This paper asks whether the imprecision and complexity of natural language, as opposed to the language of science or logic, represent flaws or essential functional properties. It is argued that ambiguity can be manipulated by the speaker through environmentally derived characteristics. A discussion follows on the study of the functions of language as conceived by the Prague school, and the effect of functional linguistics on American sociolinguistics. While both schools agree on a definition of the term "functions of language," the central problem is a disagreement in the approach to the study of language functions. The Prague school postulates a specific number of functions on the basis of a particular theoretical understanding of the speech act, while the American school believes that language functions should be discovered rather than postulated. As only extensive further research can lead to a definitive theory of language functions, it is hoped that the significance of the functions of language will be recognized, and that the study of functional linguistics will benefit structural linguistics as well. (AM)
The Functional Properties of Language

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In the preceding sections of these materials, some thought has been given to two attributes of language that are considered basic: the great complexity of its structure, and its lack of complete regularity. Many authors, both popular and scientific, have considered these two basic attributes of language its basic flaws. Its lack of regularity, particularly its susceptibility to ambiguities, has been considered an impediment to precise and truthful communication. Its great complexity has been considered an unnecessary hindrance to learning. It is therefore not unreasonable to ask whether these often criticized basic structural attributes of language are simply a result of historical accident, to be deplored—and corrected whenever possible—or whether, quite to the contrary, the complexity and the relative irregularity of language are not in some ways essential to its functioning in its human context. Many linguists believe precisely that, in spite of the repeated attempts by both lay authors and scholars in different fields to point up the purported inadequacies of natural human language and to search for remedies.

Critics of natural human language often compare it to other more regular and less complex forms of communication, such as the languages used in logic, computer science, or mathematics. Unlike natural human language, these artificial languages are wholly regular and wholly consistent; most importantly, there is no room for ambiguities in them. Why can natural language not be made to conform more closely to these standards?

Most linguists, including those who favor formal approaches (that is, for instance, the construction of formal models of language), would agree that all properties of language, including those that may be considered its deficiencies, are necessary for its functioning in the great diversity of human discourse. It
In true that maximum precision and lack of ambiguity are essential in, for instance, logical and scientific discourse. But it is equally true that, important as they are, such forms of discourse represent only one use of language and a rather specialized one at that; not to mention that these special forms of discourse are limited to those speech communities in which activities such as the pursuit of science and logic are sufficiently well integrated in the culture to be conducted in the native language. Even in these speech communities (to which, needless to say, belongs that of American English), the use of language for purposes of logic and science is rather rare by comparison with the many other uses to which language is put under both everyday and more specialized conditions. And what may be a serious flaw for purposes of science or logic may turn out to be a great advantage for some other purpose. Thus, for instance, nobody will deny that the imprecision of natural language is of great advantage whenever the speaker wants to avoid a specific commitment and would like to hedge. The same holds for the ambiguities of natural language: In many speech situations, the speaker may want to be deliberately ambiguous in order to achieve the desired effect. Where would, for instance, poetry be if ambiguity were to be eliminated from natural language? And without a measure of ambiguity, how would one be able to find loopholes in the law?

Another important point is to be noted here. It is that, while language considered in the abstract indeed has many imprecisions and ambiguities, a good number of these are in fact resolved when language is used in actual practice. This has to do with the observation discussed in the earlier section on “The Structural Properties of Language” about language being a system of signs and signs functioning in an environment, consisting of a situation and a context. More specifically, the reduction of the inherent imprecisions and ambiguities of language in actual practice has to do with the relation between the system derived and the environmentally derived characteristics of the signs of which language consists. As was
noted in the above mentioned discussion, each sign, in the case of language, each of its elements, has certain characteristics on the strength of its being part of the system to which it belongs. These are what are called its system derived characteristics. In addition, in the process of being used in a given environment—situation and context—a sign acquires certain further characteristics which are its environmentally derived ones. Now then, as we previously noted in these materials, language is considered an ill-defined system. As a consequence, the characteristics which the elements of language derive from their membership in this ill-defined system are marked by varying degrees of imprecision and ambiguity. Thus, the imprecisions and ambiguities of language are rooted in its system derived characteristics. Nevertheless, as everyone knows, information is transmitted by the use of language. This transmittal of information is, however, not limited to whatever is conveyed by the elements of language that are implied in the act of communication. The environment, both the context and the situation, in which each of these elements of language is used likewise contains significant items of information which are accessible to the participants in the act of communication. It is of these items of information inherent in the environment of the sign that the environmentally derived characteristics of the sign are made up, both its contextually derived ones and its situationally derived ones. Thus, these environmentally derived characteristics of the elements of language furnish the additional information which may serve to reduce the imprecision and ambiguity of its system derived characteristics. This reduction of imprecision and ambiguity is optional: The user of language may choose, as was noted further above, to be deliberately imprecise or ambiguous. But in most instances of the use of language the imprecision and ambiguity inherent in its system derived characteristics are largely mitigated if not completely eliminated, at least from the standpoint of the participants in the act of communication, by the information contributed by the environmentally derived characteristics. Some simple examples of the use of linguistic units may
serve to illustrate this.

Let the first example be the simple term "son". As a minimum, this term may be used to designate anything from the direct lineal male descendant of a living being to any male individual viewed as junior to someone else, not to mention other less common possibilities. Truly this is a rather wide range of meaning and one that can be considered a classical instance of imprecision. Note, however, how this range of meaning is narrowed and the imprecision is either mitigated or eliminated the moment this term is used in a particular environment. Thus, consider the situation in which an elderly lady, holding a middle-aged gentleman by the elbow, is addressing another elderly lady facing the two of them, saying: "I want you to meet my son, Dr. so-and-so." Clearly, not just the participants in this particular act of communication, but most likely every observer of the American cultural scene will realize that this was a mother introducing her son to a contemporary, most likely a friend of hers. In the context of the present discussion, the question to be asked is, what are the environmentally derived characteristics of the term "son" which have served to narrow down its broad system derived range of meaning, and thus have helped to reduce if not to eliminate completely its imprecision. First of all, then, the situationally derived characteristics. The age difference between the woman and the man, as well as the woman's affectionate gesture are elements of the situation from which can be derived a characterization of the term "son" as referring to male offspring in the literal sense. The cultural environment of an "introduction" adds to this. Passing from situational to contextually derived characteristics, it is to be noted that in the context of a personal pronoun such as "my" the term "son" will acquire the contextually derived characteristic of referring primarily to a male offspring in the literal sense. Thus, all environmental factors point in the same direction. Now let this little introduction scene be shifted from real life onto the stage. Both for the participants in the act of communication and for the observer of the American cultural scene the inter-
interpretation of the term "son" will now change from a reference to male offspring in
the literal sense to a reference to a stage offspring, a coincidence between relations
on the stage and relations in real life being rather rare in the culture.
This change in interpretation is of course due to the situationally derived character-
istics of the term "son" which are different when it's used on stage from when
it's used in real life. To switch to an entirely different use of this term, con-
sider the exclamation "why, that son of a gun!". In this exclamation, the term
"son" still appears to be referring to a male individual, but whether or not this
is indeed the male offspring of a "gun" is open to question. Clearly, in the con-
text "why, that -- of a gun!" the term "son" has acquired an entirely different
characterization than in the preceding instance of use. And it seems to be fairly
clear that this is due to its different contextually derived characteristics.

One more example will be given. This is the classical example of an ambiguous
sentence in the recent literature of theoretical linguistics: "Flying planes can
be dangerous." As everyone knows, this sentence can have at least two different
readings: one reading is that it can be dangerous to fly planes, the second read-
ing is that planes which fly can be dangerous. When this sentence stands alone
without a context, and when the situation in which it has been used is unknown,
either of these two readings is equally plausible. However, situations in which
utterances are pronounced completely out of context or where situational factors
do not help to remove or reduce ambiguities are relatively rare in the real world
of language use. Thus, if the sentence quoted above is found to occur in the con-
text of a discussion on the vicissitudes of piloting, it will most likely be inter-
preted to refer to the dangers of piloting airplanes. If, on the other hand, it
is used in a discussion about the many structures that are known to have been hit
by aircraft in flight, the second of the two possible readings will obviously be
understood. In terms of the present discussion, this means that the ambiguity
inherent in the system derived characteristics of this sentence has been removed
by its contextually derived characteristics.

In the discussion so far, the following points have been made: In looking at natural human language, its complexity and lack of regularity (more specifically, its imprecision and propensity towards ambiguities) could easily be considered flaws to be corrected; however, a closer examination of the use of language in ordinary discourse shows that language is used for a multiplicity of purposes, and that for quite a few of them its complexity and relative irregularity are advantages rather than disadvantages; such an examination shows further that many of the imprecisions and ambiguities that are inherent in the elements of natural language are reduced or eliminated entirely thanks to the additional information provided by the environment in which these elements are used. Thus, these observations point up the significance of the purposes for which language is used, and of the effect on language of the environment in which it is used. Both of these considerations have to do with the functional aspect of language; the purposes for which language is used have by linguists been discussed under the heading of "The Functions of Language", and the effect of the environment upon language is of course one aspect of its functioning in the environment.

In the view of linguistics presented in these materials, the functional aspects of language are considered at least as important as, if not more important than, its structural aspects. This is because it is through its functional aspects that language is related to the rest of human life and culture, and it is through a study of these aspects that linguistics can be related to the other disciplines dealing with man.

While the interest in the functional aspects of language, with some notable exceptions, is relatively recent among American linguists, it has quite a tradition in Europe. One of the major European schools of thought in linguistics, the so-called Prague school (named after the capital of Czechoslovakia, in which it originated), has centered its theoretical thinking primarily around the problem of
the functioning of language, and one of its foremost proponents, Viliam Mathesius, has called his approach to linguistics "functional" linguistics.

In the theoretical conception of the Prague school, the functioning of language is closely related to the ingredients of the speech situation. This was first set forth in the work of one of the earlier theorists of the Prague school, the psychologist Karl Bühler. In Bühler's work, the basic ingredients of the act of speech are on the one hand the sign system which is the tool of communication, and on the other hand the sender of the message, its receiver, and the objects and states of fact that are communicated about. To the latter three correspond in Bühler's theory the three basic functions of language: there is the expressive function which is correlated to the sender, the appeal function which is correlated to the receiver, and the most important of the three, the representative function which is correlated to the objects and states of fact that are talked about. In later discussions of the functional approach to language, the representative function has been renamed referential function (and this will be the term used from here on in these materials). In every act of speech, all three of these functions of language are to some extent present. However, in most acts of speech one or the other of them clearly predominates. In a large majority of utterances, the referential function appears to be dominant; most utterances, after all, are used primarily to convey information about something to someone. The expressive function is said to predominate in cries of pain and other spontaneous exclamations that reflect the speaker's feelings; the appeal function is said to predominate in requests, commands, and other verbal attempts to influence the receiver of the message.

At the same time as Bühler was proposing his three functions, some other members of the Prague school, primarily the literary analyst Jan Mukarovsky, pointed out the significance of an additional function, the poetic or esthetic function. This is the function of language which is correlated to speech sign itself; it is defined as the capacity of the speech sign, that is, an element of language, to
attract attention primarily to itself rather than primarily to the message which it conveys. The esthetic function is not limited to language; its manifestations can be observed in any object which attracts attention to itself for what it is, rather than for the purpose that it is used for. Thus, the esthetic function is opposed to the utilitarian functions; in the case of objects these are the uses to which an object can be put, in the case of language these are the three functions posited by Bühler. The esthetic function may manifest itself randomly or systematically. Its systematic manifestations in the case of objects lead to art, in the case of language lead to literature and poetry. Thus, it is the systematic manifestation of the esthetic function in a carved handle that will make a knife into an art object: it is the systematic manifestation of the esthetic function by the use of poetic devices and the organization of content which will make an utterance a work of literature or poetry. The manifestations of the esthetic function and the use of language in literature and poetry will be discussed in some detail in a later section of these materials.

More recently, Roman Jakobson, who was a member of the Prague school before the Second World War and who has since then become the founder of his own school of thought, has proposed a more elaborate conceptual scheme for the functions of language, based on the understanding of the act of communication in terms of communications theory. He suggests that the act of communication involves not just four, as Bühler had said, but six elements. These are the addresser, corresponding to Bühler's sender, the addressee, corresponding to Bühler's receiver, the context referred to, corresponding to Bühler's objects and states of fact communicated about, and the message, corresponding to Bühler's speech sign. The new elements are that of contact, having to do with the physical channel and psychological connection required between the addresser and the addressee, as well as the code, that is, the system of the language to which the signs belong and in which the messages are formulated. To each of these six elements there again corresponds a particular function.
To the context referred to there corresponds the referential function, which is the equivalent of Bühler's representative function. To the addressee there corresponds the emotive function, which is the equivalent of Bühler's expressive function. To the addressee there corresponds the conative function, which is the equivalent of Bühler's appeal function. To the form of the message there corresponds the poetic function, which is the equivalent of the poetic function of the Prague school. Finally, to the contact there corresponds the phatic function, and to the code there corresponds the metalinguistic function. All those instances of speech that are primarily designed to establish contact as well as to open, maintain, and close channels of communication, are considered manifestations of the phatic function. Among the most common and best known of these are greetings, the "hello" or "so-and-so speaking" used to answer the telephone, etc. Manifestations of the metalinguistic function include all instances of speech concerned with language itself, such as discussions of correct usage, commenting on people's dialects, etc.

Lately, American linguists have become interested in the problem of the functions of language in connection with the development of sociolinguistics. This new area of interest is concerned with the relations between language and social structure, and attempts to study it by correlating linguistic and social variables. Clearly, one of the important linguistic variables is the functioning of language in different social situations. With this new point of view, American linguists interested in sociolinguistics have taken a new critical look at the question of the functions of language. Two authors in particular, Dell Hymes and Madeleine Mathiot, have given some attention to this matter, and the subsequent discussion is based largely on their views.

The present sociolinguistic discussion agrees with the earlier conceptualizations by the Prague school and Jakobson in regard to the interpretation of the term "function": Here as before, by "the functions of language" are meant the purposes for which it is used and the roles which it may play in human society. The
The present discussion differs from the earlier conceptualization in its approach to the study of the functions of language. Both the Prague school and later Roman Jakobson use a particular theoretical understanding of the act of communication as a basis for postulating a specified number of functions for language, first four, then six. No one has quarreled with the postulation of a referential function for language, since it is quite clear that the primary purpose of language is to serve as a means of communication and this certainly includes reference to things communicated about. The poetic or esthetic function of language is a good deal less evident, but in view of the significant results achieved by the Prague school on the basis of postulating this function (to be discussed in a later section of these materials), it is difficult to raise serious objections against it. The situation is far less clear cut in regard to the other functions postulated by the Prague school and Jakobson. The major difficulty here is operational, that is, it arises in attempting to apply the notions of the emotive, constitutive, phatic and metalingual functions to particular cases. More specifically, it turns out to be extremely difficult to separate manifestations of these functions from each other and from those of the referential and poetic functions. Even in the very clear cut example given further above, a little added reflection will make it clear that in each of these instances more than one of the functions of language is involved, and will make it rather difficult to determine which of them in fact does predominate.

On the basis of these considerations, both Hymes and Mathiot have each separately come forth with the suggestion that the functions of language should not be postulated, but discovered. This means that none of the many conceivable purposes or roles of language in human life should be taken for granted, and that a more definitive theory of the functions of language can only be the result of extensive further research and the rethinking of the issue in terms of its results.

In this proposed restudy of the functions of language, it may be useful to keep
In mind the two basic types of social environment that the sociolinguists have taken over from the sociologists: the small group, and the large group. For sociolinguistic purposes, the small group can be defined as that created by face-to-face contact; the large group then may be defined as any group which is constituted independently of face-to-face contact, although, of course, face-to-face contact will occur commonly among the small groups contained within it. The different functions of language can then be studied in terms of their appearance in either a small group or a large group environment. Thus, the functions postulated by the Prague school and Jakobson—whether their postulation ultimately turns out to be valid or not—clearly belong into a small group environment. Other functions of language that have been talked about in the linguistic and sociolinguistic literature equally clearly belong into a large group environment. As example of the latter are the functions of a standard language, discussed by Paul Garvin and Madeleine Mathiot in a paper some years ago. A standard language is defined by them as a codified form of speech, used by and serving as a model to an urban speech community (the term "urban" is here used in opposition to "folk" or "rural", and not in opposition to "suburban"). This is then the language used in education, bureaucracy, the media, literature, and so forth. Garvin and Mathiot propose four functions of a standard language; two of these will be enough to make the point here. These are its unifying function, and its separatist function. The unifying function of a standard language can be defined as the role it plays in maintaining the unity of a speech community in spite of dialectal differences (which in some well known cases, such as that of German, may be rather considerable). The separatist function of a standard language is the role it plays in setting off the community of its speakers against another speech community with which it may be confused or by which it may be in danger of being absorbed. Looking at some of the standard languages of the world, it seems that the unifying function predominates in the more established and larger speech communities, while the separatist function predominates.
in the less established and smaller ones. In either case, these functions are established in terms of an entire speech community; that is, they are established in terms of a group which is clearly not defined by face-to-face contact—a large group.

As can be seen, the functional properties of language are less well known and consequently less clearly defined than its structural ones. This does not mean that they are less significant; on the contrary, as may be noted in the section on the structural properties of language, the point of view held here is that the principles of the structure of language should be defined, and the structures of particular languages should be described, in terms of the functioning of language. The discrepancy in the understanding of function and structure that was just noted is thus not due to any lack of significance of either. Rather, it is due to the neglect which the study of the functions of language has suffered in much of modern linguistics, particularly on this side of the Atlantic. It is to be hoped that with the rise of the interest in sociolinguistics the recognition of the importance of functional considerations will likewise increase and the study of both the function and the structure of language will benefit from it.