

History of Logic from Aristotle to Gödel

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Selected Bibliography on Stoic Philosophy of Language, Grammar and Rhetoric

BIBLIOGRAPHY ON STOIC PHILOSOPHY OF LANGUAGE AND SEMIOTIC

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Contents: Preface IX; Introduction 1; 1. *Phantasia*, Judgment and Statement in Plato 9; 2. *Phantasia* in Aristotle 49; 3. Predication and Sign in Aristotle 97; 4. *Phantasia* and Sign in Stoic Philosophy 149; 5. Recalling Sign and Revealing Sign. Part I. Sceptics and Stoics 21; Part II. The Debates of the Hellenistic Medical Sects 245; 6. Predication, Proposition, Sign and Proof in Stoic Logic 275; Appendix 1. Declarative Predication vs. Kahn's Veridical *Be* 327; Appendix 2. Peirce, the Epicureans and the Stoics 341; Bibliography 369; Indices 379-383.
"There has been considerable growth in the understanding and estimation of Stoic logic in the last thirty years, yet an important dimension of this Stoic achievement has not been grasped. Stoic logic was broadly conceived to include their theories of knowledge and perception, and the theory of perception provides the starting point and foundation of their logic. It is essential to the structure and unity of that logic that the Stoics take perception to be propositional. Starting from a new interpretation of the Stoic conception of *phantasia* as propositional perception, this study offers a view of Stoic logic that brings out the continuity linking perception, predication, inferential signs and proof.
For Plato and Aristotle the basic objects of perception are qualities. In effect they develop a phenomenological analysis, underpinned by a physiological conception of sensation. The Stoics take this over as an account of sensation, but they establish the theory of perception at a higher level of complexity. For the Stoics the objects of perception are not qualities nor discrete things or bodies but rather have the form of fact, event or situation, relating qualities to things and things to each other. In perceiving we are trying to make sense of things. This means that both inference (drawing on past perception) and judgment (i.e. judging that something holds in reality) are involved in perception from the start. Conversely, the logical capacities of the mind, extending through logical signs to proof, carry forward a revelatory power inherent in perception.
The propositional character of perceptions does not derive from language. In the Stoic analysis perceiving picks out a focus or subject and links a predicate to it, and these are logical entities, strictly distinguished, terminologically and in their discrete treatment, from what are linguistic elements, the grammatical subject and predicate. What is predicated of the subject is generally doing or undergoing some action. This linking of elements within perception is at the same time propositional in the sense that it pro-poses something, that is, makes a truth- or reality-claim. What is perceived is by that very act taken to be the case, to be real.
To translate '*phantasia*' as 'perception' is unusual but justified, even required, in Stoic contexts. The term undergoes striking changes in meaning from Plato through Aristotle to the Epicureans, Sceptics and Stoics, which must be reflected in differing translations. For Plato it is misleading 'appearance', sensation wrongly taken as revealing reality. In some of the applications of the term in Aristotle the translation

'imagination' seems appropriate, while in others something like 'representation' or 'impression' is called for, either in a neutral sense or with a problematic cast akin to the Platonic and Sceptic versions. In the Hellenistic schools '*phantasia*' (often in the plural) designates not a faculty but particular mental events. It is usually taken to mean 'impression' or 'mental presentation'. This is apt for the Sceptics, for whom a further act would be needed to add belief to what is present to the mind and affirm it as real. But 'perception' is the translation called for by Stoic usage. To translate it as 'presentation' in Stoic arguments would be to concede a damaging point of contention to their Sceptic critics by eliding its intrinsic reality claim, its propositional character.

To understand what the Stoics are doing to and with the idea of *phantasia*, we must see it in relation to the different purpose and character given the term first in Plato, then in Aristotle, and in those contemporary antagonists of the Stoics, the Sceptics and Epicureans. The starting point is Plato's origination of the notion *phantasia*, taken together with his analysis of predication or what constitutes 'statement', in the *Theaetetus* and *Sophist*. Building on the connection of *phantasia* and statement, the Stoics reverse the tendency which Plato embodies in his coinage in that they try to establish confidence in what *phantasia* reveals, whereas Plato took such confidence to be necessarily misplaced.

Indeed, the purpose of his coinage (derived from '*phainesthai*', 'to appear', meaning appearance in contrast to reality or being) was to embody the confusion of 'it seems to me' and 'it is' and so to show up the fundamental error of those who rely on the senses as revealing reality. To trust the senses as a basis of knowledge opens one to distortion from perspective and the illusory character of objects that never are the same." pp. 1-2.

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"As the Stoics (particularly through the status they grant to apprehensive representation) work out the relationship between perception and discourse, their definition of representation as alteration rather than impression may be understood as an effort to uphold perceptive multiplicity. I endeavour to find out how the multiplicity which perception implies is to be transcribed into discourse, and why such a transcription requires us to distinguish between two ways of partitioning discursive language, which are hinted at by the two expressions *mère tou logou* and *stoicheia tou logou*."
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 20. Long Anthony Arthur. "Language and Thought in Stoicism." In *Problems in Stoicism*, edited by Long, Anthony Arthur. 75-113. London: Athlone Press, 1971.
 21. ———. "Stoic Psychology and the Elucidation of Language." In *Knowledge through Signs. Ancient Semiotic Theories and Practices*, edited by Manetti, Giovanni. 109-131. Turnhout: Brepols, 1996.
"(1) During the creative period of Stoicism grammar was still in its infancy as a determinate field of study. I mention this fact because, as is well known, the Stoics were enormously influential on the Graeco-Roman grammatical tradition, which extends from the later Hellenistic epoch into the Christian period of the Roman Empire. Recourse to the Stoic influence on that tradition, excellently facilitated now by Karlheinz Hülser's collection (1987), can give the impression that these philosophers were merely pioneers in starting what the grammarians carried forward more fully and systematically. I want to suggest that such an impression may be seriously misleading in two respects.(2) First, it implies, incorrectly I believe, that the Stoics approached language as a phenomenon calling *primarily* for the kind of grammatical and syntactical description later grammarians developed. Secondly, it fails to identify the philosophical considerations that underpin the Stoics' principal interests in language. The Stoics had some splendid intuitions about the phonetic, grammatical and semantic levels of linguistic structure. Although these bear directly on the development of traditional grammar, they also seem to have clear affinities with what contemporary experts in linguistics call universal grammar.
The material I have chosen in order to make this point will be drawn primarily from sections of Diogenes Laertius' doxography of Stoicism (7.41-83). This is our only comprehensive account of "the logical part" of Stoic philosophy. I shall be dealing mainly with Diogenes' section "on utterance" (*peri phonés*) or "on signifiers" (*peri semainonton*), which forms the first part of the subdivision of "dialectic" (D.L. 7.55-62). The second part of that subdivision (D.L. 7.63-82) is "on significations" (*peri semainomenon*). This division of dialectic into signifiers and significations has a clear rationale, as we shall see, but it too can yield misleading impressions, especially if it is taken to imply that the subdivisions are independent of one another or that there are no superordinate concepts that unite them. I shall argue that there are two such concepts, (*phantaisia* and *logos*, and that these together provide the foundations of the Stoic theory of language and logic.(3)
There is a third general point that I want to address. Scholars have become accustomed to making a sharp distinction between the Stoic concept of linguistic signs (words and sentences) and their concept of *semeion*.(4) They applied the latter term (as distinct from the term *semainon*) to a pattern of sign-inference from a fact or proposition that is evident to a fact or proposition that is non-evident. It so happens that nothing is said about sign-inference in Diogenes Laertius' doxography of Stoic logic.(5) Whatever the explanation for this omission may be, it cannot be doubted that the Stoics classified sign-inferences under the "significations" heading of the division of dialectic. As such, they are not linguistic signs but a class of propositions *signified by* linguistic signs. The antecedent or "if" clause of a sign inference is a meaning or sayable (*lekton*), not the sentence by which this meaning is expressed, and what the "if" clause is the sign for is the truth value of its consequent and the connexion of that truth value to itself. However, what we should conclude from this is not that sign-inference is a function of logic *as distinct from* language, but that it is a normative function of language, i.e., language in its epistemic and truth-signifying capacity. Not only do sign-inferences require language for their expression; they are also tied to language as *lekta*, or sentence content. Correspondingly, language is tied to *lekton* (including sign inferences) for its semantic content. The Stoics applied the term *logos* both to significant utterances (linguistic signifiers) and to sign-inferences of the form: if *p*, then *q*. The presence of *logos* on both sides of the division of dialectic is hardly inadvertent. I take it as an indication that what the Stoics were seeking to elucidate was a unitary science of discourse, which would comprehend both linguistic

- signs and sign-inferences without reducing one to the other." pp. 109-110
- (1) (...) I have deliberately focused upon a limited range of texts, and I say virtually nothing about the antecedents of Stoic doctrines or their reception by later philosophers and grammarians. That is due in part to reasons of time and space, and also to the excellent studies covering these matters by Ax (1986), Frede (1977, 1978) and others. However, given the extremely fragmentary nature of our evidence, it also seemed to me important to focus rather narrowly on texts which have at least the appearance of being systematically Stoic and uncontaminated by other material. Hence my concentration on the "logical" doxography of Diogenes Laertius 7.
- (2) The three studies from which I have learned most about the complex relation between Stoicism and the work of grammarians are Lloyd (1971) and Frede (1977, 1978).
- (3) There is no novelty about this claim. Its implications are explored by Imbert (1978) and Manetti (1988), and I dealt with them at some length in Long (1971b). My main point here is to elucidate the primacy attached to *phantasia* in Stoic logic.
- (4) See for instance Long (1971b: 84-88).
- (5) This is noted and explored by Ebert (1991: 54 ff.).
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"James Allen shows that this assumption explains the Stoics' preoccupation with etymology as part of their concern with a time 'when language was still young' and the product of a primordial wisdom. Since they held a naturalist rather than a conventionalist view the Stoics assumed that there had been a primary stock of words that somehow 'imitate' the nature of the objects in question and could therefore be used as a natural standard of correctness. Since they assumed that there had been a high level of rationality among humans at a primordial stage, the Stoics saw nothing unnatural in proposing the notion of an original 'name-giver' as a hypothetical construct. Such a construct escapes the sceptic's ridicule because it merely assumes that the human need and the ability to converse rationally with each other, which manifests itself in every individual at a certain age, must also have been part of the nature of the (assumed) first generation of human beings. The 'naturalness' of names consists, then, in their suitability for communication with others; though it presupposes a mimetic relation between words and certain kinds of objects, it is not confined to onomatopoeics; instead it makes use of other means to augment language by associations and rational derivations of further expressions that are gradually added to the original stock of words. This explanation, as Allen points out, may make the etymologies less interesting and relevant in our eyes; but though the Stoics did not assume mechanical laws of derivation that would allow them to recover the 'cradle of words', attempts at rational reconstruction of the relation between different expressions provided them with a means to discover and to correct later corruptions of thought and so to play a crucial role in philosophical progress. Despite certain similarities of concern with the naturalist position in the *Cratylus*, the Stoic position therefore differs in more significant ways from the Platonic position than is usually acknowledged." From the *Introduction* by Dorothea Frede and Brad Inwood, pp. 4-5
2. Amsler Mark. *Etymology and Grammatical Discourse in Late Antiquity and the Early Middle Ages*. Philadelphia: John Benjamins, 1989.
See Chapter 1. *Etymology and Discourse in Late Antiquity*, pp. 15-56.
3. Atherton Catherine. *The Stoics on Ambiguity*. Cambridge: Cambridge University Press, 1993.
"The subject of this book is some of the most impressive and original work on ambiguity to survive the wreck of western antiquity: that of the Stoa.
At some point in the long history of their school Stoics constructed at least one definition of ambiguity, the earliest to survive in the western philosophical tradition, and remarkable in any case for its complexity, subtlety, and precision. It shows that its authors saw themselves as defining a linguistic phenomenon, *amphibolia*, which can easily be recognised today as familiar to users of most, if not all, natural languages: that one and the same linguistic item can mean or signify two or more different things. (This rough-and-ready characterisation will serve for the moment.) Two Stoic classifications of types of ambiguity, neither explicitly associated with the definition, are also extant; as these seem to differ from each other in small but important ways, they make it probable that at least one other definition was also arrived at, and this too may have survived, albeit in a mutilated form, and not explicitly attributed to the Stoa.
Three chapters of this book will be devoted to close analysis of these three main pieces of evidence. They will reveal that Stoic philosophers had identified a range of linguistic and semantic concepts and categories with which ambiguity is intimately connected, and which serve to delimit or define it. Brief as they are, the texts to be examined will repay detailed study not only by students of ancient philosophy, at

whom this book is primarily aimed, but also by workers in a variety of modern disciplines, above all by philosophers of language, theoretical and comparative linguists, and philosophical logicians: although they may all need to be convinced of the fact.

What these texts do not reveal, in a general, explicit way, is what originally prompted Stoic interest in ambiguity. No ancient authority says in so many words why Stoics, as self-professed philosophers, found it worth while to define and classify ambiguity. If their motivations and anxieties are to be comprehensible, their conceptions of the purpose, structure, and contents of philosophy, of its internal and external boundaries, of the goal of human existence, and of the right way to achieve that goal, must all be determined. Stoic interest in ambiguity was the inevitable consequence of the basic doctrines about human nature, language, and rationality on which the whole Stoic system was based. Once ambiguity's place in the Stoic scheme of things is clear, it will be possible to trace the ways in which the form and content of Stoic work on ambiguity were shaped and constrained by its origins; and judgement by the school's own lights can be passed on its success in the projects it set itself.

This interpretative and evaluative task is one of the two chief purposes of this book. It prepares the way for its companion, which is to assess, as far as possible, the merits and defects of Stoic work from other appropriate perspectives, including those of relevant modern concerns and interests, both inside and outside philosophy. To do so it will be necessary to abandon the special viewpoints of both the Stoics' own philosophical teachings and their philosophical and intellectual milieu. One result of this shift will be a questioning of the lines of division which moderns (philosophers, logicians, linguists, and others) and ancients (Stoics and rival philosophers, as well as non-philosophical professionals such as grammarians and rhetoricians) alike draw between what they conceive of as different disciplines or sciences, including philosophy itself.

Given that part of the purpose of this book will be to try to analyse and explain some of the differences, in conception and method, between a range of modern and ancient perspectives on ambiguity, then restricting our inquiry to the particular contributions, however rich, which Stoics made to what are now called grammar, semantics, and epistemology, and to the other ancient disciplines or theories comparable with modern endeavours, would be a false economy even were the details of the Stoic enterprise not hopelessly distorted or understanding of them severely curtailed in the process. For the exegetical need for these larger contexts also reflects the fact that Stoic ideas of what philosophy was like, and what it was for, are vastly different from those which dominate the field today. The Stoic motivation for studying ambiguity might be called pragmatic, but not in the sense that it contributed to some narrowly practical goal, whether writing good Greek or understanding the classics, arguing in court or doing grammar -- or even doing logic, if that is conceived of as just another intellectual discipline, or as a tool of philosophy or of the sciences. The point was that seeing or missing an ambiguity could make a difference to one's general success as a human being." pp. 1-3

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 "Although this testimony is isolated, the historians of ancient grammar, who are aware of the part played by the Stoics in the formation of an independent grammatical field, unreluctantly take for granted the indications of a scholium by Stephanos -- the commentator on Dionysios Thrax -- which imply the existence of stoic theory of verbal tenses; yet none of the reconstructions of this theory as the basis of the scholium can be taken as conclusive, for want of complementary documents. This paper offers neither a new reconstruction nor a critical survey of former ones, but tries to follow another path; it investigates whether elements which, in the scholium, are undoubtedly of stoic origin, did not stand up to the scholiast's skill in his attempt to integrate them within a framework which may be foreign to them."
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 "Let me now summarize the main points of my exposition of Stoic syntax:
 1. Stoic *loquia* (*lekta*) are designated by expressions of a normalized Greek. They have the same structure as these Greek expressions. Thus in most technical uses they serve approximately the same purpose as "semantic structures" or "semantic representations" in modern linguistics and philosophy of language.
 2. There is an infinity of *loquia* derived by a finite number of recursive rules of four types, lexical, inclusion, combination and transformation rules. Semantic categories like statement, predicate and subject are used in the formulation of these rules which enable us to build complex *loquia* of the various categories from atomar ones (*asuntheta*). The structure of a compound *loquium* may be revealed by using Chomsky or Montague analysis trees.
 3. This infinity of *loquia* is related with real things by an analogue of modern model theory. General terms are said to denote individuals according to a variant of multiple denotation theory. Deictic subjects are assigned values, like their modern analogues: individual variables by an assignment (*deixis*). Statements are either true or false. Complex expressions are valued in function of their syntactic composition and the values of their parts.
 4. Denotations of Greek expressions are determined indirectly. *E.g.* appellatives signify appellative subjects, which refer to individuals. Thus appellatives indirectly denote these individuals too.
 5. All this would have to be refined by taking into account tense.
 6. By neglecting tense, plural and subjectivization, Stoic *loquium* theory becomes an analogue of modern first order predicate logic by
 a) the introduction of n place predicates with arbitrary *n*,
 b) the introduction of a means to handle relative clauses
 Stoic syntax and related model theory thus proves interesting and comparable to modern treatments." *Les Stoiciens et leur logique*, 2nd edition 2006, pp. 144-145.
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 "Excavating the prehistory of dynamic predicate logic in the Stoic theory of methodical arguments makes us aware of an interrupted tradition, in a way that is possible only by philological reconstruction and the use of similar facts independently invented in modern times. That such interrupted traditions can become

- important has been shown by the use of ancient temporal logic and its resurrection in Kripke's (1963) semantics of modal logic. Kripke combined Prior's reconstruction of the Diodorean system of time-logical modality with ideas from Carnap on modal logic in order to get his semantic characterization of the Lewis systems of modal logic. Modern developments offer scholars of classical logic a modern foil that can help them to understand ancient texts and to see interesting developments in them which otherwise would be incomprehensible.
- The modern representatives of this tradition also gain an advantage from such research, in that they can build on a tradition which helps to strengthen confidence in the new methods.
- The adherents of Stoicism gave their logic high priority, saying that if the Greek gods had a logic, then it must be that of Chrysippus. As we have seen, this logic was a form of dynamic predicate logic. It is equivalent to classical predicate logic and contains it as the static part. Classical predicate logic is according to Hilbert's thesis a privileged form of logic, and according to Quine it is the right regimentation of language. Perhaps the Stoic saying was not so false after all. But we can also learn something about our own form of predicate logic, classical and dynamic, because the Stoic developments can be considered as a finalized whole. Even if the Stoic version of dynamic predicate logic is no logic of the gods, it still is an important logic for human beings." p. 28
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"Historians of grammar have usually proceeded as if their subject had a continuous history starting in the fifth century B.C., with the Sophists. But even if one is willing to credit Sophists like Protagoras and Prodicus, and later philosophers like Plato and Aristotle, with a theory of language, It is obvious that their theories were not grammatical theories: they were not interested in finding out how a particular language, Greek, actually works in such detail as to be in a position even to attempt to start formulating the canons for correct Greek. Hence to treat them as part of one continuous tradition along with the later grammarians is to invite neglect of important questions. We may, for example, assume that those who actually started grammar had certain notions concerning the nature of language, and that these and other philosophical views influenced the way they set up their subject and thus also its later development. We may also assume that they had certain reasons for starting this enterprise and that these reasons influenced the way they went about it and hence, indirectly, the outlines of later grammar. For reasons of this sort it is important that we should have a better notion of the actual origins of the grammatical tradition. Now our question concerning the Stoics is important, since it has been claimed that it was the Stoics themselves who first formulated traditional grammar, To substantiate this claim it will not be sufficient to show that traditional grammar is Influenced in many respects by Stoic notions. For such a state of affairs would be completely compatible with the assumption that the Stoics still formed part of the earlier philosophical tradition, though they contributed more to this tradition than their predecessors, but that grammar itself only began among the classical scholars of Alexandria, who exploited the available philosophical tradition and the Stoic contributions to it. To substantiate the claim that grammar originated with the philosophers we have to show that it formed a definite part of Stoic philosophy (the evidence seems to rule out the other schools of philosophy as plausible candidates). But the origin of traditional grammar is not the concern of this paper. Even if grammar originated with the Alexandrians, it would be important to know whether in matters of language the Stoics still formed part of the earlier philosophical tradition or whether they were already engaged in doing grammar. For the evidence on the Stoic theory of language is so fragmentary that the context of the fragments and testimonies makes an enormous difference to their interpretation and evaluation."
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Contents: Preliminary remarks IV--IX; Chapter I. Chrysippus 1; Chapter II. The *Techne concerning sounds* of Diogenes of Babylon 101; Chapter III. Aristarchus and the Aristarcheans 171; Chapter IV. The *Dialectica* of Augustine 249; Concluding remarks 260; Appendix I 265; Appendix II 280; Bibliography 283-290.
Abstract: "This dissertation relates the history of the theory of the parts of speech from its origin in the Stoic school of dialectics through its passage into the Alexandrian school of literary criticism in the second century B.C.
It pays especial attention to the way in which the theory was transformed in that passage. The Stoics had used it as part of their general system of dialectics, intended to give an account of the truth of true sentences and the validity of valid deductions. The Alexandrians, whose main activity was textual criticism, used the parts of speech as a system of naming and classifying the forms of Greek. The dissertation argues that for each of these purposes a different theory is required, and that in the Alexandrian grammarians' application of the theory two different ways of analyzing language were confused.
The chief figures in this history are the Stoics, Chrysippus of Soloi (c. 281 to 208 B.C.) and his student, Diogenes of Babylon (c. 238 to 150 B.C.), and the Alexandrian, Aristarchus of Samothrace (c. 216 to 144 B.C.). One chapter is devoted to each of them.
The first chapter is a reconstruction of Chrysippus's version of the theory of the parts of speech. It discusses the terminology which he inherited, such as "element of logos," the forerunner of our phrase "part of speech," as well as the notions of noun, verb, conjunction and article. It examines Chrysippus's theory of the significate (alternatively called the *lekton*), which was described as being what "the barbarians, although hearing the sound, do not understand," and also as being "just what is true or false." The several parts of speech were distinguished according to their association with significates.
The second chapter is a reconstruction of a lost work of Diogenes of Babylon, his *Techne Concerning Sound*. This was a handbook which treated language as a single topic, beginning with acoustics and proceeding to the parts of speech. Diogenes's *Techne* probably was the vehicle by which the theory of the parts of speech reached Alexandria.
The third chapter discusses Aristarchus's adaptation of the parts of speech to the purposes of textual criticism, and some of the ways in which he used it in his own edition of the *Iliad*. It also considers the difficulty which the confusion within the theory caused for Aristarchus's successors. Finally it compares the grammatical theory of the Alexandrians with that of the great Indian grammarian Panini and his commentators.
The fourth and final chapter is devoted to a post-classical Latin text which has come down to us as the *De Dialectica* of Augustine. Its sources are obscure, but it appears to represent a development of Stoic theory later than Diogenes. It considers questions of metalanguage, and draws a distinction between use and mention very like the one made by Panini. This stage of Stoic theory did not pass into the grammatical tradition, but the *De Dialectica* was read during the medieval and Renaissance periods in Europe. The dissertation contains two appendices. The first is a collection of fragments upon which the reconstruction of Diogenes's *Techne Concerning Sound* was based. The second discusses Aristarchus's pupil Dionysius Thrax, and the grammar attributed to him."
31. Hennigfeld Jochem. *Geschichte Der Sprachphilosophie. Antike Und Mittelalter*. Berlin: Walter de Gruyter, 1994.
Chapter V. *Die Stoa. Laut und Bedeutung* pp. 104-124.
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"I will try to illustrate the dynamics of the passage as described by metabasis in a few stoic texts and several grammatical analysis of Apollonius Dyscolus. I believe the concept of « décrochement », which I borrow from Claude Lévi-Strauss, helps to clarify it. The adjective metabatikos qualifies the type of human representation, logical representation, which, in as much as it is « transitive », allows an information to open into another, as well as their mutual articulation, therefore founding the conception of the sign « if this, then this » and the possibility of the conditional « if it is day, there is light ». According to the grammarian Apollonius Dyscolus, metabasis intervenes in the analysis of the transitive diathesis and in the definition of the person. I will proceed to show the part played by metabasis in the grammatical

- treatment of conjunction and how it allows to throw some light upon the obscure part of the definition of conjunction in the *Technè Grammatikè* attributed to Dionysus the Trhax."
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 "Anthony Long also elaborates on the influence of Plato's *Cratylus* on Stoic theory. But he goes much further than Allen with his hypothesis that the Stoics not only made use of Plato's dialogue, but did so in a way that justifies his presentation of many central features of their linguistic theory as being the result of a revisionary reading of the *Cratylus*. It is a reading that makes Socrates' suggestions about the 'natural' relation of names to things much more coherent than they are in the dialogue itself. This also applies to their etymological explanation of the names of the gods that they suggested as a revision of a corrupted tradition and a return to the original name-givers' comprehension of the true nature of the universe. Given their 'synaesthetic' reconstruction of the relation between phonetics and semantics, the Stoics could avoid the *Cratylus*' more absurd features of onomatopoeics, as Long shows by analysing different forms of 'naturalism', including 'formal and phonetic naturalism', and their application by the Stoics that not only hides names but also the famous *lekta* or 'sayables'. Long contends that the Stoics not only found a better balance between the phonetic and the formal constituents of meaningful discourse than emerges from Plato's dialogue itself, but restricted their use of etymology as a back-up to their theology, i.e. the naturalistic reconstruction of the names of the gods. As an additional witness to the sophistication of the Stoic linguistic theory Long adds an appendix on the four-fold semantic distinction (between *dicibile*, *res*, *verbum*, and *dictio*) in St Augustine's *De dialectica*, which he takes to be largely of Stoic origin. The Epicureans also held that language is part of the natural emergence of human culture. But here the similarity between the Stoic and the Epicurean theory of language ends. For instead of an early stage of rationality and inspired 'name-givers', the Epicureans proposed a quite different account of the evolution of language as part of their mechanical reconstruction of the order in nature, which includes an animal-like primitive stage of human beings. Unfortunately the information on this early stage in the development of humans as cultural beings in Epicurean theory is extremely meagre; attempts to reconstruct it have to rely on a few lines in Epicurus' *Letter to Herodotus* and in Lucretius' poem." From the *Introduction* by Dorothea Frede and Brad Inwood, pp. 5-6
 38. Luhtala Anneli. *On the Origin of Syntactical Description in Stoic Logic*. Münster: Nodus Publikationen, 2000.
 "This study examines the dialectical origin of syntactical description in our traditional grammar. Two famous texts take pride of place in containing the first descriptions of a 'clause' in Greek literature, namely Plato's *Sophist* and Aristotle's *Peri hermeneias*. These descriptions arose in the context of a more general inquiry into the nature of truth and language which gave rise to the first speculations on the form of the logical proposition in Greek Antiquity. By establishing as the unit of propositional analysis a combination of two linguistic items, *Onoma* ('name', 'noun') and *rhema* ('verb', 'predicate') these philosophers laid the foundation for the doctrine of the parts of speech which later constituted the core of ancient grammar. Their concern was to establish the two functional constituents of the proposition, roughly the subject and the predicate, by means of which true and false statements could be made. The object of their concern -- the minimal statement consisting of a noun and a verb -- came to figure as the point of departure for syntactical analysis when it began to be pursued in independent grammatical treatises. In the grammar of Apollonius Dyscolus (2nd century A.D.), which is our first extant grammatical treatise on syntax, syntactical description proceeds from the minimal self-sufficiency (*autoteleia*) of the linguistic expression. But the description of the minimal sentence by Apollonius bears witness to the distinctly Stoic origin of the notion of self-sufficiency." p. 11
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thing in radical chic." (p. 392).

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