Eger Journal of English Studies ***VII*** *(2007) 153–155*

New Horizons in the Study of Language and Mind. BY NOAM CHOMSKY. Cambridge: Cambridge University Press, 2000. Pp. xvii, 230.

Tímea Friedrich

Over the last fifty years, Noam Chomsky has played a pivotal role in the development of modern generative linguistics and has provided the impetus for a recent evolution of linguistic theory, the Principles and Parameters approach, currently embedded within the Minimalist Program, an effort to investigate the role of deeper organizing principles in language design. Chomsky has also been a key figure in the development of cognitive science in general: his theory of generative grammar was an important factor in the development of the cognitive revolution of the 1950s (see Chomsky 2004b), and our current conception of the working and the architecture of the mind owes much to ideas drawn from his work. Perhaps less widely known is Chomsky's key role in analytic (Anglo-American) philosophy, though he has significantly contributed to the philosophical study of language and mind over the past fifty years (see Chomsky 1975, 1980 among others), defending his internalist and naturalistic approach to language, while at the same time critically commenting on the empiricist philosophical proposals of Willard Van Orman Quine, Michael Dummett, Hilary Putnam, and Donald Davidson, among others.

New Horizons in the Study of Language and Mind is Chomsky's most recent contribution to the philosophy of mind and language. The book is a collection of seven essays, accompanied by a foreword by Neil Smith, most of which have previously been published (the earliest about fifteen years ago), but in rather diverse places, hence collecting them all in a single volume allows the reader to get a broader overview of the spectrum of philosophical issues discussed by Chomsky over the last fifteen years. In these essays Chomsky covers philosophical topics of a wide range, addressing central problems and long-standing debates in the philosophical study of language and mind: the mind-body dichotomy, the problem of consciousness, methodological naturalism vs. methodological dualism in studying the mental, the metaphysics and the epistemology of meaning, the nature of language and reference, investigations of radical translation and radical interpretation, and public vs. private language, just to mention some of the issues that the essays focus on. The volume also discusses Chomsky's fascinating new approach to the study of language, the Minimalist Program, which provides the possibility to raise new questions that were previously impossible even to formulate, let alone address (for recent

discussions of the Minimalist Program, see Chomsky 2001, 2002, 2004a, 2006, Boeckx 2006).

In the foreword, the work is seen as "clearing some of the underbrush of confusion and prejudice which has infected the philosophical study of language" (p. vi.) and mind. This statement reflects Chomsky's sharp criticisms of influential philosophical proposals in the study of mind and language throughout the book and his conclusion that much of the philosophical discussion in this domain is wholly misconceived (see Stone and Davies 2002). Chomsky, however, not only challenges empiricist philosophical objections raised to his internalist and naturalistic approach to language, but at the same time supports his own view of the nature of language with compelling evidence. Linguists, philosophers, cognitive scientists, and scholars interested in what the latest developments in the internalist and naturalistic study of language might imply for the philosophical study of this unique human possession and wishing to gain some insight into the philosophical debates on mind and language will welcome this collection of essays. It is also an essential reading for anyone interested in Chomsky's thoughts on language in general. This review cannot address all the topics covered in the volume as their range is too vast to consider each in detail, and instead will focus on those that reappear throughout the book and most directly relate to Chomsky's own approach to language.

A distinction between the notions I-language and E-language was first proposed in Chomsky 1986. E-language ("E" to suggest "external", "extensional") is something outside the mind/brain of individuals, a shared social construct. I-language (where "I" stands for "internal", "individual", and "intensional"), in contrast, is internal to the brain of an individual: it is a state of some component of the human mind/brain, namely, an attained state of a specialized cognitive organ dedicated to language, the faculty of language FL. Chomsky argues that the notion "E-language" cannot be coherently specified, and E-languages are not appropriate objects for scientific inquiry; rather, what the scientific study of language should concentrate on as the objects of inquiry are I-languages. Chomsky adopts and defends this internalist view of language in the present volume of essays and argues against externalist conceptions of language, claiming that the notion of language as an object external to the human mind/brain is fundamentally incoherent, in other words, language cannot be treated as an entity existing outside and independently of human beings. Accordingly, the philosophical tradition that views language as an external object, seeking a relation between language and the external world, fails to account for the essential properties and nature of human language. According to the purely internalist approach that Chomsky adopts, the true nature of language can only be captured if we understand it to be something internal to the human mind/brain, in which case knowledge of language is interpreted as the linguistic competence that an individual possesses in his/her mind/brain, i.e. an I-language. In other words, I-language is the internalized linguistic knowledge of a native speaker of a language that is mentally represented in his/her mind/brain, a mental construct which is identified with our knowledge of language. The

strictly internalist study of language that Chomsky advocates, namely, I-linguistics, concerns itself with mental representations and computations and the performance systems that access them in the use of language. Consequently, the central object of study in such an approach is the human FL, the initial state of FL, the states that FL later assumes and the infinite array of internal expressions that the I-language (an attained steady state of FL) generates. FL is regarded as a mental organ embedded within and interacting with other cognitive systems of the mind/brain (systems which are language-external but organism-internal) at two interface levels, the sensorimotor (SM) system related to sound and the conceptual-intentional (C-I) system related to meaning. An I-language is an attained state of FL, consisting of a Lexicon and a computational procedure which is capable of generating an infinite number of expressions, each a complex of properties that serve as instructions to SM and C-I systems with which FL interacts (for a detailed discussion, see Chomsky 2001, 2002, 2004a, 2005, 2006, forthcoming; for discussions on the nature, the evolution and the autonomy of FL, see Hauser, Chomsky and Fitch 2002, Fitch, Hauser and Chomsky 2005, Pinker and Jackendoff 2005, Jackendoff and Pinker 2005).

A corollary of this internalist view of language is that linguistics "can reasonably be interpreted as part of psychology or, more broadly, human biology" (p. 1.) (the study of language in a biological setting is termed "biolinguistics"). That is, the approach to our knowledge of language that understands it to be a state of a cognitive module of the mind/brain views language as a psychological, and ultimately a biological object, insofar as FL is part of our biological endowment, an organ of the body that actually exists in the human brain, and I-language is understood to be an internal state of an organ, FL. In this respect, both FL and I-languages qualify as natural, real objects, physically realized in the human brain, hence should be studied as elements of the natural world, on a par with the visual system, for example. In other words, language should be studied just like any other biological system, and the study of language is in fact the study of a subcomponent of the human brain at the level of abstract (computational-representational) models (on the study of language from a biolinguistic perspective, see also Chomsky 1980, 1988). If language is regarded as a natural object, Chomsky argues, then the study of language falls within naturalistic inquiry, i.e. linguistics is one of the branches of natural science. This natural scientific approach to the study of language and mind is considered to be the appropriate way to investigate the nature of language, which is therefore "to be studied by ordinary methods of empirical inquiry" (p. 106.). Thus Chomsky advocates the position of methodological naturalism in the study of mind and language, according to which mental aspects of the world – including language – should be investigated just like any other phenomena – chemical, electrical, optical, etc. – in the natural world that we subject to naturalistic inquiry. Once the naturalistic approach to language is taken for granted, we should also accept that linguistic theories are assessed by the same criteria that any other theory that falls within natural scientific inquiry must meet, and it is unwarranted to demand that the analysis of language satisfy

constraints in addition to or different from those that apply to other branches of natural science, such as chemistry or physics. Further, the theoretical constructs and entities posited by linguistics should have the same theoretical status as those postulated by theories of physics or chemistry, and we should not impose arbitrary stipulations concerning the categories of evidence required for confirming linguistic theories. The study of language should proceed the same way as any other empirical discipline does: it should follow the Galilean-Newtonian style in science (see also Chomsky 2002, Boeckx 2006), seeking to construct the best theories for the phenomena under investigation, with no concern for conformity to common-sense intuitions and aiming at eventual unification with the natural sciences. Similarly, as is expected in any branch of natural science, naturalistic theories of language and mind should not use common-sense concepts of ordinary language in formulating explanatory principles. Rather, it is the constructed concepts of the science-forming faculty (SFF, another component of the human mind, along with FL), possessing properties distinct from those of natural language terms, that enter into naturalistic inquiry. Chomsky emphasizes that although the methodological principles that apply to a natural scientific approach to language are the same as those that are at work in physics or chemistry, this does not entail that linguistics can be reduced to physics or the brain sciences; the goal is not reduction, but unification, "with no advance doctrine about how, or whether, it can be achieved" (p. 112.).

Most contemporary philosophers of language and mind, however, do not adopt methodological naturalism, and adhere to the view that the mental, and hence language, should be investigated in some manner distinct from the way we study other aspects of the natural world: either tacitly or explicitly, they advocate some form of methodological dualism, isolating linguistics and the study of the mental from other empirical disciplines. Methodological dualism, in Chomsky's words, is "the view that we must abandon scientific rationality when we study humans 'above the neck'… imposing arbitrary stipulations and a priori demands of a sort that would never be contemplated in the sciences" (p. 76.) and that "in the study of language and mind, naturalistic theory does not suffice: we must seek 'philosophical explanations'" (p. 142.). Chomsky explicitly rejects methodological dualism, and argues against the non-naturalist assumptions that pervade much of the discussion in contemporary philosophy of mind and language, critically commenting on the a priori stipulations imposed in the study of the mental by philosophers such as Michael Dummett, Hilary Putnam, Donald Davidson or Willard Van Orman Quine.

Chomsky's treatment of the mind-body problem clearly reflects his rejection of philosophical dualism. The mind-body problem is the central issue in the philosophy of mind that seeks to account for the causal interaction between the mental and the physical, in other words, it hopes to find an explanation for how mental processes can influence bodily states and how the body can affect the mind. Chomsky addresses the problem of mind-body dichotomy in several of the essays, and provides a solution by turning to

developments in the history of modern science. According to Chomsky, "the mind-body problem made sense in terms of the mechanical philosophy that Newton undermined, and has not been coherently posed since" (p. 86.). The mechanical philosophy was the idea that the natural world is a complex machine, and most phenomena of nature can be accounted for in mechanical terms. Aspects of human nature like thought and language, however, do not fall within mechanical explanation, which led Descartes to formulate his theory of mind-body dualism, with mind and body postulated to be two distinct substances, thus posing a unification problem as to how they interact. This Cartesian model of mind-body dualism collapsed when Newton refuted the mechanical philosophy, showing that no phenomena in the natural world can be explained in terms of the mechanical model. With the abandonment of the mechanical philosophy, there remains no coherent concept of body, matter or the physical. Chomsky argues that lacking a useful notion of body, we cannot even formulate the mind-body problem – not until a new concept of body is proposed. Accordingly, "there is no special metaphysical problem associated with attempts to deal naturalistically with 'mental' phenomena" (p. viii.): given that the traditional mind-body problem disappeared, we can do no more than study the mental along with various other aspects of the world, seeking to construct "bodies of doctrine" and hoping for unification (on the mind-body problem, see also Chomsky 1988, 2000, 2002, 2004b; for a critical discussion of Chomsky's treatment of the mind-body problem, see Lycan 2003).

Both Chomsky's approach to the nature of meaning and his view on the role of consciousness in our knowledge and use of language follow from his internalist and naturalistic approach to language. Thus, in an attempt to account for the nature of linguistic meaning, Chomsky adopts the position of semantic internalism, the view that "meanings are in the head", as opposed to semantic externalism, the idea that meanings are externally determined. Much of contemporary philosophy of language advocates externalist theories of meaning that seek a relation between linguistic expressions and things in the world and ask to what thing a word refers. Chomsky considers such externalist views on meaning to be utterly mistaken, arguing that "the question 'to what does the word X refer?' has no clear sense… in general, a word, even of the simplest kind, does not pick out an entity of the world, or of our 'belief space'" (p. 181.), and that there is no coherent notion of reference as a relation holding between words and external objects. The approach that Chomsky adopts is semantic internalism, according to which words are signs of concepts in our mind, and meanings are part of our mental contents. Such an internalist semantics assumes that humans possess an array of innate concepts in their minds as part of their biological endowment, which is universal among humans and available prior to any experience. Accordingly, the task of the child acquiring the vocabulary of his/her native language is reduced to discovering what labels are used for preexisting concepts (see also Chomsky 1988). Chomsky's view on consciousness as related to our knowledge of language and the products of our mind is also a direct corollary of his naturalistic approach. Chomsky explicitly

rejects the assumption that takes consciousness to be the mark of the mental and the speculation that we have access, in principle, to the linguistic rules that constitute our knowledge of language and govern our language use, i.e. that linguistic rules are potentially conscious. According to Chomsky, such assumptions reflect a form of dualism: he argues that "none of these questions arise in naturalistic inquiry, which has no place for such notions as 'access in principle' or 'potenitally conscious'" (p. 97.). Chomsky contends that certain mental phenomena – among them the principles that make up our knowledge of language – are not accessible to consciousness *in principle*, they lie "beyond *potential* consciousness" (p. 97.) (see also Chomsky 1980).

New Horizons in the Study of Language and Mind is a distinguished contribution to the philosophical study of mind and language. This excellent work permits the reader a comprehensive and unique insight into Chomsky's views on language and mind. It is remarkable not only for its extraordinary scope and breadth of coverage, but also for the wealth of new arguments, examples and compelling evidence that Chomsky provides for defending his position on language. The importance of this book is enormous in the sense that it shows how the results of the scientific study of language might inform philosophical discussions of language and mind, and illuminates how historical developments and ongoing work in other branches of science might relate to developments in linguistics. All in all, this fascinating collection is invaluable for all those who are seriously interested in the study of language and mind.

REFERENCES

BOECKX, CEDRIC. 2006. *Linguistic Minimalism. Origins, Concepts, Methods, and Aims.* Oxford: Oxford University Press.

CHOMSKY, NOAM. 1975. *Reflections on Language.* New York: Pantheon.

CHOMSKY, NOAM. 1980. *Rules and Representations.* New York: Columbia University Press.

CHOMSKY, NOAM. 1986. *Knowledge of Language: Its Nature, Origin, and Use.* New York: Praeger.

CHOMSKY, NOAM. 1988. *Language and Problems of Knowledge. The Managua Lectures.* Cambridge, MA: The MIT Press.

CHOMSKY, NOAM. 2000. Linguistics and Brain Science. In A. Marantz, Y. Miyashita and W. O'Neil (eds.), *Image, Language, and Brain.* Cambridge, Mass.: MIT Press, 13-28.

CHOMSKY, NOAM. 2001. Beyond Explanatory Adequacy. MIT Occasional Papers in Linguistics 20: 1-28. Cambridge, Mass.: MITWPL.

CHOMSKY, NOAM. 2002. *On Nature and Language.* Ed. by A. Belletti & L. Rizzi. Cambridge: Cambridge University Press.

CHOMSKY, NOAM. 2004a. *The Generative Enterprise Revisited. Discussions with Riny Huybregts, Henk van Riemsdijk, Naoki Fukui and Mihoko Zushi.* Berlin: Mouton de Gruyter.

CHOMSKY, NOAM. 2004b. Language and Mind: Current Thoughts on Ancient Problems. In L. Jenkins (ed.), *Variation and Universals in Biolinguistics.* London: Elsevier, 379-405.

CHOMSKY, NOAM. 2005. Three Factors in Language Design. *Linguistic Inquiry* 36: 1-22.

CHOMSKY, NOAM. 2006. Approaching UG from Below. Ms., MIT.

CHOMSKY, NOAM. (forthcoming). On Phases. In R. Friedin, C. Otero, and M.-L. Zubizarreta (eds.), *Foundational Issues in Linguistic Theory.* Cambridge, Mass.: MIT Press.

FITCH, W. TECUMSEH, HAUSER, MARC D. AND CHOMSKY, NOAM. 2005. The Evolution of the Language Faculty: Clarifications and Implications. Cognition. *Cognition* 97 (2): 179–210.

HAUSER, MARC D., CHOMSKY, NOAM AND FITCH, W. TECUMSEH. 2002. The Faculty of Language: What Is It, Who Has It, and How Did It Evolve? *Science* 298: 1569-1579.

JACKENDOFF, RAY AND PINKER, STEVEN. 2005. The Nature of the Language Faculty and Its Implications for Evolution of Language (Reply to Fitch, Hauser, and Chomsky). *Cognition* 97 (2): 211-225.

LYCAN, WILLIAM G. 2003. Chomsky on the Mind-Body Problem. In Louise M. Antony and Norbert Hornstein (eds.), *Chomsky and His Critics.* Oxford: Blackwell, 11-28.

PINKER, STEVEN AND JACKENDOFF, RAY. 2005. The Faculty of Language: What's Special About It? *Cognition* 95 (2): 201-236.

STONE, TONY AND DAVIES, MARTIN. 2002. Chomsky amongst the Philosophers. *Mind and Language*, 17: 276–289.