the child produces sound for his own purposes, in his own way, to express openly and spontaneously his feelings of the moment. He babbles enthusiastically and happily and is amazingly competent in the fundamental modes of interpersonal
transaction, i.e., manipulating others. And during this babbling period a child is capable of exhibiting,

> an astonishing quantity and diversity of sound productions...articulations which are never found within a single language or even a group of languages -consonants of any place of articulation, palatalized and rounded consonants, sibilants, affricates, clicks, complex vowels, diphthongs, etc. (p. 21)

At this stage, children are capable of sound expression to a degree of flexibility and comprehensiveness to which no adult can come close. Due to the free and unrepressed use of sound up to this point, these sounds have been traditionally referred to in linguistics as "wild sounds", a name which implies, as is true, that they are about to become domesticated.

> As all observers acknowledge with great surprise, the child then loses nearly all of his ability to produce sounds in passing over from the pre-language stage to the first acquisition of words, i.e., to the first genuine stage of language. (p. 21)

This sudden loss is correlated with the child's acquisition of the desire to transact in the truly symbolic referential mode with the significant adults who comprise his world, and is supposed to be explained by the acquisition of that desire.

> the child seeks to respond to and adapt himself to the person to whom he is speaking in every way, even changes of volume. (p. 24).

While this is true as a fact, as an explanation it is not very convincing. Why would the desire to be like someone and communicate like them imply the loss of the ability to produce sounds? On the face of it, one would expect the opposite.

It may be useful to mention the relevance of psychoanalytic theory here. Its relevance, and the exact nature of the relationship between linguistics and psychoanalysis, can be established on the basis of the nearly identical characteristics of the logic of secondness in relation to the logic of thirdness as compared with the characteristics of Freud's "primary process thinking" in relation to "secondary process thinking." In other words, Freud's primary processes are the logic of secondness and his secondary processes are the logic of thirdness. To avoid getting tangled up in a terminological and conceptual confusion, I will continue to use Peirce's terminology, with the understanding that it now is intended to encompass Freud's corresponding concepts.

One of the differences between secondness and thirdness which Freud pointed out is that there is no negation in the logic of secondness. Or, to put it another way, it is inherently impossible to directly manifest or express negation at the level of firstness, and it is inherently impossible to directly act out negation at the level of secondness. Of course, the essential dynamic of secondness is opposition, but opposition is not negation.

Negation can only be represented, and is thus necessarily limited to thirdness. What is more, it can be noted that negation is a concept which has no substantive semantic content nor pragmatic force in itself. It is a purely formal operator, which cannot be used by itself, but must be used in a dependent and totally parasitic relation to something prior, which does have substantive content and force. In this regard, it stands alone among all other concepts in having no positive content. All other words, either directly or indirectly, are rooted in the positive substance of firstness and secondness. I suggest therefore, that the negative is the first and most fundamental symbol, the primitive seed of thirdness from which and in the logic of which all other elements of thirdness are derived.
One can see the position and function of negation as third in the order of conversational possibilities. One cannot begin without any prior context by saying, "no". It requires a prior act or prior assertion to which it can refer. A normal exchange might be like this.

Person A: Today is Thursday.

Person B: No, it is not.

In such a conversation, it appears that negation is second to an assertion which is first, but as Peirce noted in a quote cited at the beginning of the discussion of firstness, even a positive assertion implies a negation. To understand the logic of this exchange one must make note of the fact that people do not go around asserting things out of the blue. No one would say, "Today is Thursday", unless the question had already arisen. An assertion is an act in reply to either an explicit or an implicit prior question, so negation is third.

Returning to Freud, at the stage of secondness, the child's personality is described as narcissistic, that is, in reference to the relation between one's face and its image in a mirror, it consists of two elements, the second of which is the image of his mother, who is the primary other. "Primary other" meaning second. He explains the child's development of a personality of thirdness, and an adult ego structure, as a function of the child's secondary identification with his father, the third person, the figure-head of authority and power and law, and the stereotypical wielder of the negative. Identification is a generalized symbolic function, not limited to children, motivated by an attempt to orient one's self advantageously in relation to a powerful other by joining his side, wanting to become like him. It is found to be operative even in adults who are held captive, for example, who tend to identify with their captors.

Putting all of these factors together, it would seem reasonable to suppose that the transition to thirdness would involve all of these processes at the same time: The encounter with the power of the third person, represented, along with some display of power, in the symbolic form of negation; The attempt to reconcile that power relation by identification with the third person; The manifestation of that identification in the desire to be like and speak like this other other; the appearance of "No!" as the first genuine word: Implementing the power of negation on himself and trying to implement it on others; And, the consequent sudden loss of the ability to express his prior self freely and spontaneously through the expressive medium of sound.

With this transitional process in mind, consider the relationship between the emerging ego as the structural unit of society and the phoneme as the structural unit of the sound system of language. The very graphic locutions which Jakobson (1978) used to describe the phoneme in a series of lectures given in 1942 is interesting to consider in this regard. He said that sound is "the bearer of meaning". He spoke of "the problem of sounds at work in the service of language," of how phonic matter is "put to use by language, how language adapts these raw materials to its own ends". At greater length,
The phoneme's sole linguistic content, is its dissimilarity from all other phonemes of the
given system...this value of alterity or otherness. (p.66)

The phoneme, although it is an element at the service of meaning, is itself devoid of
meaning. (p. 109)

Every constitutive element of a language, and in particular every phoneme and every
distinctive feature is endowed with a social value. (p. 86)

In the babbling stage, the free flowing wild sounds of the child are full of innate expressive
value. But suddenly, the spontaneous flow of self expression is stifled, cut off, and emptied
of its intrinsic value, so that the sound itself can become the domestic servant, the bearer at
work in service of language. The child's sound producing capability becomes a raw
material to be cooked to the point where it has no individuality in its own right and thus
emptied of intrinsic value, it is fit to be endowed with a social value. In its function as the
bearer of phonemic information, its intrinsic value is discounted and disposed of, and its
character is entirely subordinated to and is a function of its phonemic burden, which
consists of its oppositeness in relation to all the others in the system. It is a shell, empty of
content, consisting only of alterity or otherness.

It seems quite reasonable to call this process of transformation from the emotionally
rich sounds of secondness to the empty shells of thirdness one of sacrifice. In fact, words
like "enslavement" and "colonization" come to mind to describe both the child and the
sound. Of course, this is a broad and general characterization of the sense in which speech
in service of the symbolic function is a form of sacrifice. But this dynamic has a great
many specific empirical consequences in the structure and function of language.

These effects are once again most overtly seen in the transition of the child from the
babbling stage of secondness to the true language stage of thirdness. When this sudden
massive repression of speech capability strikes the child, some children are completely
mute for a period of time. But it is more common for the sudden suppression of expressive
capabilities to be manifest in a kind of division of mental function.

There are two varieties of language for the child, one might almost say two styles - one he
controls actively, the other, the language of the adult, only passively (cf. the distinction of
male and female language in many tribes: everyone speaks only one but understands the

In one mode of language, that of secondness, he continues to use his primitive system of
sound expressiveness more or less spontaneously, but primarily in socially marginal
situations such as when speaking to himself. And, in the other mode, which is the adult
mode, the mode of thirdness, he is typically capable of passively understanding far more
than he is able to produce, "comprehension without speech." And, his ability to produce
sound communicatively is almost completely suppressed as a manifestation of the
suppression of his innate self in general.

It is easy to understand that those articulations which are lacking in the language of the
child's easily disappear from his inventory. But it is striking that, in addition, many other
sounds which are common both to the child's babbling and to the adult language of his
environment are in the same way disposed of, in spite of the environmental model that he
depends on. (p. 22)
Gradually, as the child constructs the structure of oppositions that constitute the phonological system of his language, he is able little by little, to increase his language competence, until he masters it completely, usually before the age of four.

This internal division of language into two languages, or modes of language, one of secondness and the other of thirdness, remains a permanent and fundamental characteristic of language. These two systems continue side by side, or rather one on top of the other, with continual complex interactions between them in accord with the logical relations between secondness and thirdness. Every aspect of language, in its symbolic formal representative function, and every other function, is determined by the nature of this division and the relationship between the two "languages" within language. Consequently, it would be impossible to make sense of language by looking exclusively at the symbolic functions of thirdness without taking into consideration the logically prior functions of secondness.

The effects of this double language are most clear in the course of the child's development. During the period between the suppression of his expressive capability and the development of adult linguistic competence, that is, in process of the development of thirdness, there are many kind of phonological phenomena which can only be described and explained in terms of the piece-meal colonization of his expressive capabilities. For example, it is a common phenomena for a child to understand and pronounce a word perfectly the first time he hears it, when he does it spontaneously without thinking about it, but the word immediately comes under the sway of the phonological system, and after it is captured and subordinated to the formal demands of that system, it can only be pronounced, if at all, in a severely mutilated form. The nature of this mutilation is largely predictable as a function of the relationship between the logic of secondness and thirdness, and continues to be manifest as a distorting function in the structure and use of adult language in innovative speech, and in speech errors, though of course its normal operation is buried below the symbolic surface of language. It can be seen to surface quite dramatically when an adult tries to pronounce words in a foreign language.

There is a systematic relation of mutual complementarity between these two languages, which can be seen to operate openly during this phase of the child's development. There is an asymmetrical contingency between the sounds which have been captured by the adult language system and those which remain free and thus available for the child to use expressively. If a certain sound is used in the adult language, but not yet incorporated into the structure of the child's phonological system, the child is still able to use it expressively. But, as soon as that particular a sound does become incorporated into the structure of the child's adult language phonological system, it is no longer available to him for expressive use. Jakobson (1968, p. 26-27) cites several examples, such as the case of a German girl who, in her private expressive language, referred to the barking of a dog by using the sound, [ooo] (front mid round vowels). During the process of transition to thirdness, after her sound expressive capability had been repressed in the adult language mode, at an intermediate stage, when she was able to speak the adult language partially, but before she had attained the capability of using the front round vowels in her adult language mode, that particular sound was still free for her to use in her own expressive way. But, as soon as she became able to pronounce adult words correctly with that vowel sound, that sound lost its expressive value, and she was unable to use it expressively. The formerly
available expressive sound was captured and domesticated in service of the system of representation.

The same complementarity can be seen to work in reverse in the liberation of sounds for expressive purposes in the collapse of the phonological system in aphasic disorders. To give an illustrative instance, Jakobson (1971, v. II, p. 229) cites the following example, though not with this purpose in mind, from Norwegian, in which language

stressed syllables carry two different intonations, which, other things being equal, serve to distinguish words; this distinctive function limits the use of intonation for expressive purposes.

A Norwegian woman...had been struck by a bombfragment and had lost her ability to distinguish the two word-differentiating intonations of her mother tongue. Consequently, her use of intonation was fully released for expressive variation... (emphasis mine)

Of course, if the expressive use of intonation was "fully released", then it must previously have been captive.

These are not a unique or isolated or marginal phenomena. It is a normal and common and pervasive characteristic of language. The captivation of expressive capability, and the resulting dynamic, is the most primitive dynamic in language, and language consequently exhibits this pervasive pattern of split function, of the asymmetric complementarity of function between the symbolic and the expressive modes of language, in accord with the logic and dynamics of the relation between secondness and thirdness.

Another example of the same systematic complementarity can be seen in the principle first noticed by Sapir, cited by Jakobson and Waugh (1979, p. 203) this way.

the presence of a conventional grammatical alternation in a given language seems to preclude the occurrence of an identical sound-symbolic ablaut in that same language and in this way to limit the repertory of such ablauts.

In their usage, "sound-symbolism" refers to the use of sound at the level of secondness. And, "ablaut" refers to the use of difference in the qualities of sound to directly represent difference in the qualities of referents. They cite an example from Boas, who described the ablaut as an "ancient sound symbolism" which "is not a live process", by which he presumably means that it is not spontaneously productive in the adult language. This ablaut involves the change from hissing alveolar continuants to hushing alveolar continuants to velar continuants, which expresses the relation - diminutive, neutral, augmentative.

suza = it has a slight bruise
suza = it is badly bruised
xu a = it is fractured

In reference to this example, the principle says that if the value of these sound differences had been captivated by the laws of the language to serve a grammatical or morphological function, they would not be available for such expressive uses.

Finally, before we move on to something else, I would like to point out that there are a great many well known and obvious phenomena in the structure of the lexicon and in
the pragmatics of sentences which are a function of this process of colonization by conventions. Generally speaking, whenever an element of language is saddled with a secondary usage, if it becomes a conventionalized usage, then that element is restricted to that function and can no longer be used with the flexibility and freedom which it previously had. For example, one can no longer use "gay" freely to mean what it originally meant. This is the dynamics of euphemism. Another example, a word such as "bathroom" no longer means "a room for taking a bath", because the euphemistic meaning has conventionally captivated this construction. This is the source of what is commonly called "semantic opacity", though in my view a more correctly descriptive term would be "captive" or "buried meaning."

Another obvious example is that if you want to ask about someone's well being when you first greet them, if you say

How are you?

it will not be taken to mean what it means literally, because this form has been taken over as a conventionalized greeting. So you sometimes hear people say

How are you? I really mean it.

or with some other marking to indicate that it is not being used in its merely conventional sense and to uncover its original underlying sense.

Jerry Sadok noticed asymmetry of the following pairs of sentences.

Can you water ski?
Are you able to water ski?

Can you pass the salt?
*Are you able to pass the salt?

Here, the first pair of questions are real questions, so one is free to use either of the semantically equivalent forms. But in the second pair, since it would be infelicitous to ask such a question, the interpretation of the sentence as an indirect request is forced. As a request, "are you able" cannot be used because "can" has become the conventionalized form for making this kind of indirect request. Thus, although the second form is semantically equivalent in the relevant sense, it is prohibited from being used implationally to request, because that chain of implication has been captivated by "can". These examples, along with many others cannot be explained without a principle which recognizes the colonization, captivation, and sacrifice of expressive potential by the process of conventionalization.

Without a principle such as this one would expect the history of a particular word to consist merely of additions to or subtractions from its range of meaning or types of meaning. But as words acquire new usages, their old usage seems to disappear, except for its continued presence in old frozen forms such as idioms, and in related dialects or styles, or in related languages. In other words they do not disappear, but are buried. This results in the characteristic stratification of the etymological structure of words, and consequently
of their synchronic lexical structure, and consequently of their synchronic use. This
dimension of the structure of words would be impossible to explain without some such
principle.

A specific example of the effect of this phenomena on the use of a word is "logic". When I was beginning to write this essay, I wanted to use this word in its original sense in Greek, where it meant something like, "the laws of thought, language, and speech", but I discovered that, while I could use it that way, no one would take it to mean what I wanted it to mean, like Alice. That word, and consequently my freedom to express myself in the way I want, has become a victim of the colonization of the English language by the dominance of the hard frame of reference, which is nothing other than the conventional symbolic typology of thirdness. And, since I wanted to contest the presupposition which underlies that usage, I could not just ignore it and make up a new word, because that would be tantamount to conceding the claim to exclusive legitimacy implicit in the conventional colonization of the territory in question. There is no alternative in such a case but to keep silent or to directly attack the legitimacy of the now conventional usage. Or, to accept the false premise implicit in the use of the word and find oneself persistently led into a hopeless knot of dilemmas.

Before concluding the discussion of typological logic, I would like to illustrate the relationship of the three types in one coherent example of a structurally isolated and thus relatively simple, yet systematic, sign phenomenon, namely, the system of the wink\(^{22}\). A wink is formally related to a blink, and there are many kinds of blinks and winks, as well as similar phenomena, such as twitches, squints, etc. But we can isolate three more or less specific kinds of wink-related phenomena to illustrate the use of this typology.

An example of the first kind of blink is a natural phenomenon in which the eye-lids close for a moment, not in response to any external stimulus, but caused by and in service of internal physiological factors. This kind of blink is a purely natural phenomenon, an event rather than an act. This kind of blinking is caused, and not intended. We would say in ordinary language,

His eyes blinked

as distinguished from

He blinked
He blinked his eyes.

The former sentence unambiguously refers to the kind of blinking we are looking at here, but the second is ambiguous and the third definitely implies intent. Thus, the event of blinking is clearly a phenomenon of firstness, but the grammar of its description is complicated in ways that I do not want to go into here. Some superficial correlation of the number of arguments with the typological semantics of the predicate can be seen. In any case, this kind of blink is an phenomenon of firstness, and hence an iconic sign that can be

\[^{22}\text{It is interesting and instructive to compare the discussion of winking in Geertz 1973, "Thick Description", where he, following Gilbert Ryle, attempts to derive a typology in terms of thick vs. thin description for the analysis of cultural phenomena.}\]
interpreted as a manifestation of some physiological state, but it does not happen in order to convey such information. It is a pure manifestation of the blinker.

There are many other kinds of blinks which are more complex, but still purely manifestation. For example, there is the blink of surprise at a suddenly intruding and startling object, in extreme form accompanied by reflexive movement of the head or even the whole body. There is the blink of disbelief, in the extreme form repeated many times and accompanied by a shaking of the head or looking away and back again. There is the blinking which accompanies intense thought, repeated frequently, where each blink correlates with the termination of a line of thought, like punctuation marks. One can interpret a lot about what is going on in the mind of another person by his eye orientation and the nature of his blinks, but the blinker is not necessarily performing them in order to convey that information.

Sometimes, of course, one can intentionally imitate such first order blinks. In that case, it would be an act as opposed to an event. The act itself requires two components: that which is done and that which is imitated, hence is no longer a first order blink. The second order act of blinking refers to the first order event of blinking indexically: The shape of the act is determined by a material relation to that to which it refers. And the second order act conveys what the first order event would convey iconically. And, it implies the presence of a second person, whether one is physically present or not, which also indicates that it is a second order phenomenon, an act of appeal.

As a specific example of this kind of blink, let us take a stereotypical example which is conventionally described by either of the following sentences.

She blinked at him.
She blinked her eyes at him.

in which we see that there must be a grammatical object, reflecting the fact that it is an act that is intended to have an effect on an independent object. This instance of blinking is intended at least to draw attention, and probably also to convey interest in the object through the indication of intensity of mental state. Notice also, that this kind of blinking is stereotypically associated with the role of the female because it indicates interest and withdrawal. The male counterpart is "an unblinking stare", which conventionally indicates both interest and aggression. We even have the conventional expression, "a penetrating stare", which correlates with this division of blinking functions.

Now the question is whether such acts are intentional or not, because if they are intentional, they should belong to the category of thirdness, but if they are not they belong to the order of secondness. This in turn depends on whether the blinker and the starer are really interested or are merely feigning interest. If they are really interested then the blinking and staring may well not be intended to convey that information, but rather the direct manifestation of genuine interest, and the manifestation of interest has intrinsic appeal functions. On the other hand, the behavior could be contrived and intended, in which case the act would be either what Peirce calls a "degenerate third", as we discussed in Section 2.1 in relation to the image, or it could be a genuine third.

It is possible that one could intend to imitate and to do it so accurately that it would be formally indistinguishable from pure manifestation. If so, it would be impossible to determine if it was intended or not. If it was intended, as we are supposing in this case, it
would be likely to fail to convey intent. Therefore, in order to make it more effective in conveying intent, it would have to be marked as being different in some way from the original. But given the intent and the nature of the act of blinking, as well as the stare, what could be added to convey intent unambiguously, without deflecting or disturbing the appeal? There is not much that can be done with either a blink or a stare to convey intent, except to continue the act beyond what could possibly be expected of a pure manifestation. Thus in the stare, to convey intent, one must continue to suppress the urge to blink for a long time, and in the blink to continue to blink rapidly and repeatedly and regularly for a long time.

The reason for this difficulty is that this kind of blinking is essentially a phenomenon of secondness and appeal, because there are only two people involved and because the signs of blinking, and its opposite of staring, do not refer to any third thing. The eyes convey whatever they convey by manifesting themselves in a particular way in relation to the object which they see. There is no third party in the transaction and no independent referent in the act, so there is nothing around which to organize an independent mark of intent.

When we come to a wink, we have clearly moved into the level of thirdness in several senses. A wink refers to a secret which is supposed to be known to the first person (the winker) and to the second person (the winkee), but not to the third person (the one who does not know, who is outside of the contractual transaction). It is an act which minimally consists of the closing of one eye, and leaving the other open, by which it conveys a reference to the division between knowing and not knowing. It also conveys by this division an intention in relation to this division. This expression of intent constitutes an appeal to accept a contract in which the first and second parties are to jointly interact with the third party in some way to exploit his lack of knowledge to their advantage, by making him the goat in some way or other. Failing the willingness of the second party to accept this contract, it remains an appeal to the second party to bear witness to the goathood of the third party and to avoid revealing the secret to the third party.

In the case of a wink, it is also possible to imitate natural eye closure so accurately that no one could be sure whether it was a spontaneous eye closure or an intended one. If no one could be sure it was not a spontaneous closure, the intent of the act might fail. So, there is a motivation for marking the act in some way so as to unambiguously convey intent. However, there is also the conflicting motive that the winker does not want the third person to know what he is doing, so depending on the circumstances, he might be relatively free to mark the intent more openly, or he might be constrained to more subtle markings or perhaps to none at all. It is possible, when under close scrutiny by the third party, to successfully convey the intent of a wink by actually closing both eyes, if the second party is attuned to the thinking of the winker, but this is an abnormal wink, and the limiting case. The fact that only one eye is closed in the wink, if it is seen, would help to convey intent, as normally in unintended blinks both eyes are closed, and for this reason it might well figure in the motive for winking only one eye, because the winker can align his head so that the second party can see the wink, but the third party cannot. Or, he could wink when the third party is not looking.

But if he is free to mark his intent, there are many clear ways to do so, such as squeezing his eye shut very tight, and even screwing up one side of his face around the closed eye. He can thrust his head forward as if to aim the wink very overtly. He can nod
his head and look back and forth from the second to the third party to amplify his intent even more.

Notice that there is a clear distinction between those movements which are intrinsic to the act of winking itself, and the various extrinsic movements with which the intent to wink might be marked. The marks of intent need not be present at all, but if they are not present, the act is exposed to failure, because intent is essential to the success of the act.

Of course, as I said, this is not an exhaustive analysis of the wink system, but it is enough to illustrate the coherence of the typology in a single example. One can see how it leads one to anticipate and isolate the elements and relations which distinguish the structure and function of the various kinds of blinks and winks. One can clearly see the progression of conceptual complexity from the level of firstness to secondness to thirdness. This progression can be seen in the dimension of manifestation, appeal, and representation in the nature of the behavior itself, in the value and intent of the behavior, and in the number of people involved in the transaction, and their relationships at each level. And, last, but not least, it makes the nature and function of the mark as the vehicle of intent very clear.

The point is that Peirce’s typological frame of reference provides a powerful analytic and explanatory tool on one hand, and on the other hand any presupposed frame of reference will lead one to expect and to look for particular features of interaction, and moreover, to be satisfied when one finds what one is looking for. The problem that is so difficult to get around is that the various frames of reference which one usually brings with one unthinkingly are cast in the mold of the symbolic level of interaction. As a consequence, since, as we saw in the discussion of firstness, the phenomena of firstness are not representable, and hence are systematically excluded from representation and thus from perception in so far as it is guided by the frame of reference of thirdness, and the phenomena under analysis when perceived, are distorted by the intervention of presuppositions of thirdness.

In concluding this section, I would like to point out the tendency for the classical phonemic/phonetic distinction to be misunderstood and misused in this regard. This is true of the distinction when it is being applied to the phonological character of language, and it is also true when the same distinction is being replicated implicitly in other areas of language such as the syntax/semantic distinction and the semantic/pragmatic distinction and in general the surface/underlying distinction.

Let us take the classic phonemic/phonetic distinction as the simplest and best understood example. In principle, this distinction is intended to be isomorphic with the relation between thirdness and secondness, and in so far as it is used in conformity with that intention, it is adequate for that purpose. But, there are two kinds of problem with it. The first, is that it makes no provision for the distinction between firstness and secondness. That is, there is a difference of phenomenological type between a phoneme and an allophone and a sound. In principle, this is not a serious problem. But, as a matter of practical usage, if the word, "phonetic" is used to refer to allophones, or other abstract categories of sound, or other varieties of representation of any kind, such as quantified and variable notation, or even a sonogram, then it cannot at the same time be used to refer to the actual sound itself, without mixing up types and inviting confusion. The specific confusion which is invited is exactly the one that is gets linguistics entangled in epistemological knots, which is the false idea that language is made of sound.
Perhaps it might clarify the consequence if I point out that this distinction is the same as that drawn in ordinary language between "cooked" and "raw", that was so skillfully and penetratingly exploited by Levi-Strauss in *The Raw and The Cooked* in the analysis of the structure of myths. In exactly the same sense, linguists often refer to "raw" data, meaning phonetic representations. And, by implication, "cooked" data would mean phonemic representations. But, in all three systems of usage, in ordinary language, as a technical term in Levi-Strauss' theory, and in the informal usage by linguists, the effect of this opposition is that it induces us begin reasoning from the "raw" state and study the relationship between that and the "cooked" state, to the complete exclusion of the living state. A raw piece of meat is what you find in the supermarket already having been removed a great distance from the living animal it came from in the first place, perhaps even ground up into hamburger. The whole gory process of killing is conveniently kept out of view. In the raw state, there is no blood and guts, no hair and bones, no eyes and ears. Everything vital is out of sight and every sign of life has already been removed by the time we begin to look at it. What is raw is already long since dead and has been thoroughly processed. All that remains is to cook it. Thus, the normal usage of the phonemic/phonetic opposition precludes the consideration of everything living and vital in language.

The other problem is more serious, in that it cannot be eliminated merely by using words differently. This problem can be seen in both Pike's use of the emic/etic distinction and in a different way in generative phonology. Essentially, the problem is that, while thinking of this is a typological distinction, in practice the terms and the corresponding concepts are integrated into a single system of representation. There are two incorrect consequences that follow from this fact. The first is that, since symbolic representation itself is necessarily a phenomenon of thirdness, it follows that even if a theory is representing facts of secondness as well as facts of thirdness, it must necessarily misrepresent them. The second is that by representing both types in the same system, it is being claimed implicitly that they are of the same type. Thus, generative phonology begins with abstract representations and operates on them to derive phonetic representations. During the course of this process of derivation, the nature of the representations operated on, the rules of derivation, and the principles which govern the application of those rules, remain the same throughout, hence the output is the same type as the input. Pike, for example, would claim to have avoided this problem by means of the mechanism of hierarchy of emic/etic categorizations. But the idea of a hierarchy itself implies a homogeneity of type, the type being that of thirdness. It is logically impossible to have a structure of any kind in the logic of secondness. And, hierarchy, in the intended sense, is also impossible at the level of secondness. And, to allow lower order emic categories inside of higher order etic ones is a perfect example of a system of categories that mixes types. We might as well mention that the theory of stratificational grammar is also typologically homogenous, its type being also that of thirdness.

This argument does not necessitate the rejection of the emic/etic distinction, but it does preclude the possibility of accounting for their relationship in terms of any single homogenous mode of representation. At the very least, there must be a different system of representation to account for the different phenomenological and logical character of secondness and thirdness. Of course, firstness is impossible to represent at all. And, it might be impossible to devise any mode of representation which can explain representation, even at the level of thirdness. I am not sure about this last point, but it has
always seemed a peculiar idea to me anyway, to suppose that it would be possible to explain representation by representing representation. It seems to me that there is something wrong with the very idea.
2.3 OPPOSITION

The concept of opposition plays a central role in language, and in interpersonal interaction in general. In this section I will focus narrowly on the concept of opposition.

The motivation for particular interest in the concept of opposition from the linguistic point of view is that it plays an obvious and undisputed role in the structure and function of language. There is some question among linguists as to the extent of its role, but no one doubts that it plays a critical role, at least in phonological and lexical relations. Some linguists, Jakobson prominent among contemporary linguists, go so far as to assert that opposition is the primitive concept underlying all distinctions and relations. And, of course, he and others have published extensive empirical evidence of its role throughout the structure of language, including the other areas of morphology, syntax, semantics, and pragmatics.

One can arrive at the same conclusion by more general reasoning as well. In so far as one assumes that one’s thinking should be founded on the properties of the world that are concrete, in the sense of being tangible to the senses, it is clear that opposition must be taken as a primitive, for tactile difference is only perceivable by opposition to a chronological or spatial background of sameness. The less the degree of conflict between an object and its background and the less the degree of suddenness, the less easily perceptible. This, of course, is what Peirce was getting at when he wrote about the nature of brute fact intruding upon our senses in a more or less striking degree. This world of tangible reality is the type of secondness and is tangibly apprehensible only in the orientation of opposition. Thus the perception of difference in relation to a background of sameness is the emergence of secondness by opposition to the prior firstness. This is the type of tactics.

In the context of this essay, the premise that opposition is the primitive concept of every relation, taking “relation” in the usual sense in which firstness is not thought of as a relation, does not rest on inductive argument, but follows from typological logic we have seen.

In our investigation of opposition, it must be kept in mind that opposition is only the positional orientation of relationship as distinct from the dynamics of relationship, which is that of tension, conflict, and struggle. Previously, the focus of attention among linguists has been on the less tangible positional character of opposition to the exclusion of the dynamic consequences which follow from that orientation. Although probably not intentional, this view is justified in the implicit claim that it makes, which is that position is prior to dynamics. This priority follows from the fact that the dynamic of firstness is that of position or, in other words, in the dynamics of tactical conflict, positional advantage is superior to tactical force. Since this principle is consistent with the predominant exclusive focus on the positional character of opposition within linguistics, I am willing to focus here exclusively on position. But in excluding dynamics from the focus of our attention, we must not allow that dimension to be dismissed, for it is only in its dynamics that language becomes a tangible and perceivable phenomenon. In its positional character, phenomenologically, language is a sheerly abstract system of synthetic laws. Let us focus exclusively on opposition, then, but with the understanding that the orientation of opposition, though prior, does not exclude dynamics.

In considering the situation of the concept of opposition in language and linguistics from the point of view of Peirce’s typology, three interrelated facts are predicted. First, it follows from his typology that there are two distinct concepts of opposition: Opposition of secondness and opposition of thirdness, which we could variously call two-element opposition vs. three-element opposition, or tactical opposition Vs game-like, symbolic opposition. Second, since symbolic opposition is the milieu (literally), the substance of the domain of symbolic interaction, it follows that the predominant intellectual opinion would be that there is one and only one logically possible kind of opposition, and that that one is the kind of opposition which is a function of symbolic logic.\textsuperscript{23} And, third, since there are actually two kinds of opposition, it

\textsuperscript{23} Actually this is the view only among those who recognize that opposition is important. The most predominant intellectual opinion is that opposition is an undesirable and unpleasant and unnecessary consequence of looking at things from a beastly point of view, that it plays only a marginal role in language and a reprehensible role in real life, and that it should be eradicated from the world by symbolic means.
would follow that there must be a variety of intellectual and practical confusions which result from the attempt to force the brute facts to fit into the symbolic mold.

It is taken for granted as following from the preceding discussion that there are two types of opposition. The primary purpose of this section is to show that there are two concepts of opposition, to specify precisely the positional relation which they consist of, and to focus on the pivotal positional difference between them. The secondary purpose is to assist the reader in orienting himself to these concepts by discussing the nature of some examples of the confusions which have resulted from the premise that symbolic opposition is the only kind, though, of course, I do not intend an exhaustive catalogue of the varieties of confusion. Let us begin with a characterization of the two kinds of opposition.

It turns out conveniently and coincidentally that there is a precise geometrical characterization of symbolic opposition implicit in the conventional expression, “diametrical opposition” or “diametrically opposite”. The word “diametrical” is, of course, derived from “diameter”, which is a particular kind of line as specified in terms of the geometric figure of a circle. This expression describes a relation between two specific points as determined by the relation between a diameter and the circle of which it is the diameter. We can define this relationship of opposition thus: Two points on a circle are in diametrical opposition, if and only if they are both intersected by a line which is a diameter of that circle. And, a diameter is a line which connects any two points on the circle and which also passes through the center of the circle. Thus, any and every two points on the circle are in a relation, definable by a line drawn between them, but they are not elevated to the status of being precisely opposite unless that line also passes through a third specific and unique third point, the center. We can represent this relationship as in Figure 1., where M and N are related but not opposite, but B and C are precisely opposite, or, in other words, they are symbolically opposite points.

![Figure 1 Diametrical Opposition](image)

Notice that B and C are of the same conceptual status, as distinct from A, in that they are points on the circle, whereas A is the center. Further, B and C are in a relation of mutual opposition, or in other words, their relation is symmetrical, which is to say, in terms of a geometrical representation, that they could be interchanged without changing the figure. In terms of mathematical systems of transformation, we would say they are commutable under identity. In terms of money, they would be said to be fungible. In terms of language, we would say they are paradigmatically or syntagmatically substitutable.

Point A is of a different status, in that it is the center of the circle, hence a single and unique point in relation to the many points which comprise the circle, of which B and C are merely two among many. Most importantly, Point A is of a different logical type. Point A is conceptually extrinsic to the circle and prior, the point in relation to which the circle itself and the concept of diameter are defined. Point A is the point of reference in relation to which the relation between B and C is judged to be that of opposition or not. And, point A remains the fixed the point of reference in terms of which all other relations of opposition for any given system of opposition are to be judged.

Thus there are really two kinds of relations in the relation of opposition: the type of relation between B and C and the type of relation between that relation and A. This latter relation is logically
equivalent to that between frame of reference and content, and thus point A is logically equivalent to the frame of reference in which this type of opposition is established. Here we have a point of reference.

The expression, “frame of reference”, invokes the image of something like a picture frame, which spatially surrounds and contains that which it frames. However, spatial containment is not all a necessary aspect of the concept of frame of reference, and is in fact statistically infrequent for a frame of reference to be manifest in a tangible form actually containing in a physical sense, though this is obviously the most tangible and easily apprehensible manifestation of frame of reference. The essence of frame of reference is logical priority and the conceptual and tactical dependence of that which is framed. In this intangible and conceptually prior sense of frame of reference, a frame of reference is any conceptually prior standard in terms of which (the “in” here is not spatial either) an entity or a relationship is evaluated and played out. A frame of reference is, technically speaking, a premise, or a system of premises. Whether or not such a premise is physically embodied in tangible form, and whether such form surrounds and spatially contains, is incidental to the function of frame of reference.

In terms of a game, such as football, the outer boundary of the field of play and other boundaries, such as the goal line, is represented in the form of a chalk line in formal games. But it is entirely possible to play football without any physical representation of boundaries, though the play tends to collapse into an orientation of non-opposition, unless the boundaries are at least crudely marked in some crude tangible form, such as a shoe or shirt or a tree as a boundary marker. But the frame of reference, even in the most formal and physical of games, such as professional football, does not consist only of spatial boundaries. All of the rules of football, taken together, comprise the overall frame of reference of the game, and serve the function of conceptual boundaries which establish and maintain the orientation of symmetrical opposition throughout all phases of the play of the game. So it is in the game of language: all of the rules of language are frames of reference, including all of the elements and relations, and function as boundaries for establishing and maintaining a symmetrical orientation of opposition.

In this most primitive sense of frame of reference, point A performs exactly the same function as a picture frame, or the boundary of a football field, or the rules of any type of interaction of the third type. Also in this sense, the figure of the circle and the diameter, indeed geometry itself, are frames of reference, in terms of which we define the orientation of opposition at the level of thirdness in relation to whatever point of reference is taken as the prior standard, fundamental premise, the starting point, which in this case is point A.

Being a conceptual system of the type of thirdness, one might suppose that geometry would be capable of correctly and adequately representing the relation of thirdness under consideration, but it is interesting and significant to note that the underlying character of secondness leaks through even into the supposedly sheerly abstract and hypothetical realm of geometry.

The medium of geometry fails to correctly represent the symmetrical opposition of thirdness in two ways. First, in geometry all points are stipulated to be of equal conceptual status, being supposed to be nothing but sheer position, devoid of any internal content, thus falsely characterizing point A as being of the same status as B and C. Second, given the alphabetic ordering of the letters, the names given to the points in Figure 3. correctly imply that A is prior to B and C, but incorrectly imply that B is prior to C. If the point named B were actually prior in some sense to the point named C, then B and C would not be symmetrical. Of course, the asymmetry here is a function of the names and is not intrinsic to the geometrical character of the points themselves. It is a function of the alphabet, which is a function of language, and thus is a system whose organizational characteristics have been contaminated by the leakage of the property of priority from secondness to thirdness. But it happens to be the case that every system of symbolic representation bears traces of its underlying conceptual origin. There is no symbolic system of representation which one could use to name these points which would be entirely free of similar implications of priority, because what constitutes a system is the commonality and internal organization of the entities in relation to each other. One could try to choose random symbols to identify the points, such as “#”, “%”, and “@”, but this would once again fail to characterize the center as conceptually prior to the other two points. This confusion about the typological status of frame of reference is an intrinsic logical inadequacy of thirdness.

When we change our perspective to look at the concept of opposition from the point of view of secondness we are faced with a different set of possibilities. In order to facilitate a comparison between the
concept of opposition at the level of secondness with the concept at the level of thirdness, we must try to find a geometric relation between two points which is couched in terms of the same geometric figure as the above relation between three points. The obvious concept which is suggested by the terminological and geometric correspondences is that of “radial opposition”\textsuperscript{24}, in which the radius of a circle defines a relation between two points: the center of a circle and any point on the circle as illustrated by points A and B in Figure 2.

![Figure 2 Radial Opposition](image)

Before we go on to consider the implications of these representations, let us parenthetically consider the terminology of opposition. There is considerable lexical elaboration of the concept of opposition, as would be expected for such an important concept, but none of the available words seem to lend themselves to being used unambiguously for an explicit distinction of exactly the meaning we need here. All of the words for opposition have been taken to refer to diametrical opposition, but in their underlying meaning they seem to picture the relation of radial opposition or else they are vague on the issue of symmetry.

The word “opposite” was borrowed from Latin opponere “to put or set against”, as is “opponent”. “Antithesis” is from Greek anti-tithenai “to put against”. Semantically similar, is “antagonist”, which was borrowed from Greek anti-agonizesthai “to struggle against”. Also similar is “antinomy” from Greek anti-nomos “against law” Also similar in sense is “contrary”, borrowed from Latin contra “against”, which is seen also in “contradict”, which means “to speak against”.

I would like to point out that all of these words portray an asymmetrical relation. None of them include any sense of response or reciprocity. It is a picture of an entirely one-sided act. Now, one might argue, laboring under the presupposition of diametrical opposition, that opposition and struggle necessarily imply a reciprocal transaction. It might, and it often does, but it is not necessarily so, as we discussed at length in Section 2.1. The orientation of “against”, even with the added dynamic of struggle, does not necessarily imply a symmetrical reciprocity in the logic of natural language or in the dynamics of a tactical struggle.

If one leans against a wall, it would be sheer formalism to hold that this implies that the wall leans back. Or, even clearer, if one is hanging from the branch of a tree being held up by the strength of one’s grip, it would make sense to say “I am struggling against gravity”, but it would be inane to say “Gravity is struggling against me”. In the realm of interpersonal tactics, if one person pushes another person, that does not imply that the other person must necessarily push back. In fact, the other has the option of whether to push or to pull, or to respond in a variety of other ways. It is in the possibility of asymmetrical responses that the strategic dimension emerges. So the presupposition that all relations of opposition are necessarily symmetric excludes the dimension of strategic interaction.

\textsuperscript{24} As I pointed out in a footnote in Section 2.2, the words "radius", "radical", "radiate", and "eradicate" all have the same root in Latin and revolve around the same basic meaning.
Thus it is perfectly possible oppose in all of the above senses - to put against, or set against, or pose against - without necessarily assuming that the opposition is symmetrically reciprocated. And this is the sense of all of these words. It may be possible to invent words to describe opposition which incorporate the sense of diametrical opposition, but English, Latin, and Greek do not seem to have taken those options. And, of course, this did not come about by accident. There is an underlying principle at work here, which is the logic of secondness, the logic of radial opposition.

The word “polar” is sometimes used to describe the relation of opposition. It was borrowed from Greek, and is from the same root as the word “circle”, and hence is vague as between the diametric type and the radial type of opposition.

The word “binary” is sometimes used to refer to relations of opposition also, and it is usually used to refer to diametric opposition. However, this usage is technically incorrect because diametric opposition is a relation between three elements, whereas “bi” means “two”. What is going on here is that the conventional notion of opposition is erroneously considered to be a relation between two things, in which case it would make sense to name it “binary”. Therefore, the common notion of binary relations as it is used in linguistics, in mathematics, in information theory, etc. is in error. It is in error because it ignores the role of the frame of reference in defining the relationship of opposition. In terms of Figure 3 above, it ignores the pivotal role of point A in determining which pairs of points are in a relation of diametrical opposition. In terms of information theory, the conventional idea of a binary relation ignores the address of the bit. It is a necessary part of a bit of so-called binary information to know what it is a bit of; the address of the bit is its frame of reference and the third element in the so-called binary relation. In the system of binary numbers, for example, the relation of opposition is supposed to be between the “0” and the “1”, but neither of them is interpretable unless one can determine whether it is in the first position or the second position or the second position, etc. This positional information is surreptitiously encoded in the representations by using the 0’s and the 1’s both as indicators of the binary bit of information and also as indicators of position. So the binary number “11” contains not one bit of information but two: that it is 1 as opposed to 0, and that it is the first. And it represents the digital number 1 not just because it is a 1, but because it is the first 1. If we compare that binary number with “111” we see that the second 1 conveys the information that this represents the digital number 3 in part because it is 1 instead of 0, and in part because it is the second 1. Therefore the concept of binary opposition as it is conventionally used is erroneously supposed to refer to a relation between two things, when in fact it refers to a trinary relation logically akin to diametrical opposition.

Let us return to consider the concept of radial opposition.

It must be made clear that while these geometric figures are useful for our immediate purpose, it would be a mistake to try to understand the evolution of radial to diametric opposition by following the implications of these geometrical representations according to the laws of geometry, because the type of geometry, its mode of being and its laws, are those of thirdness, and thus geometric representation must necessarily distort the conceptualization of elements and relations of secondness. For example, as we mentioned above, in geometry, all points are considered to be the same. But this principle can only be maintained consistently in geometry because geometry is supposed to be a sheerly abstract, technically, hypothetical world, a world of disembodied entities of thirdness. In the real world, the world of brute fact, no two things and no two relationships are the same: Every entity has its own unique characteristics and behavior, though, of course, everything is governed by general laws and hence there are predictable patterns of behavior. But these patterns are rarely, it seems, in accord with the laws of geometry.

In the matter before us, one is invited by the laws of geometry to construe the elements and relations of secondness in terms of those of thirdness, in particular, to equate the character of point A in Figure 2. with point A in Figure 3. and the character of point B in Figure 2. with point B in Figure 3. The geometric implication would be that the figure of thirdness is derived from the figure of secondness by the addition of point C. In the hypothetical world of geometry, one can freely hypothecate entities and hypothetically shove them around at will without encountering any resistance. But when one comes to the realm of brute force such hypothetical transactions do not work. In the type of secondness, there are only two entities, so one must ask where that third element comes from.

In considering the evolution from secondness to thirdness, one must bear in mind that thirdness is the type of the symbolic, and that from the point of view of thirdness everything is seen as symbolic, and
everything which is not symbolic is still seen as symbolic, and everything which happens is evaluated symbolically. But, in order to follow the process of transition, we must be able at the same time to look at it from the point of view of secondness and from the point of view of firstness.

Since the typology is manifest prototypically in the internal character of the first three ideas of number, we can most clearly apprehend the transition in terms of the evolution of the concept of number. But, again, we must bear in mind that the concept of number is one of thirdness. And, it is also probably worth emphasizing that number does not enjoy any privileged status even in thirdness, every other concept of thirdness being equally a creature of thirdness and exhibiting the same characteristics.

With this in mind, let us cast our minds back to the discussion about the emergence of secondness from firstness in Section 2.1, and recall that it begins from “the One”, as Jung wrote it, where the character of oneness precludes the concept of number. As “the Other” emerges from the One by opposition to the One, the One inherently, by default of the other, is left in occupation of the position of the prior, the standard, the reference point, in relation to which the Other seeks to establish its separate being. Up to this stage, it is simple: In terms of Figure 2., the one is point A and the other is point B.

Another way to describe this development is in terms of subject and object. In the logic of firstness, there is only the subject. The second to appear does so by making itself the object of brute fact. That is, the character of the second consists of arranging things so that it gets bumped into by brute facts. Now in this situation, the question arises of who is resisting who. The second thinks that the first is resisting his will, and in doing so, has converted himself into the subject and the first into the object. Thus, the first is the original and inherently prior subject, and the second struggles to become a subject independent of the prior subject, and must transform the first into an object in order to do so.

At this stage, there is no concept of number. The word “other” does not refer to a numerical relation, but rather to a relation of dependence or contingency which is expressed by the dynamic of resistance in the orientation of opposition. We could describe the sense of “the other” as “not the one” or “other than the one”, though these terms would introduce concepts of thirdness into the relation which are inappropriate and incorrect. The essential point is that the relation of secondness is a relation of an asymmetry of conceptual dependence, but is not intrinsically one of number.

The concept of number is implicit in the nature of the other, in that the thrust of otherness is in the direction of establishing an independent being. This instigates a chain of implication which leads from otherness to priority, from priority to secondness, from secondness to duality, from duality to the concept of “two”, which, as Jung said, is the first true number, and from “two” to “three”, from “three” on to the other natural numbers, then turning back to convert the one into the mere number one, back further again to zero, back even further to negative numbers, changing to a third direction into the realm of imaginary numbers and so on and so on, until one arrives at the fully elaborated system of mathematics which we have today.

But, the essence of the logical asymmetry, the constant thread running throughout the typology, is that the first permits the second, but the second is obliged to the first. Thus, the second necessarily implies the first, but the first does not imply the second at all. This implicational asymmetry is what constitutes the meaning of firstness and secondness and the relation of radial opposition. And, it can be seen clearly in many functional asymmetries of natural language, most overtly in the logical relation between assertion and presupposition.

Thus, the concept of number is implicit in the concept of “the other”, but not in “the one”. And, in general implication from the prior to the subsequent not being obligatory, one is not obliged to follow those implications to their bitter end, if they have one, just because it is possible. It would not be practical for most people, even if they could sustain the inclination.

So long as the other remains a dependent function of the one, the concept of number cannot be developed. The decisive step which gives birth to the full-fledged concept of number, and the logic of thirdness, is the attribution to the other of the standing of an autonomous independent element in itself in its guise as the number two. In this way, the other is elevated to become an independent frame of reference as the first actual number in terms of which the concept of number can be established and elaborated. It is in this sense that Jung said that the other, when taken as the number two, is the first actual number. When the other becomes a full-fledged number it supplants “one” as the central point of reference. Hence, “two” is the origin of the concept of number, and thus is the pivotal numerical concept, as well as the numerical...
conceptualization of the process of separation and division from which and through which all numbers are generated. Numerically speaking then, two stands between one and all of the rest of the numbers, from which position it mediates the numerical relation, identifying what counts as a number, and characterizing the position of each number as a number, including the number one. The other, then, has taken the central position of the one, to become point A in Figure 3. The other, in its new guise as a number, has become the central standard and frame of reference. This is how thirdness evolves from secondness.

From the point of view of the abstract mathematical conception of numbers, this relation might not seem to make much sense. But the purely formal idea of the numerical relation is a degree of refinement of the logic of quantity which is historically recent, which is ontologically very late, and which is never found in the structure of natural language. Thus for our purposes we need not worry about the more elevated mathematical implications. The relevance of the concept of number for natural language is rooted firmly in the ground of secondness, and barely releases itself into the rarified air of thirdness.

Many languages do not have a very fully developed system of number, but all languages have at least the rudiments of number. But, even though item by item enumeration and precise specification of number is a available as a way of characterizing quantity, it is rarely made use of in normal interaction, as it is too cumbersome, and usually not important. Whether one is being chased by fourteen or fifteen or even twenty three wolves is not a very significant fact. More usual and more useful in ordinary life are various conceptually more primitive and gross concepts of quantity.

The conceptually simplest possibility, of course, would be to make no quantitative distinction at all, in accord with the logic of firstness. There are no languages which are incapable of quantitative specifications, but there certainly are cases where such characterizations are not made and not considered to be relevant. And in many cases, one language may have a particular kind of quantification which another does not. For example, there are many languages, unlike English, which do not grammatically obligate quantitative classification of every noun.

The first logically possible quantitative distinction is at the level of secondness. The prototype of this opposition is the concepts of “one” and “many”. In trying to understand this distinction from the point of view of thirdness, one would be induced to wonder, as was F. R. Palmer, in his book Semantics, why the line should be drawn arbitrarily at that particular numerical juncture.

...it is difficult to see why SEMANTICALLY the essential distinction should be between singular (‘one’) and plural (‘more than one’)...If we look at the problem of counting ‘objectively’ it is not at all obvious that there are any ‘natural’ numerical classes that might be expected to be shown in the grammar of all or most languages. (p 126)

He is perfectly correct in his observation that there are no numerical natural classes of this kind. Numerically speaking, there is no more reason to expect the boundary to fall between one and two, than between seven and eight, or thirty two and thirty three. His mistake is in thinking that symbolic logic, the concept of number, and the supposedly objective point of view of thirdness governs the structure of language. From that point of view, what would be predicted to be natural classes and natural behavior never are, because symbolic logic is not the logic of the nature of things, but the logic of man made symbols.

From the point of view of typological logic, it is obvious that this distinction is a natural one, that it is the first logically possible one, that it must be governed by the logic of secondness, and that “many” does not mean “more than one”, because it is not a numerical concept at all.

Given the guiding principle of typological logic that one is prior to two and two prior to three, it would be logically impossible for the first distinction to be between one and two, on one hand, and the rest of the numbers on the other, because that would necessitate four concepts to be in view at the same time - one, two, one and two, and the rest. The problem which Palmer perceives cannot arise unless one takes all of the numbers as the given prior frame of reference in which quantification is conceptualized. But that is absurd, though still the prevailing opinion, because it implies that the concept of number is present from the beginning, but it is perfectly obvious that small children do not understand the concept of number. And, it is also obvious from the structure of quantity in natural language, that it is not established on the foundation of number, but rather number is of relatively marginal significance.
In terms of typological logic, we can non-numerically describe the relation between “one” and “many” as being a radial opposition of the type of secondness, similar to the relation between the oneness of center of the circle and the radially divergent manyness of the points comprising the circle. The further differentiation or apprehension of any one or more specific points on the circle is precluded by the limitation of the logical type to two elements. Also, the apprehension of the manyness of points as a unitary collection of “all” of the points is logically subsequent to “many”; you must have “many” before it is possible to have “all”. It is of course possible in the logic of secondness to apprehend the circle as a unitary element in relation to the center of the circle, but that is a different concept, for a circle is not “many”. What is essential is that it is a radial opposition in which “one” is first, from which “many” is derived.

Neither the concept of “one” nor that of “many” here is a number, though the latter is a matter of quantity. In fact, it is the opposition between quality and quantity. One can think of “many” as the primitive quantitative concept in which quantity is still being evaluated qualitatively in contrast to the quality of oneness. One might say that the meaning of “many” is really “having quantity”, implicitly by contrast with “having quality”. To say that something is “many” is to say that it is characterized by quantity. Thus, “the many” is a type of phenomena which is distinguished by having the quality of quantity.

This explains why it seems not exactly right to describe two or three or four or maybe even five objects as “many”: five is barely enough to give the feeling of quantity. And, it also explains why the use of “many” depends on the size and distribution of entities in relation to the background: five pebbles in the hand could be many, but five trees around the horizon is not many; two hundred is a lot, but two hundred hairs on the head is not many.

It would, of course, be misleading to try to pin down the meaning of “many” from the point of view of thirdness, and would inevitably distort the concept. For example, from the point of view of numbers as symbolic sets, one might reason thus: Since there is “one” as distinct from “many”, manyness must begin with two, or if not two than three, or, if no numerical point is precisely specifiable as the beginning of many, then “many” must be a statistical probability or a special kind of fuzzy set as opposed to the ideal sets of numerology and symbolic logic which have rigid and precise boundaries. This may be logically valid reasoning, but it is a logical distortion of the concept of “many” to try to pin it down to any exact numerical definition, because it is not a numerical concept. It refers to the quality of quantitativeness.

It was pointed out by Bateson (p. 157) that the logical behavior of natural language distinctions like that between “one” and “many”, if seen as a limitation of the logical ability to categorize, would correspond to the inability to distinguish between the logical quantifiers “some” and “all” and between “not all” and “none”, and he also pointed out that this is one of the characteristics which Freud identified, along with the absence of negation, as a property of secondness (Freud’s primary processes). And, this perceived inability and logical incoherence describes exactly the prototypical logic of secondness which underlies the symbolic surface and actually governs unconscious thought and natural language, and is the reason for which human behavior is generally perceived as illogical and unreasonable.

There are many derivative third concepts of quantity in language, such as, “all”, “some”, “few”, and “none”, and I will look at one of them in a moment. But first, it is important to distinguish typologically between those which are derived in the logic of secondness by primary opposition (many) or secondary analogical opposition (recall that this is what Peirce calls “analogical thirds”) on the one hand, from those which are derived by negation in the logic of thirdness. Notice that “many” might be represented in symbolic logic as “not one” (= none ), but it is not semantically equivalent, for “many” has positive semantic content, where “not one” does not. One can feel and perceive manyness, but there is nothing perceptible about “not one”. In short, the word “many” has semantic roots in the tactics of secondness and manyness has tangible phenomenological manifestation, where “not one” is a sheerly symbolic possibility.

One of these analogical thirds which is sometimes incorporated into the structure of language is the addition of the concept of “two”, giving the three element system - one, two, many. Just as English has grammatical categories of “one” and “many”, usually called “singular” and “plural”, obligatory in nouns.

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25 See Lakoff 1987 p. 21-22 and further references given there on fuzzy set theory.
pronouns, and verbs, some languages add the category of “two” or “dual”. In this system, the concept of “two” is not the same as the “other”, but on the other hand it is not a full-fledged number yet either. The appearance of “two” moves one step further in the direction of the development of the concept of number, but its appearance does not necessarily imply the transformation of every concept of quantity into numbers.

In this system, “many” retains its sense of referring to quantity in an undifferentiated and unenumerated qualitative sense, and remains uninterpretable from the point of view of numbers. In languages which have this three element system of quantification, “many” cannot be used for “two”, but it would still be a mistake to conclude that “many” begins with three. It is still considered peculiar to refer to three or four as “many”. “Many” is still a description of entities which have the quality of quantity, with the exclusion now specifically marked by the presence of the form for “two”. Thus, “many” is opposite to “one” and “two” is opposite to “many”. This particular kind of “two” is the third of the three concepts to appear, and third in terms of logical dependency, in contrast to its numerical position as second.

Although these concepts of one and two seem to be the same as the numbers one and two, they are not, and they are not used in the same way to refer to quantitative characteristics of objects. This difference can be seen in what is sometimes called the facultative usage of the term “one” as opposed to “many” and of the corresponding grammatical category of singular as opposed to plural. If we consider a sentence like this, for example,

One cannot lift a car.

it does not specify numerically, but if pressed to yield a numerical implication, it would be “all ones”, and thus refers to the idea of “many”. In order to specify exactly the number 1, it would be necessary to say, “One person cannot lift a car” or “No one person can lift a car”, but even here, it implies “all single persons”. In the same way, the grammatically singular subject in,

Man is mortal.

does not refer to a single man, but to all men.

Jakobson has characterized this relation in terms of markedness, the logical implications of which we will consider at length below.

Jakobson’s description does get at the fact which we are trying to explain here, but it presupposes the priority of the formal characteristics of marks as the defining criteria of the relationship between the categories, where here our purpose is to derive the categories and their relationships from typological logic in order to predict the formal relations of markedness. As a result of the priority given to form, it was necessary for him to state this generalization in the order of reverse dependency. That is, this definition would imply that the concept of oneness is defined as the absence of manyness. But that is clearly backwards, and I do not suppose Jakobson could feel entirely comfortable with this description for that reason.

When we come to the dual category in this system, it is more difficult to illustrate its intuitive value as being distinct from that of the number two. This is in large part due to the fact that because of the position which it is left in, between “one” and “many”, it can only refer to classes of two entities, just as the number two does. Thus, referentially, this concept is indistinguishable from the numerical concept of two. And, it is also difficult to exemplify its value in English as opposed to its referential use, because English has no systematic manifestation of this dual category. There is only the isolated instance of the word “both”. In this word, one can see that it has referential similarity to the number “two”, but it is used in a substantially different way and has different implications. For example, “both eggs” implies that they are somehow to be taken together, but “two eggs” does not have that implication. The twoness of this system can be seen thus to imply that the referent is an entity with the quality of twoness, as distinct from the
implication of the number “two” that there a number of objects which is precisely two. Thus, this “two” is a quality of twoness in the same sense as is found in “pair” and “couple”.

It is clear enough, however, without elaborating the sense of this dual category, from the fact that the meaning of “one” and “many” is retained in exactly the same sense when the “two” is added, that this is not a system of number. In fact, it is one of those analogical thirds which we have seen several examples of before. The third category, the “two”, does not really mediate the relationship between “one” and “many”. In a numerical sense it is between them, but like the example of Philadelphia being between Washington and New York, the middle term is not the frame of reference which mediates the relation between the others. “Many” does not mean what it means as a function of the mediation of “two”.

“Two” has not yet become the independent frame of reference in which is established the concept of number. It is between “one” and “many” as evaluated from the numerical point of view, but that point of view has not yet crystallized. This can also be seen by the fact that even if we were to take “one” and “two” in this system as numbers, “many” is certainly not a number, so there are only two elements which could be taken as numbers. But, if there are only two numerological elements in a system, then it would not be a coherent numerical system. It is only when “three” appears that the concept of number is truly born, “two” becomes independent, supplants “one” as the point of reference, and the vaguely quantitative concept of “many” is dissolved into the set of abstract numbers. Prior to that point, the quantitative conceptual system remains a system in the logic of secondness, and “one” remains as the central point of reference.

To go back to the beginning, the original quantitative system consists of two elements: “Many” is in radial opposition to “one”, derives from “one” and, is dependent upon “one”. Semantically, “many” refers to the synesthetic feeling of manyness, the sensual quality of quantity, in opposition to the quality of “one”, which is the feeling of cohesive unity. This system of two elements is proto-typical of the type of secondness.

In this system, “one” is the still the foundation of manyness, though manyness has managed to become independent in the sense that the quantitative concept of “many” is farther from “one” than is the original concept of “the other”. It has substituted quantity for otherness. Now, at this point, by false analogy, “two” can be taken as the beginning of manyness by equating “two” with the original beginning of “one”. Manyness can then recreate its own separate beginning in itself, independent of “one”, by cutting off and separating out from its undifferentiated mass, its own generative element, which is the notion of “two”.

This third element, the root of manyness, is an illogical and unstable appendage in that it has no place in the logic of secondness and the logic of genuine thirdness has not developed yet. It hovers in logical suspense, unsteadily above the ground of secondness, tending to collapse back to true secondness. In natural language, such systems are uncommon, and where they are found, they always tend to collapse in ways to which the more logically stable systems of two elements do not.

Or, the system can take a typological jump to the symbolic stability of thirdness. The process of division can be repeated again for the third time, removing “three” from the undifferentiated mass of quantity by analogy with “two” and “one”. “Three” appears as the fourth element in a system which was already suspended in logical incoherence. As the fourth element, the appearance of “three” precipitates a total collapse of logic, the chaotic mind-boggle which one experiences in the attempt to comprehend four independent variables at the same time. From this logical hyperspace in which quantity, quantities, and the dividing of quantity, together with the quantities of “two” and “three”, and the “one”, are whirling in chaotic suspension, either the whole thing is put out of mind and the system is allowed to settle back down to the ground of secondness, or the incoherently divided and partly undifferentiated mass of quantity is crystallized into the system of number on the pattern of the original seed of number, and of thirdness in general, which is “two”.

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26 It is worth noting that this analogical recreation of its genesis is in reverse: in the first division, the "other" separates itself from its root in the "one", but in the second division, "many" separates its root (two) from itself.
Duality becomes the ground and pattern of thirdness and the three logical types are recast in the logic of thirdness after the pattern of duality. The pivotal divisive thrust of opposition is recast and fulfilled as the operation of negation, which becomes the symbolic substitute for actual brute tactical dynamics.\(^{27}\) The phenomenological being of firstness is recast as the concept of identity, in which the internal emptiness, separateness, and external identity of each element as established in mutual interdependence, i.e., both independence and dependence in relation to every other entity, is substituted for the intrinsic fullness of being. And, the triumph of the third element is the synthetic reunification of each separate element through the conjugal predication of that interdependence.

Thus we arrive at the three laws of symbolic logic, the law of identity, the law of negation, and the law of conjunction, from which all of the other principles of symbolic logic and mathematics can be derived.\(^{28}\)

This radical transformation from the logic of radial opposition to the logic of diametrical opposition, however, never manages to free itself completely of its roots in secondness and in firstness, as can be seen by the replication of the types within the laws of thirdness. And the violence of this struggle of independence and restructuring is manifest in the formal marks of the structure of thirdness which are distributed as boundary marks according to the number of surfaces of opposition and conflict, the number of cuts which are necessary to set off a particular concept from its grounding in firstness. We will turn to the manifestation of these marks in Section 4.

In the remainder of this section, I would like to consider definitions of the concept of opposition. But the problem is that there are none. Or, at least, there are virtually none, and none that are very clear on the point at issue.

In the first place, there is a strong tendency to put the concept of opposition aside entirely, and to not discuss it at all, to not think of it, and to not see any instances of it in language, except for the rare and isolated example that forces its attention on one. One can pour through the literature of linguistics and find vast amounts of literature which do not even mention the concept. There is not much to say about this, except that it is a remarkable vast black hole in linguistics in view of the fact that opposition is a ubiquitous phenomenon in language and in every aspect of life. To what can one attribute this negative presence?

One might deny my claim that it is ubiquitous, to which denial at this point I cannot reply. One might claim that it has been overlooked, but that would be gratuitous. Of course, it is possible that I have just failed to find those definitions. That is always a possibility in making a claim about the absence of something. But even if I have missed something, and even if it is important, the pattern of avoidance is still clearly manifest.

The only explanation that makes any sense is to suppose that it is the positively dissuasive influence of the symbolic tendency to put opposition and conflict out of mind, to cover it up, and bury it.

In the relatively rare instances when one does encounter the term or the use of the concept, it is very rarely given any kind of a definition, or even a reference to someone who does give a definition, or any other kind of authority. I have yet to find an attempt to give it a precise definition. Typically, it is simply taken as a given without any comment at all. The one exception to this generalization is Roman Jakobson, who has offered occasional statements about the nature of opposition, which, taken together, seem to be contradictory, who, when he gives any authority, usually cites the unattributed authority of “logicians”, with the one exception of occasional references to Pos (1938), “La notion d’opposition en

\(^{27}\) “In logic, the negative is used as the impelling power to bring movement to all things”, Kierkegaard, p. 12.

\(^{28}\) It can be seen quite clearly at this point that the dialectics of Hegel, on one hand, and that of Marx and Engels, on the other, are both contained entirely within the type of thirdness. The kind of logical evolution which they envisioned is a circular elaboration of the logic of types as recast in the symbolic mold, and thus never escapes from the dualistic split between the symbolic on one hand and brute fact and pure being on the other, and thus never comes into contact with reality. Hegel characterized his dialectic correctly as “ideal”, but still thought incorrectly that the best you can do is to approximate contact with reality through a manipulation of the magical and mystic power of the symbolic. Marks and Engels compound the mistake by taking Hegel’s dialect as the logic of brute facts.
linguistique”, which is not very satisfying. Even Peirce is vague on the critical difference between radial and diacritic opposition.

Thus, there is not much in the way of explicit assertions about opposition, except for those of Jakobson, so let us take his assertions as grist for the mill. It should be unnecessary to emphasize that taking his statements in this way is the reverse of disrespect, since I have continually relied on his rich and valuable insights and his authority in linguistics throughout this essay.

The longest description of opposition which I have found in his voluminous writings is this:

we should recall what logic teaches us on the subject of oppositions. The opposed terms are two in number and they are interrelated in a quite specific way: if one of them is present the mind educes the other. In an oppositive duality, if one of the terms is given then the other, though not present, is evoked in thought. To the idea of white there is opposed only that of black, to the idea of beauty that of ugliness, to the idea of large that of small, to the idea of closed that of open, and so on. Opposites are so intimately interconnected that the appearance of one of them inevitably elicits the other. (1978 p.76)

Although it is not explicit, it would seem that he is talking about symmetrical opposition here. However, later in the same text he speaks of real binary oppositions, as defined in logic, i.e., they are such that each of the terms necessarily implies its opposite. (p. 81, emphasis his)

And in another text,

H. J. Pos noted that opposition is in essence a logical operation...The presence of one term of a binary opposition necessarily implies and educes the other, opposite term...
(Vol II, p. 637)

In these two quotes, he clearly has in mind diacritic opposition, because in the radial opposition of secondness, the prior term permits the implication of the second, but it does not necessarily do so, whereas the second does necessarily imply the first. That is, a point does not necessarily imply a circle, but a circle necessarily presupposes a central point. This is the essence of the asymmetry in radial opposition.

In another place, speaking of another kind of opposition, Jakobson said:

we recognize in the child’s acquisition of language the same two mutually opposed but simultaneously driving forces that control every linguistic event, which the great Genevan scholar characterizes as the “particularist spirit”, on the one hand, and the “unifying force”, on the other. The effects of the separatist spirit and the unifying force can vary in different proportion, but the two factors are always present. (1968, p.16)

Notice, in passing, that these forces are precisely what we referred to as “centripetal” and “centrifugal” in the discussion of the dynamics of secondness in Section 2.1. However, while this statement is not explicit, it seems to suggest that the two forces are of equal power, of equal standing, and of equal importance. This is not consistent with the entire thrust of Peirce’s typology, in which the “unifying force”, to use the term here, is prior and predominant in every respect, though at the level of thirdness, the opposite terms do appear to be symmetrical.

In apparent contradiction to the foregoing, he says the following in writing about the relation between form and meaning.

This discrepancy between the formal units and the semantic units, this asymmetric dualism of signans and signatum...has been rightly pointed out as a pertinent structural trait of the linguistic sign. But the asymmetry does not mean a lack of correspondence between these two aspects, and the mutual solidarity of the forms and their semantic functions remains quite evident. (V. II, p.105)

Here he explicitly mentions the property of asymmetry, the essential characteristic of secondness, but he seems to draw back from positing a fundamental asymmetry: He is saying that the asymmetry is contained in a prior symmetry. If one looks at the discussion which leads up to this statement, it becomes
clear that he is taking the symbol, with its symmetric relation of opposition, as the primitive frame of reference.

An analysis of any linguistic sign whatever can be performed only on condition that its sensible aspect be examined in the light of its intelligible aspect (the signans in the light of the signatum) and vice versa. The indissoluble dualism of any linguistic sign is the starting point of present day linguistics in its stubborn struggle on two fronts. (p.104)

What he is talking about here is the symbol; it is the symbol which is a synthetic unity of signans and signatum, an arbitrary conventional law marrying form with meaning. Thus he is explicitly taking the symbolic type as the inescapable and final frame of reference for the analysis of “any linguistic sign”. This asserts that the symbolic type of sign is conceptually prior to the indexical type and the iconic type. To maintain that the symbolic is fundamental and at the same time to maintain the validity and value of Peirce’s typology of signs, as Jakobson continually does, is logically contradictory.

In discussing prerevolutionary Russian artists, he says that

Stravinsky with his “search for the One out of the Many” reveals the core of his work when he reminds us that “the one precedes the many” and that “the coexistence of the two is constantly necessary”. (Vol. II, p. 632)

Again, he seems to hold out the priority of “one” in relation to “many”, but at the same time he uses upper case for both, and finally encloses them both in a prior symmetry of “two”.

But at least Jakobson got the order right. Kenneth Burke, who is also a profound and insightful analyst of language, in writing about the relations between pairs of opposites which align with the pattern of “one” and “many” as having positive and negative qualities, such as yes/no, true/false, love/hate, etc., opines as follows.

We need not now decide whether, in such paired opposites, the positive or the negative member of the pair is to be considered as essentially prior....However, in a hit-and-run sort of way, before hurrying on, I might avow that I personally would treat the negative as in principle prior, for this reason: (1) Yes and No imply each other; (2) in their role as opposites, they limit each other; (3) but limitation itself is the “negation of a part of a divisible quantum.” (I am quoting from the article on Fichte in the Encyclopedia Britannica, eleventh edition.) (p. 11-12)

He obviously does not want to give an opinion here, and for good reason. He is caught in the dilemma between his intuitive certainty that the positive is first and his intellectual commitment to the logic of the symbol. Concerning his first reason, we have already seen that it is not true that “yes” and “no” imply each other: “Yes” is an affirmation, which implies a prior question or denial; “No” is a denial, which implies a prior question or assertion. “Yes” can be a reply to “no”, and “no” can be a reply to “yes”, but only after the third step in the dialectic, as they both are elements of thirdness.

Concerning his second argument, he simply stipulates that it follows from the definition of opposition that they limit each other, but this is circular. Where does he get his concept of reciprocal and symmetrical opposition from?

Concerning his third argument, it rests on the second, and thus continues in the same symmetrical back-and-forth shuttle in the figure of the circle of diametrical opposition.

Nor is Burke alone in his confused conceptualization of opposition and the relation between the one and the many. William James undertakes his study of “The One and the Many” from a point of view which he characterizes as “abstract”.

abstractly taken, why is ‘one’ more excellent than ‘forty-three’, or than ‘two million and ten’? (P. 543)

Of course, if we take “one” abstractly, which seems to mean as a number, it isn’t more excellent. But, why should we take it abstractly? In what sense is abstractness more excellent than concreteness? Obviously, in the present context, James is taking the point of view of thirdness, the point of view of
symbolic logic, and asymmetrical opposition, in which case it is more excellent in that it is the point of view that is conventionally sanctioned. And having taken the point of view which presupposes symmetrical opposition, James naturally arrives at the conclusion that

the oneness and the manyness are absolutely co-ordinate here. Neither is primordial or more essential or excellent than the other. (p. 546)

And, he ends, inevitably, with a vague but, once you clear away the brush, fundamentally incorrect and counter-intuitive conclusion.

Pragmatism, pending the final empirical ascertainment of just what the balance of union and disunion among things may be, must obviously range herself upon the pluralistic side. (P. 556)

What he is saying here, in the style of his evasion in avoiding the overt assertion that “many” is before “one”, is that he does not want to come right out and say that the many is before the one, but that is what he is saying just the same. Thus James arrives at the paradoxical philosophical position in which he sought to frame pragmatism.29

The world is indubitably one if you look at it in one way, but as indubitably is it many, if you look at it in another. It is both one and many - let us adopt a sort of pluralistic monism. (P. 492)

As I said, at least Jacobson was aware of the asymmetric characteristic of opposition, and when he talked about it he got the order right. But he was persistently contradictory and in error in enclosing that asymmetric opposition in a prior and fundamental opposition of symmetry, thereby submitting every concept to the dominance of the logic of thirdness.

It is not my purpose here to catch him a logical inconsistency, nor to prove him wrong, but rather to show that the depth of confusion induced by the dominance which is attributed to symbolic logic reaches even to such a profound and insightful linguist as Jakobson. And, what is more, he has not only heard and read of Peirce’s typology, but has incorporated it into his thinking enthusiastically and whole-heartedly; he has worked with it; he has played with it; he has plumbed its depth for half a century at least. And yet, he can be led by symbolic logic and the impersonal authority of “logicians”, the notorious impersonal third person, the “they” of thirdness, to adopt the premise that symbolic opposition is the one and only logically possible concept of opposition, to which any perceived asymmetry must be subordinated and made symmetrical, and thereby, to the subordination of the theory of language to symbolic logic and the rejection of Peirce’s typology of signs and his logic, which he so enthusiastically embraced.

In practice, the only way Jakobson could get anywhere, like all linguists, and like everyone else for that matter, is by ignoring the logical implications of what he wanted to do and just go a head and do what seemed right. What he does in his work is actually based on typological logic and is almost always, and certainly when he is most insightful, in flat contradiction to what he says about obeying the principles of symbolic logic. Every important and useful general concept or particular analysis which he produced throughout his long and fruitful career, which includes a great many, is based on the logic of secondness and the concept of asymmetrical radial opposition. The stratification of phonological systems in terms of markedness establishes the structure of that system entirely in terms of the predication of priority, which he calls “the laws of irreversible solidarity”. In this context, in direct contradiction to his statements above, he speaks of the relation between phonemes as “the implying” and “the implied”, in our terms, the first and the second. (1968, p. 58) And, in the same context, he says,

a secondary value cannot exist in a linguistic system without the corresponding primary value (p. 59)

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29 And because James unwittingly assumed that the logic of thirdness is the only logic, he was never able to understand Peirce’s theory of signs or his theory of logic, and consequently James profoundly misunderstood Peirce’s suggestions as to the framing of pragmatics. Joseph Brent, in his recent biography of Peirce, correctly points out that “Even his beloved and only true friend, William James, himself no slouch as a philosopher, never understood him... “(p. 327)
He continually asserts that the relation between the global structural dimensions, the spatial and temporal counterparts in language, of syntagmatic and paradigmatic relations is one of opposition and that the syntagmatic dimension is prior.

The syntagmatic relation arises in the child before the paradigmatic relation - the successive contrast before the simultaneous one, and the contrast between consonant and vowel arises, of course, on the syntagmatic axis. (1968, p. 70)

This assertion implies that a position must exist prior to the elaboration of a position, or, in other words, since it is the symbolic structure that is being elaborated, that position is prior to structure.

It is unnecessary, and would be a large undertaking, to examine all of his many fruitful ideas, such as the opposition and priority of aphasic disorders of contiguity vs. those of similarity and the opposition and priority of metonymy vs. metaphor. It should be obvious that they all rest on typological logic as outlined here and in particular the priority of radial opposition over diametrical opposition.

The laws of typological logic can thus be seen clearly to be played out in the work of Jakobson: The intellectual and conscious force of dominance and exclusivity which symbolic logic seeks to exert upon the underlying largely unconscious, dynamic, and practical logic of secondness; The emergence of the logic of secondness in practice and the resulting logical contradictions and incoherence which one must endure in order to apprehend and express the phenomena and laws of secondness; And the logical struggle which ensues.

The fact that the work of Jakobson, or anyone else, is contradictory and illogical is precisely the mark of symbolic incoherence and inadequacy, and at the same time the manifestation of the struggle to penetrate beneath the symbolic surface of phenomena.

Incoherence and logical contradiction are not in themselves a mark of validity or correctness, of course. Nor are they the mark of invalidity and incorrectness, except from the point of view of symbolic logic, though this judgement is itself illogical since symbolic logic is inherently self-contradictory. Validity, correctness, and value must be judged by the fruit: Does it satisfy? And, in the case of Jakobson’s work, it does.

Thus, what is remarkable in Jakobson’s work is that it is self-contradictory, and that he had the moral courage to resist the implicit sanctions against being logically contradictory and the audacity to persist in doing so.

And yet, acceding to the conceptual domination of symbolic logic, he was inhibited in his struggle from following out the logical implications of Peirce’s typology of signs and his theory of logic to establish an independent logical point of view and frame of reference in which to ground the fruit which he was able to wrest from language. For this reason, the many insightful principles of language which he wrested from the ground of secondness seem to be suspended in mid air fraught with contradiction: they are not logically or theoretically grounded. For this reason, his work has remained unresolved with and undigested in terms of prevailing theoretical frames of reference, which are, of course, all formulated in terms of symbolic logic, and his work is thus often misapprehended and judged incorrectly to be of little value. And, for this reason, he himself was unable to grasp and express the general law of marks which was already in his hand.