On Nature and Language

In this new and outstanding book Noam Chomsky develops his thinking on the relation between language, mind, and brain, integrating current research in linguistics into the burgeoning field of neuroscience. The volume begins with a lucid introduction by the editors Adriana Belletti and Luigi Rizzi. This is followed by some of Chomsky's recent writings on these themes, together with a penetrating interview in which Chomsky provides the clearest and most elegant introduction to current theory available. It should make his Minimalist Program accessible to all. The volume concludes with an essay on the role of intellectuals in society and government. On Nature and Language is a significant landmark in the development of linguistic theory. It will be welcomed by students and researchers in theoretical linguistics, neurolinguistics, cognitive science, and politics, as well as anyone interested in the development of Chomsky's thought.

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# On Nature and Language

NOAM CHOMSKY

with an essay on "The Secular Priesthood and the Perils of Democracy"

Edited by Adriana belletti and Luigi rizzi



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## Preface

Invited by the University of Siena, Noam Chomsky spent the month of November 1999 at the Certosa di Pontignano, a fourteenth-century monastery and now a research facility of the University. It was an extraordinarily intense and exciting month, in which faculty and students of the University of Siena had a unique opportunity to come in close contact with different aspects of Chomsky's work, discuss science and politics with him, exchange and sharpen ideas and projects, and interact with him in many ways. The texts collected in this volume are related to activities that took place in connection with this visit.

The first chapter provides an introduction to some basic concepts of linguistic theory and to some elements of the history of the field which are crucial for understanding certain theoretical questions addressed in the following chapters.

The second chapter is related to a particular occasion. Chomsky's sojourn in Siena was organized twenty years after his visit to the Scuola Normale Superiore of Pisa, an event which, through the memorable Pisa Lectures, has profoundly influenced the field of theoretical linguistics ever since. In connection with this anniversary, Chomsky received, on October 27, 1999, the "Perfezionamento honoris

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causa," the honorary degree delivered by the Scuola Normale Superiore. In that occasion, he gave the Galileo Lecture "Perspectives on Language and Mind," which traces central ideas of current scientific linguistics and of the modern cognitive sciences to their roots in classical thought, starting with Galileo Galilei's famous praise of the "marvelous invention," alphabetic writing, which allows us to communicate with other people, no matter how distant in space and time. The Galileo Lecture is published here as the second chapter.

The third chapter is focused on the relations of the study of language with the brain sciences; it addresses in particular the perspectives for an integration and unification of the abstract computational models, developed by the cognitive sciences, with the study of the physical substrate of language and cognition in the brain. A preliminary version of this text was read by Chomsky as a plenary lecture at the meeting of the European Conference on Cognitive Science (Santa Maria della Scala, Siena, October 30, 1999); the same issues were also addressed in a somewhat more general setting in the public lecture "Language and the Rest of the World" (University of Siena, November 16, 1999).

The fourth chapter presents, in the form of an interview, a discussion on the historical roots, concepts, and ramifications of the Minimalist Program, the approach to language which took shape under the impulse of Chomsky's ideas in the course of the 1990s, and which has progressively acquired a prominent place in theoretical linguistics.

Chomsky also gave a second public lecture entitled "The Secular Priesthood and the Perils of Democracy" (University of Siena, November 18, 1999), and bearing on the other major focus of his interests and activities: the responsibility of the media and other intellectual organizations in modern society. The text corresponding to this

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lecture is published here as the fifth chapter. The same topic was also addressed by Chomsky in other talks and seminars, particularly in connection with his recent volume The New Military Humanism.

In the course of his sojourn in Siena, Chomsky also gave a series of informal seminars on the latest technical developments of the Minimalist Program, and reported on this topic at the workshops connected to the research program "For a Structural Cartography of Syntactic Configurations and Semantic Types" (Certosa di Pontignano, November 25–27, 1999).

The common denominator uniting the first four chapters of this book is the idea of studying language as a natural object, a cognitive capacity that is part of the biological endowment of our species, physically represented in the human brain and accessible to study within the guidelines of the natural sciences. Within this perspective, introduced by Chomsky's early writings and then developed by a growing scientific community, theoretical linguistics gave a crucial contribution to triggering and shaping the so-called cognitive revolution in the second part of the twentieth century. Based on about forty years of scientific inquiry on language, the Minimalist Program now develops this approach by putting at the center of the research agenda a remarkable property of language design: its elegance and concision in accomplishing the fundamental task of connecting sounds and meanings over an unbounded domain. Much of the interview presented in the fourth chapter is devoted to elucidating this aspect of current research, and exploring analogies with other elegant systems uncovered by scientific inquiry in other domains of the natural world.

The second and third chapters of this book are immediately accessible to non-specialists. The fourth chapter, while essentially non-technical, refers to certain concepts of modern theoretical linguistics and to aspects of the recent history of this field. The aim of

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the introductory chapter is to provide some theoretical and historical background for the following discussion on minimalism.

The materials collected in this volume were published in Italian and English with the title Su natura e linguaggio as the first volume of the Lezioni Senesi, Edizioni dell'Università di Siena, in April 2001. The present volume differs from the Siena volume in that the introductory chapter has been considerably enriched, and the Galileo Lecture has been added, with permission from the Scuola Normale Superiore of Pisa.

The twentieth anniversary of the Pisa seminars provided a good occasion for a new visit to Tuscany, but very little (if any) of the time Chomsky spent in Siena was devoted to celebrating the past. Most of the time and the best energies in this intense and unforgettable month were devoted to exploring and discussing new ideas and new directions for future research on language. We hope that the texts and materials collected here will convey not only the content, but also the intellectual commitment and the excitement that pervaded the discussions between Pontignano and Via Roma.

> ADRIANA BELLETTI LUIGI RIZZI

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