

INVESTIGATING STOIC GRAMMAR AND THE *SUNDESMOI*

MAKING CONNECTIONS: INVESTIGATING THE LINK BETWEEN STOIC GRAMMAR
AND STOIC LOGIC

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This thesis investigates the connection between two branches of the Ancient Stoics' study of dialectic, or what we would call "logic." Specifically, we look at the overlap between the fields of Stoic logic (the Stoics' study of propositions) and Stoic grammar (the Stoics' study of language). While Stoic logic is now highly regarded as a field of study, Stoic grammar is often seen as irrelevant or inferior when compared to other systems of grammar. For the Stoics, however, the two were not so separable. Indeed, in the thesis, I argue that although Stoic grammar is obscure to modern audiences, it is a useful tool for understanding other branches of Stoic philosophy, particularly Stoic logic. Using the Stoics' conception of connectors (*sundesmoi*) as a case study for investigating Stoic logic and Stoic grammar, I show the benefits of understanding Stoic grammar as a way to approach Stoicism as a whole.

This thesis investigates the connection between two branches of the Ancient Stoics' study of dialectic, or what we would call "logic." Specifically, we look at the overlap between the fields of Stoic logic (the Stoics' study of propositions) and Stoic grammar (the Stoics' study of language). While Stoic logic is now highly regarded as a field of study, Stoic grammar is often seen as irrelevant or inferior when compared to other systems of grammar. For the Stoics, however, the two were not so separable. Over three chapters, I look into the value of studying Stoic grammar as a way to approach the field of Stoic logic through a thorough investigation of the Stoic concept of the *sundesmoi*, or connectors. In the first chapter, I provide a rough ancient historiography of the sources available to us on Stoic grammar. Although we do not have many extant works which discuss Stoic grammar at length, I highlight four which are of particular value to us. In the second chapter, I do close readings of the Stoics' definitions of *sundesmoi*, comparing them to definitions given by their grammatical rivals known as the Alexandrian grammarians. By comparing the Stoics' definition to the Alexandrians' more technical one, it is possible to see what made the Stoics' definitions unique. Finally, the third chapter looks at examples of types of connectors and their use in proposition formation. Looking at the examples "if," "and," and "or," I identify the ways in which these particular connectors align and differ from the Stoics' general definition of *sundesmoi*. I conclude by considering how looking at the *sundesmoi* from a grammatical perspective allows us to approach Stoic logic in a different way. Stoic grammar may be more obscure than other forms of grammar, but it is useful for approaching Stoic philosophy more generally.

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¹ Jack and Simon are cats.

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Declaration of Academic Achievement

I, Josh Maurin, declare that this thesis is my original work. Dr. Johnstone and Dr. Hitchcock made contributions regarding certain phrasings or translations, but the ideas and words are my own.

Introduction

In his book *Truth, etc.*, Jonathan Barnes describes the opinions of the Stoics regarding grammar to be “occasionally worth heeding but more usually irrelevant or worse.”¹ He is not the only philosopher to make such a claim; as Barnes himself notes, the great Greek grammarian Apollonius Dyscolus treats Stoic grammar with the same scepticism.² Barnes’ claim is part of a longer investigation of connectors (*sundesmoi*) in Ancient Greek philosophy and is ultimately a small component of the chapter. Yet there is notable certainty behind Barnes’ assertion. To someone unfamiliar with Stoic grammar, it might sound odd. Why is it so easy to dismiss Stoic grammar without much additional explanation? Given the Stoics’ other contributions to subjects related to grammar – logic, philosophy of language, epistemology – it seems possible that their work on grammar could be similarly fruitful. However, knowing that even in antiquity their grammatical views were, according to Apollonius, suspect, Barnes’ confidence may be well-founded. In order to understand the reasoning behind their doubts, we must first learn something about the Stoics’ grammatical views.

Attempting to understand the whole of Stoic grammar is outside the scope of the present project. Instead, we will limit our focus to a single component of Stoic grammar, which will act as a case study. In this thesis, we investigate the Stoics’ understanding of *sundesmoi*, or connectors. We want to know what the Stoics thought connectors were, what they did grammatically, and what they did philosophically. Connectors are those words which, in contemporary grammar, bind together parts of sentences; they are more commonly known today as conjunctions. Our translation of *sundesmoi* as ‘connectors’ is, admittedly, untraditional. ‘Conjunctions’ and ‘connectives’ are

¹ Jonathan Barnes, *Truth, etc.*, Toronto: Oxford University Press, 2007, 182.

² Apollonius Dyscolus, *Peri Sundesmōn*, in *Grammatici Graeci* II/I, 213.8-10,

more commonly used.³ However, neither of those translations fit the idea of what a *sundesmos* does. ‘Conjunction’ is a common translation for a specific connector, typified by the word ‘and’ (*kai*), and therefore would not have worked for referring to connectors more generally. ‘Connective’ has an adjectival sense to it, but we do not see *sundesmoi* as being descriptive words. ‘Connector’ fits as a translation because connectors are the words which do the connecting; like how a sailor is one who sails, a connector is that which connects. They have an action to do in the sentence. Although the specific translation does not change what the *sundesmoi* do, it is still important to understand why we have chosen the translation that we did.

Having explained the reasoning for our non-traditional translation, it is now useful to ask: why use connectors to study Stoic grammar? There are two main reasons why we chose to look at *sundesmoi*. First, connectors are crucially important in language and logic. Trying to speak or write without using words like ‘if,’ ‘or,’ and ‘and’ would be difficult; we need words to join others together in order to communicate effectively. In logic, connectors are what allow us to form complex sentences, such as conditionals and disjunctions. Since they are used both generally and in the specific context of logic, we can study them as both everyday and technical terms. However, despite their importance, connectors carry with them the tacit assumption that they are simple. Using ‘and,’ for example, appears simply to indicate that both phrases on either side of the ‘and’ go together. By studying such words more closely, we can determine any underlying complexities regarding their use or meaning. The other reason for choosing to study connectors is the availability of ancient sources. We have extant works by Greek grammarians on *sundesmoi* where we do not have sources for other parts of grammar. For instance, we have Apollonius Dyscolus’ treatise *Peri Sundesmōn*, which discusses connectors both in relation to the Stoics and as a grammarian more

³ Susanne Bobzien, for example, uses connectives. David Hitchcock does as well. Richard Bett, in his translations of Sextus Empiricus’ texts, uses conjunctions.

generally, as well as the section on connectors from Dionysius Thrax's *Art of Grammar*. These make studying connectors possible.

This thesis is three chapters in length. In the first chapter, we do a chronological survey of the four major ancient texts available to us that deal at length with Stoic grammar and *sundesmoi* more specifically. The survey includes some background on the author and date of each work, what we expect to find in each, as well as any problems there are with our using them. These works are: Dionysius Thrax's *Art of Grammar*, a collection of passages on a variety of grammatical subjects including *sundesmoi*; Sextus Empiricus' *Against the Professors*, his major texts written about the philosophy of the dogmatists (including the Stoics); Diogenes Laërtius' *Lives and Opinions of Eminent Philosophers*, which includes biographies of notable philosophers and a quotation of an important text by the historian of philosophy Diocles of Magnesia; and Apollonius Dyscolus' *On Connectors*, his short treatise about connectors as a part of grammar. Each of these texts has its own benefits and drawbacks, but collectively they work well for investigating how the Stoics understood connectors and how that differs from the understanding of connectors held by Greeks more generally. Although this chapter does not delve into specific content of the works it discusses, considering our sources is a necessary first step for beginning our investigation.

In the second chapter, we look at how the Stoics understood the word *sundesmoi*. Each of our sources on Stoic grammar provide us with variations on the Stoics' definition, but, as we will see, we can derive from them a single, cohesive definition: connectors are indeclinable parts of sentences which connect sentences together.⁴ To understand the significance of that definition, we must look at a rival one found in the writings of non-Stoic Greek grammarians. The chapter therefore begins by establishing a baseline definition of *sundesmoi* provided to us by, among

⁴ See, for example, Diogenes Laërtius, *Lives and Opinions*, VII.58.

others, Dionyisus Thrax and Apollonius Dyscolus. By looking at non-Stoic grammarians, we can see how people disinclined towards the Stoics' philosophical ideas first viewed connectors. After exploring the views of the non-Stoics, we then turn to the Stoics' definition of *sundesmoi* as recorded by Diocles, Sextus, and Apollonius. Contrasting the two definitions gives us a rough understanding of what makes the Stoics' view so different from that of the other Greeks. From there, we probe each of the specific unique elements of the Stoics' definition, making connections to other areas of Stoic philosophy where relevant. By the end of the chapter, we form a cohesive picture of how the Stoics viewed connectors in general, rewriting their definition to make it clearer to contemporary readers.

The third chapter moves from studying connectors in general to looking at particular instances of connectors' usage. We take the definition we established at the end of chapter two and apply it to three of the most commonly used connectors in Stoic logic: 'if' (*ei*), 'and' (*kai*), and 'or' (*ētoi*). Drawing on examples of logical sentences made by the Stoics in their writings, we evaluate how the use of connectors in each one compares to the definition the Stoics had of connectors in general. We seek to learn, for example, what the 'if' in the sentence "if it is day, it is light" is doing. By using examples from the Stoics' logical work, we are able to keep our investigation of *sundesmoi* specific to the Stoics. We know that in each example they identify the connector as a connector, they recognize each sentence as a sentence, and we can conclude that they should follow the definition of 'connector' in general. After first exploring how the Stoics understood conditional, conjunctive, and disjunctive sentences (respectively), we compare how the individual 'ifs,' 'ands,' and 'ors' within these sentences align with their definition of *sundesmoi*. Relating the general definition to particular instances of connectors' use will allow us to tease out the specifics of what kind of work connectors do, as outlined by their definition.

Turning to Stoic logic in the third chapter may seem like a slight departure from the grammatical focus of the rest of the thesis, but there is reason for it. Stoic grammar and Stoic logic are closely related and the study of one will often draw on elements of the other. Before we get into the content of this thesis properly, it will therefore be useful to explain how the Stoics categorized grammar and logic as disciplines and how they took them to relate to each other. In book seven of his *Lives and Opinions*, Diogenes explains the Stoics' division of philosophy into three interrelated parts: ethics, physics, and logic. The branch we refer to as logic, however, is further subdivided into rhetoric and dialectic.⁵ Rhetoric includes the invention of arguments, their expression in words, their arrangement, and their delivery; it is the study of deliberative, investigative, or panegyric speech.⁶ Dialectic, by contrast, is the science of what is true, false, or neither. Where rhetoric is interested in persuasive speech, dialectic focuses on the correctness of what is said. What we would call grammar and logic fall within the subject of dialectic.

It is important to note that if the Stoics themselves identified a branch of their dialectic as grammar, we do not have any reference to it. However, we do know that by the time Apollonius was writing in the second century CE, it was the opinion of Greek grammarians that the Stoics did investigate grammatical issues.⁷ Moreover, we can see in Diogenes' list of Chrysippus' writings that he was interested in many topics related to grammar, including texts about declension (*Peri tōn pente ptōseōn*), proper nouns (*Peri tōn prosēgorikōn*), and the arrangement of spoken words (*Peri tēs suntaxeōs tōn legomenon*).⁸ Given the focus of texts like these, we can conclude that even if the Stoics did not call this study 'grammar,' it is what others working in grammar would. We

⁵ Diogenes Laërtius, *Lives and Opinions*, VII.41.

⁶ *Ibid.*, VII.42. *Kai tēn men rhētorikēn autēn einai legousi trimerē; to men gar autēs einai sumbouleutikon, to de dikanikon, to de egkēmiastikon.*

⁷ Apollonius Dyscolus, *Peri Sundesmōn*, in *Grammatici Graeci* II/I, 213.8-10.

⁸ Diogenes Laërtius, *Lives and Opinions*, VII.192.

can then relate their work in grammar to their work in (what we would call) logic, in that both study sentences. Grammar is the subject of how to construct sentences properly; logic is the study of what makes a particular sentence true or false and how those sentences can come together in an argument. In order to study the truth or falsity of a sentence, we first must know what the sentence is saying and that it is communicating it correctly. This is one of grammar's contributions to dialectic and the reason we can use examples from logic to study grammar.

Although this thesis is the first to investigate the role of *sundesmoi* in Stoic grammar and logic, it is not the first to look at the relationship between grammar and philosophy in Ancient Greece. Indeed, in recent years the subject of grammar, Stoic or otherwise, in philosophy has become more popular and our work draws on some by other scholars. One of the earliest pieces in this field is David L. Blank's *Ancient Philosophy and Grammar: The Syntax of Apollonius Dyscolus*.⁹ Blank is a historian of linguistics and approaches the subject with a linguistic focus. In *Ancient Philosophy and Grammar*, he uses a close reading of Apollonius' *On Syntax* to investigate how technical the field of ancient grammar was. Apollonius is generally regarded as a particularly technical grammarian, one who focused on the rules of language rather than the philosophical aspects of language use. Yet Blank contends that this generalization is faulty, and that in Greek linguistics the subjects of grammar and philosophy are intertwined. Indeed, he concludes from his reading that although Apollonius focuses heavily on grammatical rules, the basis for those rules is philosophical in nature.¹⁰ Apollonius may offer a prescriptive account of grammar, but it is rooted in philosophical beliefs about the natural origins of language. Blank's approach of relating the

⁹ David L. Blank, *Ancient Philosophy and Grammar: The Syntax of Apollonius Dyscolus*, Chico, California: Scholars Press, 1982.

¹⁰ *Ibid.*, 51.

philosophical and grammatical aspects of language was useful for determining how to approach this thesis.

Roughly a decade later, Michael Frede published “The Stoic Notion of a Grammatical Case,” one of the next pieces upon which we build our work.¹¹ Frede’s article is an attempt to consolidate what little we know about how the Stoics understood case (*ptōsis*) and declinability. The Stoics’ opinions about case have been notoriously difficult to determine. We know that some of the early Stoics wrote about it, such as Chrysippus’ *On the five cases*, but none of their writings have survived. What we do have from non-Stoic authors is obscure and does not align with what we think a case would be; it is not, at least in any obvious sense, a word-form the way that it is in contemporary grammar. Frede’s consolidation of references to the Stoics’ views on case is quite thorough, and he is ultimately able to offer a possible answer to how the Stoics understood case, suggesting that it is not a word-form, but instead a metaphysical entity.¹² Although his focus differs from ours – looking at case versus connector – his article is helpful for thinking about how to approach our own investigation into Stoic grammar: we can look at his comparison of difference references to *ptōsis* when doing our own comparison of *sundesmoi* references.

For a more philosophically-centred work on the intersection of Stoic logic and grammar, we can look at Ineke Sluiter’s “Language and Thought in Stoic Philosophy.”¹³ Sluiter’s article provides an overview of how the Stoics understood the process by which thought could be communicated verbally. Her approach to philosophy and grammar is to look first at what needs to be communicated, the thought in the individual’s soul, and then explore how that can be turned

¹¹ Michael Frede, “The Stoic Notion of a Grammatical Case,” in *Bulletin of the Institute of Classical Studies* 39 (1994): 13-24.

¹² *Ibid.*, 24.

¹³ Ineke Sluiter, “Language and Thought in Stoic Philosophy,” in *History of the Language Sciences*, vol. 3, 375-384, Berlin: De Gruyter, 2000.

into a properly formed sentence. Her article is interesting because it only gradually turns to grammar. She provides a nice introduction to the basics of the Stoics' philosophy of language, ensuring that her readers understand where language is coming from in Stoic philosophy. After going through the philosophical basis for her inquiry, she begins to introduce some of the same grammatical concepts we will be investigating in this thesis, such as the *lekta* and *lexis*, showing how they relate to the Stoics' philosophy. She concludes her paper by turning to non-Stoic sources on Greek grammar, particularly Dionysius Thrax, and offers a brief comparison to the grammar of the Stoics.¹⁴ Overall, Sluiter's paper acts as a serious connecting point for past studies of both Stoic and non-Stoic grammar. Instead of looking at one or the other, Sluiter shows that looking at both reveals more about each one.

Each of Blank, Frede, and Sluiter show the gradual trend of linking Stoic grammar to other parts of their philosophy. As Blank notes, grammar and philosophy are intertwined in Greek linguistics. Following his assertion and using Frede's model of looking at one particular part of Stoic grammar, this thesis continues the trend by offering a more in-depth elucidation of the connection between Stoic grammar and philosophy than has been offered before. Looking at the Stoics' conception of the *sundesmoi* in detail will allow us to learn not only what the Stoics thought about connectors but also what role Stoic grammar has in the Stoic philosophical canon. While connectors are only one part of grammar, they provide enough focus so as not to be too broad, but are used enough in both grammar and logic so as to be more widely applicable to Stoic philosophy.

¹⁴ *Ibid.*, 384.

Chapter One – The Art of Studying Grammar: Studying Our Sources on Stoic Grammar

Before we can begin to investigate how the Stoics conceived of *sundesmoi*, we must first explore the sources available to us on the subject of Stoic grammar. There are no complete extant texts written by the Stoics on the subject of grammar; however, there are numerous fragments of their writings, as well as testimonies given by ancient philosophers, historians, and grammarians familiar with the Stoics' thought. The question then becomes which of these testimonies and writings most reliably reflect the Stoics' conception of *sundesmoi*. While some come directly from the Stoics and contemporaries of the Stoics, many others are given to us by people writing centuries later. Moreover, there are concerns over the writers' opinions of the Stoics. How fair or unfair any given writer is to the Stoics may not always be immediately apparent. Although none of this disqualifies any of the recorded testimonies, it does make it important to consider the nature of the testimonies themselves. This chapter will therefore examine some of the extant writings on Stoic grammar, considering them in relation to their chronological and thematic proximity to the Stoics. Due to the range of authors whose works we have, however fragmented, on the Stoics (and on Greek grammar more generally), we are unable to consider them all here. Instead, we offer an assessment of a few key writers – Dionysius Thrax, Sextus Empiricus, Apollonius Dyscolus, and Diogenes Laërtius – and their respective works on Stoic grammar.

We admit that this chapter is not especially philosophically rich. Rather, it is more of a historiography of some of the texts on *sundesmoi*. The four authors we discuss here, presented in chronological order, represent some of the best surviving sources on Stoic grammar. Although, as we have previously indicated, there are small fragments of testimonies from other sources and authors, I do not discuss any individual one of them at any length. There is not enough space to be able to address each one, and there is no single fragment that stands above the others. Instead, we

dedicate this chapter only to the longer works to which we will refer in greater detail. The purpose of this chapter is twofold. First and foremost, it provides a survey of the longer works we will be using for source material in later chapters. Since none of these texts come specifically from the Stoics, it will be useful to have some background on their relevance to Stoic thought. Second, along the same lines as the first, it offers a defence of our use of these sources in our research. Each one has its own benefits and challenges. Dionysius Thrax's *Technē Grammatikē*, for instance, is the most contemporary to the Greek Stoics, but does not explicitly discuss *Stoic* grammar. Apollonius Dyscolus, by contrast, wrote several hundred years later, but does discuss the grammar of the Stoics at some length. Yet despite these possible obstacles, these authors still represent the best group of sources for investigating the Stoics' conception of *sundesmoi*.

Dionysius Thrax was an Alexandrian grammarian who lived in the second century BCE. Very little is known about his life; what we do know comes primarily from the lexicon of Suidas, also known as the *Suda*, a tenth century record of Greek language, history, and culture.¹⁵ Born around 170 BCE to a Thracian man named Teres (or Teros), Dionysius lived and studied in Alexandria. There he worked under the noted grammarian and writer Aristarchus, who is said to have written over eight hundred books on language and grammar.¹⁶ After completing his education with Aristarchus, Dionysius moved on to teach in Rome. During his tenure as a sophist in Rome he composed several commentaries and treatises about grammar. Although most of these have since been lost, we do have access to a few titles and fragments, which present a partial picture of Dionysius' varied grammatical interests. Sextus Empiricus, for example, offers a brief look into Dionysius' *Precepts (Parangelmata)* in the form of Dionysius' definition of grammar (ostensibly

¹⁵ This information specifically comes from entries on Dionysius and his mentor, Aristarchus, located at Delta 1172 and Alpha 3892 in the *Suda*, respectively.

¹⁶ "Alpha 3892: Aristarchus," *Suda On Line*. Trans. by Malcolm Heath. 30 July 2014.

taken from the *Precepts*).¹⁷ Similarly, Clement of Alexandria provides a few quotations from Dionysius' *About Signification* (*Peri tēs emphaseōs*) in his *Stromata*.¹⁸

Many of the fragments we have from Dionysius are like the ones from Sextus and Clement; just a title, which could be the title of a work or just the title of a section in a work, along with either a few quotations or a paraphrased section from Dionysius. One important exception to this rule, however, is his *Art of Grammar* (*Tekhnē Grammatikē*). The *Art of Grammar* reads as an introductory piece to the study of grammar, giving a brief survey of several basic grammatical and linguistic topics, such as reading, tone, and punctuation.¹⁹ It is the longest piece we have that can be attributed to Dionysius. The *Art* consists of several sections ranging in length from a single line to several pages, each presented almost independently of one another. This is a result of how it has been reconstructed for modern readers. No single complete version has survived from antiquity. What we have instead are a series of damaged or partial copies, with slight variations between them. Since the nineteenth century, philologists and historians of classical grammar have attempted to arrange these partial copies of the *Art* into a readable, complete text.

Early reconstructions relied largely on what Immanuel Bekker included in his *Anecdota Graeca*.²⁰ Yet historians have continued to uncover additional papyrus copies which scholars can compare to previous editions and use to make possible alterations or emendations. These additional copies have been found as recently as 2005, making the curation of the *Art* an ongoing process.²¹ However, these additional fragments have inspired concerns over the authenticity of each part of the *Art*. Doubts over whether Dionysius had actually authored the *Art* began in antiquity, with two

¹⁷ Sextus Empiricus, *Adversus Mathematicos* I.57.

¹⁸ Clement of Alexandria, *Stromata* V.8.45.4-5.

¹⁹ Dionysius Thrax, *Tekhnē Grammatikē*, II-V.

²⁰ Thomas Davidson, Introduction to *The Grammar of Dionysius Thrax*, St. Louis, MO: R.F. Studley Co, 1874.

²¹ John Lundon and Stephanos Matthaios, "Nominal Accidents by Question and Answer: Two Fragments of a Τέχνη Γραμματική, One New," in *Zeitschrift für Papyrologie und Epigraphik* 154 (2005): 97.

Dionysian scholiasts suggesting that he could not have been the original author based on discrepancies in the content of the text.²² They acknowledge that the first section of the *Art*, simply subtitled *Grammatikē*, does align with Dionysius' ideas about what grammar is; indeed, we find here the same definition of grammar that Sextus gave us from Dionysius' *Precepts*.²³ The first section is theoretical in nature, and introduces concepts – such as allusion and analogy – that seem to presuppose some knowledge of grammar. It gives the appearance that what follows will be a philosophical inquiry into language. The rest of the sections, however, are all basic and structural. Presumably, someone reading a text on the philosophy of grammar will already be familiar with, for example, what letters and syllables are. Because of these discrepancies, the scholiasts argue that the ideas present in the *Art* are Dionysius', but that he is not the original author.

Recent scholars have expressed similar doubts about the authenticity of the *Art*. Most prominent among them is Vincenzo Di Benedetto, who has been writing about the authorship of the *Art* since 1958.²⁴ Di Benedetto echoes the concerns of the scholiasts, but also offers one further argument in favour of *Art* having another author. In the chronology of scholarship following Dionysius' death, there are several prominent writers all discussing Greek grammar, including Sextus, Apollonius Dyscolus, and Quintilian. All three of these authors mention Dionysius by name, and discuss some of his grammatical writings. Yet the first time the *Art* is mentioned anywhere in the literature is in the fourth century CE, long after Dionysius died.²⁵ Considering the

²² Scholia on Dionysius Thrax, in *Grammatici Graeci* I/III.124.7-14; 160.24-161.8.

²³ Dionysius Thrax, *Tekhnē Grammatikē*, I.

²⁴ Vincenzo Di Benedetto, "DIONISIO TRACE E LA TECHNE A LUI ATTRIBUITA," in *Annali della Scuola Normale Superiore di Pisa. Lettere, Storia e Filosofia* II, vol. 27, no. 3/4 (1958): 169-210. This is the first and most famous of Di Benedetto's articles on the *Art*. See also, for example, "DIONISIO TRACE E LA TECHNE A LUI ATTRIBUITA (continuazione e fine)," in *Annali della Scuola Normale Superiore di Pisa. Lettere, Storia e Filosofia* II, vol. 28, no. 1/2 (1959): 87-118; "At the Origins of Greek Grammar," in *Glotta* 68, no. 1/2 (1990): 19-39; and "Dionysius Thrax and the *Tekhnē*," in *History of the Language Sciences* vol. 1, 394-400, edited by Sylvain Auroux, E.F.K. Koerner, Hans-Josef Niederehe, and Kees Versteegh, New York: Walter de Gruyter: 2000.

²⁵ Di Benedetto, "Dionysius Thrax and the *Tekhnē*," 398-399.

significance of the supposed first ever manual on Greek grammar, it is odd that it would take several hundred years for any grammarians to comment on it. Di Benedetto therefore suggests that the *Art* is not an original work by Dionysius, but instead the result of some later grammarians compiling and distilling what they believed about Dionysius' grammar. By opening the *Art* with Dionysius' famous definition of grammar, these unnamed grammarians lend credence to the works and encourage readers to think that what follows also comes from Dionysius Thrax. Ultimately, Di Benedetto does not claim that the *Art* is completely unfaithful to Dionysius. Rather, he admits that there are still places where it converges with the fragments that we know came from Dionysius.²⁶ In order to determine which sections are most in line with his views, we must continue to compare it to the extant fragments and newfound copies of the *Art*.

Given the questionable origin of the *Art*, it is important to explain why we still intend to use it as a source for studying the Stoics on *sundesmoi*. There are a few reasons for this. First, as Di Benedetto points out, we have access to a series of fragments from and commentaries about Dionysius' other writings for the sake of comparison. When using a passage from the *Art* as evidence, it will be possible in many cases to refer to external passages for support. Why, then, do we not simply use the external passages? Because the information contained within the *Art* will provide a focus when searching through the external passages. By starting our investigation of Dionysius with the *Art*, we are able to identify more quickly key terms and ideas Dionysius had about *sundesmoi*. Indeed, one section of the *Art*, subtitled *Sundesmos*, is specifically about connectors in Greek grammar.²⁷ Although we will be referencing passages from other sections as

²⁶ *Ibid.*, 399.

²⁷ The numbering of this particular section is a matter of some controversy. Because of the debates over the authenticity of certain passages and whether some parts should even be considered canonical parts of the *Art*, the exact number given to the section *Sundesmos* changes depending on the version you are reading. In Davidson's 1874 translation, for example, it is section twenty-five. Kemp's translation, published in 1987, lists it as section twenty. Despite this fluctuation in number, I am still confident in its usage; even with the other changes to the text it has remained a part of most versions of the *Art*, usually as the final section.

well, our interest is primarily in *Sundesmos*, and this more limited scope will allow us to look effectively for external passages with similar content. These passages can then either offer support or a rebuttal to what is in the *Art*. In either case, the combination of the *Art* and related external passages will provide insight into the Stoics' conception of the *sundesmoi*.

On the surface, Dionysius does not immediately appear to be a source on Stoic thought. He is a Greek grammarian, but not specifically a Stoic grammarian. Yet his position within the history of grammatical scholarship makes him uniquely qualified as a source for studying Stoic grammar. Dionysius was a member of the Alexandrian School, a group of scholars interested in studying science and literature active from around 280 BCE until at least the mid first century BCE.²⁸ The Alexandrian School, and Dionysius more specifically, were interested in grammar primarily as a technical science; they worked on restoring older Greek works and having a firm foundation for how they ought to structure the Greek language aided in this endeavour.²⁹ They did not, however, introduce their grammatical concepts out of nowhere. Indeed, the Alexandrians were already familiar with the grammar of the Stoics, but they did not always agree with the Stoics.³⁰ They did not link grammar with logic, as the Stoics did, nor did they divide the study of grammar in the same way that the Stoics did. It should be noted that this disagreement was not overly hostile. Rudolf Pfeiffer describes the relationship between the Stoics and the Alexandrians as consisting of "lively interplay," and says that each group would respond to the other simply with the goal of reaching some kind of reconciliation.³¹ Dionysius, writing in the middle of this dialogue between

²⁸ Rudolf Pfeiffer, *History of Classical Scholarship from the Beginnings to the End of the Hellenistic Age*, Oxford: Oxford University Press, 1968, 273-274.

²⁹ Alan Kemp, "The *Tekhnē Grammatikē* of Dionysius Thrax," in *The History of Linguistics in the Classical Period*, ed. by Daniel J. Taylor, Philadelphia: John Benjamins Publishing Company: 1987, 171.

³⁰ Aulus Gellius, *Noctes Atticae*, II.25.4.

³¹ Pfeiffer, *History of Classical Scholarship*, 245. To further support this point, see Davidson's translation of the *Art*. A footnote on the section titled *Onoma* (Noun) suggests that Dionysius' phrasing throughout this section is specifically directed towards the Stoics' competing definition of 'noun.'

the Stoics and Alexandrians, then becomes useful for understanding how Greek scholars contemporary to the Stoics viewed their grammar.

Having addressed some of the issues surrounding Dionysius Thrax, we must now turn to another major source for this thesis. Our next source published chronologically on Stoic grammar is Sextus Empiricus.³² We do not know many specifics about Sextus' life. Diogenes Laërtius includes scant references to him in his chapter on the life of Pyrrho, such as calling him Sextus the Empiricist and listing him as having written about the modes of Pyrrhonian Scepticism, but he does not give any biographical information.³³ This is not to say that Diogenes' references to Sextus are not worth considering, and indeed we will return to them shortly, but for now we must put them aside. Similarly, the *Suda* is not useful for understanding Sextus; it does not have a single entry on Sextus Empiricus, but rather attributes all of his writings and accomplishments to Sextus of Chaironeia and Sextus of Libya, neither of whom has any obvious relation to Sextus Empiricus.³⁴ Therefore, instead of relying on any ancient biographers or other accounts of his life, we must look to Sextus himself for details about his life.

The most straightforward information Sextus gives us about his life is that he was a physician. He mentions this twice in his corpus, once directly and once indirectly. First, in his *Outlines of Pyrrhonism* (*Pyrrhōneioi hypotypōseis*), he has an argument against dialecticians, where he explains that only the experts of a given field have the requisite knowledge to refute sophists. Here he uses medical practitioners as an example of experts. As soon as he brings physicians into the argument, he switches from writing in the third person to the first person,

³² Scholars' attempts to study Sextus' life are both fascinating and far too extensive to include in the space I have here. For a comprehensive account of what we know and what we think about Sextus' life, see D.K. House, "The Life of Sextus Empiricus," in *The Classical Quarterly* 30, no. 1 (1980): 227-238.

³³ Diogenes Laërtius, *Lives and Opinions of Eminent Philosophers*, 9.116.

³⁴ "Sigma 235 Adler: Sextus of Chaironeia," *Suda On Line*. Trans. by Bradley Buszard, 23 December 2013; "Sigma 236: Sextus of Libya," *Suda On Line*. Trans. by Ioannis Doukas, 9 August 2014.

indicating that he is speaking from personal experience when discussing medicine.³⁵ We can take this as evidence that he considers himself to be a medical expert. This is subtly reaffirmed in his *Against the Professors* (*Adversus mathematicos*), where he names Asclepius, the demi-god of healing, as the “founder of our science.”³⁶ Although neither of these references is particularly overt, they do indicate that he worked as a physician in some capacity. Where Sextus practiced medicine is less straightforward. His knowledge of cultures and practices throughout the ancient world is too extensive to use as evidence in favour of any one particular location. Indeed, throughout his writings, he describes specific details about Egypt, Libya, Athens, Rome, and Alexandria.³⁷ Further complicating the issue is a single reference to Chaironeia, which some have taken as evidence that Sextus is in fact Sextus of Chaironeia.³⁸ Given the variety of evidence for each of these locations, there is simply no way to know exactly where he lived.

The precise dates of Sextus’ life are even harder to determine. His writing includes few references to current events or his contemporaries. However, most scholars now agree that Sextus was active in the mid-second century CE. Early in the first book of *Outlines of Pyrrhonism*, Sextus names the Stoics as one of his main philosophical opponents.³⁹ He does not specify whether these are contemporary Stoics, historical Stoics, or the Stoics in general, but Stoicism was flourishing in Rome in the second century. Yet this connection is not definitive, as Stoicism was popular well into the third century as well.⁴⁰ One possible better way to date Sextus is to look into those described in relation to him. Diogenes mentions that Sextus was a student of a man named

³⁵ Sextus Empiricus, *Outlines of Pyrrhonism*, II.238.

³⁶ Sextus Empiricus, *Against the Professors*, I.260.

³⁷ See, for example, *Outlines of Pyrrhonism*, I.83; I.84; I.149; II.98; II.221; III.202; III.205; III.211; III.224; *Against the Professors* I.148; I.228; I.246; VIII.145; VIII.147.

³⁸ Sextus Empiricus, *Against the Professors*, I.295.

³⁹ *Ibid.*, I.65.

⁴⁰ House, “Life of Sextus Empiricus,” 227-228, citing Porphyry as evidence for later Stoicism.

Herodotus.⁴¹ We do not know who this Herodotus was, but Galen, writing in the second century, talks about *a* Herodotus, who was a physician working around the same time.⁴² Aside from being a physician, there is not much else that he has in common with Sextus. Moreover, Galen lists him as being a member of the Pneumatic School of medicine.⁴³ This would make him an unusual fit for Sextus' mentor.

Despite all of this indeterminacy, there is one firmly dated reference in Sextus' corpus which can provide a general guide for dating him. Early in *Outlines of Pyrrhonism*, Sextus references the Emperor Tiberius as having ruled in the past.⁴⁴ Tiberius' reign lasted from 14 CE to 37 CE, so we can say with some certainty that he lived around the second century.

Let us summarize. Sextus Empiricus was a physician who lived somewhere in the ancient world probably around the second century CE. While the biographical information regarding Sextus is vague, his philosophical writings are much more explicit. Indeed, two of Sextus' major works have survived largely intact. While neither one is specifically about Stoic grammar, or even Stoicism more generally, both contain passages relevant to our research. The shorter of the two, *Outlines of Pyrrhonism*, consists of a three-book introduction to his philosophical school: Pyrrhonian Scepticism. Book one is his general outline of the Pyrrhonian Sceptic's goals and methodology.⁴⁵ Here we can find passages related to Sextus' attacks on the Stoics more generally; as he explains it, the Stoics are his chief opponents, and so will feature heavily as targets of his

⁴¹ Diogenes Laërtius, *Lives and Opinions*, IX.116.

⁴² Galen, *De pulsuum differentiis*, iv.11, vol.viii. Edward Zeller, in his *Outlines of the History of Greek Philosophy*, lists Herodotus as a potential colleague of Sextus' in the Sceptic School. I do not know where he has gotten that information from, as he does not provide a source for it. While Zeller's book more generally appears frequently in the secondary literature, this particular claim does not seem to have gained much support. See Edward Zeller, *Outlines of the History of Greek Philosophy*, London: Longmans, Green Co., 1886, 302.

⁴³ Galen, *De Simp. Medicament. Facultatibus*, i.29, col. ix.

⁴⁴ Sextus Empiricus, *Outlines of Pyrrhonism*, I.84.

⁴⁵ *Ibid.*, I.241.

argumentation.⁴⁶ Books two and three, by contrast, are applications of the Pyrrhonian Sceptic's philosophy. He introduces some of the main theorems of logic, physics, and ethics as they are understood by his opponents, and then shows how the Pyrrhonian Sceptic can respond to and refute them. Although none of these theorems are about grammar per se, some are about matters of Stoic logic, which will prove useful for understanding their use of the *sundesmoi*.⁴⁷

Sextus' other major work, *Against the Professors*, consists of eleven books, each devoted to arguing against certain groups of experts, or against their ideas. The first six books are all focused on professionals and are therefore sometimes subtitled "Against the Professors" or "Against the Professors of Liberal Studies." As the introduction to book one and the conclusion to book six indicate, these six books actually comprise what Sextus intended to be called *Against the Professors*.⁴⁸ Although the remaining five books are now included in the *Against* corpus, they are actually better understood as an expansion of the last two books of *Outlines*. Rather than addressing any one group of people, they are focused on particular philosophical ideas; books seven and eight are about logic, books nine and ten are about physics, and book eleven is about ethics.⁴⁹ Of the eleven books total, we are focused primarily on three of them: books one, seven, and eight. The first book in the set, subtitled *Against the Grammarians*, is of particular value for us. In it, Sextus elucidates the development of the various grammatical schools and their positions. He discusses the Stoic grammatical school in great detail, including their definitions of the parts of speech, as well as how their specific understanding of grammar differs from that of the other schools.⁵⁰ Books

⁴⁶ *Ibid.*, I.65.

⁴⁷ See, for example, *Outlines of Pyrrhonism*, II.13-28.

⁴⁸ Benjamin Morison, "Sextus Empiricus," *The Stanford Encyclopedia of Philosophy (Spring 2014 Edition)*, ed. by Edward N. Zalta, 20 January 2014.

⁴⁹ David L. Blank, "Introduction to *Against the Grammarians*," Oxford: Clarendon Press, 1998, xvi.

⁵⁰ Sextus Empiricus, *Against the Professors* I, 132.

seven and eight, known together as *Against the Logicians*, will also be useful for further studying the Stoics' applications of the *sundesmoi* in their propositions.

One might worry that using someone so openly critical of the Stoics as a source for information on their grammar is problematic. Indeed, if we are to know what the Stoics thought of the *sundesmoi*, we want to be sure that the accounts we use provide the most accurate representation of their thoughts. Yet this scepticism is unfounded. Given the amount that Sextus wrote on the Stoics, it would have been necessary for him to be well-versed in their philosophy.⁵¹ Consider that much of what Sextus wrote is a series of extended refutations of what the Stoics said. If he wanted his readers to be convinced by his arguments, he would need to make sure that he is as accurate as possible in describing his opponents' points of view. Sextus himself comments on this, and even worries that he could be attacked by the 'dogmatists' for not understanding their philosophies.⁵² Consequently, his writings about the Stoics (amongst other groups) are detailed and refer frequently to other sources which can support his claims.

Further supporting Sextus as an accurate source on Stoic philosophy is the structure of his writing. Sextus explicitly names where he is explaining the views of other philosophers and where he is giving his own exposition. He does not want his readers to misunderstand his or his opponents' positions. Each time he introduces a new concept from the Stoics (or any other group) he wants to discuss, he provides a long, clearly structured account of that concept before he ever begins to critique it. It is important to Sextus that he gets his opponents' arguments correct because, as he suggests, he feels no malice towards them.⁵³ Moreover, Sextus frequently cites his claims. While we do not have access to all of the texts or people he references, those that we do have align

⁵¹ *Ibid.*, 5.

⁵² Sextus Empiricus, *Outlines of Pyrrhonism*, II.2.

⁵³ Sextus Empiricus, *Against the Professors* I, 5.

with what Sextus has said. Indeed, even sources he did not cite which we still have offer backup to many of Sextus' descriptions of Stoic philosophy. His criticism of the Stoics does not make him any less reputable as a source.

A final note in defence of Sextus as a source on Stoicism concerns the manner in which Sextus presents his arguments. Early in *Against the Professors*, Sextus summarizes the Pyrrhonian Sceptics' experience with philosophy. He suggests that the Pyrrhonian Sceptics, like the Stoics and Epicureans, are looking for truth, but do not claim to have found it. Instead, Sextus contends, the Pyrrhonians found only difficult problems in liberal studies (and philosophy more generally). None of the arguments put forth by other scholars satisfied the Pyrrhonians, who found possible faults with each one. Rather than agree with any dogmatic positions, the Pyrrhonians chose to suspend their judgement from them, since they did not find any to be indisputably true.⁵⁴ Despite Sextus' proclamation that he is attacking the Stoics, he still treats their arguments as being equal to all the others. He recognizes the work of the Stoics in building their arguments, he simply does not assent to them. This suggests some level of respect for the Stoics' position. Although he does not agree that they are correct, he acknowledges that their philosophical views are equally valid to those of the other dogmatic groups. As a Pyrrhonian Sceptic, Sextus is interested in trying to find truth. As a result, he wants to entertain the arguments of the dogmatists before deciding whether or not they are correct. We can therefore rely on Sextus to give us a considered account of the Stoics on *sundesmoi*.

Our next source on Stoic grammar is actually a contemporary of Sextus Empiricus. Apollonius Dyscolus, born in Alexandria in the second century CE, is considered to be one of the

⁵⁴ Sextus Empiricus, *Against the Professors* I, 6-7.

most important Greek grammarians.⁵⁵ Unlike Dionysius and Sextus, for whom we have little solid biographical information, we know a comparatively large amount about Apollonius' life. We know he lived in the second century, for example, because his son, Herodian, was also an acclaimed grammarian who worked under the rule of Marcus Aurelius.⁵⁶ Similarly, we know he was born in Alexandria because he was known more formally as Apollonius of Alexandria; Dyscolus was an epithet given to him as a result of his "surly" or "curmudgeonly" nature. There are two main sources for information on Apollonius' life. The biggest is Priscianus Caesariensis (Priscian), a sixth century Latin grammarian who based much of his work on Apollonius' grammatical theory. We still have Priscian's seminal work *Institutiones grammaticae*, in which Priscian discusses both Latin grammar and the origins of his grammatical study, including Apollonius. The other major source on Apollonius is the *Suda*. Although the section specifically on Apollonius is only a few lines long, there are also sections on people related to him, such as Herodian and Didymus, the subject of some of his writing.⁵⁷

The *Suda* tells us that Apollonius had a wide range of grammatical interests. He wrote at least twenty separate works, each consisting of several books, and of which we still have four. The largest work still extant is his text on syntax (*Peri suntaxeōs*), and then we have three smaller treatises on pronouns (*Peri antōnumias*), adverbs (*Peri epirrhmatōn*), and connectors (*Peri sundesmōn*). It is this treatise on connectors which will be most useful for our purposes, but the others will be beneficial for background information. In the opening lines of his book on connectors, Apollonius explains that he will, to some extent, consider the opinions of the Stoics

⁵⁵ "Alpha 3422: Apollonius," *Suda On Line*. Trans. by Malcolm Heath, 30 July 2014; Priscian, *Institutiones grammaticae*, 11.1. Priscian refers to Apollonius in glowing terms, calling him the "prince of grammar."

⁵⁶ "Eta 546: Herodian," *Suda On Line*. Trans. by Malcolm Heath, 1 August 2014. Herodian dedicated his book on accents to Marcus Aurelius.

⁵⁷ "Delta 873: Didymus," *Suda On Line*. Trans. by Malcolm Heath, 4 July 2012.

on the *sundesmoi*. It is unclear from these first lines precisely how much of what follows comes from the Stoics; although he does say that he will not avoid the opinions of the Stoics, he also cautions against relying too heavily on the Stoics for studying the technical aspects of grammar.⁵⁸ Ultimately, however, he does delve into the subject of Stoic grammar throughout the works. Each time he does, he first specifies that what follows is the view of the Stoics, or of a particular Stoic, making it explicit when he is speaking for himself and when he is speaking for others.⁵⁹ This proves useful both for navigating his texts and for studying Stoic grammar.

Apollonius' emphasis on technical grammar is what ultimately makes him a potentially problematic source for Stoic grammar. For the Stoics, grammar was a part of their dialectic. Their interest in the structure and function of language was primarily philosophical; they studied it in conjunction with logic. Apollonius, by contrast, was a member of the Alexandrian School, the same group Dionysius belonged to a few centuries prior. Like Dionysius, Apollonius' focus in his grammatical work is largely technical. Indeed, while we do not have most of his works any more, we know from titles that he wrote almost exclusively on technical subjects such as breathing marks, each of the letters in the Greek alphabet, and the differences between words which can be spelled multiple ways (e.g. Dionysius or Dionysios). The titles of most of his works seem to depict technical focused works; for example, he has a book simply called *On the Formation of mi-Verbs*. His one not obviously grammatical text is the ambiguously titled *On Fabricated History*, about which we know nothing aside from its name.⁶⁰ Despite this apparent gap between the philosophical and the technical, Apollonius still constitutes an important source on Stoic grammar. As David Blank suggests, overemphasizing the differences between the Stoics and the Alexandrians is

⁵⁸ Apollonius Dyscolus, *Peri sundesmōn*, 214.2-3; 213.8-10.

⁵⁹ See, for example, Apollonius Dyscolus, *Peri sundesmōn*, 235.11.

⁶⁰ "Alpha 3422: Apollonius," *Suda On Line*. *On the Formation of mi-Verbs: Peri tōn eis mi lēgontōn rhēmatōn paragōgōn biblion*. *On Fabricated History: Peri katepseusmenēs historias*.

unhelpful, and perhaps even unfounded.⁶¹ Indeed, the only ancient text to really describe the Stoics and Alexandrians as oppositional was Varro's *De lingua latina*, and it is unclear how accurate a depiction of the two groups this is.⁶² Blank instead argues that although the Alexandrians and the Stoics had different focuses, they would have considered similar elements of grammar and had similar methodologies.

While it is true that Apollonius' works all have a technical slant, like with Dionysius' *Art*, they do still contain some references to Stoic thought. In addition to the passages where Apollonius specifically writes that what follows is a Stoic idea, he also makes use of some of the same propositions as the paradigm for certain connectors that the Stoics do. For example, in *Peri sundesmōn*, Apollonius uses variations on "Either it is day or it is night" when exploring conjunctions and disjunctions.⁶³ This is also one of the propositions used by Sextus and Diogenes in their discussions of Stoic connectors.⁶⁴ The motivation behind Apollonius' use of the same propositions may simply have been a matter of convenience; they are all clear and easily understood, making them strong examples when explaining complex grammatical issues. Regardless of why he chose to use them, it is beneficial to us that he did. Since the examples he uses are the same as those found in other sources on Stoic grammar, it will be easier to identify differences between how the Stoics understood these connectors and how other groups understood them. Moreover, the repetition of the same proposition by multiple sources writing about the Stoics means that there is a larger pool of information to draw from for fleshing out how the Stoics understood these particular *sundesmoi*.

⁶¹ David Blank, *Ancient Philosophy and Grammar: The Syntax of Apollonius Dyscolus*, Scholars Press: Chico, California (1982): 5.

⁶² Specifically, books eight through ten of *De lingua latina* discuss the differences in the groups. Nowhere else are they described in quite the same oppositional terms.

⁶³ Apollonius Dyscolus, *Peri sundesmōn*, 216.6-10.

⁶⁴ Sextus Empiricus, *Against the Professors* VIII, 312; Diogenes Laërtius, *Lives and Opinions*, VII.76.

The final important source we must consider in our study of Stoic grammar is Diogenes Laërtius' *Lives and Opinions of Eminent Philosophers*. Not much is known about Diogenes' life. His writings do not include many (if any) references to himself, and few other ancient writers talk specifically about Diogenes as a person. We must instead deduce what we can about him based on what is available. Diogenes must have lived either contemporaneously with or following Sextus, around the mid-second century CE, because he mentions Sextus in *Lives and Opinions*.⁶⁵ To further narrow his dates, the first time Diogenes is quoted by another author is in Stephanus of Byzantium's *Ethnica*, around 500 CE.⁶⁶ As a result of these two points of reference, Diogenes is usually believed to have lived around the early third century. Similarly, his town of origin is also unknown. At the beginning of his chapter on Timon of Phlius, Diogenes writes: "*Apollōnidēs ho Nikaēus ho par hēmōn...*"⁶⁷ Some have suggested that this "our" should be taken to mean Diogenes is claiming to be a fellow citizen of Nicaea.⁶⁸ Indeed, David Runia suggests that although Nicaea is far from conclusively Diogenes' hometown, its remote location would help to explain why he does not discuss more recent philosophers. Yet it is also possible that the "our" in question refers to his identification with Apollonides' scepticism; without further information regarding Diogenes' philosophical views (or location of origin) it will remain unclear whether Nicaea is actually his original home.

Regardless of where Diogenes lived, we must now turn to his writing. Diogenes is the author of at least two texts: *The Lives and Opinions of Eminent Philosophers*, and the *Epigrammata*. The importance of his *Lives and Opinions* in the history of philosophy is

⁶⁵ Diogenes Laërtius, *Lives and Opinions*, IX.116.

⁶⁶ Stephanus of Byzantium, *Ethnica*, 488.

⁶⁷ Diogenes Laërtius, *Lives and Opinions*, IX.109.

⁶⁸ David T. Runia, "Diogenes Laërtius" in *Routledge Encyclopedia of Philosophy* vol. 4, ed. by Edward Craig, New York: Routledge (2000): 86.

undeniable. In it, Diogenes constructs a history of philosophy through the lives of notable Greek philosophers. His ultimate goal, he claims, is to show that philosophy is fundamentally a Greek practice, and that the study of philosophy as his contemporaries knew it could be traced back to Greek thinkers.⁶⁹ While this goal is flawed, Diogenes' history is extensive. His accounts of Greek philosophers and their positions constitute most or all of what we know about some of them. Book X, for example, contains copies of three letters apparently written by Epicurus which outline a substantial portion of Epicurus' views, particularly with regards to physics and ethics.⁷⁰ More importantly for us, Book VII consists largely of a series of biographies of important Stoics and their views. Although some of this information is also available through other fragments and sources, Book VII represents one of the longer extant works about Stoic philosophers.

Despite the apparent value of *Lives and Opinions*, it is not without its drawbacks. Indeed, contemporary scholars are critical of Diogenes as both a philosopher and historian.⁷¹ While the range of material Diogenes covers is large, the richness of each chapter varies depending on how much information Diogenes had. Some chapters, such as the one on Zeno, are extensive and include a lot of philosophical content; others, like the one on Herillus, are extremely brief. There is often little in the way of critical engagement with the material he is recording. For instance, in his biography of Cleanthes, he dedicates a single paragraph to listing Cleanthes' writings and only indirectly references some of philosophical views about language.⁷² Aside from those brief forays into philosophy, the remainder of the biography reads as more of a character study than the detailed life of an important philosopher. Compounding this lack of philosophical detail is the fact that we

⁶⁹ Diogenes Laërtius, *Lives and Opinions*, I.6.

⁷⁰ *Ibid.*, X.35-83; 84-117; 122-134.

⁷¹ See, for example, James Warren, "Diogenes Laërtius, Biographer of Philosophy," in *Ordering Knowledge in the Roman Empire*, ed. by Jason König and Tim Whitmarsh, New York: Cambridge University Press (2007): 148; and Herbert S. Long, Introduction to Diogenes Laërtius, *Lives of Eminent Philosophers*, Cambridge: Harvard University Press (1972): xvi.

⁷² Diogenes Laërtius, *Lives and Opinions*, VII.172-175.

do not have the entirety of *Lives and Opinions*. This is most evident and problematic for us in his biography of Chrysippus, which ends abruptly mid-sentence.⁷³ We get a fairly lengthy list of Chrysippus' works, but no additional information on what they contained after the list concludes. While this does not detract from what we do have, not knowing what else Diogenes intended to go into his biographies makes it difficult to get a complete picture of these philosophers from his writings.

While it is true that Diogenes does not offer much in the way of his own philosophical insights or criticisms of his subjects, this does not necessarily have to make him unsuitable as a source on Stoicism. Much like Sextus, Diogenes presents himself as neither for nor against any one particular philosophical school. Remember that his goal for the *Lives and Opinions* is to construct a history of philosophy as uniquely Greek; what those Greek philosophers are saying is secondary to the fact that they are Greek and that they are of some significance. As a result, what Diogenes chooses to do in much of his writing is to quote or paraphrase what others, particularly what his subjects, have already said. He also provides lists of what his subjects have written, and references for where he has gotten his material. Instead of treating *Lives and Opinions* as a source for in-depth argumentation, it is possible to view it as a repository of uncritical information on the philosophers it includes. When we begin to look for how the Stoics specifically used either the word *sundesmoi* or any of the individual connectors, we can look through the quotations Diogenes has provided.

The most notable quotation about Stoic dialectic is an extensive passage from the historian of philosophy Diocles of Magnesia.⁷⁴ Diocles lived around the first or second century BCE, making him much closer temporally than Diogenes to the philosophers about whom they both

⁷³ *Ibid.*, VII.202.

⁷⁴ *Ibid.*, VII.48

wrote. Diogenes quotes a section of Diocles' book *Synopsis of Philosophers* (*Epidomēi tōn philosophōn*) in which Diocles offers a detailed account of the breakdown of Stoic dialectic, including sections on logic and grammar. This section from Diocles serves as the biggest part of Diogenes' book with which we will concern ourselves, since it is one of the longest texts we have specifically about Stoic dialectic. In addition to acting as a detailed summary of some of the Stoics' views, Diocles is able to offer his own set of quotations from early Stoics, including Chrysippus. This makes his text especially valuable, as it has evidence and examples from Stoics our other sources could not access. Finally, it should be noted that although Diocles' passage appears in the book we have placed as chronologically last in our set, it was originally written around the time Dionysius was active. Because we can only read it as part of *Lives and Opinions*, however, we have elected to keep it with the last text in this chapter, as it is not the only part of Diogenes' text we will read.

Individually, none of Dionysius Thrax, Sextus Empiricus, Apollonius Dyscolus, or Diogenes Laërtius would be enough on their own for a thorough study of the Stoics on *sundesmoi*. Each writer has benefits and drawbacks, along with his own set of examples of *sundesmoi* to consider. Together, however, they can provide a more cohesive picture of how the Stoics understood *sundesmoi*, and of specific connectors as the Stoics used them. Moreover, they are not the only four sources we intend to use. As we have said, there is also a wealth of testimony and fragments from other authors to aid in our investigation. However, given some of the problems associated with the above sources, it is important to understand why they are still valuable to use. Even though none of these authors are Stoics, nor are their works specifically about Stoic grammar, they each rely on an underlying grasp of Stoic thought. For Dionysius and Apollonius, many of their grammatical concepts originate with the Stoics. For Sextus and Diogenes, their philosophical

positions demand that they treat the Stoics charitably; if they had distorted the views of the Stoics, their own works would have suffered. Consequently, they constitute four of the most in-depth sources available to us in our study of Stoic grammar.

Chapter Two – The Stoics on *Sundesmoi*: Defining the Connector

Having explored some of the sources available to us on Stoic grammar, we can now turn to the actual subject of what the Stoics meant by *sundesmoi*. The word itself is not of Stoic origin; we can see evidence of ‘*sundesmoi*’ being used in a grammatical context since at least Aristotle.⁷⁵ However, the Stoics’ use of the word is of particular interest to us because of its place in Stoic grammar. Recall that for the Stoics, grammar was a part of dialectic, and therefore a part of their logic. This provides us with a rough focus for where to look in the Stoic canon for information on the *sundesmoi*. There are two ways we can approach the study of what the Stoics meant by this term. The first, and perhaps most obvious, is to look for instances of the word itself in Stoic testimonies and our other assorted sources on the subject. This is the subject of the present chapter. In the next chapter we will switch to the second method: looking for places where the Stoics discuss specific words which fall into the category of *sundesmoi*. After first reviewing the works of some technical grammarians to find a ‘baseline’ (i.e. non-philosophical) definition of *sundesmoi*, we move into Stoic doctrine proper, considering some examples from the ancient testimonies. By comparing the specifics of the Stoics’ understanding to our baseline definition, it is possible to discover the particularities of what the Stoics meant by *sundesmoi*.

The first definitions of *sundesmos* we are to consider comes to us not from any of our main sources, but instead from a much earlier text. In his *Poetics*, Aristotle lists seven parts of speech: letter (*strikheion*), syllable (*sullabē*), connector (*sundesmos*), noun (*onoma*), verb (*hēmera*), case (*ptōsis*), and phrase (*logos*). He provides each part with one or more definitions; for connectors, he gives two. A connector, he says, can either be: a non-significant sound, which neither hinders nor causes the formation of a single significant sound or phrase out of several sounds, and if the

⁷⁵ Aristotle, *Poetics*, 1456b20-23.

phrase is alone the connector cannot start it, like *men* or *de*; or it is a non-significant sound capable of forming one significant sound or phrase out of several sounds where each has a meaning all its own, like *amphi* or *peri*.⁷⁶ These definitions are good for getting us thinking about what connectors could be and how ancient philosophers thought of them. Here, Aristotle seems to be thinking of connectors in a descriptive grammatical fashion. He is describing how they are used in regular everyday Greek grammar. This much is clear from the examples he provides; *men* and *de*, for instance, do not cause or hinder the formation of phrases, and they cannot appear first in a Greek sentence.

What is harder to grasp is what Aristotle means when he says that connectors are non-significant sounds (*sundesmos de estin phone asēmos*). The ‘sound’ part of his definitions is simple enough: spoken aloud, connectors are sounds. The difficulty comes from his claim that they are non-significant. It is unclear how he is thinking of these sounds as non-significant and he does not expand on his claim here. We may think that his claim is odd, since, in English, each of these connectors has a translation, and we might say that the translated word has some significance. For example, we might think that *de* signifies a negative conjunction, since it can be translated in English as ‘but’ (and that is how we think of ‘but’). Yet this imposes a significance to the word that we do not necessarily see in Aristotle. Moreover, it is a simple interpretation of what the meaning of a connector could be. The question then remains what a non-significant sound might be; indeed, this will be one of the central questions we aim to answer in this chapter.

Given the potential for inquiry into Aristotle’s conception of ‘*sundesmoi*’ from his definitions in the *Poetics*, it is important to understand why we are not using his account as our starting point for studying the Stoics’ conception of ‘*sundesmoi*.’ Chronologically, he is one of the

⁷⁶ Aristotle, *Poetics*, 1456b20; 1456b38-1457a5.

earliest sources we have on the subject, and he has the philosophical background that some of the other Greek grammarians do not. We chose not to focus on his definitions for two main reasons. First, within our main sources on Stoic grammar (particularly Apollonius) we see evidence of interplay between the Alexandrians and the Stoics. The two groups were aware of each other and commented on each other's grammatical studies. Surprisingly, there are few references to Aristotle's grammar, especially with respect to their discussions of the *sundesmoi*. Aristotle may have been earlier than most other sources, but the bulk of the material we have to work with does not address Aristotle's definitions with the same depth that they do with the Alexandrians or Stoics. The second reason we chose not to focus on Aristotle's definitions is actually what makes them so interesting. To study Aristotle's definitions, we would need to delve into what he understands as a sound's 'significance.' For our purposes, however, it would be better to start with what we know about what the Stoics thought of the *sundesmoi*. Starting with Aristotle opens us to questions about how the Stoics' views related to earlier ones, which are not as helpful for our ultimate goal of understanding the Stoics' views themselves.

Our next definition (and the first from our group of grammarians) comes from Dionysius Thrax in his *Art of Grammar*. He defines a connector as "a word that binds together a thought in order, and which shows the gap in an expression (*hermēneas*)."⁷⁷ We use the term 'expression' to mean a set of words or a phrase arranged in some kind of order. This definition is not immediately clear; therefore, let us break it down into parts. Per this definition, connectors do three things: they bind a thought together, give it a linguistic order, and show the gaps in expressions.⁷⁸ In order to

⁷⁷ Dionysius Thrax, *Tekhnē Grammatikē*, XX(V). From Dionysius: *sundesmos esti lexis sundeousa dianoiān meta taxēōs kai to tēs hermēneas kekhēnos dēlousa*.

⁷⁸ Following Jonathan Barnes, I have translated "*dēlousa*" as "showing." In several other translations of the *Art*, however, translators instead use the word "filling." Kemp's 1987 translation, for example, translates it as "filling the gaps." Similarly, Davidson translated it as "filling in the hiatuses." I am sympathetic to this translation and I will say shortly that I think filling gaps is roughly what the connectors do, but for the sake of textual accuracy I will translate it as "showing" throughout. See Barnes, *Truth, etc.*, 183-184.

better grasp what Dionysius means by each of these parts, we turn to his classification of the types of connectors which immediately follows his definition. Dionysius identifies eight types of connectors, each of which has a different function in language. Copulative connectors, for example, are those which bind words without imposing any limit on the length of the sentence, such as *men*, *de*, *kai*, and *alla*. Disjunctive connectors bind words by separating one from the other, such as *ē* and *ētoi*. Hypothetical connectors, like *ei*, indicate the consequence of a hypothetical scenario. Parasynaptic connectors, by contrast, indicate what actually is, and include words like *epei*. Causal connectors give reason for things, like *hina*. Dubitative connectors are used to indicate doubt, as in the case of *mōn*. Syllogistic connectors introduce conclusions, like *ara*. Finally, expletive connectors are used for the sake of expressiveness or for metre in poetry, such as *dē* or *pō*.

Looking at Dionysius' list of connector types provides clues for understanding his definition of *sundesmos*. We can use his classifications to address each of the three parts of his definition. First, a connector is a word that binds the thought together (*lexis sundeousa dianoiā*). Although this is arguably the most straightforward of the three parts of the definition, the copulative and disjunctive connectors help to explain it further. Copulative connectors – like 'and' – join words together without limit; you can bind together a thought (or expression) regardless of its length. This lack of limitation also influences the meaning of the overall expression. The copulative connectors communicate to the listener that everything they join together in an expression is part of the same collective; the expression refers to each of the words bound together equally. Disjunctive connectors also bind words but, as Dionysius seems to imply, they impose a limit on how many can be joined together into a single expression. The structure they create is not one of a collective, but rather of a division. The relationship shared by words joined together by

disjunctive connectors is that they cannot be together, but also that at least one must be the case. This is an either/or structure. In both cases, the purpose of the connectors is to structure expressions so that they are not just a series of disconnected nouns and verbs. While the structures expressed by copulative and disjunctive connectors differ, they are structures nonetheless.

The second part of Dionysius' definition is that connectors they bind the thought together "in order" (*meta taxeōs*). This does not always, however, refer to word order; the order in which words appear in a given expression comes from the first part of his definition. Rather, this sometimes refers to causal order, and is typified by the hypothetical and parasynaptic connectors. Both of these types of connectors indicate some kind of consequence, depending on whether the connector indicates actual existence. The paradigmatic hypothetical connector, for example, is 'if:' if one thing happens, then another will happen. 'If' does not indicate whether the first part is actual, but instead merely postulates what would happen hypothetically. Similarly, parasynaptic connectors communicate what will happen 'since' or 'when' something actual has happened: since this is happening, that will follow. As with the copulative and disjunctive, 'if' and 'since' bind words together into a single thought; but they also indicate a causal order between the words they are connecting. Propositions using synaptic connectors express the consequences of hypothetical situations, while propositions using parasynaptic connectors express the consequences of actual situations.⁷⁹ Although not all connectors order their respective expressions in terms of cause and effect, this is one of their possible functions.

The final part of Dionysius' definition is perhaps the most obscure: connectors show the gap in expressions (*to tēs hermēnias kekhēnos dēlousa*). As with the previous part of the definition, this appears to mean more than the literal gaps between words. 'Show the gaps' appears as its own

⁷⁹ Apollonius Dyscolus, *Peri Sundesmōn*, in *Grammatici Graeci* II/I, 220.15-19.

clause at the end of the definition, separated from the ‘binding words together’ clause by an ‘and’ (*meta taxeōs kai to tēs hermēnias kekhēnos dēlousa*). However, the gaps to which Dionysius refers are also gaps in how a particular expression should be understood. Consider the causal and syllogistic connectors. When included in an expression, these types of connectors shape how the listener understands what is being said. For example, words like ‘because’ and ‘therefore’ indicate that a particular sentence is a premise or a conclusion. Without them, the purpose of the expression can be unclear. The gap in question, then, gives the expression its force. Let us examine the following expression:

Therefore, the ground is wet.

This is a simple example. Just saying “the ground is wet” could indicate that it is a premise, or perhaps not even part of an argument. But since the expression begins with “therefore” it is more overtly a conclusion. Without the “therefore” in place, the expression is not a complete conclusion; there is a gap in the conclusion, leaving the fact that it is a conclusion ambiguous. The same is true of other types of connectors. For instance, without “if,” a hypothetical sentence would have a gap indicating that part of the sentence is not actual. This is the kind of gap in expressions that the connectors fill.

To summarize, Dionysius’ definition of connectors indicates that they provide structure to expressions, indicate what, if any, order the components of expressions have, and more directly communicate to the listener how she should interpret expressions. This will act as our baseline grammatical definition of *sundesmos*. As a member of the Alexandrian school, Dionysius would have been interested in capturing just the technical aspects of the word. His definition captures how the average grammarian would have understood connectors. Moreover, it is his *Tekhnē* that would come to influence later grammarians. Indeed, Teresa Morgan argues that while the *Tekhnē*

is not the clearest book, nor even the best for learning Greek grammar, some of the most influential teachers of grammar later in antiquity owe at least part of their work to the *Tekhnē*.⁸⁰ In each of Quintilian's *Institutio Oratoria*, the eighty-eighth letter of Seneca, and Plutarch's *On How the Young Man Should Study Poems*, the authors' description of grammar aligns with that which is found in the *Tekhnē*. Quintilian in particular draws from the *Tekhnē* in both his breakdown of the parts of speech as well as in his emphasis on reading as a part of a grammatical education. The second fragment of the *Tekhnē*, titled *Anagnōsis*, focuses on the importance of pausing and pace in reading aloud.⁸¹ Compare this to the opening of *Institutio* book one chapter eight, which highlights the need for proper pacing, breathing, and pausing when reading.⁸² Although some of the later definitions of *sundesmoi* may be clearer than the one attributed to Dionysius, we will follow Morgan in finding his grammar at the root of those later grammarians and regard it as such.

With our baseline definition in mind, we can now turn to the Stoics' particular conception of the *sundesmoi*. The most direct account we have of the Stoics' definition of *sundesmos* comes to us from Diocles of Magnesia in Diogenes' *Lives and Opinions*. According to Diocles, the Stoics define a connector as "an indeclinable part of a sentence that binds together the parts of the sentence."⁸³ This definition will require further examination to understand what precisely it entails. First, connectors are described as being indeclinable. The word *aptōton*, which we have translated

⁸⁰ Teresa Morgan, "Dionysius Thrax and the Educational Uses of Grammar" in *Dionysius Thrax and the Technē Grammatike*, ed. by Vivien Law and Ineke Sluiter, Münster, Germany: Nodus Publikationen, 1995: 82-83.

⁸¹ Dionysius Thrax, *Tekhnē Grammatike*, II. *Anagnōsis esti poiēmatōn ē suggrammatōn adiaptōtos prophora. Anagnōsteon de kath hupokrisin, kata prosōidian, kata diastolēn.*

⁸² Quintilian, *Institutio Oratoria* I.VIII.1. *Superest lectio: in qua puer ut sciat ubi suspendere spiritum debeat, quo loco versum distinguere, ubi cludatur sensus, unde incipiat, quando attollenda vel summittenda sit vox, quid quoque flexu, quid lentius celerius lenius dicendum, demonstrari nisi in opere ipso non potest.*

⁸³ Diogenes Laërtius, *Lives and Opinions*, VII 58. In Greek: *sundesmos de esti meros logou aptōton, sundoun ta merē tou logou*. In this context, I have translated the word *logos* as sentence. Sentences can be written or spoken. Earlier in the same passage, Diocles seems to indicate that he has in mind specifically spoken sentences. However, none of the English words for spoken language (like "speech") have the right connotation. Later in the passage, Diocles specifies that *logoi* have some kind of thought behind it, which the more general "speech" may not have. The word "sentence" at least indicates that the speaker has put thought into its composition.

as indeclinable, can also be translated as something like “caseless.” This ostensibly refers to the fact that the *sundesmoi* literally do not have cases; you cannot decline *kai* into a nominative or accusative form, for example. However, that the Stoics felt the need to include it in their definition indicates a greater significance to the connectors’ lack of declension. We will return to this in a moment. Diocles finishes the definition by explaining what the connectors do: they join parts of a sentence together. Although this seems to echo our baseline definition, there is one meaningful difference between the two. Where Dionysius regards connectors as joining a thought (*dianoian*) together, the Stoics view them as joining parts of a sentence (*logou*). These two differences – the inclusion of indeclinability and the objects being connected – constitute the key differences between the technical and Stoic definitions of *sundesmoi*.

Let us first consider the concept of indeclinability, or caselessness. The notion of case (*ptōsis*), as it appears in Stoic grammar, is notoriously difficult to define. Although earlier Greeks knew of the declension of nouns, it was the Stoics who first developed a theoretical understanding of case.⁸⁴ However, the specifics of this theory have been lost. Using what little we do know about their notion of case, we will now attempt to understand why the Stoics chose to highlight the lack of declension in the connectors. We know that the Stoics were interested in the notion of case since at least the time of Chrysippus. According to Diogenes, Chrysippus wrote a book called *On the Five Cases*, of which no part has survived.⁸⁵ The five cases in question are the same five found elsewhere in Greek grammar; the passage from Diocles in *Lives and Opinions* specifically names the nominative, accusative, genitive, and dative cases, while Ammonius’ commentary on *De Interpretatione* adds the vocative to the list.⁸⁶ Yet looking for definitions of these cases does not

⁸⁴ Ammonius, *Commentary on De Interpretatione*, 43.4-5.

⁸⁵ Diogenes Laërtius, *Lives and Opinions*, VII 192.

⁸⁶ Diogenes Laërtius, *Lives and Opinions*, 64-65; Ammonius, *Commentary on De Interpretatione*, 44.5.

reveal much. Dionysius, for example, dedicates only a few words to each case, and chooses to give the origins of the terms rather than explain what they do.⁸⁷ Therefore, we must instead look at examples of how our sources talk about the Stoics and cases. Even if we cannot determine how the Stoics defined case, we can understand case's significance to the *sundesmoi*.

The case for which we have the most references is the nominative. Indeed, when grammarians discuss the Stoics' treatment of the cases, they typically group them into two categories: the nominative (also called the "right" or "direct" case) and the oblique cases (which include the other four).⁸⁸ The most sustained discussion we have of the Stoics' cases is part of Diocles' summary. Here, he discusses cases as they relate to predicates. Diocles offers three different definitions of predicates. His first definition is that predicates are direct and reflexive incomplete sayables.⁸⁹ This definition, which he does not attribute to any particular Stoic, is brief, and used merely to introduce the subject of predicates to his discussion of the Stoic study of sayables. His second definition originates with Apollodorus, and states that predicates are what is said of something, or a thing associated with one or more subjects.⁹⁰ Both of these definitions are useful for understanding elements of what a predicate is. The second tells us that predicates are spoken of a subject; they describe what something is doing. The first clarifies the nature of this description with its explanation that they may be direct or reflexive. Predicates, as direct and reflexive incomplete sayables, are signified by verbs. Direct verbs describe a subject acting on something, while reflexive verbs describe a subject acting on itself.

⁸⁷ Dionysius Thrax, *Tekhnē Grammatikē*, XIV.

⁸⁸ See, for example, Diogenes Laërtius, *Lives and Opinions*, VII 70; Varro, *De Lingua Latina*, X 59; Ammonius, *Commentary on De Interpretatione*, 42.30.

⁸⁹ Diogenes Laërtius, *Lives and Opinions*, VII 63. ...*hō peri ellipōn te kai katēgorēmatōn kai orthōn kai huptiōn*.

⁹⁰ *Ibid.*, VII 64. *Esti de to katēgorēma to kata tinos agoreuomenon ē pragma suntakton peri tinos ē tinōn...*

The third definition that Diocles offers reinforces the idea that predicates are signified by verbs. Immediately after giving Apollodorus' definition, Diocles gives an alternate definition, which he attributes to no one. He writes that a predicate is an incomplete expression which takes a nominative case in order to produce a proposition.⁹¹ When you combine a predicate with a case, you form a basic proposition. Diocles then breaks down the various types of predicates and their respective cases. Direct predicates are those which are constructed with the oblique case; we might refer to them today as transitive verbs. Consider, for example, "Socrates listens to Cratylus."⁹² With "Socrates listens to Cratylus," the verb "listens" connects subject "Socrates" to the indirect object "Cratylus." Propositions can also be made more complex through the addition of other words, but Diocles is clear that some can be as simple as a predicate and something declined.

It is important to note that Diocles phrases this union of predicate and case exactly as we have. It is not that the predicate takes a word that has been declined, but rather that it takes the actual case. In Greek, his initial description of a proposition formed from a predicate and a nominative case is *katēgorikon de esti to sundestos ek ptōseōs orthēs kai katēgorēmatos*. The affirmative proposition is the union of a predicate and the *ptōseōs orthēs*, or the "right case," or what we would call the nominative case.⁹³ This seemingly odd construction has the necessary benefit of being broad. We say necessary because of how the Stoics categorized words. The Stoics identified five parts of speech: proper names, common nouns (or appellatives), verbs, connectors, and articles.⁹⁴ Connectors, as we have already established, are indeclinable. Verbs are similarly caseless. Yet the remaining three types, proper names, appellatives, and articles, can all be declined. They can also each complete a proposition. Proper names express a property of a unique

⁹¹ *Ibid.* ... *ē lekton ellipes suntakton orthēi ptōsei pros axiōmatos genesis.*

⁹² Diogenes Laërtius, *Lives and Opinions*, VII 64.

⁹³ *Ibid.*, VII 70.

⁹⁴ *Ibid.*, VII 57.

individual, such as “Socrates” or “Cratylus.” Appellatives express things which are common, such as the more general “person” or “cow.” Articles, in addition to distinguishing the number and gender of an appellative, also included pronouns and demonstratives, both of which are capable of completing a proposition.⁹⁵ Regardless of whether the *ptōsis orthē* in question is a name or an appellative, it is able to fit the predicate and form a proposition.

Given the place of propositions in Stoic logic, it is unsurprising that case, a major component in their formation, is important. Yet despite knowing that case is important, we do not yet know what it actually is. Diocles does not provide a definition of case, nor can we find one elsewhere in Diogenes. The most straightforward account of the Stoics’ definition of case is Ammonius’, where he presents it in contrast to Aristotle’s. Ammonius writes that for Aristotle, words in the nominative case are the names of their respective objects, and the oblique cases are simply reformed versions of the names which have ‘fallen’ from the nominative version.⁹⁶ He emphasizes the notion of falling because *ptōsis*, the word for case, also means fall. The nominative, on Aristotle’s account, is not a case, but rather the standard version of a word or name. In contrast to Aristotle, Ammonius claims, the Stoics argue that the nominative is actually a case. Every one of the cases, including the nominative, is still a fall, but not from any other word form. Instead, every declined word falls from the soul of the person who says it. Words begin as thoughts which fall through the soul and emerge through the mouth as vocalizations.⁹⁷ This, according to Ammonius, is how the Stoics understood case.

⁹⁵ Apollonius Dyscolus, *De Pronominibus*, 5.13. Michael Frede, in his “Principles of Stoic Grammar,” claims that the class of words known as ‘articles’ would have been larger than what we would consider to be articles and include pronouns. He does not, however, offer any kind of citation for this claim and moves on from it quickly. See Frede, “Principles of Stoic Grammar,” in *The Stoics*, ed. by John Rist, Berkeley: University of California Press, 1978: 64-65.

⁹⁶ Ammonius, *Commentary on De Interpretatione*, 43.5-7.

⁹⁷ *Ibid.*, 43.9-12.

If Ammonius' account is accurate, the Stoics' definition of case has some obvious difficulties. For instance, if the 'fall' that words with case undergo is a fall from the soul into spoken language, why do connectors and verbs not have them? However, lacking another possible definition, we will attempt to find an answer so that we may use Ammonius' account. Clement, in his *Miscellanies*, has a brief passage about case. He relates to us an old idiom: what you say passes through your mouth. When you say the phrase "a house," a house does not literally emerge from your mouth, but instead the case associate with "house" does. When we say *oikia*, what passes through is the nominative case; Clement calls this an incorporeal element which the *oikia* bears.⁹⁸ In a sense, our thought of the house is complete. We can think of a house then speak the word "house" aloud, and the word will represent roughly what our thought was about. Indeclinable words, by contrast, are not complete without something else. Diocles' summary contains a passage about defective expressions, or ones which are unintelligible without further information. He uses the example of a person saying only "writes." Without a subject to do that work, the expression is incomplete.⁹⁹ It requires something more – a declinable word – to be complete. The case is what makes the phrase intelligible.

Why, then, is it important for connectors to be indeclinable? If every proposition requires a predicate and a declinable word, what is the significance of adding in one or more indeclinable words? The answer is twofold; there is a practical reason and a metaphysical reason. First, connectors must be indeclinable because, if they were not, a single predicate and a single connector could, in some instances, form a phrase which signifies a complete proposition.¹⁰⁰ Yet phrases

⁹⁸ Clement, *Miscellanies*, 8.9.26.5. *Hē ptosis de asōmatos einai homologeítai; dio kai to sophisma ekeino outōs luetai; "hō legeis, dierkhetai sou dia tou stomatos," hoper alēthes, "oikian de legeis, oikia ara dia tou stomatos sou dierkhetai," hoper pseudos; oude gar tēn oikian legomen sōma ousan, alla tēn ptosis asōmaton ousan, hēs oikia tugkhanei.*

⁹⁹ Diogenes Laërtius, *Lives and Opinions*, VII 63.

¹⁰⁰ A phrase consisting of a definite article (which is a declinable word) and verb would not, even in this hypothetical case, signify a complete proposition.

such as “and writes” or “if walks” sound strange to us because they do not make sense; they do not communicate anything to a listener because they are incomplete. By specifying that connectors are all indeclinable, the Stoics prevent such phrases from being able to signify complete propositions. The only complete propositions in which connectors are used are complex propositions, where the connector used connects together a complex proposition out of a repeated proposition or propositions.¹⁰¹ The proposition “If it is day, it is light,” for example, consists of two propositions joined together by the connector “if.” Each proposition would be complete on its own, but with the addition of the indeclinable “if” they form a complete complex proposition. The same is true for each of the connectors; adding one joins together two or more complete propositions.

The second reason for declinability’s significance, we contend, is the notion of the incorporeal ‘name’ which Clement suggests. Saying a declined word out loud forces the case of the word to pass through your mouth. For the Stoics, the sound of the word is corporeal, but there is also an incorporeal element to it which also comes out in speech.¹⁰² Clement claims that an object named in speech bears this incorporeal element. Let us return to his example of ‘*oikia*.’ We speak the word ‘*oikia*’ aloud and produce a corporeal sound. The sound signifies an incorporeal sayable. The sayable reflects our perception of an object, in this example a house. The house, the object that has been named, bears a case. Clement does not expand on what this bearing is, but we pose a possible explanation. In order for a word to be able to fall, as the word *ptōsis* suggests, it first needs to be in a position from which it can fall. This is the initial thought which will eventually be transmitted to speech. That initial thought comes from our perception of the object. In perceiving the house, we perceive with it any relations it has to other thoughts. Just thinking

¹⁰¹ *Ibid.*, VII 68.

¹⁰² *Ibid.*, VII 55-56.

‘*oikia*,’ for example, leaves it as the subject of our thought. However, if we perceive it as John’s house, we perceive it in a possessive relationship with the subject John. This relation is perceived along with the object; in other words, the object bears its relation to other objects in initial perceptions. This is how an object named in speech is able to bear a case.

Indeclinable words, by contrast, do not have a case, and also lack an incorporeal element. This has two consequences. As thoughts, the indeclinable words would not be complete. Recall that according to Ammonius, the Stoics argued that the ‘fall’ suggested by the word *ptōsis* is a fall from a thought in the soul to vocalized speech. A word like “if” could not undergo such a fall, because on its own “if” is not a complete thought in the way that “house” is. The word “house” falls from our initial thought of the house. The connectors, like other indeclinable words, cannot experience the fall from thought to speech. The other consequence is that no object in the world could bear an incorporeal element from the connectors because the connectors have nothing incorporeal about them to share. More simply, nothing is named by a word like “if” because there is nothing physical that is an “if.” Following our suggested explanation of Clement’s quote, a word like “if” does not relate to any corporeal object (aside from its vocalized sound) because there is no object “if.” Without an object “if” for us to perceive, we do not generate the thought “if” in the same way that we would for a noun. “If” can therefore not undergo the same fall from thought to speech that nouns do.

Our exposition of case and caselessness rests largely on Clement’s testimony. It is important to note that Clement is not a Stoic. To the best of our knowledge, there are no extant writings from the Stoics which directly support Clement’s claim. The closest we can come to connecting Clement’s quote to Stoic doctrine is in his example, and even then it is not an example of Stoic philosophy but rather a sophistic paradox. His full example is as follows: “What you say

passes through your mouth [...] But you say: a house. Therefore a house passes through your mouth.”¹⁰³ He claims that this example is famous, but does not cite anyone else who has previously used it. However, in Diogenes’ biography of Chrysippus, he quotes a riddle posed by Chrysippus, which strongly parallels Clement’s example. Chrysippus’ riddle states that “if you say something, it goes through your mouth. But you say: a wagon. Therefore a wagon goes through your mouth.”¹⁰⁴ Although this does not concretely confirm that Clement’s view is the same as that of the Stoics, it does support that he was at least drawing from Stoic writing.

The other major difference between the baseline definition of connectors provided by Dionysius Thrax and that of the Stoics is what the connectors actually connect. For Dionysius and the Alexandrian grammarians, connectors join a thought (*dianoia*).¹⁰⁵ For the Stoics, connectors join parts of a sentence (*logou*).¹⁰⁶ Although this may appear to be a slight distinction, the end result of each phrasing is quite different. We will start by considering how connectors join a thought. The word *dianoia* can mean thought, intellect, intention, belief, or the sense of a thing. This range of possible meanings also indicates the range of things to which it can apply. Throughout the *Art*, Dionysius makes clear that his work applies to words and sentences in all forms. Immediately after giving his definition of grammar, he lists the six components of the study of grammar.¹⁰⁷ The first is simply the skill in reading and speaking aloud with special attention to the features of prose and poetry. Simply put, the first is the ability to read and speak well. The second is the ability to notice and interpret language in various literary texts. It is an appreciation of the written word beyond just how it sounds when spoken. The remaining four are variations on

¹⁰³ Clement, *Miscellanies*, 8.9.26.5. *Hō legeis, dierkhetai sou dia tou stomatos,* “*hoper alēthes, “oikian de legeis, oikia ara dia tou stomatos sou dierkhetai,*

¹⁰⁴ Diogenes Laërtius, *Lives and Opinions*, VII.187. *Ei ti laleis dia tou stomatos sou dierkhetai; hamaxan de laleis; hamaxa ara dia tou stomatos sou dierkhetai.*

¹⁰⁵ Dionysius Thrax, *Tekhnē Grammatikē*, XX(V).

¹⁰⁶ Diogenes Laërtius, *Lives and Opinions*, VII 58.

¹⁰⁷ Dionysius Thrax, *Tekhnē Grammatikē*, I.

literary, etymological, and aesthetic analyses of both prosaic and poetic works. These four are the mental aspects of grammar. Dionysius does not want to limit the study of grammar to any one linguistic medium. Whether spoken aloud, written down, or kept as thoughts in the mind, language adheres to these rules of grammar.

There are echoes of Dionysius' opening remarks about grammar as it relates to spoken, written, and thought language throughout the remainder of the text. He is careful to include reference to as many of the spoken, written, and mental components of grammar as are relevant to each individual fragment. His section on reading, for example, incorporates all three, because reading is an act which can involve any or all of them.¹⁰⁸ Reading, he argues, requires that the reader appreciate both the written structure of the prosaic or poetic work, and also how the work is meant to be heard. Depending on the type of text, Dionysius continues, the pronunciation and lyrical harmony of the words will differ. Even when reading silently, the reader must abide by these formal aspects of composition so that she can appreciate the value of the piece fully. If the reader ignores the technical aspects of the work, the text will lose some of its emotional or aesthetic appeal. Even in sections dedicated to parts of grammar more specific to one medium, Dionysius attempts to connect that medium to language more broadly. This is clearest in the fragment on rhapsody.¹⁰⁹ Rhapsody is a type of narrative poetry, often an episode from an epic poem, which is meant to be recitable all at once. He explains that the word originates with the *rhabdos*, or laurel staff, that poets would carry while singing Homer's poems. Although the rhapsody is meant to be spoken aloud, Dionysius indicates that it can be read silently. When read silently, it will simply appear as a part of a poem with a specific theme or emphasis.

¹⁰⁸ *Ibid.*, II.

¹⁰⁹ *Ibid.*, V.

This constant broadness colours Dionysius' definition of *sundesmos*. The thoughts which connectors connect can come in any form. Although subtle, this can even be seen in his breakdown of the types of connectors, specifically with regard to the expletive connectors. Expletive connectors are used to provide emphasis. Few of them have direct English translations, but they are equivalent to words like "indeed."¹¹⁰ Although they are often used simply for the sake of embellishment, Dionysius notes that they can also be used for the sake of metre.¹¹¹ If a writer or orator is aiming for nothing more than linguistic precision, the expletive connectors are unnecessary; you can communicate the same basic linguistic content with or without poetic flourish. Dionysius does not say that, but it is still true. Yet given his emphasis of reading a written text in the same way it ought to be spoken, it seems as though anything which helps with a poem's metre should help regardless of the poem's medium. While it is not specified in the other seven, each of the eight types of connectors Dionysius identifies can work in written, spoken, or thought language. The first seven mention at most that a connector binds a thought; more often, however, the description of each just calls the connector a bind and leaves out what it is connecting. It is only through his reference to metre that he indicates at all what types of thoughts they can connect.

The Stoics are slightly more specific in declaring what the *sundesmoi* connect. Diocles' phrasing is consistent throughout his letter: a *sundesmos* is a connector of *ta merē tou logou*, or the parts of a sentence.¹¹² Connectors, which are parts of sentences themselves, join together the other parts. In order to explain the significance of connectors connecting parts of sentences, we must first explain our choice to translate *logos* as sentence. This translation is supported by a passage in Diocles' summary in which he explains how the Stoics conceived of *logos*. He writes

¹¹⁰ Alan Kemp, "The *Tekne Grammtikē* of Dionysius Thrax," in *The History of Linguistics in the Classical Period*, ed. by Daniel J. Taylor, Philadelphia: John Benjamins Publishing Company, 1987: 188, note 38.

¹¹¹ Dionysius Thrax, *Tekhnē Grammatikē*, XX(V).

¹¹² Diogenes Laertius, *Lives and Opinions*, VII 58.

that *logos* is speech which is issued from the mind and signifies something.¹¹³ Although this particular line specifies that it is an instance of speech, we have chosen to translate *logos* as sentence in light of what Diocles claims immediately before. Prior to actually explaining *logos*, Diocles gives a brief overview of the Stoic study of dialectic. The starting point for dialectic, according to the Stoics, is voice: the medium for speech. While speech is the primary focus of this passage, Diocles does not ignore the written word. Instead, he suggests that, when it is written down, an instance of speech becomes a verbal expression (*phasi*). He does not indicate that these verbal expressions communicate something different than the spoken version; rather, they simply lack the body of voice.¹¹⁴ Although *logoi* are a type of *phōnē* and originate as such, we will consider the written transcriptions of what is (or could be) spoken aloud to be *logoi* as well.

Having explained our choice of translation, we can now examine the significance behind connectors connecting parts of sentences. Recall that for the Stoics all sentences are issued from the mind and signify something. Nowhere is it clear exactly what it means for a sentence to be issued from the mind, but we can attempt to construct an approximate understanding of how it works. After establishing voice as the starting point for the study of dialectic, Diocles reports a subtle distinction between reasoned speech and the primal impulse to vocalize present in all animals.¹¹⁵ Humans' voices are articulate, and, according to Diogenes of Babylon, are capable of expressing more complex thoughts. Diocles changes the subject immediately after making this assertion, leaving the reader to unpack it further. More articulate speech comes with maturity; the idea seems to be that as children, it is difficult to communicate anything but the simplest of ideas. Cicero seems to offer tacit support for this claim, arguing that students often use their voices badly,

¹¹³ *Ibid.*, VII 56.

¹¹⁴ *Ibid.*, VII 63.

¹¹⁵ *Ibid.*, VII 55.

as they are focused on speaking more rather than speaking well.¹¹⁶ As the individual person matures, she becomes able to participate in higher level thought and speech. The mind is intelligent enough to have that capability.

Diocles expands on the Stoic sense of articulation as an element of the excellence of the Greek language. He claims that there are five virtues of speech: quality, distinction, lucidity, conciseness, and appropriateness.¹¹⁷ Quality and distinction refer to the basics of proper speaking; adhering to proper grammar and avoiding vulgarity and slang. While important for general speech, these two virtues of proper speaking do not aid in our understanding of the Stoics on sentences. Lucidity, conciseness, and appropriateness, however, offer additional insight into how the mind facilitates the vocalization of sentences. Lucidity, according to Diocles, is the style of speech which most easily communicates a thought to a listener. Conciseness is communicating a thought effectively in as few words as necessary. Appropriateness is choosing the style of communication best suited to the subject of the thought at hand. Each of these three virtues of Greek speech has the same core idea: someone who is articulate in speech is able to express their thoughts most ably to other people. A mature mind is one which is able to take a complex idea and communicate it to other people while still adhering to each of these virtues. Someone who is mature will know both what to say and how to say it.

Throughout Diocles' descriptions of voice, he repeatedly specifies that the force behind acts of speech is thought. The thought is ultimately what motivates the construction of sentences. In the simplest terms, a thought is an impression (*phantasia*) in the mind.¹¹⁸ Diocles outlines the

¹¹⁶ Cicero, *On the Orator*, I 149-150.

¹¹⁷ Diogenes Laërtius, *Lives and Opinions*, VII 59. Diocles begins this section by referring to speech more generally (*Aretai de logou esti pente...*) but then later specifies that he is talking about Greek (*Hellēnismos*). It is unclear whether the excellences of speech extend to other languages as well and Diocles is talking about Greek because that is what he knows, or if he is intending to say that these are the excellences of Greek speech specifically.

¹¹⁸ *Ibid.*, VII 61.

chain of events leading to a sentence.¹¹⁹ First, an individual apprehends something; this may take the form of sensing an object, picturing a specific object, or considering a general category of objects (such as the genus animal, which includes all animals). The apprehension is then presented in the mind. This impression is what constitutes a thought. Diocles writes that the thought is capable of expressing itself and it is the thought which puts into the form of a sentence what was initially presented.¹²⁰ How can we reconcile this with what Diocles has previously said about the communication of thoughts? If a thought is capable of expressing itself, how does the individual's mind help to form articulate speech? We suggest that the impression in the mind is a kind of dialogue between the thought and the mind. The mind receives the impression and while the thought is forming itself into a sentence the mind picks out details and phrasings that would best allow the thought to communicate itself. A thought may be fully capable of expressing itself, but it is only with the help of a mature mind that the thought becomes articulate.

To summarize, for the Stoics a sentence comes from the mind in that the mind helps shape how the thought is expressed. The mind provides a more articulate focus for the thought when it is communicated as a sentence. This idea of shaping by the mind is one of the key differences between how the Alexandrian grammarians understood connectors and how the Stoics understood them. Where Dionysius states that connectors connect a thought together, the Stoics are much more restrictive: connectors connect *sentences* together. Thoughts are general and can have differing levels of completeness or articulation. By contrast, as the Stoics conceive of them, sentences are necessarily more put together. They have been formed to try to communicate effectively, rather than just saying anything. On its own, this difference between the Alexandrian

¹¹⁹ *Ibid.*, VII 49.

¹²⁰ *Ibid.* *Proēgeitai gar hē phantasia, eith hē dianoia eklalētikē huparkhousa, hō paskhei hupo tēs phantasias, touto ekpherei logōi.* See also Ineke Sluiter, "Language and Thought in Stoic Philosophy," in *History of the Language Sciences*, vol. 3, Berlin: De Gruyter, 2000: 376.

grammarians and the Stoics provides some indication about how the Stoics' conceived of connectors. There is, however, one additional aspect of sentences to consider in order to understand them fully. Sentences, according to the Stoics, signify something.¹²¹

We get a hint about what this “something” signified by a sentence is from Diocles' explanation of how impressions become sentences: thoughts form themselves into sentences in order to express the original impression (*phantasia*).¹²² Any given thought is of an impression to the soul. If sentences are meant to express these thoughts, and the thoughts are of impressions, the sentences are representations of the impressions. Sentences signify propositions which come from our rational impressions of the world. When expressed vocally, or through written words, the sentence carries the signification of the original impression so that the receiver of the expression is able to understand the thought the speaker had. This signification, the incorporeal content of the expression, is known as the “sayable” (*lekton*).¹²³ Sayables, or *lekta*, are part of what makes sentences different from thoughtless speech. Simply vocalizing sound without any signification is technically speech, but it could not be called a sentence. As Diocles explains it, “speaking meaningfully (*to legein*) differs from uttering; for while vocal sounds are uttered, things (*ta pragmata*) are said (*legetai*), things which are sayable (*lekta*).”¹²⁴ Perhaps the simplest way to understand this is in how the Stoics classified voice and how they classified the sayables. Voice (*phōnē*) is corporeal. When someone is speaking, the air percusses and carries sound to a listener who hears whatever the other person is saying. The Stoics take this as evidence for voice being corporeal, for only bodies can produce an effect (such as a listener hearing).¹²⁵ The sayables, by

¹²¹ Sextus Empiricus, *Adversus Mathematicos* VIII, 264.

¹²² Diogenes Laërtius, *Lives and Opinions*, VII 49. *Proēgeitai gar hē phantasia, eith hē dianoia eklalētikē huparkhousa, hō paskhei hupo tēs phantasias, touto ekpherei logōi.*

¹²³ Sextus Empiricus, *Adversus Mathematicos* VIII, 264.

¹²⁴ Diogenes Laërtius, *Lives and Opinions*, VII 57. *Diapherei de kai to legein tou propheresthai; propherontai men gar hai phōnai, legetai de ta pragmata, ha dē kai lekta tugkhanei.*

¹²⁵ *Ibid.*, VII 55.

contrast, are incorporeal. They themselves do not produce an effect. Instead, they are carried by sentences as the signification of the original impression.

Sextus gives us a more complete account of the sayable as signification. The Stoics connect three things together in the process of signification: the signifier, the signified, and the object.¹²⁶ In a sentence, the signifier is the words we say, the sayable is the signified, and the object is what we are discussing external to us. Sextus offers an example.¹²⁷ Consider the theoretical person Dion. Dion approaches you. When he does, you are presented with Dion as an object. The thought this impression triggers forms itself into a sentence: “Dion is here.” The words “Dion is here” comprise what is being said, and the fact that Dion is actually here makes the underlying sayable true. The signifier signifies what its content is and the content – the sayable – is the signification. Sextus concludes this example by giving us a brief reason why the sayable is so important to the Stoics. The sayable, he explains, is what the Stoics consider to be true or false.¹²⁸ The object itself cannot be true or false and the utterance, being just a set of sounds, would similarly not have a truth value. Both the object and the sounds merely *are*. It is the underlying signification which bears the truth or falsity of the sentence.

We will return to the truth values of particular sentences in the next chapter. For now, it is enough to recognize that for the Stoics the sayables are actually what bear the truth values, and that is one of the reasons why the Stoics emphasize that sentences signify sayables. Sayables are ultimately the content of what is being communicated in a sentence. They are part of what separates sentences from thoughtless speech. Moreover, as we have previously indicated, they are what is true or false in sentences, making them important for the Stoics’ study of dialectic.¹²⁹ Considering

¹²⁶ Sextus Empiricus, *Adversus Mathematicos* VIII, 11-12.

¹²⁷ *Ibid.*, 12.

¹²⁸ *Ibid.*

¹²⁹ Diogenes Laërtius, *Lives and Opinions*, VII 62.

our previous discussion of how sentences come from the mind, we can now finish our discussion of how the Stoics understand sentences. Sentences are the product of an individual being presented with a certain state of affairs and deciding to communicate the resulting thought to other people. They are shaped by the mind, imbued with incorporeal sayables, and express content which is true or false. The individual parts of sentences each signify their own sayable and when connected together they allow people to express the impressions they receive. The connectors then facilitate the construction of such expressions.

With this, we can now conclude our investigation of the Stoics' definition of *sundesmos*. Let us summarize what we have said. The Stoics define connectors as indeclinable parts of sentences which connect other parts of sentences. Both indeclinability and the connecting of parts of sentences make the Stoics' definition different from that of the Alexandrian grammarians, so we turned to them to investigate how the Stoics' conceived of connectors, by investigating the reasons for their differences. Indeclinability, we contended, refers to the fact that connectors do not have an object. There is no physical object corresponding to "if" or "and" that we can be presented with, so there is no 'fall' from impression to vocalized speech. Sentences are the products of impressions which are shaped by the mind and express a sayable – the incorporeal content of a sentence and which bears its truth or falsity. Knowing this, we can rephrase the Stoics' definition in clearer terms. Connectors, for the Stoics, are structural words. They do not have a particular referent; when spoken, they do not begin as an impression in the mind, nor do they express a thought. Instead, they function as a way of connecting a sentence together. Individual sentences each express a thought which can be true or false. Connected together, sentences can express more complex thoughts, which can have their own truth values.

Chapter Three – “Ifs,” “Ors,” and “Ands:” From Definitional Meaning to Usage Meaning

By unpacking the Stoics’ definition of *sundesmoi*, we have been able to arrive at a more detailed understanding of the theory behind their use of connectors. This understanding of the theory, however, is just that: it is of the theory. To flesh out our discussion of what the Stoics meant by *sundesmoi*, we must study individual instances of their connectors. Looking at examples of connectors and investigating how they function in language will allow us to examine how the *sundesmoi* work in practice. In this chapter, we switch our focus from Stoic grammar to another part of their dialectic: logic. More specifically, we turn our attention to a few specific examples of connectors used in the construction of propositions – if, and, and or. Since each of these words is a connector, and is recognized by the Stoics as such, we can use them to consider how actual connectors adhere to the Stoics’ theoretical definition of *sundesmoi*. After first providing some background about the role of connectors in Stoic logic, we move directly to examples of logical propositions found in Stoic sources which use one of our chosen connectors. Starting with the conditional ‘if,’ followed by the conjunctive ‘and,’ and finishing with the disjunctive ‘or,’ we discuss what each of these connectors does in a proposition and how that relates to the definition of *sundesmoi*.

The decision to switch to Stoic logic from Stoic grammar is largely a practical one. In theory, any proposition with a connector could have worked for studying particular instances of their use. Given the number of proposition types we could have looked at, however, it made more sense to choose one and use it for studying each connector. This focus on one proposition type allows us to treat the proposition type as a controlled variable. By restricting our examples to those used in Stoic logic, we provide ourselves with a clear list of propositions from which we can choose. The three types of propositions we will consider are all found in our sources on Stoic logic.

These examples typify the kind of propositions formed by the introduction of a connector to other parts of propositions. More importantly, each one is actually discussed in our ancient sources on Stoic logic. Since we then know that the Stoics were aware of these specific propositions, we can treat them as examples of how the Stoics themselves used connectors. This in turn lends further credence to their value for learning how the Stoics understood the *sundesmoi*.

There is one further reason for our approach in this chapter. Although the Stoics, and grammarians more generally, recognized many different connectors, we will only address three types of them. Recall that Dionysius lists eight categories of *sundesmoi*, each of which has many specific words within it.¹³⁰ The choice only to use ‘if,’ ‘and,’ and ‘or’ as the case study for *sundesmoi* as a whole comes from two minor considerations. It is partially the result of them being connectors for which we have ancient sources. We have examples of each one being used in the construction of propositions, where we may not for other connectors.¹³¹ Wanting to consider more than one connector for the sake of thoroughness, it was necessary to look for multiple connectors which each had multiple example propositions; ‘if,’ ‘and,’ and ‘or’ all met that criterion. The other main reason for the choice to select those three is familiarity. Modern logic uses conditional, conjunctive, and disjunctive connectors. As we will see shortly, although the specific meaning of each connector is slightly different in Stoic logic, the general ideas of conditionality, conjunction, and disjunction are consistent. This makes propositions which use them easier to analyze; we have some background in their usage which can guide further study. While other unfamiliar types of connectors presumably function in the same way that the familiar ones do, relying on the

¹³⁰ Dionysius Thrax, *Tekhnē Grammatikē*, XX(V).

¹³¹ Dionysius’ list of connectors includes examples of each type of connectors, but they are listed just as words, rather than as part of sentences, so while we know what examples of the connector words are we do not have examples of them being used in practice. For instance, Diocles does give us an example of a causal connector with *dioti hēmera esti, phōs estin*. Yet we have no such example of a sentence containing an expletive connector capable of being examined specifically for its use as an expletive connector.

unfamiliar would add an extra level of difficulty to the study. Many of the expletive connectors, for example, do not have direct English translations, making them harder to interpret than readily translatable Greek words like *kai* or *ei*.

Before getting into our examples of the Stoics' use of connectors, we must first briefly discuss how to classify types of propositions. According to the Stoics, a proposition is that which can either be affirmed or denied on its own.¹³² This is to say that a sentence makes an assertion which expresses a single proposition which can be true or false. "It is day," for example, makes an assertion about the time at which it is said. If it is day, the asserted proposition is true; if it is night, the asserted proposition is false. The Stoics identify six categories of propositions: negation (*apophatikon*), denial (*arnētikon*), privation (*sterētikon*), affirmation (*katēgorikon*), the definite (*katagoreutikon*), and the indefinite (*aoriston*).¹³³ A negation is that something is not the case, such as what is signified by the expression "it is *not* day." Denials deny a particular state of affairs. Diocles uses the example "no one is walking" as an example of a denial. Privation is the lack of something, as in the case of what is signified by "this man is unkind." Affirmations are positive, like what is signified by our earlier example of "it is day." Definite propositions are positive and use a demonstrative in the nominative case to refer to someone or something specific. Finally, indefinite propositions are about someone or something without a demonstrative, such as what is signified by "someone is walking."

Connectors are then used to form complex propositions out of other propositions.¹³⁴ These could be two different propositions, as in "If it is day, it is light." Here the connector "if" binds

¹³² Diogenes Laërtius, *Lives and Opinions*, VII 65.

¹³³ *Ibid.*, VII 69.

¹³⁴ Notably, at VII 71, Diocles switches to talking about complex propositions, rather than complex sentences. This switch implicitly reveals the importance of connecting complex propositions. The sentences are linguistic items and have the important function of signifying propositions, but it is the propositions which ultimately bear truth-value and represent the impressions of the speaker.

together the complex propositions “if it is day, it is light” from its component propositions. Complex propositions can also be formed from one or more repeated propositions with the aid of a connector. Diocles provides an example: “if it is day, [it is day].”

As with the simple propositions, the Stoics also identified seven types of complex propositions. For our purposes, however, we will focus only on three of them. The first is the conditional. Diocles relates to us the definition of conditional propositions from Chrysippus and Diogenes of Babylon, who explain that a conditional proposition is a complex proposition formed using the conditional connector “if” (*ei*).¹³⁵ A conditional proposition consists of two parts. The proposition immediately after the connector is referred to by the Stoics as the “first,” or the “leader” (*hēgoumenon*) and the other proposition is the “second” or “finisher” (*lēgon*).¹³⁶ Sextus notes that these titles are consistent across conditionals regardless of the order in which the propositions actually appear.¹³⁷ In a conditional proposition like “it is light, if it is day,” for example, “if it is day” is still called the first, despite appearing second. This is the basic structure of a conditional proposition. Yet the relationship between the two parts of each conditional is a matter of some debate. We know from Diocles that the Stoics held that the conditional means that the second proposition follows from the first, but the exact nature of this following is unclear.¹³⁸ Indeed, to quote Callimachus, the head of the Library of Alexandria from 260-240 BCE, even the crows on the rooftops are cawing about which conditionals are true.¹³⁹ Sextus relates to us four

¹³⁵ *Ibid.*, VII 71. *Tōn d'oukh haplōn axiōmatōn sunēmnenon men estin, hōs, hō Khrysippus en tais Dialektikais phēsi kai Diogenēs en tēi Dialektikēi tekhnēi, to sunestos dia tou 'ei' sunaptikou sundesmou.* Additionally, although I am referring to “if” as the connector for introducing conditionals, there are two Greek words used by the Stoics for the purpose of indicating conditionality: *ei*, which is simply “if,” and *eiper*, which is translated as something like “if indeed.”

¹³⁶ Sextus Empiricus, *Against the Professors* VIII, 109.

¹³⁷ *Ibid.*, 110.

¹³⁸ Diogenes Laërtius, *Lives and Opinions*, VII.71.

¹³⁹ Sextus Empiricus, *Against the Professors* I, 309.

different interpretations of the truth conditions for conditional propositions, which we will now consider in turn.

The first possible set of truth conditions for conditional propositions Sextus discusses comes from Philo of Megara. Philo, student of Diodorus Cronus, studied logic with Zeno, the founder of the Stoic school.¹⁴⁰ According to Diogenes, Philo and Zeno argued about matters of logic at length, but Zeno greatly admired Philo, since Philo was his superior. Given the respect Zeno had for Philo, it is possible that Philo's interpretation of conditional propositions had some influence on Zeno's. For Philo, a conditional is true if and only if it does not have a true first part and false second.¹⁴¹ To explain this definition further, Sextus offers the four possible combinations of true and false values for a conditional's component propositions; it is essentially a truth table written in proposition form. If both parts of the conditional are true, the conditional as a whole is as well. It is the same when both parts are false. In the case of a conditional which starts with a falsehood and ends with a true proposition, the conditional as a whole is true as well. It is only when a conditional starts true and ends falsely that the whole becomes false as well.¹⁴² Sextus does not criticize this specific account of conditional propositions, instead moving on to the next account of the truth conditions for conditionals. He does, however, remain sceptical regarding its veracity later in *Against the Professors*.¹⁴³ Indeed, by listing the various accounts of the truth conditions for conditionals in order of increasing restrictiveness, he is able to highlight the differences between accounts. Each example he gives as true under one set of conditions is immediately regarded as false under the next.

¹⁴⁰ Diogenes Laërtius, *Lives and Opinions*, VII.16.

¹⁴¹ Sextus Empiricus, *Against the Professors* VIII, 113.

¹⁴² *Ibid.*, 114.

¹⁴³ *Ibid.*, 118-119.

The second possible definition of a conditional proposition originates with Diodorus, Philo's instructor in logic. For Diodorus, a conditional is true if and only if it has previously not been possible, nor is it currently possible for it to have a true antecedent and false consequent.¹⁴⁴ This definition is much more restrictive about what constitutes a true conditional, particularly in contrast to Philo's account. Sextus compares the two using the proposition "if it is day, I am conversing." Under Philo's conception of conditionality, that proposition is true under all circumstances except where it is day and the speaker is silent. According to Diodorus' definition, however, that proposition can never be true. As Sextus explains it, the problem lies in the fact that it is possible for it to have begun with a true antecedent and false consequent, such as when it is day and he is silent. It was able to begin with a true clause and end with a false one, thus making it false overall in the Diodorean sense. Sextus offers a single example of a true Diodorean conditional elsewhere in his writings. In his *Outlines of Pyrrhonism*, he explains that conditionals which start with a falsehood and finish with something that is always true are true in the Diodorean sense. His example of such a proposition is "if atomic elements of things do not exist, atomic elements of things do exist."¹⁴⁵ It is a simple example, but since Diodorus assumes that the first part will always be false and the second always true, he considers the complete proposition to be true as well.

Sextus does not expand on the third and fourth accounts of conditional propositions much beyond offering a basic explanation of each. The third definition, what he refers to as the connective or connection (*sunartēsis*) view, is that a conditional is true whenever the contradictory

¹⁴⁴ *Ibid.*, 115. Although Sextus presents Philo's and Diodorus' views about conditionals as conflicting with each other, they are not as different as he suggests. In an article about the Dialectical School, Susanne Bobzien suggests instead that a true Diodorean conditional is one which is true in the Philonian sense at all times; a false Diodorean conditional is one which is false in the Philonian sense at all times. For more about the similarities between the two, see Susanne Bobzien, "Dialectical School," *SEP*, ed. by Edward N. Zalta, 2004.

¹⁴⁵ Sextus Empiricus, *Outlines of Pyrrhonism*, II.111.

of its second part is incompatible with (*makhē*) its first part.¹⁴⁶ His only example of such a conditional is the repeated proposition “if it is day, it is day.” This is a straightforward example; the assertion “it is not day,” i.e. the contradictory of its second clause, is clearly incompatible with the assertion that it is day. Although Sextus does not provide a source for this conception of conditionality, it is possible that it originates with Chrysippus.¹⁴⁷ Sextus’ example of a Diodorean-true conditional (“if atomic elements of things do not exist, atomic elements of thing do exist”) is false on the connective view, because the contradictory of the second part is not incompatible with the assertion of the first part. You could assert that atomic elements of things do not exist and that atomic elements of things do not exist. Diocles’ writings provide a little more information on this interpretation of conditional propositions. His example of a true conditional is “if it is day, it is light.” The contradictory of the second part is incompatible with the truth of the first (granting that it is light out during the daytime), which makes the conditional true. He also offers an example of a false conditional. For Chrysippus, a proposition like “If it is day, Dion is walking,” is false, regardless of whether it is day or whether Dion is actually walking. It is false because “it is day” and “Dion is not walking” are not incompatible with each other. This was implicit in Sextus’ explanation, but Diocles’ example makes explicit the restrictiveness of Chrysippus’ view. As Susanne Bobzien puts it, the truth-conditions of a Chrysippian conditional are indirect.¹⁴⁸

Finally, the fourth definition, what Sextus calls the implication or suggestion (*emphasei krinontes*) view, is that a conditional is true if the second part is potentially contained within the first.¹⁴⁹ This is the definition about which we know the least. Sextus does not offer any examples

¹⁴⁶ *Ibid.*

¹⁴⁷ Susanne Bobzien, “Logic,” in *The Cambridge Companion to the Stoics*, ed. by Brad Inwood, Cambridge: Cambridge University Press, 2003: 94-95.

¹⁴⁸ Bobzien, “Logic,” 94.

¹⁴⁹ Sextus Empiricus, *Outlines of Pyrrhonism*, II.111-112.

of what would constitute a true implicative conditional, nor does he indicate any people who subscribe to this view. Instead, he suggests only that they would disagree about the above duplicated proposition being true. He calls it a duplicated proposition (“if it is day, it is day”) and claims that it would likely be false, because no proposition can contain itself. The fourth definition does not appear elsewhere in Sextus’ writings and we do not have any other information about it from other sources. We will therefore limit our consideration to the Philonian, Diodorean, and Chrysippian understandings of conditionals as we proceed.

Having established some of the possibilities for how the Stoics understood conditional propositions, we can now begin to assess the function of the connector “if” in each one. In the previous chapter, we established that the Stoics understood connectors as indeclinable parts of propositions which connect complex propositions together. They do not refer to any particular object, either in the mind or in the external world. Furthermore, in connecting complex propositions together, connectors link individual propositions. Each of those propositions has its own sayable, the content that the proposition signifies, and which is either true or false. When a connector connects a complex proposition, the complex proposition gains its own sayable and own corresponding truth value based on the sayables of the component propositions. How can we see this definition at work in the conditional “if”? We start with the matter of their indeclinability. Whether using the Philonian or Diodorean conception of conditionality, the fact that neither *ei* nor *eiper* refers to an object allows them to avoid blurring the gap between the first and second parts of the conditional proposition. If, for example, *ei* had some object as its referent, it would be unclear how that object would fit into the ‘following from’ nature of conditionality. Instead, “if” can function almost as a signpost, indicating that whatever word or phrase immediately follows will be the first part of the conditional.

As Sextus notes, the “if” clause is always the first, even if it appears second in the text.¹⁵⁰ We can therefore think of “if,” not as having an object for a referent, but rather as having an action for a referent. This is not to say that “if” is a verb. It is instead to say that “if” does something in a conditional proposition: it shows that the proposition is conditional. It does this action passively, i.e. a word does not have agency, but that is its role in the proposition. “If” is the word in the first part of a conditional that expresses the conditionality of the whole proposition. To echo Apollonius Dyscolus on the subject, connectors like *ei* express the consequences of hypothetical situations.¹⁵¹ We contend that the action that “if” performs is to show to readers and listeners that what follows is not necessarily an assertion of what is, but rather something that is hypothetical. It brackets the rest of the proposition off as being hypothetical instead of just a series of assertions. This is the overt activity of “if.” Passively, however, “if” also acts to make reading and hearing conditional propositions easier. Without “if,” it would not be as straightforward to recognize the order of the proposition. When discussing what different connectors do, Diocles uses the verb *diasaphein*, meaning to show plainly.¹⁵² This “showing plainly” is the effect “if” has on the conditional. Regardless of which account of conditionality you use, connectors like “if” all function in this way.

How “if” connects parts of conditional propositions together differs slightly depending on the truth-conditions for the proposition. Overall, “if” binds together the complex proposition, including the sayables underlying each component proposition. The sayables are what bear truth-values, so by binding them together it is possible to tell the truth-value of the overall proposition.

¹⁵⁰ Sextus Empiricus, *Against the Professors* VII, 109.

¹⁵¹ Apollonius Dyscolus, *Peri Sundesmōn*, in *Grammatici Graeci* II/I, 220.15-19. *ekōn de kai tēn tou sunaptikou, en hois akolouthias esti parastatikos, ouk apo tēs dunameōs tōn sundesmōn tēn onomasian eilēphe, kaloumenos sumplektikos ē sunaptikos, para de to sunēmnenon lēphtheis parasunaptikos ōnomasthē, ton auton tropon kai hoi kaloumenoi paradiazeuktikoi...*

¹⁵² Diogenes Laërtius, *Lives and Opinions*, VII 72-73.

As we established, the “if” shows the order in which the parts of the conditional are to be read. Yet it also influences the relationship between the two truth-values in forming the truth or falsity of the conditional as a whole. Let us consider the Philonian conditional: true in all cases except where the first part is true and the second is false. Here the relationship is fairly simple. In order to know whether a Philonian conditional is true or not, you compare the sayable within each part of the conditional to the external world. If the first sayable corresponds with reality while the second does not, the conditional is false; otherwise, it is true. The conditional has to show that truth of the first part leads to the truth of the second. The relationship dictated by “if,” then, is one of correspondence to the moment. Consider the example of “If it is day, I am writing our thesis.” At the time I write this, it is actually day and I am currently writing our thesis. The sayable of each part matches what actually *is*. Under Philo’s conception of conditionality, our above example is true.

The relationship between the sayables underlying each proposition in Diodorean conditionals is harder to discern. As with Philonian conditionals, the sayables that the sentences bear must correspond with reality for them to be true. Where Diodorean conditionals begin to differ is in whether those sayables could have been false. Any Diodorean conditional which could possibly have a true first part and false second can never be true. The relationship between the two parts is much more restrictive than that in a Philonian conditional. Not only must the parts correspond to reality in the moment, they must do so always. To borrow Bobzien’s understanding, the relationship in Diodorean conditionals is like the relationship in Philonian conditionals quantified over all time.¹⁵³ In a way, the “if” in these conditionals takes on the sense of “if ever.” It is not enough to say that if the first occurs, the second will. Instead, it has the implication that if

¹⁵³ Susanne Bobzien, “Dialectical School,” in *The Stanford Encyclopedia of Philosophy*, ed. by Edward N. Zalta, 2011.

the first ever occurs, the second will as well. For example, consider the proposition “if I am walking, I am moving.” This proposition appears to satisfy Diodorus’ truth conditions. Regardless of whether or not I am doing it in the moment, if I am ever walking, it is also true that I am moving. The relationship between the two parts of a Diodorean conditional is one of correspondence across all time.

The final type of conditional we consider is Chrysippus’. Chrysippian conditionals differ substantially from Philonian and Diodorean. As we stated previously, the truth of a Chrysippian conditional is determined indirectly. Unlike the other types, where you could construct a truth table to determine quickly whether a conditional is true, with Chrysippus’ truth conditions you must look at the actual content of each component part, as well as the relationships between those parts, before you can determine truth of the whole. In order for a conditional to be true, the contradictory of the second part has to be incompatible with the first part. Our example of “if I am walking, I am moving,” for instance, can also be true. The proposition “I am not moving” is incompatible with the assertion that I am walking, because even if I am walking in place our legs are still moving. Conditionals where the two parts are either unrelated or just tangentially related are considered false, regardless of whether they correspond to reality. The relationship between the two propositions formed when the connector “if” binds the conditional proposition is one of relation. To be a true Chrysippian conditional, the two parts of the conditional must be fundamentally related. If the antecedent and consequent were not related, the contradictory of the consequent would not be incompatible with the antecedent. Thus a conditional like “if the sky is blue, the grass is green” would come out false, because the negative “the grass is not green” is completely compatible with the blueness of the sky. Both parts of that second example correspond with reality,

but that is not the relationship the Chrysippian “if” demands. The two parts have to relate to each other for the conditional to be true.

We cannot make any assertions about which account of conditionals was used by the Stoics. There is evidence that at least one person – Philo, Diodorus, Chrysippus, and an unknown individual, respectively – recognized each. In the absence of a firm declaration about which account of conditionality became orthodox in later Stoicism, we must instead end our discussion of conditionality here. Having addressed what “if” does in each of our three possible accounts of the truth conditions for conditional propositions, we can now move on to our second connector: “and.” Complex propositions using “and” are known as conjunctions. Where there was apparently great controversy among the Stoics over how to understand conditional propositions, there is relative consensus regarding conjunctions. Diocles again provides us with the Stoics’ definition of a conjunctive proposition, explaining that it is one in which two or more propositions are conjoined by two or more conjunctive connectors, one at the start of the complex proposition and then one between each pair of conjuncts.¹⁵⁴ As an example, he lists the proposition “both it is day and it is light.” That is the extent of Diocles’ description of conjunctions; he does not expand further or describe the truth conditions for them. To our benefit, Sextus’ explanation of conjunctions aligns with Diocles’ and also includes a lengthy discussion of when they are true and when they are false. Sextus explains that a conjunction is true if and only if each conjunct, whether simple or complex, is also true. If any individual conjunct is false, the entire conjunction is as well.¹⁵⁵ Although he is critical of these truth conditions, he presents them as being accepted by the dialecticians, who include the Stoics as well as people like Philo and Diodorus.

¹⁵⁴ Diogenes Laërtius, *Lives and Opinions*, VII 72. *Sumpeplegmenon de estin axioma ho hupo tinōn sumplektikōn sundesmōn sumpeplektai, hoion “kai hēmera esti kai phōs esti.”*

¹⁵⁵ Sextus Empiricus, *Against the Professors* VIII, 125.

Given the picture of conjunctions that Diocles and Sextus provide for us, we can understand their truth conditions as a kind of series circuit. In a series circuit, electrical current comes from a power source, e.g. a battery, and then travels along a stretch of wire, which may include resistors, switches, or an object for the current to power. The power sources, resistors, switches, and objects are connected one after the other so that there is only one path for the current to travel. In a circuit consisting of a power source, switches, and an object in need of electricity, every switch must be in the ‘on’ position for the current to make it to the object. A conjunction functions in a similar fashion. The truth of a conjunction originates with what is true of the external world. The power source is the original perception of the external world. This perception is then turned into language, which acts as the remainder of the circuit. Each proposition is like one of the switches in the circuit, in that it can be true or false (or on or off in the case of the switch). The wire connecting the switches together is the conjunction’s connector(s); it does not change whether a proposition is true or false, it simply binds them together into the conjunction. The truth of the conjunction is the object in need of electricity. If there are any falsehoods in the path leading to the object, the entire circuit will not be complete, or the entire complex proposition will be false.

The series circuit is an analogy for the basic structure of a conjunction based on Stoic truth conditions. This leads us to our main questions about conjunctions: what is the role of “and” in conjunctive propositions? How does it work as a connector? As with our investigation of conditionals, we will compare the Stoics’ definition of *sundesmoi* to some properties of conjunctions. We start with indeclinability. It is necessary for conjunctive connectors like *kai* and *de* to be indeclinable. For reasons similar to those provided in our discussion of conditionals, if conjunctive connectors referred to actual objects, they would no longer be useful for joining propositions together. There then would be something obtrusive getting in the way of

understanding what each component part of the conjunction is. Having a declinable word, such as a noun, act as a conjunctive connector would impede the readability of the overall proposition. It is therefore necessary that they be indeclinable. Much like a punctuation mark, words like *kai* keep separate the individual propositions, allowing the content and truth-value of each proposition to stand on its own while still being part of the conjunction.

The second part of the Stoics' definition is that connectors join parts of a proposition together. This is perhaps most obvious in the case of conjunctive connectors. A word like "and" can connect two propositions and form them into one longer conjunction. At its simplest level, this is the basic role of the conjunctive connector. Yet it is possible to explore what "and" does implicitly in conjunctions. Since each component part of a conjunction is a proposition on its own, it is possible to communicate them as such. Diocles' example of "it is day and it is light," for instance, would also be acceptable in the form of "it is day" followed by "it is light" with the two separated by a period or semicolon. What does it mean, then, to have them joined together? With conditional propositions, we saw that the connector "if" functioned as a way of bracketing off what is hypothetical from what is actual. The connector "and," by contrast, brackets what is actual from any other propositions or hypothetical propositions in your discourse. Each component proposition is its own assertion. By connecting individual conjuncts together with "and," you are able to describe a more cohesive picture of reality, i.e. you can make assertions about multiple different elements of reality, rather than just one element at a time. If one conjunct is false, the whole proposition becomes false, because the picture of reality you asserted is flawed.

Sextus offers a comparison to corroborate this suggestion. Speaking for the Stoics, he writes that if a cloak has a small tear in it, we call the cloak torn. Despite the fact that the vast

majority of the cloak is still sound, the one flaw in the cloak overshadows the rest of the material.¹⁵⁶ The same is true of the effect of the single false proposition on the truth-value of the overall conjunction. Returning briefly to our example of the series circuit, the wire – the analogous conjunctive connectors – joins together the switches which, when on, complete the circuit. If even a single one is off, the circuit remains incomplete; if even a single conjunct is false, the picture of reality is incorrect. Furthermore, just as you can separate out and assert individual propositions, you can also turn individual switches on either independently or as part of their own simple circuits. Yet it is only when they are all joined together that they form a complex circuit.

The final connector we will consider in relation to the Stoics' definition of *sundesmoi* is the disjunctive “or” (*ētoi*). Diocles relates to us the Stoic definition of a disjunction. He writes that a disjunction is a proposition which is disjoined by a disjunctive connector.¹⁵⁷ The Stoics recognized two types of disjunction: a strong form known as *diezeugmonon* and a weaker form known as *paradiezeugmenon*.¹⁵⁸ The strong form, what we would call the exclusive disjunction, was more widely accepted than the weaker inclusive disjunction. Indeed, the Stoics' recognized five types of undemonstrated arguments which were valid without the need for proof. A fourth undemonstrated argument (whose schema is: “Either the first or the second. But the first. Therefore, not the second.”) relies on its disjunction being exclusive for the argument's validity.¹⁵⁹ There is, however evidence of both types of disjunction in our ancient sources, so we will address both. We start with the exclusive disjunction. The Stoics held at least two opinions regarding how to interpret exclusive disjunctions. The first comes to us from Diocles, who writes that a

¹⁵⁶ Sextus Empiricus, *Against the Professors* VIII, 128.

¹⁵⁷ Diogenes Laërtius, *Lives and Opinions*, VII 72. *Diezeugmenon de estin ho hupo tou “ētoi” diazeuktikou sundesmou diezeuktai, hoion “ētoi hēmera estin ē nux estin.”*

¹⁵⁸ Aulus Gellius, *Noctes Atticae*, 16.8.12-14; Galen, *Institutio Logica*, 33.10.

¹⁵⁹ Diogenes Laërtius, *Lives and Opinions*, VII 81. *Ētoi to proton ē to deutron; alla mēn to proton; ouk ara to deutron.*

disjunction is true if and only if a single disjunct is true. It should be noted that although Diocles reports that a disjunction involves only two disjuncts, other accounts of this interpretation suggest there can be more than two disjuncts. Gellius, for instance, writes that “of all the disjuncts, one must be true, the *others* false.”¹⁶⁰ Regardless of the number of disjuncts, only one can be true. For example, the disjunction “either the sky is blue or copper is gold” is true because only the first disjunct is true. This understanding of the exclusive disjunction appears to be the prevailing opinion among Stoics, as we see evidence of it as far back as Diocles and as recently as Apollonius, who makes no mention of the other version.¹⁶¹ Apollonius compares the utility of the exclusive disjunction to the utility of the inclusive disjunction and argues for the greater value of the exclusive disjunction. He explains that if you assume an exclusive disjunction is true you can argue from the truth of one disjunct to find the falsity of the other, or from the falsity of one to the truth of the other.

The other account of exclusive disjunction that we see is that a true disjunction is one in which it is impossible for both disjuncts to be true or both to be false. Diocles’ above example would fit this criterion; it cannot simultaneously be day and night, so the disjuncts will never both be true and false at the same time. This opinion is rare in ancient sources, with only brief references to it in Gellius and Galen. Gellius mentions these truth conditions for disjunction in connection with an argument against marriage by Bias of Priene. In Bias’ argument, he asserts that either you will marry a beautiful woman or an ugly one. Yet Gellius notes that this is untrue; it is entirely possible to marry someone who is neither beautiful nor ugly, in which case both disjuncts would be false. Consequently, Gellius claims, this disjunction must be false. A true disjunction contains

¹⁶⁰ Aulus Gellius, *Noctes Atticae*, 16.8.13. *Ex omnibus, quae disiunguntur, unum esse verum debet, falsa cetera.*

¹⁶¹ Apollonius Dyscolus, *Peri Sundesmoi* in *Grammatici Graeci* II/I, 220.

disjuncts which cannot all be true, but also cannot all be false.¹⁶² Galen repeats this view in his *Institutio Logica*. There he writes that in disjunctions the disjuncts are in complete conflict with each other, while quasi-disjunctions can have multiple true disjuncts.¹⁶³ For Galen, a disjunction is only ever true when both parts are incompatible with each other; they cannot both be true and cannot both be false. Aside from Gellius and Galen, this opinion does not appear in our sources on Stoic logic and we will therefore disregard it as we proceed.

In addition to the exclusive disjunction, the Stoics were at least aware of the inclusive disjunction. As the word *paradiezeugmenon* implies, these disjunctions were seen as weaker than the exclusive, and were not as widely used as *diezeugmenon*. We do not have a clear explanation of the truth-conditions for the inclusive disjunction, though we do have a few rough definitions. Galen, for example, writes that *paradiezeugmenoi* are disjunctions in which at least one, but potentially all, of the disjuncts are true.¹⁶⁴ Apollonius gives a similar definition, saying that an inclusive disjunction announces that one, the other, or both disjuncts are true.¹⁶⁵ Additionally, both Galen and Apollonius conclude their discussions of inclusive disjunctions by explicitly stating that they are *almost* disjunctions, and that actual disjunctions are limited to a single true disjunct if they are true. While there is no proper listing of the truth-conditions in our sources, the definitions given by Galen and Apollonius indicate that for the Stoics, an inclusive disjunction is true in all cases except where every disjunct is false. Returning to our circuit analogy, we can think of inclusive disjunctions as being a circuit with switches in parallel. As long as one of the switches is on, the circuit is complete. In the disjunction, as long as one disjunct is true, the disjunction as a whole is as well. Notably, the term *paradiezeugmenon* is completely absent from the works of Diocles and

¹⁶² Aulus Gellius, *Noctes Atticae*, XI.9.

¹⁶³ Galen *Institutio Logica*, 5.1; 5.3.

¹⁶⁴ *Ibid.*, 5.1.

¹⁶⁵ Apollonius Dyscolus, *Peri Sundesmoi*, in *Grammatici Graeci* II/I, 219.

Sextus. We can conclude from this that the inclusive disjunction was relatively unimportant to many Stoics. Nevertheless, although it is not as common as the exclusive disjunction, we will also look at the inclusive disjunction for our investigation of “or” as a connector.

To conclude our study of examples of the *sundesmoi*, we once again return to the Stoics’ definition. As in the cases of conditional propositions and conjunctions, the indeclinability of “or” is crucial for ensuring that disjunctive propositions are readable. Since the reasons why it must be indeclinable are similar to those provided for “if” and “and,” we do not need to restate those reasons here. The more interesting discussion is instead about how “or” connects propositions together. As with conjunctions, each disjunction has a connector to introduce it (“either”) as well as one between each pair of disjuncts (“or”). It is important to note that “or” does literally connect words together in the same way that “and” does. Grammatically, “or” simply joins two words or phrases together in the same clause to show possibilities. Yet this is too simple to be the sole function of “or.” There is an implicit truth-functionality here akin to that of the other connectors. As with “if” and “and,” “or” brackets off exactly what must be true for the entire disjunction to be true. “Either” sets up a proposition as a disjunction, and then each “or” shows a possibly true disjunct. As long as one disjunct on either side of “or” is true, the disjunction overall is true as well.

We start with the exclusive disjunction. The truth conditions for the exclusive disjunction are such that only one disjunct can be true. When you connect two propositions together using “or,” you connect them grammatically, but also in terms of what makes the proposition true. Consider Diocles’ example “either it is day or it is night.” The propositions “it is day” and “it is night” each have their own truth-values. Individually, only one can be true while the other is false. In a disjunction, however, they share the ability to make the newly formed complex proposition

true. To use the same terminology as before, “or” brackets off what needs to be true for the disjunction to be true. The “or” forms one set of brackets around the disjunction as a whole, but also around two other sets within it. Each of these pairs of brackets surrounds one of the two component propositions. In a sense, the “or” connects disjunctions by considering the truth-values of each disjunct separately. The disjuncts may not be related, but only one in each disjunction can be true. Although all propositions are still part of the disjunction, the “or” indicates that only one disjunct must align with reality. The rest of the disjunction does not need to correspond with anything, and in a true exclusive disjunction it should not. The truth of the disjunction is not lost by including a single false value within it, but it is lost by adding any additional true disjuncts. Indeed, in exclusive disjunctions, truth requires that all but one disjunct is false, as a true exclusive disjunction cannot contain two true disjuncts.

The “or” in inclusive disjunctions functions in an almost identical way to its exclusive counterpart. It still connects propositions by considering the truth-values of their disjuncts separately, but it is not so restrictive about how many disjuncts can be true. Unlike the exclusive disjunction, which cannot have two true disjuncts, the inclusive disjunction is made true provided at least one disjunct is true. Diocles’ example of “either it is day or it is night” would still come out true, but so would disjunctions like “either it is day or it is light,” provided at least one of those disjuncts is true. And in the event that it is bright out during the day, the aforementioned inclusive disjunction would be true as well. Similarly, in the case of an inclusive disjunction with three or more disjuncts, the disjunction as a whole will be true as long as at least one disjunct is true. Building on our example of “either it is day or it is light,” we can consider two further possibilities, both of which are true. The inclusive disjunction “either it is day or it is light or the sky is red” is true (when it is day and it is light out) despite the falsity of the final disjunct, as the other two

disjuncts are still true. Finally, “either it is day or it is light or apples are fruits” is also true, since (when it is day and it is light out) all three disjuncts are true. This is still a weaker form of disjunction in that the truth conditions are easier to fulfill, but the connector “or” itself still functions in much the same way.

In conclusion, we can see how individual connectors follow the Stoics’ general definition of *sundesmoi*. Although each of the three connectors we investigated follows the definition differently, each one is still an indeclinable part of a sentence which connects the parts of that sentence. For “if,” “and,” and “or,” indeclinability is necessary for clarity of meaning and readability. Additionally, despite their apparent differences in function, we have argued that in each of our three test cases this functionality can be understood as a kind of bracketing. Each connector brackets off different parts of propositions so that the reader or listener can determine the whole proposition’s truth-value. For conditional propositions, it is a bracketing of what is hypothetical from what is actual. For conjunctions, it is a bracketing of what you are conjoining together from everything else in your discourse. And for disjunctions, it is a bracketing of what may be true from what may not be true. Were we to continue this investigation with other types of connectors we would expect to find evidence of similar bracketing with other connectors and other *lekta*.

Ultimately, identifying the common functionality of connectors as bracketing component propositions within a complex proposition does not add much to our understanding of how the Stoics conceived of *sundesmoi*. While each of the connectors we have considered in this thesis does follow the general definition of *sundesmoi* espoused by the Stoics, looking at specific connectors reveals another element to them only hinted at in the general definition. Each connector provides different truth conditions for the propositions signified by their respective propositions.

We know from the general definition that connectors connect propositions (and their corresponding propositions) together. The manner in which connectors connect propositions is perhaps an indication of the truth conditions for proposition underlying the overall proposition. The connector “if,” for example, indicates different truth conditions for its propositions than the connector “and.” It is not possible, however, to glean this type of indication from the general definition of *sundesmoi*. Although the Stoics’ definition is useful for understanding connectors in general, looking at each one specifically adds to our understanding of how they work in particular.

Conclusion

At the outset of this thesis, we wanted to determine why it was so easy for some to dismiss Stoic grammar entirely. Barnes regards the opinions of the Stoics as “occasionally worth heeding but more usually irrelevant or worse.”¹⁶⁶ Through our investigation of the Stoics’ conception of the *sundesmoi*, we now have a better picture of the kinds of concerns the Stoics had in their study of grammar. The Stoics defined *sundesmoi* as indeclinable parts of sentences which connect the parts of a sentence together. Although this definition can function in a grammatical way (i.e. it does literally connect sentences), what we found is that, for the Stoics, the function of the *sundesmoi* is more deeply related to their philosophy. Indeclinability, for example, refers to the fact that there is no physical object to which a connector refers. Without a physical object, a connector cannot undergo the same metaphorical fall from thought to word that declinable words do. Similarly, although the connectors do connect sentences together, they also connect together the propositions that the sentences signify. The connection of propositions, at least in the context of Stoic logic, is of equal or greater importance than the actual connection of sentences, since it is the propositions which bear truth values.

Given that this deeper philosophical value connectors have for the Stoics is not obvious in their general definition of *sundesmoi*, it is possible to understand why some have dismissed Stoic grammar. As a definition of a connector’s grammatical function, the Stoics’ definition is vague. It tells us that a connector is indeclinable, that it is a part of a sentence, and that it connects the parts of a sentence together, but it tells us nothing about how it connects the sentence together, nor why it is necessary for it to be indeclinable. As a definition of a connector’s function in logic, the Stoics’ definition is insufficient. It does not tell us about the work connectors do in connecting propositions

¹⁶⁶ Barnes, *Truth, etc.*, 182.

together, nor does it explain what indeclinability means to the Stoics. It works for explaining how the logical connectors work in general, but once we investigated specific connectors, it again became insufficient, because each connector followed that general definition differently. How “if” connects the parts of a conditional sentence together differs from how “either/or” connects the parts of a disjunction, and how “both/and” connects the parts of a conjunction. Each of these connectors follows the general definition in some sense, but each connector differs enough from the others that the general definition of *sundesmoi* does not, on its own, tell us much about any particular connector.

Knowing that the Stoics’ definition of *sundesmoi* is insufficient in both grammatical and logical contexts, and assuming that the same is true for their definitions of other grammatical concepts, we may be content to agree that the opinions of the Stoics are irrelevant or worse. Yet this still seems too harsh a view. In our investigation of the Stoics’ conception of *sundesmoi*, we were able to learn how they understood connectors. We also suggested possible understandings of related subjects, like case and declinability. We, along with critics of Stoic grammar like Barnes and Apollonius Dyscolus, come to the subject as outsiders. For the Stoics who did know their own linguistics, epistemology, logic, and grammar, what has taken us several pages to figure out may have been part of what they already knew. To someone approaching Stoic grammar without that knowledge, their definition of *sundesmoi* does seem insufficient. But for a Stoic versed in Stoic grammar, it may have been enough to convey what connectors do. For people like us, who are approaching Stoic grammar from the outside, Stoic grammar can still be useful as another avenue through which we can study Stoic philosophy. For example, when we investigated case and declinability, we determined that the Stoics understood case as a metaphysical concept. The Stoics’ definition of *sundesmoi* may not serve as a good definition for connectors in Greek or in language

in general, but it does tell us a little about how the Stoics understood the relationship between language and philosophy.

In the introduction to his *Ancient Philosophy and Grammar*, David L. Blank writes that there is a longstanding tradition of separating grammar and philosophy. For years, people saw the Stoics and their grammar and technical grammarian groups like the Alexandrian School as being diametrically opposed to each other. However, Blank also notes that evidence of this ‘two opposing camps’ view has largely been exaggerated, and that there is not much to support arguments that the philosophically inclined Stoics and the technically inclined Alexandrians could not work towards similar ends.¹⁶⁷ By the time of Apollonius Dyscolus and his followers, the technical grammar of the Alexandrians became known as superior to that of the Stoics. This view persists. Apollonius, being one of the first to criticize the Stoics for their grammar, set the tone for later discussions of Stoic grammar.¹⁶⁸ Yet this rejection of Stoic grammar is unfounded. The technical grammarians may be better at describing the rules of the Greek language, but Stoic grammar is still useful for studying Stoic philosophy.

¹⁶⁷ Blank, *Ancient Philosophy and Grammar*, 3; 5.

¹⁶⁸ It is also unclear how seriously we are to take Apollonius’ scepticism of Stoic grammar. Blank writes that Apollonius was known for being grouchy and frequently called his opponents’ views ‘silly’ or ‘ridiculous,’ even when he had held those same views himself previously. See Blank, *Ancient Philosophy and Grammar*, 6.

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