

Preface

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Signs, Mind, and Reality: A theory of language as the folk model of the world

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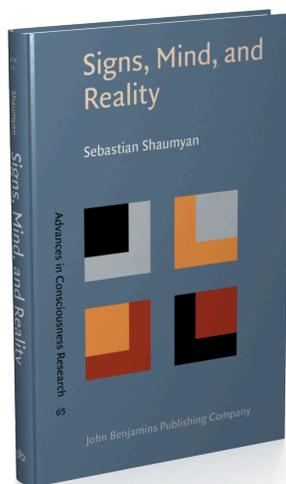
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Preface

This book is about a great intellectual adventure — the search for instruments that can free linguistics from dependence on the preconceived logical categories of the sentence and can make it to become a truly autonomous branch of knowledge, independent of logic and any notions alien to the nature of language. Only by becoming a truly autonomous branch of knowledge will linguistics be assigned its deserved place in the system of sciences.

As the culmination of many years of research, I have developed *Semiotic Linguistics*, a new linguistic discipline, which I present in this book. The domain of Semiotic Linguistics is radically distinct from all of the other domains of linguistics. The domain of Semiotic Linguistics is human language conceived of as a *folk model of the world*. By a folk model of the world we mean that every language is a particular conventionalized form of the representation of the world imposed on all the members of a language community by the social need to have a common instrument of communication. The folk model of the world is in fact a collective philosophy unique to each language. It is called the folk model because in many essential features it differs from a scientific model of the world.

The term ‘conventionalized’ as opposed to ‘conventional’ means that by its origin any representation of an element of the world could have been non-conventional, close to reality, but under the pressure of the laws of sign operations all natural representations have become conventionalized, regardless of changes in man’s perception of the world. For example, speaking of sunrises and sunsets, we do not need to mean that that the sun rises in the east and sets in the west; these words are merely conventionalized forms of the representation of the world that reflect man’s perception of the world before Copernicus. As the folk model of the world, language is a phenomenon of the social mind independent of individual psychology.

The idea of language as the folk model of the world can be traced back to Humboldt's conception of the internal form of language. Various versions of this conception can be found in works of many linguists, from Saussure's notion of value, Sapir's and Whorf's hypotheses of linguistic relativity, to the more recent 'ethno-syntax' of Anna Wierzbicka (1979, 1988).

We find insightful counterparts of the conception of the internal form of language in the modern theory of literature. The modern theory of literature does not confine itself to treating a literary work merely as a product of the artistic imagination of its author. Between the two objects — the artistic imagination of the author and his literary product — a third object is distinguished by the modern theory of literature: the conventional 'poetic world' through which the author perceives reality and which bears on the formation of the text of the author. We may mention Roman Jakobson's study on the role of the statue in the mythological world of Pushkin, Vladimir Propp's morphology of the fairy tale, Mikhail Bakhtin's reconstruction of Rabelais's poetic world, and many works on structuralist poetics.

Similarly, the modern theory of art does not regard creations of painters and sculptors merely as products of their imagination. Between the two objects — the painting and the imagination of its painter or the sculpture and the imagination of its sculptor — the third object is distinguished by the modern theory of art: the conventional 'poetic world' of the artist's perspective, through which the painter or the sculptor perceive reality and which bears on the formation of the painting or the sculpture.

The ideas underlying Semiotic Linguistics have a long history. These ideas can be traced back to the trend called *European Structuralism* in Europe and Russia. This trend must not be confused with *descriptive linguistics school* in America, also known as structuralism, which was sharply distinct from European Structuralism. While European Structuralism was concerned with *intrinsic* relations between sign and meaning, American descriptive linguistics concentrated exclusively on the *extrinsic* relations between morphemes separated from their meanings, so that the morpheme lost all its sign properties and became a mere vocal form — a physical event rather than a semiotic phenomenon. But in spite of all their significant achievements, European and Russian structural linguists have never succeeded in presenting structural linguistics as a coherent system of principles, laws and concepts, distinct from other linguistic disciplines. This is what the reader will find in this book. The rehabilitation of European and Russian structural linguistics in the form of Semiotic Linguistics is not a return to structuralist linguistics but an advance to a new stage of the development of the semiotic trend based on the discovery of a coherent sys-

tem of semiotic principles, laws, and concepts. The insights and discoveries of Semiotic Linguistics give a new significance, a new power to the old concepts of European and Russian structural linguistics.

Semiotic Linguistics recognizes three distinct objects: 1) man's thought, 2) the world, 3) language as the folk model of the world mediating between man's thought and the world.

Language as the folk model of the world is a bond of thought and sound that serves as an interpretation of the world imposed on the all members of a speech community. As the folk model of the world, language is a variable positioned between two constants — man's thought and the world. Man's thought does not get knowledge of the world directly but through the intermediacy of various folk models of the world, each model refracting the world in its own particular way.

Since Humboldt, the relation of language to thought and reality has been a time-honored topic of the philosophy of language, which has also attracted the attention of many linguists beginning with Saussure and Hjelmslev. Among the more recent significant contributions are the two books of Sydney M. Lamb (1998 and 2004; also important 1966).

Semiotic Linguistics is neither a philosophy of language nor a new series of general discussions of the relation of language to thought. Semiotic Linguistics is a technical inquiry into the intrinsic mechanism of language as opposed to thought. The technical question central to Semiotic Linguistics is this: What are the laws of the intrinsic mechanism of language as an intermediary between man's thought and the world?

This problem is difficult because language is an intermediary between man's thought and the world. It does not exist separately from thought but forms with it *the language-thought continuum*. *Mutatis mutandis*, we trace an analogy between the language-thought continuum and the energy-matter continuum, postulated in contemporary physics. Just as energy is a form of matter, so is language a *communicative form of thought*.

The difficulty of the problem is that we need to use the power of abstraction to distinguish language from thought, to distinguish the laws of language from the laws of thought. The analysis of the bond between language and thought is not like the analysis of a chemical bond; no chemical reagents are of assistance here, they must be replaced by the power of abstraction. Only by distinguishing language from thought — and the laws of language from the laws of thought — can we understand the interaction of language and thought, understand how language affects man's perception and cognition of the world. In pursuing this problem Semiotic Linguistics recognizes two distinct levels of the language-

thought continuum: 1) the level of linguistic value and 2) the logical level. As a result of this approach, Semiotic Linguistics differs radically from all trends of contemporary linguistics, which do not conceive of language as an intermediary between man's thought and the world and confound linguistics with logic and linguistic analysis with logical analysis.

Speaking about the distinction of the linguistic and the logical levels of language and about the distinction between the linguistic analysis of language and the logical analysis of language, I must make important terminological remarks. I distinguish between logic as the name of the science of logic and logic as a name for the processes or content of thought distinct from properly linguistic phenomena. I mean logic in this second sense when I oppose the linguistic level of language to the logical level of language and the linguistic analysis of language to the logical analysis of language.

A clear understanding of linguistics and logic as different sciences is also important. Logic as science is an essential part of the methodology of science and in this role is useful for linguistics as well as for other science. So, in my research I get much benefit from the concepts of combinatory logic. On the other hand, it is important to understand the special relation between the theories of syntax in the present-day linguistics and the science of logic due to the history of linguistics. Linguistics as an independent science owes its origin to the principles presented in Saussure's work, as published by his students. Before that time linguistics was considered a part of logic rather than an independent science. Due to the dependence of linguistics on logic, the concepts of logic were introduced into the study of language without the exploration of the specific aspects of language requiring the development of new properly linguistic concepts. The dependence of linguistics on logic was reflected in the first place in the choice of the basic unit of language. As the basic unit of language was chosen the sentence because the sentence was a linguistic expression of the logical statement, the direct concern of logic. The basic concepts in the analysis of the sentence came from logic. An important part of the analysis of the sentence was the concept of hierarchy understood from a logical point of view: the sentence was meant to reflect the logical statement and everything in the sentence which corresponds to the parts of the logical statement was considered the main parts of the sentence, while all the rest was considered secondary. This understanding of hierarchy is implicitly or explicitly accepted in contemporary linguistics and it reflects the historically inherited dependence of contemporary linguistics on logic and the logical analysis of language in terms of logical concepts alien to language.

Semiotic Linguistics brings a new concept of hierarchy totally independent of logic. We start with the introduction of the new concept of the basic unit of language leading to the understanding of language as an entity closely connected with thought and independent of thought at the same time. Taking the word as a basic unit of language, we treat syntax as the process of the combination of words and regard the sentence as a particular case of the combination of words. We discover the *molecular structure* of the syntactic design of language. The basic unit of the combination of words I call the *molecule*. The molecule is a binary combination of words connected by the relation of dependency. Every molecule consists of two words of which one is independent and the other depends on it. The hierarchy of the syntactic design of language is reflected in the dependencies between words inside a molecule and in the chains of dependencies between molecules.

As intermediaries between man's thought and the world, languages function as different forms of the perception of the world by man's thought. And since every language is a particular conventionalized form of the representation of the world imposed on all members of a language community by the social need to have a common instrument of communication, every language is both a communicative and cognitive form of thought.

In investigating the laws of languages the linguist is overwhelmed, on the one hand, by the tremendous diversity of the means of expression in the languages of the world and, on the other, by the lack of clarity of the theoretical conceptions that would tell the linguist what to look for, thereby enabling him to discover facts that would otherwise have escaped notice or to see connections between facts that would otherwise have remained unrelated. Indeed, without the necessary right conceptions supporting his observations, the linguist will have no basis for his claims that he has discovered anything at all.

The most important, but at the same time the most opaque concepts of linguistics are the concepts of *difference*, *identity*, and *class*. One cannot overstate the significance of these concepts: the whole mechanism of language turns on classes of meanings and signs formed by differences and identities, between meanings and between signs. The opacity of the concepts of difference, identity, and class for linguistics stems from the confusion of these concepts in linguistics with those in other sciences. In fact, the notion of difference in linguistics is radically distinct from the notion of difference in other sciences. At first sight, differences and identities between words correspond roughly to differences and identities between things words refer to. But here's the rub. It is true that words refer to things of man's external or internal world. But what are those things? Do they exist independently of language? No, they do not. The

world is independent of language, but the analysis of reality into classes of things depends on language. Hence, we come up with a distinct concept of difference and identity for linguistics as opposed to the concept of difference and identity in other sciences: while other sciences investigate differences between the things of the world, linguistics is concerned with differences not between things but between words. Differences and identities between words are totally distinct by their nature from differences and identities between the things of the world. These differences determine the arbitrariness and conventionality of connection between the vocal form and the meaning of the word.

The investigation of the concepts of difference, identity, and class in linguistics is the key to understanding the nature of linguistics as opposed to other sciences.

What is the nature of differences and identities between words in contrast to differences and identities between the things of the world? How do different languages impose on thought different analyses of reality into classes of things?

The law I have advanced to define the nature of the differences between the words of a language is totally independent of physical and any other laws defining the nature of the differences between the things of the world. This law I call the *Principle of Differences*.

Due to the crucial disparity between the nature of linguistic differences and the nature of the differences of the elements of the external reality, sound is analyzed into correlated but totally independent classes of the communicative form of sound and correlated but totally independent classes of the physical content of sound; similarly, thought is analyzed into correlated but totally independent classes of the communicative form of thought and classes of the logical content of thought. The goal of Semiotic Linguistics is to investigate the stratification of sound into classes of forms of sound and classes of sounds proper and the stratification of thought into classes of linguistic meanings and classes of concepts.

The essence of the language-thought continuum is a great mystery story that is still unsolved. The whole mechanism of language as bond between sound and thought turns on identities and differences. The whole mechanism of language is a mechanism for forming classes of signs as opposed to classes of sounds, and forming classes of meanings as opposed to classes of concepts, or information. To reveal the secret of the working of the mechanism of language is to understand why languages such as Chinese, Hopi, Latin, or English are so different and how they serve as instruments of communication and thought. The variety of languages we observe in the world is explained by and is re-

ducible to the universal principles and laws of the formation of classes of signs as opposed to classes of sounds and the formation of classes of meanings as opposed to classes of information.

Do we understand the mechanism of language? Do we understand how language operates to form classes of sounds and classes of meanings? Linguistics has not found a clear answer to these questions. The problem of the formation of classes of sounds and classes of meanings is seen either as a technical problem of minor importance or no problem at all. But to solve the problem of how language operates to form classes of sounds and classes of meanings, one must first see this problem and understand its importance. Yet most linguists are not ready to deal with this problem, because they either do not see it or do not understand its importance. This is the reason why the situation for linguistics is so difficult. The formation of classes of sounds and classes of meanings is a problem that is as important for linguistics as the problem of motion is for mechanics. Just as mechanics could not exist without the laws of motion discovered by Galileo and Newton, so the science of language cannot exist without the laws of the formation of classes of sounds and classes of meanings in language. Unable to see or understand the problem of the formation of classes of sounds and meanings, unable to even look for the clues to the workings of the mechanism of language, linguistics is going through a crisis of its foundations.

The main danger for a scientist involved in the study of social and linguistic phenomena is that of taking anything for granted — *problem-blindness*. The distinction between *appearance* and *essence*, which is part and parcel of the dialectical method of investigation, is nothing but a constant attempt to probe further and further through successive layers of phenomena, towards laws that *explain* why these phenomena evolve in a certain direction and in certain ways.

Semiotic Linguistics, a discipline presented in this book, is the beginnings of a new science of language. The cardinal tenet of Semiotic Linguistics is *the dialectics of language* — the heterogeneous dual nature of the sounds and meanings of language: sound has two mutually independent, but complementary facets — a value facet and a physical facet; likewise, meaning has two mutually independent, but complementary facets — a value facet and a logical facet. The concept of value is not new. Value was discovered by Saussure. But the concept of value has not caught the imagination of linguists. Value was never understood properly and has been all but forgotten. What is new in this book is the rediscovery of value as the clue to understanding the intrinsic, the deepest aspects of the workings of the mechanism of language, to the mysteries of the workings of language and ultimately to the workings of the human mind.

Like Ariadne's thread in the labyrinth of language, I advance the Principle of Differences. Under the Principle of Differences, the value of meaning and the value of sound are defined by the conditions of the interdependence of sound and meaning. Under the Principle of Differences, meanings belong to one and the same class not because they are semantically or logically related to one another (although they may be and often are), but because they differ from all other classes of meanings by being represented by one and the same vocal form, by one and the same sign. Likewise, sounds belong to one and the same class not because they are physically related to one another (although they may be and often are), but because they differ from all other classes of sounds by being correlated with one and same meaning or with one and the same distinctive function. Semiotic Linguistics is a science of language that follows from the consequences of the Principle of Differences, which does for linguistics what the laws of Galileo and Newton have done for mechanics.

Semiotic Linguistics views the sign as the ruling concept of language research that brings a novel method of drawing linguistic inference.

Semiotic Linguistics is not merely part of semiotics but the central semiotic discipline to which other semiotic disciplines must be subordinated. Natural language is a universal semiotic matrix from which all other semiotic devices derive their basic structural and functional properties. Hence, the privileged place of Semiotic Linguistics among the semiotic disciplines.

The subject matter of Semiotic Linguistics is the study of the linguistic sign, the formulation of semiotic principles and laws characterizing the linguistic sign and drawing consequences from these principles and laws.

The fundamental consequence of the semiotic principles and laws is the diversity of languages. Grammars are language-specific; but while grammatical constructions may differ from language to language, their functioning must always respect a fixed set of universal principles. I redefine the goal of universal grammar. Since the fundamental fact about natural languages is their diversity, I contend as against all existing versions of universal grammar, which seek to identify putative universal constructions across languages, that there is no basis for pursuing this goal. The proper goal of universal grammar must be *the explanation of the diversity of natural languages*. Sign-based universal grammar is concerned with the discovery of universal principles and laws of semiotics explaining the diversity of natural languages. Why are the languages of the world diverse? This is the question sign-based universal grammar seeks to answer through the discovery of universal semiotic principles and laws.

Sign-based universal grammar is universal, not in the sense of the theory of language universals, not in the sense of the theory of universal constructions,

but in the sense of the theory of universal semiotic principles and laws explaining the diversity of natural languages.

Present-day linguistics is a babel of theories using mutually incomprehensible technical idioms that generate terminological confusion and conceptual chaos. What is the source of the crisis of our science? There is a catastrophically growing tendency among linguists to imagine that one could theorize about language by applying to it mathematics, logic, psychology, biology, and other disciplines, while remaining blissfully ignorant of the internal semiotic mechanism of language. True, mutual contacts are important for sciences. But linguistics can benefit from contacts with other sciences only on the condition that it first grapples with the semiotic nature of language. The source of the crisis of linguistics is the confusion of sign concepts with concepts concerned with different domains of reality.

The proper subject matter of linguistics must be the sign mechanism of language. Although this idea is not at all new and can be traced back to Saussure, the study of the sign mechanism of language is not an easy task. The trouble is that the sign mechanism of language is not something that can be observed directly. Language is a complex object that hides its inherent sign mechanism under physical, physiological, logical, psychological, neurological, and other phenomena. The sign mechanism of language is a covert system. Therefore, the primary task of linguistics is, as Saussure put it, “to delimit and define itself” (1972: 20), that is, to define the conditions under which it can isolate the covert sign mechanism as its subject matter from other phenomena of language. The significance of this task cannot be overstated: the sign mechanism constitutes the essence of language.

In the *Cours de linguistique générale*, compiled from the notes of his students and published posthumously in 1916, Saussure defined the sign mechanism as the proper subject matter of linguistics, showing the right direction towards developing linguistic theory as an independent branch of knowledge. Unfortunately, linguistics pays at best lip service to Saussure’s revolutionary ideas. Why has Semiotic Linguistics been neglected by linguists? This can in part be explained by the fact that Saussure’s *Cours* is abstruse. Saussure did not formulate the notion of *language-thought duality* explicitly, his definition of the linguistic sign is far from satisfactory, and his distinction between language (*langue*) and speech (*parole*) is elusive. Yet without the explicit formulation of the language-thought duality and its implications, and without a satisfactory definition of the concept of the linguistic sign, it is difficult to see why the linguistic sign must be the central concept of linguistics. The revolutionary con-

tent of Saussure's theory got buried underneath its abstruse presentation, the vagueness of its basic concepts, and resulting inconsistencies.

As a result, linguistic theory today is still in its diapers. The contemporary linguistic scene teems with competing linguistic theories, but all of them fail to acknowledge the primacy of the linguistic sign in linguistics.

My goal is to develop linguistic theory based on Saussure's profound ideas revealing the true nature of human language. To this end, I search for *semiotic hierarchy*. Under semiotic hierarchy, some sign properties or laws of language are more fundamental, and to them other less fundamental properties and laws are reducible. The ultimate explanation of all laws of language must be founded on — that is, must reduce to — the properties of the linguistic sign. Semiotic hierarchy provides a useful filter that saves linguists from wasting their time on ideas not worth pursuing.

An important innovation in this book is the strict distinction of the relevant and irrelevant contexts of the operations of signs. The totality of the relevant contexts that change the function or the meaning of a sign I call the *field of the sign*. The field of a sign defines the hierarchy of its meanings and functions and the hierarchy of the vocal forms of the sign.

Doubtless, the faculty of language is implemented in human biology. True, the phonological design of language is supported by our innate articulatory and perceptual systems; but are these capacities specialized for acquiring grammatical systems as advocated by Chomsky and his followers? This is an unrealistic claim unsupported by linguistic facts. A truly realistic notion of the faculty of language is to consider it as the innate capacity of humans to produce, combine and use signs; but which language a child acquires depends on its social environment, not on its innate capacities. The innate capacities of a child just make it possible for the child to acquire any language. But language is a social phenomenon with its own laws that do not depend on the psychological processes involved in its acquisition and its use. All languages must be explained in terms of inferences from the principles and laws of the linguistic sign.

Starting from Saussure's vantage point, I revise his theory completely. I redefine his central notion of the linguistic sign and flesh it out by introducing an array of principles based on the new definition. The proposed principles and laws of the linguistic sign define a basis for a uniform explanation of such heterogeneous phenomena as phonology, syntax and semantics, grammar and the lexicon, synchrony and diachrony. The success of this uniform explanation gives especially strong support for the validity of these principles and laws. Furthermore, I replace the elusive opposition between *langue* and *parole* (roughly corresponding to 'language as idealized system of signs' and 'lan-

guage in use'), central to Saussure's linguistics, with the opposition of language and thought as two aspects of the dialectical unity *language-thought*. This last notion merits closer attention.

Thought cannot be observed directly, but only as represented by language, tied to thought as the representation of thought. Thought and language are tied to each other. As an empirical basis, the linguist faces a corpus of texts, by which I mean both written and oral discourse. Texts are entities where language and thought are tied together, constituting the language-thought continuum. Language is the form and thought is the content of the language-thought continuum. Taking a language corpus of texts as his empirical object, the linguist has to use abstraction in order to separate the facts of language from the facts of thought and focus on the facts of language as his theoretical object. Unless the linguist separates linguistic facts from all other (logical, psychological etc.) facts, he cannot properly understand either language or thought. Linguistics as the theory of language stands or falls depending on whether this task is carried out consistently and correctly.

Unfortunately, linguistics has failed to consistently separate the facts of language from logical and psychological facts since the 1916 publication of the *Cours de linguistique générale*, where this task was set. The most recent period of linguistic research is even more confused than any other period. Present-day linguistics is dominated by works that rather than focus on linguistic facts proper, encourage their confusion with facts of logic and psychology.

Language as opposed to thought is a bond of thought and sound that articulates thought and sound into signs whose meanings impose on thought a particular mode of the analysis of reality which is obligatory for all members of a particular language community. Each of us thinks his own thoughts; our signs we share with our fellow men. What we think is the *content of our thoughts*; how we think is the *form of our thoughts*. Every language is a form of thought in the sense of *how* the content of thought is expressed. Language as a bond between thought and sound that articulates them into distinct signs and meanings I call *the sound-thought articulator*.

Human language has a dual character. On the one hand, the existence of language is determined by the language faculty of man, which is understood to be a particular component of the human mind; this is a fact of psychology and is rooted in the biological properties of the brain. But on the other hand, language is a system of signs that existed before the birth of an individual who employs it and so is outside of the thought of the individual. This is a semiotic fact, which is a particular instance of social facts — of the facts of the social mind. The remarkable property of social facts is that they are not only external

to the individual, but are endowed with a compelling and coercive power to impose themselves upon him, regardless of whether he wishes it or not.

In accordance with the dual character of language, the common, fundamental structural properties of languages — universal grammar — are both genetically encoded in the minds of individuals and at the same time independent of individuals. The essential fact about language is that it is a social institution independent of individuals. Hence, we must distinguish two different concepts: language and *knowledge of language* by individuals. While language, as a semiotic phenomenon and social institution is the subject matter of linguistics, the knowledge or mastery of language is a psychological phenomenon and is the subject matter of the *psychology of language*.

The creation of Semiotic Linguistics has been prepared and preceded by many years of the semiotic research of language. The results of this research were first systematized as Applicative Universal Grammar (AUG). AUG was first presented in 1963 (Shaumyan and Soboleva 1963) and developed in further publications (Shaumyan and Soboleva 1968; Shaumyan 1974, 1977, 1987). The mathematical formalism of the earlier version of AUG was presented in (Shaumyan 1987 and its computer implementation (in Jones 1995, Jia 1996, Shaumyan and Hudak 1997)).

We must distinguish sharply two aspects of the investigation of language: the genetic aspect and the functional one. In my book *Applicative Grammar as a Semantic Theory of Language* (1977) I have analyzed how the fundamental classes of language are directly based on the speech situation (EGO or HIC, NUNC). This is clear, for example, in the nominal declension, where so-called grammatical cases are anchored in the underlying system of spatial cases. But this genetic point of view must be sharply distinguished from the functional one, presented in my book *A Semiotic Theory of Language* (1987). The two books are based on different conceptual and mathematical machineries that complement each other insofar as they represent the complementary approaches to the investigation of language: the genetic approach and the functional one. The genetic point of view must be sharply distinguished both from the functional and the diachronic points of view. The genetic point of view is a panchronic point of view that is concerned with constant genetic forces acting in the languages of the world.

Similarly, we must distinguish between a linguistic theory and the mathematical formalism of a linguistic theory. A linguistic theory is complete in itself, regardless of whether it is represented by a mathematical formalism. I contend that no grammatical theory can be considered adequate unless its concepts and laws can be explained in terms of the properties of the linguistic sign.

This is a fundamental condition of theoretical adequacy for a grammatical theory, and existing theories of universal grammar have to demonstrate that they satisfy this condition.

The present book contains only the conceptual system of Semiotic Linguistics. As for the mathematical model of Semiotic Linguistics and its further computer implementations, they will be the topics of separate publications. Here I will present only the main ideas of the mathematical model of Semiotic Linguistics.

The mathematical model of Semiotic Linguistics is a version of categorial grammar I call *genotype calculus*. This calculus owes much to the version of the categorial grammar of Haskell B. Curry (1961; Curry and Feys 1958). I had the good fortune to discuss ideas with Curry. One of Curry's ideas is the *ob-system*. This concept is of capital importance both for Semiotic Linguistics and for the interpretation of the formalism of categorial grammar in terms of Semiotic Linguistics. In this connection I introduce two new concepts: *categorial ob-system* and *categorial ob-diagram*. Curry was skeptical about including combinators into his system, but I have done this with good results. The genotype calculus is described in Shaumyan 1987, Shaumyan and Hudak 1997, and Desclés 1990.

What is called categorial grammar is used widely in modern linguistics. But categorial grammar is not a theory of grammar; it is only a calculus used as a mathematical formalism for representing various theories of grammar. Present-day theories of grammar using various versions of the categorial grammar formalism are totally different from the genotype calculus and are incompatible with it.

Abstraction lies at the heart of linguistic analysis, and the history of modern linguistics turns on the history of linguistic analysis. The history of modern linguistics is not a history of new discoveries of previously unknown languages of the world. It is a history of conflicting views about ways to analyze language. Changes in ways of abstraction result in new ways of regarding old phenomena. And this is what the history of linguistics is all about. In this respect, it has little in common with the history of geography, the history of physiology, or the history of any natural science.

Semiotic Linguistics transforms classical linguistics into a truly autonomous science on a par with other sciences. The glaring defect of classical linguistics is its lack of independence characteristic of an autonomous science. Rather than seek to discover the genuine intrinsic laws of language, classical linguistics seeks support in the laws of biology, psychology, sociology, mathematics, and what not.

The concerns of classical linguistics to explain the phenomena of language not by the laws of language but by the laws of biology, psychology, sociology, or mathematics is called *methodological reductionism*: the laws of a science are reduced to laws of other sciences. In the past, methodological reductionism was fashionable in natural sciences. For example, chemists were concerned with explaining the phenomena of chemistry not by the laws of chemistry, but by the laws of physics; physicists were concerned with explaining the physical phenomena not by the laws of physics but by the laws of quantum mechanics; biologists were concerned with explaining the biological phenomena not by the laws of biology but by the laws of chemistry or by the laws of physics. Nowadays reductionism in natural sciences is rejected as a ‘bad thing.’ Reductionism has been abandoned in natural sciences because scientists have come to understand that the world is stratified. The world is not a homogeneous entity whose complex phenomena can be reduced to simplest phenomena. Rather, the world is stratified into independent levels, each level having its specific laws, which are not reducible to the laws of some underlying level. It is true that the physical level of the world underlies the chemical level and the quantum-mechanical level underlies the physical level, but it is also true that each level has its own independent laws. Thus the laws of the chemical level cannot be reduced to the laws of the physical level and the laws of physical level cannot be reduced to the laws of the quantum-mechanical level. The fact that classical linguistics loves reductionism while natural sciences have abandoned it testifies to the deep provincialism of classical linguistics.

A few words about the presentation of the book. Any presentation that aims to give a complete account of a new theory of an object whose research has a long history must necessarily include a considerable amount of well-known facts, descriptions of well-known approaches and ideas of previous theories. Generally, historical notes would be desirable. But in the present case the history of research is so extensive that it must constitute the topic of a separate investigation whose presentation would greatly exceed the volume of this book. Such an investigation has not been the aim of this book.

I may be rebuked for criticizing the views expressed in older publications — views their authors may have abandoned. To these possible rebukes I answer that I am interested in criticizing wrong ideas from the perspective of the theoretical foundations of linguistics, regardless of whether their authors have abandoned them. By contrasting what I consider correct ideas with what I consider wrong ones I both clarify my own theory and help to prevent resurrection of wrong ideas in the works of future authors.

I may also be rebuked for omitting the discussion of certain modern theories of language. To this I answer that since my book is foundational in nature, I do not see any need to analyze theories of language that despite their contributions to linguistic research have not had any influence on the theoretical foundations of linguistics.

Who are the imaginary readers of this book? It is meant for those who are interested in theoretical and philosophical ideas about language — for linguists, philosophers, psychologists, logicians, mathematicians, computer scientists, etc. I expect my readers to have some knowledge of linguistics — within an introductory course. I have been at pains to make my presentation accessible to everyone in my prospective wide audience, and therefore must ask the readers who are well acquainted with certain concepts I explain to bear in mind that what need not be explained to some must be explained to others.

For reasons of space, time and priority, I had to forego an analysis of the work done by my precursors. That is an important task in its own right, which could be the topic of a separate publication. Besides Saussure, the founder of the semiotic paradigm, my most significant precursors are (in alphabetical order) Bühler (1934), Hjelmslev (1943/1961, 1954), Jakobson (1966, 1971), Karcevskij (1929), Kuryłowicz (1964, 1973, 1975), Martinet (1960, 1962, 1965, 1985), Peshkovskij (1931), Sapir (1921), and Trubetskoy (1969). In addition, I must mention works of a few important authors who view language in the spirit of modern semiotics. These authors are (in alphabetical order): Jurij Apresjan (1995), Michael A. K. Halliday (1978), Roy Harris (1988), Sydney M. Lamb (1966, 1998, 2004), Jurij Lekomcev (1983), Alexej Losev (1983), Adam Makkai (1992, 1986, 2000), P.H. Matthews (1981), Igor Mel'čuk (1988, 1993-94), Kenneth Lee Pike (1982), Vadim Solncev (1995), Jurij Stepanov (1998), Boris Uspenskij (1965), Anna Wierzbicka (1988), Leon Zawadowski (1966, 1975).

In the course of my research I have had the good fortune to collaborate with Pauline Soboleva (Shaumyan & Soboleva 1963, 1968), Zlatka Guentchéva and Jean-Pierre Desclés (Desclés et al. 1985, 1986), Frédérique Segond (Shaumyan & Segond 1992, 1993, 1994), Bernard Sypniewski (Shaumyan and Sypniewski 1996), Paul Hudak (Shaumyan & Hudak 1997), whose ideas have stimulated my work.

In the domain of the methodology of science I am indebted in the first place to Stephen E. Toulmin (1953, 1961, 1972, 2001), Larry Laudan (1977, 1986), and Ludwig Wittgenstein (1922, 1953, 1969).

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The present book is concerned only with presenting an outline of the new linguistic discipline — Semiotic Linguistics — and deals with the problems of the theoretical foundations of linguistics, in the first place. Therefore, I have omitted topics of significant theoretical interests and importance but of no direct relation to the topics of the present book. Some of the omitted topics have been presented adequately in my book *A Semiotic Theory of Language* (1987). Among these are a technical presentation of the mathematical machinery of Semiotic Linguistics, important topics in linguistic typology such as research in ergative and active constructions, a detailed analysis of dominant linguistic theories such as Generative Transformational Grammar, Montague Grammar, Relational Grammar of Perlmutter and Postal, and the Lexical Functional Grammar of Bresnan. I refer the interested reader to that work.

Today's linguistics has an acute need for unity of theoretical views. We must strive to make linguistics acquire what other sciences — mathematics, and later physics, chemistry, and biology — have already acquired: a kernel of truths recognized by everybody.

As in politics, so in science, unity cannot be brought about without conflict. However, an intellectual struggle must be put up not for the sake of the victory of the views of this or that scientist, but for the sake of the victory of truth. The driving force behind scientific battles must not be the urge for domination, but the longing for everybody's submission to truth, which is one and indivisible. For this reason, just as I forsake restraint to refute and discard the views of others whenever they seem to be erroneous, so I will readily and gratefully welcome any critique of my own. I assail quite frequently and with great tenacity even the most outstanding investigators. This is a sign that I recognize that their views are influential and therefore deserve candid and careful discussion. Like many others, I felt their influence and benefited from their views not only when I accepted them, but also when I had to challenge them. I hope therefore

that others will benefit from a discussion of their theories as much as I have done myself.

For a long time the linguistic scene has been dominated by various theories of formal linguistics which, oblivious to the true nature of language, applied to the grammars of natural languages a network of extralinguistic concepts. Formal linguistics, which succeeded for a while in presenting itself as the final embodiment of the science of language, has no room left for improvement. Any doctrine that lacks potential for further development must be surpassed.

The germs of the true science of language do exist. Barely conspicuous, these germs are sure signs of the possibility of fuller developments which will some day bear abundant fruit, if only for future generations.