PLATONISM THEN

AND NOW

The reception of Plato's Meno in modern linguistics

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1. Introduction

The question of how people acquire knowledge has intrigued philosophers for over two millennia. It is an issue that preoccupied Plato in several of his own works. In the modern era, linguists like Noam Chomsky present their own theories on knowledge acquisition, theories which they claim have been influenced by Plato. In this thesis I shall address the reception of Plato's theories on the origin of knowledge by modern linguists. The type of knowledge that linguists are dealing with is specifically the knowledge of language. I will be talking about Plato's *Meno*, since the ideas contained in this have received the most attention from linguists. I am speaking of the concept of 'Plato's Problem', a paradox developed by Noam Chomsky and purportedly based on the dialogue between Socrates and the slave-boy in the *Meno*. Not only will I discuss how Chomsky treats the *Meno*, but I will briefly discuss the response of a certain group of linguists to 'Plato's Problem'. This group, led by the late Jerrold Katz, called themselves linguistic Platonists and objected to 'Plato's Problem' while claiming that language is a Platonic object.

Considering these two groups, it is easy for one to wonder what the precise relationship is between the various theories of Plato that are referenced by the researchers, and the modern linguistic theories that are influenced by them. In other words, can Chomsky and Katz (and their respective followers) truly lay claim to the term 'Platonist' to describe their theories? To find out, I shall take a closer look at the Greek text in the *Meno*, which features an extensive dialogue concerning recollection. I shall compare Plato's own words on the origins of knowledge and knowledge transmission with the theories of Chomsky and Katz, and analyse how well the UG and Katzian theories hold up against what is said in the *Meno*. In doing this, I shall give much more prominence to Chomsky, as his invocation of Plato (and the *Meno* in particular) is much more extensive and better documented. Another reason that Chomsky weighs more heavily in this thesis is simply the fact that he is an intellectual heavyweight, not only in linguistics but in the entire field of humanities. Compared to Chomsky, the linguistic Platonists are less prominent and extensive in this scholarship.

I hypothesize that the knowledge paradox discussed in the *Meno* is of a very different nature than 'Plato's Problem'. This is because Plato's theories on the origins of knowledge must necessarily involve the Forms as originators of knowledge in people. Hence, Chomsky's concept of innate knowledge can never be the same as Plato's. Similarly, Katz's Platonism relegates language to the category of abstract objects, but without the

involvements of the Forms, his conceptualisation of his language theories as 'Platonist' becomes problematic.

The structure of this thesis will be as follows. I shall first describe several linguistic concepts to the reader, namely Universal Grammar and Katz's Platonism. These concepts need to be understood if we wish to understand the context in which Plato is invoked by Chomsky (and Katz, to a lesser extent). I will then introduce the *Meno* and describe how the *Meno* is represented by Chomsky in his own words. Next, I will analyse arguments for and against the *Meno*'s similarity to 'Plato's Problem'. I will first look at the text of the exchange between Socrates and the slave-boy, and then address three different issues that are related to this exchange: namely Meno's paradox, the theory of recollection, and innatism in the *Meno*. After that, I will talk more briefly about the linguistic Platonists and the *Meno*. Finally, I will discuss the reception of Plato by these groups of linguists in general, and what would motivate them to reference his works.

1.1 Noam Chomsky and Universal Grammar

Linguist Noam Chomsky is generally considered to be one of the great thinkers of the 20th century, and also one of the most controversial. Chomsky's fame rests greatly on his postulation of the existence of a universal language system in the human mind which allows the generation of language through a fixed set of parameters. He presents this universal language faculty, called 'universal grammar' (UG) as a solution to what he called 'Plato's Problem', which he bases on a section of dialogue from Plato's *Meno* regarding the origins of knowledge. In this dialogue, Socrates extracts the principles of geometry from an uneducated slave-boy, thereby attempting to prove that knowledge has existed in the immortal soul all along. Chomsky's interpretation of the problem of the *Meno* involves primary language acquisition in children. According to him, there is a discrepancy between the linguistic information that is supplied to children in speech, and the speech produced by children, which is far more complex than can be accounted for by the information that the receive. This problem is also termed 'poverty of the stimulus' by Chomsky. Any theory which needs to solve the paradox must also be able to do so for all languages. Chomsky suggests Universal Grammar (UG) as a solution for this problem.

The issue for us as classicists lies with Chomsky's appropriation of the ideas presented in *Meno* to support his own theories regarding generative grammar. Chomsky has positioned himself as though he were continuing a conversation on the subject of innateness of knowledge, a conversation that goes all the way back to antiquity and has

involved such illustrious minds as Plato and Descartes. It is clear that Chomsky sees himself as a modern heir to a very old philosophical tradition, yet his presentation of his specific linguistic paradox does not reflect the dilemma presented in the *Meno.* By analysing certain passages from the *Meno* and comparing them to Chomsky's various pronouncements on 'Plato's problem', I shall demonstrate that Plato does not figure in Chomsky's writings because of similarities between Meno's problem and Chomsky's own linguistic paradox. Insetad, he figures for reasons that are related to Chomsky's desire to frame himself in a particular way in a philosophical conversation. Additionally, I shall briefly address the concept of 'linguistic Platonism'. The idea was pioneered by the late Jerrold J. Katz, who vehemently disagreed with Chomsky. He and his followers argued that language is an abstract concept, akin to the Platonic Form, and that it is external to humans (unlike Chomsky's proposed structure). One of his followers, Thomas G. Bever, proposed a process for language acquisition that was concordant with Katz's Platonism. I shall analyse how Katz's Platonism holds up against the theories of Forms and learning that are proposed in the *Meno.*

The 'poverty of the stimulus' argument can be described as follows. A child must, by learning, be equipped with rules to sort out grammatical sentences from strings of words, both during language comprehension and language production. Auditory input encoded as sound waves must be deciphered by the brain into discrete, meaningful units. Yet only some of those sound waves make up linguistic information. How does the child's brain sort meaningful sounds from meaningless? Moreover, certain linguists contend children are able to reproduce and generate a far greater, more complex grammar than the one taught to them by the simple sentences which adults tend to repeat to children.[1] This means that the auditory input from the environment cannot be sufficient to learn a language; there must be language structures encoded already in the brain.[2] Chomsky's solution to this problem is to hypothesize the presence of a genetically determined structure in the human brain which governs certain abstract rules, or rather, innate parameters, underlying all human languages. As mentioned in the first paragraph of the introduction, this system is

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[1] Lightfoot (2005: 42-43). Lightfoot attempts to explain the issue at the core of the 'poverty of stimulus' argument using the example of the reduced 'is' in English. (Meaning, the stressed 'is' versus unstressed 'is', such as in 'Katie is' versus 'Katie's'. The term 'Plato's paradox' itself and its connection to the Meno is described by Chomsky in several works, among others *Language and Problems of Knowledge: The Managua Lectures* (1988: 4) and *The Science of Language. Interviews with James McGilvray* (2012). The original quotes by Chomsky from these works will be discussed in more detail later in this thesis.

[2] Garnham, A. (2013: 679) and Freidin (2013: 454)

termed 'Universal Grammar' (UG). These rules are termed 'principles and parameters'. [3] An example of such a parameter would be the notion of 'head-directionality'- the notion that a language is head-initial (such as English), head-final (such as Japanese) or a mixture of both (such as German). Examples of a principle would be 'Binding' and 'Government.[4] An infant's status in terms of L1 language acquisition is termed S_0 or 'initial state', since it does not have any command over language and its language centre is not fully developed.[5] The parameters are set to certain 'values' depending on input from the environment.[6]

The grammar in this sense is much more than an abstract structural entity; it is deeply psychological in nature. It is described by Chomsky himself as a mental state (Chomsky, 1986: 3). That is to say, that natural language is not primarily physical phenomenon, but a system present in the mind.[7] Chomsky and his followers thus hypothesize that language generation is mostly internal and intuitive. [8] The language that is produced by the internal set of rules in a person's mind has been termed 'I-language' by Chomsky (Chomsky, 1986: 21-22). Chomsky posits the presence of both an 'E-language' to contrast with I-language. The E-language refers to all external manifestations of language, which are grammar rules and the conventions decided by a people's general knowledge of a language.[9] In this way Chomskyian linguistics has become a part of fields such as

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[3] Chomsky, N. (1986) *Knowledge of Language: Its Nature, Origin, and Use*. New York: Praeger Publishing McGilvray describes the concept of principles and parameters briefly: "Intuitively, the child is provided through UG at birth with a set of principles – grammatical universals or rules common to all languages. Among these principles are some that allow for options. The options are parameters. The parameters – conceived originally as options 'internal' to a principle – can be 'set' with minimal experience (or at least, with the amount of experience actually afforded children in the relevant developmental window)." Chomsky, N. (2012). *The Science of Language*. *Interviews with James McGilvray.* Cambridge: Cambridge University Press, p. 245

[4] Cook, V.J. (1988: 57)

[5] See: Cook, 55.

[6] So if a child grows up hearing Japanese spoken at home, the parameter for head-directionality is set towards 'head-final'.

[7] Stainton, R. J. (2014). *Philosophy of Linguistics*. Oxford Handbooks Online, p. 2. Stainton says that these mental states are "like belief states, pain, hallucinations".

[8] Koster, J. (2006). Is Linguistics a Natural Science? In H. Broekhuis, N. Corver, R. Huybregts, U. Kleinhenz and J. Koster (eds). *Organizing Grammar: Linguistic Studies in Honor of Henk van Riemsdijk.* Mouton De Gruyter, Berlin, pp. 350-358.

[9] Besides I-language and E-language, Chomsky distinguishes a couple of other opposing pairs of terms: competence vs. performance, and more recently, 'language faculty in the broad sense' (FLB), and 'language faculty in the narrow sense' (FLN). The latter pair was introduced in collaborative article with Hauser and Fitch in 2002. (2.3; see also: Hauser, M.D., N. Chomsky and W. Tecumseh Fitch (2002). The Faculty of Language: What Is It, Who Has It and How Did It Evolve? *Science*, Vol. 298, 1570-1578). While FLB includes systems of communication which can be found in species besides humans, FLN is restricted to language systems in humans. In Hauser et al.'s own words, "FLN is the abstract linguistic computational system alone, independent of the other systems with which it interacts and interfaces. FLN is a component of FLB, and the mechanisms underlying it are some subset of those underlying FLB." (1571) 'Linguistic performance' is the use of language in communication, while 'linguistic competence' is the knowledge of language possessed by L1 speakers of a

neuropsychology and cognitive neuroscience, since the theory that language is a phenomenon of the mind may allow for an actual physical language faculty in the brain. In fact, the link with biolinguistics is something that has been promoted by Chomsky himself; see Hauser, Chomsky & Fitch (2002) and Chomsky (2013).[10]

1.2 Platonism in Linguistics

Chomskyism and generative grammar are, however, not the only approaches in theoretical linguistics. Some opponents of Chomsky and generative grammar argue that language has a mostly *external* dimension, and disagree with the conflation of linguistics and psychology.[11] A prominent member of these opponents was the late Jerrold Katz, who insisted that languages were abstract and timeless entities, outside the physical/mental dichotomy.[12] Unlike Chomsky, Katz placed languages outside of the physical and temporal restrictions of the human brain. He and his followers also describe themselves as 'linguistic Platonists'. But what does this linguistic Platonism encompass? As described above, Katz saw language as an abstract entity outside the physical confines of the human brain – indeed, one could not use the word 'knowledge' to describe mastery of language, as knowledge is internal. According to the view espoused by Katz and his followers such as Terence Langedoen and Paul Postal, the child 'discovers' language on his own in the manner of a Platonist realization.[13] Katz distinguished between people's 'knowledge' (or mastery) of language and

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language. Generative grammarians only study the 'internal' aspects of language, which are I-language and competence.

[10] Chomsky, N. (2011). Language and Other Cognitive Systems: What Is Special About Language? *Language Learning and Development*, no. 7.4, pp 263-278

[11] Other researchers, loosely termed 'Emergentists' by the *Stanford Encyclopedia of Philosophy*, are of the opinion that language should be primarily investigated as a tool of communication, which means the research focus should be on language-usage. As the *Encyclopedia* says, "Emergentists aim to explain the capacity for language in terms of non-linguistic human capacities: thinking, communicating, and interacting." From: Scholz, B.C., F.J. Pelletier, and G.K. Pullum (2015). Philosophy of Linguistics. In Edward N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy*, <http://plato.stanford.edu/archives/spr2015/entries/linguistics/>. Par. 1.2: *Emergentists*. The generative grammarians are termed Essentialists by the *Encyclopedia* – in fact, Chomsky is described as the "intellectual ancestor" of this group (Par. 1.3). The authors go on to stress, however, that many research approaches are a mix of different schools of thought. (Par. 1.0)

[12] B.C. Scholz, et al. Par. 2.4: *Katzian Platonism*

[13] Bever (2009), Biolinguistics Today and Platonism Yesterday. In W.D. Lewis, S. Karimi, H. Harley and S.O. Farrar (eds.), *Time and Again: Theoretical perspectives on formal linguistics.* Philadelpha: John Benjamins Press, 2009, pp. 227-232. Katzian theories concerning language generation are modelled on Platonist mathematics, which states that "natural language has formal properties independent of us, it is abstract, and we come to know it via intuition". (p. 228) The idea being that mathematical relationships, similarly, transcend human understanding: as Bever puts it, the relationships between numbers have no physical cause (e.g. the difference between 4 and 2 is the same as 2 and 0, to use Bever's example) and the number of numbers is uncountable, exceeding human imagination. (227)

language itself, describing the process of language acquisition and evolution as follows in his book *Language and Other Abstract Objects*, in which he attempted to supply a doctrine for linguistic Platonism:

"Language change can be understood in the Platonist conception as taking place when speakers within a certain line of linguistic development come to have a system of grammatical knowledge so different from the system of their predecessors that these two systems constitute knowledge of two different sets of abstract objects...language acquisition and language change thus involve changes in people's knowledge of languages, with concomitant changes in their relationship to the linguistic structures in this infinite range. The study of languages is the study of these linguistic structures."[14]

So, change causes one dialect to drift from another, resulting in the end in two different languages. For Katz, these languages are two different abstract objects. Yet, Katz does not make it clear whether these linguistic structures he talks about are abstract or not, and how people gain mental representations of these abstract objects.

1.3 Problems with Platonism and language acquisition

Katz rejects that linguistics should be in any way associated with psychology, claiming that it is "directly...about sentences and languages." (Katz, 1981: 76) These, he claims, are abstract objects, thus linguistics is also a study of abstract objects. Of course, there are epistemological problems with this theory. The first question would be, how does a child access knowledge which exists outside of its mental state, and secondly does it gain mental representations of this knowledge, as Platonic objects cannot interact with mental states?[15] After all, decades of neurological research have made it clear that dedicated language areas exist in the brain (such as Broca's area and Wernicke's area). This fact does not seem compatible with the argument that there is no psychological or neurological aspect to languages. T.G. Bever has suggests a solution for these problems, namely that the child learns language by the testing and subsequent adoption or rejections of various

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[14] Katz, J.J. (1981). Language and Other Abstract Objects., Totowa, NJ: Rowan & Littlefield, p. 76

[15] Katz had some words on the question of mental states: "Psychological reality conditions in linguistics do not concern the grammatical structure of sentences but concern particulars of subjective experience or human biology." (J.J. Katz, *An Outline of Platonist Grammar*. In: T.G. Bever, J.M. Carrol and L.A. Miller (eds.), *Talking Minds: The Study of Language in Cognitive Sciences.* MIT Press, 1984, p. 36) He claimed that the details of the way people process language, and hence language acquisition, had very little to do with language as a concept, and he drew a distinction between "knowledge of language" and "languages that people know". See also: Auroux, S. (ed., 2006) History of the Language Sciences. Walter de Gruyter GmbH, Berlin, pp. 2571-2573.

combinations of grammatical elements. He calls this method of language acquisition 'hypothesis testing'. Rather than certain mental parameters being 'triggered', as is the case with generative grammar, the child would discover language on their own and thus discover the "true essence of language because it is real and external to the child". (Bever, 229) Bever accepts biolinguistics to a certain extent, agreeing that language could arise from the interactions between different structures for learning: not simply arising from the auditory cortex but involving interactions between such abstract and diffuse processes as thought, perception and memory (230). He refers to Hauser et al.'s 2002 article on language evolution, and opines that hypothesis-testing would fit more plausibly with Hauser's the recursive language-building mechanism than innate parameters.[16]. Bever agrees that there are specific language areas in the brain, but it is unclear for him whether there are also specific structure devoted to language acquisition, or whether language acquisition arises from general learning mechanisms such as his proposed hypothesis-testing structure. (229)

Returning to Katz, it is clear that he does not really address the problem of language acquisition in Platonism, referring instead to his colleague Bever for a proposed solution to this issue (Katz, 1981: note 31). Perhaps this is because Katz's goals are different. His disagreement with Chomsky appears to centre on their different ideals regarding the purpose of linguistics as a field of research. While Chomsky involves mental states and even brain physiology in his work on generative grammar, Katz rejects the involvement of psychology and cognitive science in linguistics. For this reason, he appears to be fairly disinterested in detailing the mechanisms of how language acquisition.

1.4 Research proposal: summary and addendum

I have described the research question in brief right at the beginning of the introduction. I shall go over it here in a little more detail. As we have seen, multiple linguists lay claim to the labels 'Platonism' or 'Platonist' as descriptive terms for their theories. Chomsky uses Plato's name to describe a specific problem in language acquisition, for which the proposed solution is the existence of innate, psychobiological parameters for language production. On the other hand, Katz (and Postal, Bever, etc.) use the term 'Platonist' to indicate that according to their theories, language is an abstract entity that exists outside of human beings, akin to mathematics or logic. The former researcher appears to reference Plato's theories on recollection and the origins of knowledge, while the latter references his

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[16] Hauser et al.'s problem is that they would require a single set of parameters that would be able to generate an infinite amount of expressions. Scholz. et al. (2015,2.3) say that Hauser et al.'s biggest challenge would be to provide empirical data to substantiate this claim, which

theories on Forms.[17] One could also consider Katzian theories to share similarities with the theory of recollection – the way the child is theorized to 'discover' language rules by testing hypotheses may be considered similar to the slave-boy's method of recollection in the *Meno.* By analysing the context in which Chomsky and Katz mention Plato and comparing their own words to passages from the *Meno*, I hope to be able to gain a better understanding of the relationships between these texts.

Another salient question arises, namely what purpose the invocation of Plato serves in these academic arguments. Katz and Chomsky are not the only linguists to refer ancient philosophers; in an interview with the Guardian, linguist Daniel Everett (another scholar who disagrees quite strongly with Chomsky) claims that his language theories are rooted in antiquity: "The roots of these theories go back, Chomsky's to Plato and mine goes back to Aristotle. That's incredible isn't it? I mean how many good ideas were had by the Greeks thousands of years ago?"[18] It could be argued that both Chomsky and Katz (and Everett) wish to place themselves in a certain discourse by terming their theories after a giant of the European intellectual tradition, and perhaps also to legitimize their arguments in this way.

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[17] It is important to note that the *Meno* does not contain a theory of Forms as such. See: Franklin (2001: 414, note 4). Also see Gail Fine (2013: 44, note 1). For this reason Franklin does not speak of 'Forms', preferring 'essence' instead. I myself opt to speak of 'Forms' because of ease; for I will not be discussing their representation in the *Meno* in detail.
[18] McCrum, R. (March 25th, 2012). *'There is no such thing as universal grammar'*. Interview with Daniel Everett in *The Guardian*

2. Introduction to the *Meno*

Plato's dialogue *Meno* centres on the issue whether virtue can be taught. The main question is introduced right in the first line of the dialogue; there is no narrative build-up beforehand. The question is posed by the titular character, a nobleman from Thessalia, and it is rebuffed by Socrates, who professes his ignorance on the matter. Moreover, Socrates tells him that he has to date not found *anybody* who actually knows what virtue is. The next sections are devoted to the search for a definition of virtue.

2.1 The Three Definitions

Socrates asks Meno to provide his own definition of virtue (71D5); Meno's answer is to list different kinds of virtues for men, women, children, freedmen, the elderly, and so forth. This answer is found to be insufficient, as Socrates shows Meno that what they really seek is the nature (εἶδος) common to all these virtues. Meno then provides a second definition, which was taught to him by Gorgias, which is that virtue is to rule over all men (73C7-8). This definition turns out to be unworkable when Socrates points out that slaves and children cannot govern. Meno wishes for Socrates to *tell* him what the nature of virtue is, but Socrates answers that his method of teaching requires the knowledge of the questioner as well to arrive at the answer; thereby drawing a line between his own method and that of the Sophists (ἔστι δὲ ἴσως τὸ διαλεκτικώτερον μὴ μόνον τἀληθῆ ἀποκρίνεσθαι, ἀλλὰ καὶ δι' ἐκείνων ὧν ἂν προσομολογῇ εἰδέναι ὁ ἐρωτώμενος).[19] Finally, Meno attempts to provide a third definition, namely that virtue means to "enjoy good things and having the power [to procure them]" (77B3).[20] This definition, too, fails to be all-encompassing, and the rejection of the definition leads to ἀπορία on Meno's end, and it is rejected, while Socrates professes once again to be ignorant of what virtue is. Meno in turn accuses Socrates of casting spells to reduce him to perplexity, and also compares him to a νάρκη (torpedo-fish), which stuns anyone who touches it.[21].

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[19] "The more dialectical way is perhaps that not only the truth answers but also [that it is answered] by those things which the questioned person concedes that he knows." It is ἐρωτώμενος, according to Burnet's critical edition (Oxford, 1909), which corresponds to the manuscripts. It was, however, emended to ἐρωτῶν by E. Seymer Thompson, and to ἐρόμενος by Cornarius. These changes are an interesting focal point in the question of whose knowledge is really required, and what that says about the process of the transfer of knowledge. In my opinion, this particular quote represents the process of recollection as described by Socrates later in the dialogue: the truth is answered by true beliefs already present in the ἐρωτώμενος.

[20] All translations from the *Meno* are mine. Where I have cited other works of Plato, I have used translations in some cases.

[21] The νάρκη or torpedo-fish in question is probably the marbled electric ray (*Torpedo marmorata* Risso, 1810), which is found in coastal waters around the Eastern Atlantic and the Mediterranean. It can stun and disorient

Meno's question is then, how one is to recognise what one does not know – this is termed 'Meno's paradox' (or 'Plato's Problem' by Chomsky).[22] This is where Socrates introduces the notion of a soul that is immortal and being reborn again and again. Immortality means that the soul has learned everything there is to learn in previous lives – hence, there is no act of learning, rather the act of recollection. The origin of this knowledge are the Forms, though these are not elaborated on in the *Meno* (see also note 19). Naturally, Meno requires proof of this recollection, which is the entire purpose of the geometry class. The central dilemma in the dialogue, which Socrates purports to answer by demonstrating recollection, is how one can one seek something of which one knows altogether nothing (καὶ τίνα τρόπον ζητήσεις, ὦ Σώκρατες, τοῦτο ὃ μὴ οἶσθα τὸ παράπαν ὅτι ἐστίν; - "And how will you look for this if you do not know anything at all concerning its nature?", 80D). And, if one happens to arrive on it, how one would recognise it if one does not know it (ἢ εἰ καὶ ὅτι μάλιστα ἐντύχοις αὐτῷ, πῶς εἴσῃ ὅτι τοῦτό ἐστιν ὃ σὺ οὐκ ᾔδησθα; - "And if you well and truly happen to stumble upon it, how will you know that it is, what you did not know?").

2.3 The Geometry Lesson

Socrates has Meno bring one of his young slaves forward, and requests Meno to observe whether the slave-boy is learning, or recollecting. It is generally agreed that the geometry is a stand-in for virtue, and Socrates' purpose of teaching geometry to the boy is to show Meno how virtue is taught (or in actual fact, realized). He begins by drawing the shape of a square in the sand (see Bluck, 292). He builds up his line of questioning, beginning from asking the boy to work out the surface of the square by providing him the length of the sides. He progresses to providing the boy with a square the size of eight square feet, and asking him to work out the sides. All the while, Socrates claims that he is not teaching, but allowing the boy to recollect the correct answer, the answer that is 'known' to him all along. The boy answers in three stages: he provides a first, confident, wrong answer; the second time he provides an answer which is clearly a guess, and then admits that he does not know the answer (84A1-2); and the third time he realizes the correct answer. Alongside Socrates's engagement with the slave-boy, a meta-dialogue takes place between Socrates and Meno, discussing the slave-boy's progress. This discussion, however, has a double layer,

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in defense, with jolts of up to 200 V. Scott calls it a 'stingray', but this is incorrect, as it uses electrical charge rather than venomous barbs.

[22] I have capitalized Chomsky's interpretation of this problem, to distinguish it from generic references to the problem of knowledge in this passage.

in that Meno is *actually* being instructed in the process of elenchus.[23] The slave-boy initially *thinks* he knows the right answer; then the realization comes to him that he does not actually know. This ἀπορία is not a bad thing, as Socrates says; the boy has received the jolt from the torpedo-fish and is now aware of his lack of knowledge, and will now exert himself to gain that knowledge.

2.4 Section 86 and beyond

I will try to briefly summarize the final third of the *Meno*, partly to contextualize the main issues of the dialogue, and partly because I refer to certain sections of it in my analysis. The final part of the dialogue concerns itself with the difference between true opinion and virtue, and how true belief can still lead to good guidance. In section 86C7-9, Meno expresses once again the wish to find an answer to his initial question, the one that opened the dialogue – namely, whether virtue is teachable or not. The hypothesis being that if virtue is a kind of knowledge (ἐπιστήμη) it is teachable (διδακτόν), since knowledge is the only thing taught to men (87C5). They conclude virtue is that good men become good through education, not by nature, since if they were good by nature, they would sure have been able to pick out the good among the young and safeguard them from bad influences (89B2-4). And since men are good through virtue (87E1), virtue must also be taught instead of being transmitted by nature. However, this conclusion proves to be rash as Socrates points out that for virtue to be teachable, there need to be teachers of that subject (89D3-8). If learning is recollection, then there are no teachers of virtue. Since there can be no teachers of virtue, and if virtue cannot be taught, there cannot be any pupils either. This means that virtue is not knowledge. Socrates says, however, that true beliefs can be just as good a guide as knowledge (97C4). In order to become knowledge, true beliefs must be fastened by recollection, which makes them abiding (98A6). As such, a man will be guide well, and thus be useful in the absence of knowledge. Since this is true, knowledge cannot be a guide in political conduct (99B2). The dialogue ends with the conclusion that statesmen are like soothsayers or prophets, for though they say true things, they have no knowledge of what they speak (99C1-4).

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[23] There is some disagreement here among researchers: Lee Franklin (2001: 414) thinks that Meno is being instructed in *dialectic*, not elenchus. According to Franklin, the process of elenchus involves Socrates leading an interlocutor to ἀπορία, as he demonstrates the contradictions in the interlocutor's opinions on a particular topic (in this case, virtue). Whereas dialectic, as least according to Franklin, involves the essence of a particular property. A statement is made about this property, such as "virtue is justice". This statement is then tested against other statements that are generally made about this property. This is supposed to enhance the participants' understanding about property X, with the goal to formulate newer and better accounts of it.

3. The Problem of Chomsky and the *Meno*

As we have seen in the introduction, it is Chomsky himself who refers to the dialogue of the *Meno* as the inspiration for his own 'Plato's Problem'. He offers 'Plato's Problem' as an interpretation of Meno's paradox "in modern terms".[24] One could question the reasons for a reinterpretation, the need for deriving one's theory from an ancient author firmly established in the philosophical canon.[25] We have also seen in the introduction that 'Plato's Problem' can be described as a problem regarding the origins of knowledge. Chomsky explicitly references the slave-boy exchange when describing 'Plato's Problem' and the reason for its terminology. The exchange is initiated on part of Socrates only because Meno wishes to see a demonstration of recollection. So how does the dialogue between the slave-boy and Socrates (and consequently Meno and Socrates) resolve the issue of the origin of knowledge? And what is the relationship between it and 'Plato's Problem'? Because Meno is the originator of the knowledge paradox, we must ask ourselves how 'Plato's Problem' measures up to the actual questions on knowledge transmission set forth in the *Meno.* To answer these questions, we must first look at how Chomsky renders Plato's knowledge paradox in his work. For that, I will to cite him in his own words.

3.1 The Meno according to Chomsky

In the Managua lectures, Chomsky formulates his inquiry regarding the origins of knowledge in the following steps:

> "1. What is the system of knowledge [of language]? What is in the mind/brain of the speaker of English or Spanish or Japanese?
>
> 2. How does this system of knowledge arise in the mind/brain?
>
> 3. How is this knowledge put to use in speech (or secondary systems such as writing)?
>
> 4. What are the physical mechanisms that serve as the material basis for this system of knowledge and for the use of this knowledge?"[26]

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[24] Chomsky (1988: 4)

[25] It's notable that this is not the first time Chomsky has referenced heavyweights of the philosophical tradition in connection to his work on linguistics. His Cartesian Linguistics references René Descartes and certain linguistic theories developed by him and his followers.

[26] Chomsky (1988: 3)

Point two refers to 'Plato's Problem', in Chomsky's own words (1988: 3). He says that "A modern variant [of 'Plato's Problem'] would be that certain aspects of our knowledge and understanding are innate, part of our biological endowment, genetically determined, on a par with the elements of our common nature that cause us to grow arms and legs rather than wings. This version of classical doctrine is, I think, essentially correct. It is quite remote from the empiricist assumptions that have dominated much of Western thought for the past several centuries...". (1988: 3) He claims that Plato's problem was "rephrased" by Bertrand Russell in the following quote: "How comes it that human beings, whose contacts with the world are brief and personal and limited, are nevertheless able to know as much as they do know?". Chomsky's arguments in *The Managua Lectures* are based on particular grammatical constructions that he claims children know without ever being clearly taught. According Chomsky, the dialogue between Socrates and the boy in the *Meno* is a "thought experiment" which "raises a problem that is still with us: How was the slave boy able to find truths of geometry without instruction or information?"

James McGilvray, in the appendix to his 2012 series of interviews with Chomsky, explains 'Plato's Problem' as follows:

"'Plato's Problem' labels an issue that any linguist constructing a science of language must speak to: saying (by offering a theory that constrains language growth and thus explains the relevant poverty of the stimulus phenomenon) how any child given minimal input can acquire a natural language (or several) quickly, going through approximately the same developmental stages as other children acquiring a language, and without apparent training or 'negative evidence'. It is called 'Plato's Problem' because it is a bit like that faced by Plato/Socrates in Plato's dialogue Meno: a slave boy without training and given only prompting (not being told what the answers are) manages to come up in short order with the basic principles of the Pythagorean Theorem."

McGilvray goes on to say that just like Chomsky's hypothetical children, the slave-boy cannot articulate "the formula", because "he does not have the tools".[27]

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[27] "So too the child with language: the child gets no training and is exposed to a limited data set, but has no difficulty displaying adult linguistic competence by around 4. The child cannot state the principles by which he or she speaks either, of course; that would require the child to have a science of language available. But lack of an articulate way to say what he or she knows by no means gives a reason to hold that therefore language must be a kind of know-how, gained by intensive training and familiarization." (Chomsky, 2012: 266) McGilvray goes on to acknowledge that while Plato's explanation for the paradox involves knowledge already present in the soul, "Chomsky's explanation is, of course, a quite different naturalistic one that appeals to efforts to understand how automatic and 'channeled' development proceeds." Though the quotes from the appendices

Chomsky and other linguists were concerned with providing a single unifying theory behind natural language production. For this, they needed to necessarily take into account the origins of natural language. Any theory developed to explain the human language faculty must work for all existing natural languages and *also* adequately explain the acquisition of said languages in children.[28] Universal Grammar was postulated by Chomsky as ticking these boxes: it is said by generative grammarians to explain how children become proficient with "minimal input", and its parameters are said to work with the grammatical features of all existent languages.[29]

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and the commentaries are written by McGilvray, since the publication was a collaboration between McGilvray and Chomsky, we can reasonably assume that information contained in the quotes has Chomsky's stamp of approval.

[28] "The focus of early work (e.g. Aspects of the Theory of Syntax) was to find a theory of language that would be descriptively adequate – that is, provide a way to describe (with a theory/grammar) any possible natural language – while also answering the question of how a child could acquire a given natural language in a short time, given minimal input which is often corrupt and without any recourse to training or 'negative evidence'. The acquisition issue – called in more recent work 'Plato's Problem' because it was the problem that confronted Plato in his *Meno* – was seen as the task of providing an explanatorily adequate theory. Taking a solution to the acquisition problem as the criterion of explanatory adequacy may seem odd, but it is plausible: if a theory shows how an arbitrary child can acquire an arbitrary language under the relevant poverty of the stimulus conditions, we can be reasonably confident that the theory tracks the nature of the relevant system and the means by which is grows in the organism." (Chomsky, 2012: 243-244)

[29] These claims are assumptions in themselves – in fact, one can critique the entire concept of 'poverty of stimulus' itself. Perhaps the linguistic input is not "minimal" or "corrupt" like Chomskyites believe it is. Universal Grammar may not work for all languages either – Chomsky provides his examples of 'Plato's Problem' from English or Spanish, which are both Indo-European languages. One can easily say that UG is not at all parsimonious because there are too many prior assumptions to be made for it to be true. These criticisms, however, go beyond the scope of this thesis and indeed beyond Classics, as they are criticisms of the validity of Chomsky's ideas.

4. Analysis: a comparison of 'Plato's Problem' and Universal Grammar with the *Meno*

To get across the commonalities and differences between 'Plato's Problem' and the *Meno* in the best way possible, I will lay out the arguments for and against commonality in a structured way. Central to 'Plato's Problem' is the geometry exercise. Noam Chomsky explicitly cites the slave-boy dialogue in the Meno as an example (perhaps the original example) of his knowledge paradox. (Chomsky, 1988: 3) However, the exercise was ultimately only commenced because of Meno's challenge to Socrates. Because of this, we cannot look at the exchange with the slave-boy in isolation, but must also address Meno's knowledge paradox in our analysis.

Meno's paradox itself is distinct from 'Plato's Problem'. As we have seen, the question posed by Meno is one of priority: it concerns the search for knowledge of something of which one has no previous knowledge. Meno wishes to know how one could search for this knowledge, and how one would recognise it as the right knowledge, if one could find it at all. 'Plato's Problem', meanwhile, purports to represent the problem of language production, namely that the richness of language produced by children cannot be explained simply by the linguistic information they receive from their surroundings. Both paradoxes deal with the origins of knowledge, and the answer to both problems is the existence of knowledge that was present before birth. Before we delve deeper into comparisons between the two paradoxes, we ought to take a brief look at the progression of this part of the dialogue, since this is where Plato purports to prove recollection.

4.1 The textual evidence from the geometry exercise

If we wish to draw conclusions regarding how Plato's paradox of inquiry relates to 'Plato's Problem', we cannot avoid taking a look at the dialogue between Socrates and the slave-boy, especially since it is name-checked by Chomsky as well. The occasion for the dialogue is Socrates' pronunciation to Meno that "there is no teaching, only recollection" (οὔ φημι διδαχὴν εἶναι ἀλλ᾽ ἀνάμνησιν – 82A). This prompts Meno to request Socrates to demonstrate recollection. In turn, Socrates asks Meno to produce one of his servants, making sure that he is born of the house and knows Greek (82B3-4). He tells Meno to "pay attention, whether he seems to you to be recollecting or learning from me" (πρόσεχε δὴ τὸν νοῦν ὁπότερ᾽ ἄν σοι φαίνηται, ἢ ἀναμιμνησκόμενος ἢ μανθάνων παρ᾽ ἐμοῦ, 82B6-7). However, he does not yet announce by what method he is about to demonstrate this

process. Socrates first makes sure the slave-boy is familiar with the shape he will be discussing. He demonstrates a shape with four angles and sides all equal, which would be a square (one can fairly deduce, see note 30).

82B8 – 82C1

Σ: εἰπὲ δή μοι, ὦ παῖ, γιγνώσκεις τετράγωνον χωρίον ὅτι τοιοῦτόν ἐστιν; [30]
Tell me then, boy, do you know the figure with four angles that is like this?

Π: ἔγωγε.
I do.

Σ: ἔστιν οὖν τετράγωνον χωρίον ἴσας ἔχον τὰς γραμμὰς ταύτας πάσας, τέτταρας οὔσας;
Then, does a four-angled figure have all these lines, which are four, as equal length?

Π: πάνυ γε.
Absolutely.

Σ: οὐ καὶ ταυτασὶ τὰς διὰ μέσου ἐστὶν ἴσας ἔχον;
And is it not also to these [lines] that these [drawn] through the middle are equal? [31]

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[30] τοιοῦτος seems to indicate that Socrates shows the figure in some manner in the sand in front of them, which is in accordance with Bluck: "We must imagine Socrates drawing a square in the sand (Bluck, 292). In the same paragraph Bluck points out that a τετράγωνον "is commonly a square"; we do not actually know for sure from this description that it is necessarily a square – as Bluck says, a τετράγωνον can be any figure with four angles, and a rhombus (with equal sides) would fall under this category as well. The role of the diagrams in the dialogue is contested (Bluck, 292). However, a rhombus would be incompatible with the Pythagorean calculations that are presented as the solution to the problem from 84D to 85A. Socrates does much of his exposition verbally or by indicating with his finger. The usage of the deictic iota (such as in ταυτασὶ) in multiple places in the dialogue gives us some clues as to the visualisation of the proceedings. We can reasonably conclude from its presence that the character of Socrates is indicating with his finger whatever it is that's marked by the deictic iota. For the use of geometry in recollection, see also *Phaedo* 73A-B and Bluck (292-293): "When people are questioned, if someone asks a question properly, they themselves will tell all things the way they are – and yet, if the knowledge and the right reason had not happened to be within them, it would not have been possible for them to do this. Subsequently when someone takes up geometrical diagrams or something else of those types of things, there they will declare the wisest words, that this is so."

[31] R.S. Bluck states that the lines drawn through the middle are not diagonals but transversals (Bluck, 294), but Gerard Boter contests this view (1988, 209), saying that they are diagonals. This appears unlikely, as in the next question Socrates asks whether such a square can be larger or smaller. The drawing of transversal lines is a logical lead into the next question. In this particular line of thinking, I am in agreement with Bluck (294). On the other hand, diagonal lines serve no purpose in this series of questions. Since slave-boy clearly has trouble even working out the length and surface of a square when its size is multiplied, it seems like a step too early to include diagonals as well. I think on the basis of this alone, one can assume the lines to be transversal. Diagonals appear for the first time in section 84-85. There, Socrates says explicitly ἐκ γωνίας εἰς γωνίαν τείνουσα ("stretching from corner to corner", 85A1). All in all it seems unlikely that the lines in 82C2 are

Π: ναί.
Yes.

Σ: οὐκοῦν εἴη ἂν τοιοῦτον χωρίον καὶ μεῖζον καὶ ἔλαττον;
Could a figure of this shape not be larger or smaller?
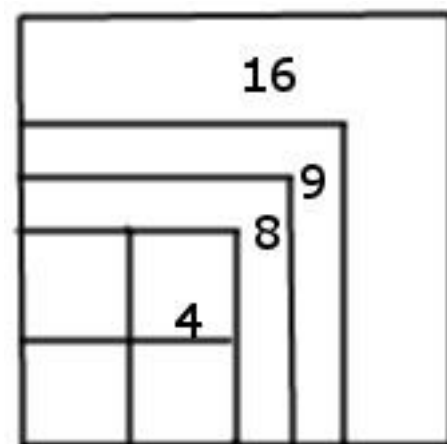
Π: πάνυ γε.
Certainly.

Fig. 1: A rough representation of the different squares drawn by Socrates throughout the exercise, with the numbers representing their size in square feet. The starting square is 2x2, and Socrates asks the boy the length of a square double that, which is 8 feet. The boy's first answer is double the length, which would make 16 ft. His second answer is 3 feet.

Socrates introduces the geometric problem with an example (εἰ οὖν εἴη αὕτη ἡ πλευρὰ δυοῖν ποδοῖν καὶ αὕτη δυοῖν, πόσων ἂν εἴη ποδῶν τὸ ὅλον; ὧδε δὲ σκόπει· εἰ ἦν ταύτῃ δυοῖν ποδοῖν, ταύτῃ δὲ ἑνὸς ποδὸς μόνον, ἄλλο τι ἅπαξ ἂν ἦν δυοῖν ποδοῖν τὸ χωρίον;).[32] He asks the boy to work out "twice two feet", which the boy is able to do. Socrates then extrapolates to a figure twice that large and asks the boy to work out the length of the sides. The progression of the first part of the dialogue (82B-82E) could be summarized in this way:[33]

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diagonals instead of transversals. But, as Sharples (1989; p. 221) points out, Boter appears to overlook that it is not merely the slave-boy engaging with the problem, but that the reader itself must clearly understand and visualize the nature of the problem. Which also reinforces the importance of the diagrams in the boy's understanding of the proof.

[32] "Suppose that this side were two feet and this two, how many feet would the whole be? Look at it this way: if in this way it were two feet, and in this way it were only one foot, would the figure not be two feet taken once?"

[33] The usage of οὖν, οὐκοῦν and ἄρα can indicate the progression of the dialogue. In Sicking & Van Ophuijsen (1993), the authors mostly discuss οὖν in narrative stretches of the Phaedo. Still, there may be information pertinent to our passage of text: the description of οὖν as a "signpost" (Sicking & Van Ophuijsen, 1993: 91) of sorts from a "detour" which leads away from the original question, could well be applicable to dialogue. The authors note repetition of constituents as an important guide to understanding the meaning of οὖν. We see the τετράγωνον χωρίον of B8-9 repeated and marked by οὖν, leading us closer to the "point" of questioning, as Van Ophuijsen puts it. Or, in his own words: "οὖν indicates, then, that what follows comes nearer to the point than what precedes; that what precedes owes its relevance to what follows". Sicking's analysis of particles in questions in Gorgias (1997: 166) demonstrated that in Plato, ἄρα appears in yes/no-questions. As for οὐκοῦν, according to a survey by Rijksbaron (2012: 144), οὐκοῦν in questions invites an affirmative answer. He says that repetition of elements of the question in the answer is partly an indicator that the question is requires an affirmative answer. According to Sicking, οὐκοῦν questions are bound up with Socrates' characteristic way of offering his interlocutors a sequence of interconnected questions, and, in doing so, making it clear how each subsequent move relates to the demonstration it is part of" (Sicking, 1997: 161). Unlike οὐκοῦν, the use of ἄρα can conveys that the question may be answered in the negative or the positive. However, Sicking also postulates, while referring to Van Ophuijsen, that the use of ἄρα may indicate that certain assumptions are agreed on by the interlocutor and his conversation partner. (Sicking, 167) What is marked by ἄρα follows from those assumptions – Sicking translates this particle in English variously as "if this is so", "it appears", and in other ways along those lines.

Soc.: If you have a figure with four angles and each side is two feet, how big would that figure be?

Boy: Four feet.

Soc.: And if you had a similar figure but twice the size, how large would it be?

Boy: Eight.

Soc: And how long would each side of such a figure be?

Boy: Double the size.

"Double the size" is clearly wrong, and it is obvious (using the Pythagorean theorem) that the length of a side would be √8. Socrates continues questioning the boy, who provides another wrong answer (three feet), and then gives up, telling Socrates that he does not know. The question-and-answer session takes the following format:

83A4 – 83B4

Σ: οὐκοῦν διπλασία αὕτη ταύτης γίγνεται, ἂν ἐτέραν τοσαύτην προσθῶμεν ἐνθένδε;
Well then, is this line not twice the size of this one, if we place another one of such a size here?

Π: πάνυ γε.
Absolutely.

Σ: ἀπὸ ταύτης δή, φής, ἔσται τὸ ὀκτώπουν χωρίον, ἂν τέτταρες τοσαῦται γένωνται;
Then do you indeed say that the figure of 8 square feet shall be from this side, and four of such lines may originate from this point?

Π: ναί.
Yes.

Σ: ἀναγραψώμεθα δὴ ἀπ' αὐτῆς ἴσας τέτταρας. ἄλλο τι ἢ τουτὶ ἂν εἴη ὃ φὴς τὸ ὀκτώπουν εἶναι;
Let us draw then four equal lines from here. This here is what you say is the eight-foot figure, is it not?

Π: πάνυ γε.
Indeed.

Σ: οὐκοῦν ἐν αὐτῷ ἐστιν ταυτὶ τέτταρα, ὧν ἕκαστον ἴσον τούτῳ ἐστὶν τῷ τετράποδι;
And are there not these four here in here, of which each side is equal to this one of four feet?

Π: ναί.
Yes.

We can see from the style of questioning that there is some reason to doubt Plato's (through the voice of Socrates) claim "You see, Meno, how I teach him nothing, but ask everything?" (ὁρᾷς, ὦ Μένων, ὡς ἐγὼ τοῦτον οὐδὲν διδάσκω, ἀλλ᾽ ἐρωτῶ πάντα;, 82E4-6 – coming in response to the boy's answer that a square of eight feet has sides double the size). Though Plato emphasises that Socrates is not teaching the boy anything, it would seem at least to the casual reader that his leading questions contradict his claim. Socrates' questions to the boy can be considered 'leading' questions, which already contain the answer within ("[X] is so, is it not?"), and make it difficult for the slave-boy to answer in the negative. In fact, as pointed out in note 33, the particle οὐκοῦν indicates the (linguistic) preference for an affirmative answer. However, Scott makes the point that such questions could have another implication, referring to 82E12-13, in which Socrates tells Meno "θεῶ δὴ αὐτὸν ἀναμιμνῃσκόμενον ἐφεξῆς, ὡς δεῖ ἀναμιμνήσκεσθαι" ("See now that he recalls in order, like he is supposed to recall"). According to Scott, this hints towards the fact that Socrates is following a series of steps in a proof. The slave-boy (and consequently, Meno) does not simply need to be *told* the steps in a proof or argument – he has to make the final jump (or "click", as Scott calls it) to true understanding, which can only be possible if he follows the argument through himself.[34] Unlike Meno, who repeats Gorgias's teachings and cites poets for his three definitions, Socrates' questioning helps the boy discover the answers in stages by a proof.

After the boy gives a second wrong answer, he is shown (through dialectic) why it is incorrect. The third time he is questioned, he replies dejectedly that he does not know. The boy has been administered the 'torpedo-fish's shock', however the admittance of ignorance is progress in his search for knowledge; as Socrates says:

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[34] See: D. Scott, *Plato's Meno*. Cambridge, 2006, p. 101

ἐννοεῖς αὖ, ὦ Μένων, οὗ ἐστιν ἤδη βαδίζων ὅδε τοῦ ἀναμιμνήσκεσθαι; ὅτι τὸ μὲν πρῶτον ᾔδει μὲν οὔ, ἥτις ἐστὶν ἡ τοῦ ὀκτώποδος χωρίου γραμμή, ὥσπερ οὐδὲ νῦν πω οἶδεν, ἀλλ᾽ οὖν ᾤετό γ᾽ αὐτὴν τότε εἰδέναι, καὶ θαρραλέως ἀπεκρίνετο ὡς εἰδώς, καὶ οὐχ ἡγεῖτο ἀπορεῖν· νῦν δὲ ἡγεῖται ἀπορεῖν ἤδη, καὶ ὥσπερ οὐκ οἶδεν, οὐδ᾽ οἴεται εἰδέναι.

(84A3-8)

"Do you consider again, Meno, at what point of recollection he is, in making his journey? That at first he did not know, what is the line of the eight foot space, just as he does not know even now, but thought he knew once, and he bravely answered as if he know, and he did not believe that he was in difficulty: now he is of the opinion that he is already in trouble, and as he does not know, he does not think he knows."

For the boy would have earlier wrongly believed himself to be right, but now knowing of his ignorance, he will push himself for the right answer:

προὔργου γοῦν τι πεποιήκαμεν, ὡς ἔοικε, πρὸς τὸ ἐξευρεῖν ὅπη ἔχει· νῦν μὲν γὰρ καὶ ζητήσειεν ἂν ἡδέως οὐκ εἰδώς, τότε δὲ ῥᾳδίως ἂν καὶ πρὸς πολλοὺς καὶ πολλάκις ᾤετ᾽ ἂν εὖ λέγειν περὶ τοῦ διπλασίου χωρίου, ὡς δεῖ διπλασίαν τὴν γραμμὴν ἔχειν μήκει.

(84B9-C2)

"At all events we have done something serviceable, it seems, to further the search for the state of the matter: for now he may indeed search gladly, not knowing, when once he would have easily thought that he spoke well about many things and often regarding the twofold space, that is must have double the line for the length. "

It appears that Socrates' (and thus Plato's) primary goal prior to the 'torpedo-fish's shock' was not so much eliciting the correct answer as following the steps in the proof to purely demonstrate the boy's ignorance. Since Meno's inquiry in virtue is parallel to the boy's inquiry in geometry, the beneficial aspects of the shock are demonstrated to Meno, and are in fact discussed with him in the meta-dialogue (as Socrates says, "Then having put him in a state of confusion, and having administered a shock like the torpedo-fish, we have surely not done him any harm?", 84B).[35] After the boy has been reduced to ἀπορία, Socrates picks up the questioning again, but with a different geometric method to illustrate the same

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[35] ἀπορεῖν οὖν αὐτὸν ποιήσαντες καὶ ναρκᾶν ὥσπερ ἡ νάρκη, μῶν τι ἐβλάψαμεν;

principle. This time, he draws four squares of equal size (of four square feet each) to form a larger square, and draws diagonals corner to corner to form a smaller square inside the bigger square. This drawing demonstrates the Pythagorean principle to the boy, as it clearly shows each line cutting each square in two halves, each of which is now two square feet. The proof that the boy finally understands the underlying geometric principles of the problem are the lines 85B1-2:
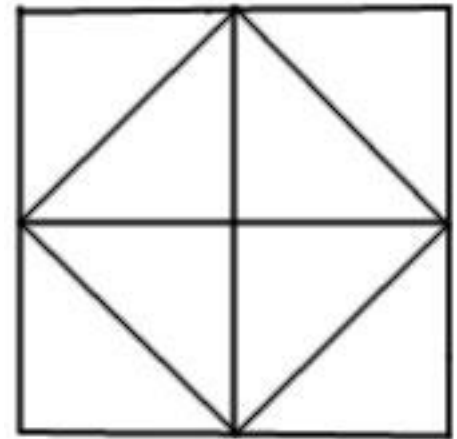

Fig. 2: The second diagram of 4x4 feet, which makes it easy to work out the sides, for the inner square is 8 square feet.

Σ: ἀπὸ ποίας γραμμῆς;
From what kind of line?

Π: ἀπὸ ταύτης.
From this.

Σ: ἀπὸ τῆς ἐκ γωνίας εἰς γωνίαν τεινούσης τοῦ τετράποδος;
From the one stretching from corner to corner of the four-foot figure?

Π: ναί.
Yes.

ἀπὸ ταύτης refers to one of the diagonal lines drawn by Socrates (see also Bluck, 310). The character of Socrates wishes the boy to understand that the length of a square can be calculated by the diagonal. If one knows the surface of the square, one can, similarly to Socrates, use a tool to calculate the length of the square by dividing the square in quarters and drawing diagonals through their corners. The fact that the boy is able to indicate the type of line demonstrates that he has actually *understood* the solution to the problem, not that he is merely reproducing a number.

Socrates has now managed to elicit the correct answer from the boy in 85B1-B2, marking the ending of the geometry exercise. Initially, the boy answers confidently with a wrong answer; then, again, with a wrong answer that is merely a guess (smaller than four feet but larger than the original two); and gives up finally, having been stunned into ἀπορία. After discussing the boy's (and thus Meno's) situation with Meno, Socrates demonstrates the problem again through diagonals, at which point the boy supplies the correct answer. Socrates explains that the boy does this because of recollection. However, that is not quite clear from the progress and resolution of the geometry exercise. I shall

discuss the matter of recollection and give my own ideas regarding the role that recollection plays in the exercise, and how this ties into 'Plato's Problem'. Before that, I shall look closely at the problem of inquiry in the *Meno*, and how it compares to 'Plato's Problem'. But first, I will point out some similarities between the geometry exercise and 'Plato's Problem'.

4.1.1 The exchange between Socrates and the slave versus 'Plato's Problem'

'Plato's Problem' shows some similarities with the geometrical problem and Socrates' clarification of the recollection process in sections 85 to 86. In both cases, we have purported "minimal input" from the surroundings and a person in the knowledge state of 'initial state' or S_0 (see note 4). In both cases, the person produces a greater amount of knowledge compared to the "minimal input" they receive. This is explained in both cases by pre-existing knowledge: for Meno's slave-boy, it's knowledge acquired by the soul during the time that it was not corporeal, and for the child, it is knowledge present from birth, encoded genetically, in the form of 'principles and parameters'. Those principles and parameters, just like the slave-boy's 'latent knowledge' (if you will) are triggered by external input, in the form of correct questioning or linguistic information. However, going by the geometry exercise itself, one cannot derive any comparisons with principles and parameters or UG. This is because all of the boy's replies can be explained by Socratic elenchus. I shall delve into this more deeply in chapter 4.4. One can leave out the theory of recollection while analysing the conversation between the slave-boy and Meno, and still conclude that any progress the slave was making could be explained by Socrates' style of questioning, and the diagrams. As we cannot conclude anything simply from examining the dialogue, we have to consider the concepts underlying the dialogue. There is the theory of recollection, which I mentioned in 4.1. Recollection assumes innate knowledge, which is another topic that I will look at. But first, there is the matter of Socratic inquiry and Meno's challenge to Socrates, in the form of the knowledge paradox.

4.2 Inquiry in the Meno vs. 'Plato's Problem'

Earlier in the dialogue Socrates says right off the bat that he does not know *at all* what virtue is, in 71A6 and then again in 71B3-4 (ὥστ' οὐδὲ αὐτὸ ὅ τι ποτ' ἐστι τὸ παράπαν ἀρετή, τυγχάνω εἰδώς – "that I do not happen to know at all what the thing itself, virtue, even is" and καὶ ἐμαυτὸν καταμέμφομαι ὡς οὐκ εἰδὼς περὶ ἀρετῆς τὸ παράπαν – "and I reproach

myself that I do not know anything at all concerning virtue"). [36] Moreover, he says in 71B4 that if one does not know *what* (τι) a thing is, he cannot know what its nature (ὁποῖον) it is (or in full: ὃ δὲ μὴ οἶδα τί ἐστι, πῶς ἂν ὁποῖόν γέ τι εἰδείην; - "If I do not know what a thing is, how can I know what its nature is?"). It raises the question what is meant by "knowing" what a thing is. It is important to observe that Socrates uses οἶδα here to denote 'to know', as opposed to a word like γιγνώσκω (like he does in the sense of "knowing Meno" in 71B4). Gail Fine (47) offers that τι εἰδέναι is knowing in the sense of knowing "the inner constitution" of virtue, such as an atomic number of an element, rather than its observable features. [37] This notion that one must know what [X] is, to know anything about [X], is what Gail Fine calls 'The Priority of Knowledge What' principle (or PKW: Fine, 28). As we have already seen in the introduction, the PKW results in a problem which is articulated by Meno, which is how one can inquire into something, if one does not *at all* know what it is.

4.2.1 Meno's paradox investigated

Meno is annoyed that his definitions are rejected by Socrates, and he challenges Socrates as an interlocutor; after all, how can Socrates lead an inquiry on virtue when he says himself that he lacks knowledge of virtue? Let us examine Meno's paradox first. It consists of three questions:

1. In what manner can you conduct an inquiry into something, if you do not know (οἶσθα) at all (τὸ παράπαν) what (τι) that thing is?
2. What sort of object of inquiry (ποῖον) will you search for from the things that you do not know?
3. Even if you chance upon it (ἐντύχοις αὐτῷ), how do you know that it is that which you did not know? [38]

Though this paradox appears relatively straightforward, there are still questions to be asked concerning its contents. For instance, one can wonder what "do not know at all"

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[36] There is some discussion on the correct translation of τὸ παράπαν – Bluck (209) suggests it might be taken with οὐδέ to mean "I do not even know at all", but cites other scholars who go with the German "überhaupt". Liddell, Scott & Jones give "altogether" and combined with a negative "not at all". Gail Fine goes with the former meaning, which I have used as well. It is important to know whether Socrates disclaims knowledge of only some aspects of virtue, or virtue in its entirety.

[37] Fine, G. (2003). *Plato on Knowledge and Forms: Selected Essays*. Oxford: Oxford University Press. For reference, the atomic number is the number of protons found in an atom of an element (which, in an uncharged atom, is equal to the number of electrons). Hydrogen, for instance, has an atomic number of one.

[38] Καὶ τίνα τρόπον ζητήσεις, ὦ Σώκρατες, τοῦτο ὃ μὴ οἶσθα τὸ παράπαν ὅ τι ἐστίν; ποῖον γὰρ ὧν οὐκ οἶσθα προθέμενος ζητήσεις; ἢ εἰ καὶ ὅτι μάλιστα ἐντύχοις αὐτῷ, πῶς εἴσῃ ὅτι τοῦτό ἐστιν ὃ σὺ οὐκ ᾔδησθα; (80D5-8)

means. Meno obviously thinks that we don't know anything *at all* about an object, meaning that we are not even aware of its name or existence, we cannot inquire into it. If we interpret 'knowing' in this way, then point 1) presents a problem for Socrates. However, there are other ways we can interpret 'knowing'. If we take the object of knowledge to be [X], does this mean that one does not even have beliefs about [X]? As Fine (2003: 45) points out, Socrates is able to examine Meno on his beliefs on virtue, which means he surely must have beliefs of his own on the topic [X]. So the interpretation that one cannot even have beliefs about virtue seems unlikely. We can conclude that someone can *talk* about [X], based on their beliefs, even if they don't know anything about [X]. This also allows for the type of philosophical inquiry that Socrates conducts, for it allows both parties to find out [X] even if they have no knowledge of [X].

In point 2), Meno asks "what sort of thing" (ποῖον) Socrates will προθέμενος ζητήσεις ("having put forward, will you inquire into").[39] It seems to be a callback to Socrates' own words in 71B4 that you cannot know what (τι) something is if you do not know what sort of thing (or of what nature, ὁποῖόν) it is. Fine (2003: 52) words Meno's second question as "which of the things one doesn't know is one inquiring into?" which strikes me as dubious.[40] The question is not about "what thing" (τι) but "what sort of thing" (ποῖον). I interpret it as 'what category of thing, having put forward will you look for, from the things that you did not know'. Bluck, however, interprets it as: "What sort of a thing, among the things you don't know, will you take this to be, when you set it up as the object of your search?" (272) Bluck claims that "Meno ironically suggests that Socrates would have to know the qualities of all the things that he does not know" to be able to categorize his object of inquiry. Yet if we consider that it is possible to have beliefs about [X] without having knowledge on it, point 2) is resolved as well. As long as we are not complete blanks on subjects [X], [Y] and [Z], and have some opinions on their qualities and essences, we are able to categorize them as well.

Point 3) follows from Meno's assumption in point 1) that one does not know anything *at all* about [X], [Y], or [Z]. If the happy chance occurs that you would stumble on them, which seems like an infinitesimally small possibility, there is still the problem that you would have to be able to recognise what you were looking for (which you had no knowledge of in any way in the first place). The use of ἐντύχοις shows that Meno thinks

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[39] Bluck (272), too, interprets 2) as: "What sort of a thing, among the things you don't know, will you take this to be, when you set it up as the object of your search?"

[40] Though in *The Possibility of Inquiry: Meno's Paradox from Socrates to Sextus* (2014, p. 75) she translates it as "what sort of thing".

that inquiry into a thing that you do not know is impossible, and the only way you could find your answer is through chance. However, there is an explanation for this, and it comes later in the dialogue – for it is because of the knowledge already present in our soul that we are able to recognise what we were inquiring after, even if we did not know it.

4.2.2 Socrates' eristic dilemma

Socrates reformulates Meno's paradox in 80E1-5 as ὁρᾷς τοῦτον ὡς ἐριστικὸν λόγον κατάγεις, ὡς οὐκ ἄρα ἔστιν ζητεῖν ἀνθρώπῳ οὔτε ὃ οἶδε οὔτε ὃ μὴ οἶδε; οὔτε γὰρ ἂν ὅ γε οἶδεν ζητοῖ—οἶδεν γάρ, καὶ οὐδὲν δεῖ τῷ γε τοιούτῳ ζητήσεως—οὔτε ὃ μὴ οἶδεν—οὐδὲ γὰρ οἶδεν ὅτι ζητήσει ("Do you see that you are spinning this eristic argument, that it is not possible for a man to search either for what he knows nor for what he does not know; for he cannot search for what he knows – because he knows it, and in such a situation there is no need for an inquiry – and neither [can he search] for what he does not know – for he does not know what to search for."). Socrates' own reformulation can be divided up in the following way:

1. It is not possible to search for what one knows, or does not know;
2. Because if one knows it already, one does not need to inquire into it;
3. And if one does not know it, he cannot search for it.

As Fine (2003: 52) says, it is fairly weak to say that one cannot search for what one does not already knows. It could be argued that one can search again for what one already knows not for the pursuit of knowledge, but other reasons – perhaps even the sheer pleasure of the inquiry itself.[41] Nor does such a statement allow for the possibility that one's knowledge might not be complete – either one knows everything about a certain subject, or nothing at all. The same goes for point 3) – the assumption is that one must be ignorant of the very existence of a certain thing, if one cannot inquire into it. The term τὸ παράπαν is not used in Socrates' eristic dilemma. To clarify the problems with the dilemma, I shall provide an example. To continue on the theme of chemical elements (see note 37), I may know nothing about the element aluminium. But I *do* know its name and existence, which can lead me to inquire about it. Yet simply knowing the name is not equivalent to 'knowledge', as I am ignorant of any other properties of the element. To summarize in simpler terms, the dichotomy is that if we have concept [X], one either knows or does not know [X]. It appears

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[41] Fine (2003:52) compares it to dining at Lutèce – if one has dined there, does not mean that one can never dine there again.

to be that if one knows a property of [X], one knows *all* [X]. For these reasons, the eristic paradox (point 1)) seems invalid, which Socrates agrees with – in fact, he appears to be criticizing Meno for making this argument (ὁρᾷς τοῦτον ὡς ἐριστικὸν λόγον κατάγεις, 80E1-2). In the text the argument is portrayed as invalid for a different reason, namely the existence of recollection, which allows a person to inquire into what he does not know. The dilemma does not take Meno's point 3) into account at all, though it is clarified later in the dialogue.

4.2.3 Plato's Problem' and Meno's paradox

So, Plato's problem is how to search for a particular knowledge if one does not know it, and how to recognise it as the correct knowledge. This is not the same as questioning how 'we', as people in general, know so much while experiencing so little, which is the essence of Chomsky's reformulation of Meno's paradox. Though Chomsky and Plato superficially appear to both deal with a problem regarding the origins of knowledge, their emphasis is on vastly different aspects. If we compare the points listed by Chomsky that I have cited in the introduction, it is immediately apparent that the concerns of both authors are divergent. Chomsky is concerned with the question "how does this system of knowledge [in other words, the language faculty] arise in the mind/brain", which he terms 'Plato's problem'. In his 1986 work *Knowledge of Language* he claims that 'Plato's Problem' is "the problem of explaining how we can know what we do know" (1986: 263). For Chomsky, the knowledge problem is caused not only by the very exacting ways in which children can imitate their language models (older children, adults) but also by the sheer amount of creativity involved in language production. Words and linguistic constructions totally new to the language may be produced by grace of our language faculty (Chomsky, 1988: 5). For Chomsky, the solution to this issue is the existence of 'principles and parameters' in the human brain which allow for the type of language production that we see in humans. This faculty would be the result of evolution, rather than explained through immortality of the soul.

As we have seen, Chomsky's own summarization of the dialogue with the slave-boy goes as follows: "How was the slave boy able to find truths of geometry without instruction or information?" In a sense this is correct, for Socrates emphasizes that the boy has never been taught (85D3-4). It is however Meno who prompts the geometry exercise, asking in

81E:

Ναί, ὦ Σώκρατες· ἀλλὰ πῶς λέγεις τοῦτο, ὅτι οὐ μανθάνομεν, ἀλλὰ ἣν καλοῦμεν μάθησιν ἀνάμνησίς ἐστιν; ἔχεις με τοῦτο διδάξαι ὡς οὕτως ἔχει;

(81E3-5)

"Yes, Socrates – but how do you say that, that we do not learn, but what we call learning is recollection? Can you teach me that this is so?"

Meno is unconvinced by Socrates' assertion that learning is recollection, and asks him to demonstrate this. The exercise is supposed to dismantle Meno's circular dilemma, which was that one cannot inquire into what one already knows, because one knows it; and one cannot inquire into what one does not know, because one does not know it. Recollection is supposed to be the answer to all three steps of Meno's knowledge paradox – not only how to inquire after something that one does not know, but also how to recognise what one does not know. It also solves the eristic dilemma by removing the barrier to investigating something one does not know – one can intuitively recognise truths already known to the soul. To reiterate, 'Plato's Problem' revolves around "how we can know what we do know". Yet Chomsky does not substantiate what the term "what we do know" means, and though he provides many supposed examples of 'Plato's Problem', he does not elaborate with data on children's supposed speedy competence in natural languages.[42] We must also wonder how linguistic competence in first language acquisition can even be measured. Chomsky does not make this clear – since he and his followers only study I-language and competence (see note 9). These considerations make it difficult to, say, measure the supposed progress of Chomsky's children compared to the slave.

So we know now that though both authors are concerned with the origin and transmission of knowledge, the focus of their inquiry is very different. Plato concerns himself with a paradox of inquiry: how people can search for knowledge of something of which they don't know anything, and how they will recognize what they were searching for if they did not know it in the first place. Chomsky, on the other hand, is concerned with an epistemological problem: where does knowledge of language come from, and how do

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[42] In *Language and Problems of Knowledge: The Managua Lectures* (1988), he provides several examples of rules in the Spanish language, some of which occur in English as well (such as embedded clauses as complements to certain types of verbs), some only in Spanish and Italian, and some are peculiar to Spanish. All these are examples of 'Plato's Problem', according to Chomsky, for they are rules to be mastered. (14) However, there is no data to back them up. Of course, consider that such data would fall under the umbrella of 'E-language' (external manifestations of language, i.e. language as a tool of communication)

people acquire it? As the quote by McGilvray in 3.1 shows, the problem for Chomskyites is how *all* children are able to acquire adult competence by an early age with "minimal input" and "without apparent training" (Chomsky, 2012: 266). The knowledge is not being awakened by questioning, but the child receives auditory input, and then produces a greater amount of knowledge than what can be accounted for solely by the information that is transmitted to him.[43]

This makes Chomsky's appropriation of Plato's paradox of inquiry problematic. Chomsky and McGilvray present the basis of 'Plato's Problem' as the slave-boy producing answers in geometry without training. This is, however, not the same as Meno's paradox. The geometrical problem arises because Meno asks Socrates to demonstrate the solution to his paradox. Whereas 'Plato's Problem' does not appear to have much to do with the search for knowledge as much as with a gap between the knowledge input and knowledge output. Chomsky presents the geometry exercise as if it is the originator of the knowledge problem, when it is in fact the opposite: the geometry exercise was introduced because Meno asked Socrates to demonstrate recollection. In turn, recollection was introduced to as a response to the paradox of inquiry posed by Meno. There are also other aspects to consider. For Chomsky's paradox to be commensurate with Plato's paradox, other issues surrounding the paradox should be in concordance as well. There is the problem of learning and recollection, then, the question of innateness. All these concepts are deeply tied into Plato's paradox of inquiry and cannot be ignored when discussing the reception of Plato's paradox in Chomsky's works.

4.3 The process of recollection in the Meno

Recollection is supplied as the answer to Plato's paradox of inquiry. So, what exactly is Platonic recollection, and how does it play a role in solving the geometric problem? The outcome of the geometric problem can simply be explained by the dialectical method, which may also be the answer to Meno's paradox. After all, it proves that lack of knowledge is no obstruction to inquiry. So it is unclear what part is given to recollection. To answer this, we need to look more closely at certain details concerning recollection as described in the *Meno.* When we understand what role recollection plays in the geometric problem, we can understand how the dialogue with the slave and Meno's paradox compare to 'Plato's

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[43] Of course, here we also run into a problem inherent in the Meno itself, which is that the slave-boy dialogue does not really answer Meno's questions. We will have to deal with the role of that dialogue with respect to the paradox, while attempting to answer the main research question.

Problem'. Chomsky presents 'Plato's Problem' as a problem of knowing how we know what we know, so in this context it is useful to first look at how people know what they know in the *Meno*.

4.3.1 Learning in the Meno

Socrates offers recollection as a solution to Meno's paradox, and in fact states that τὸ γαρ ζητεῖν ἄρα καὶ τὸ μανθάνειν ἀνάμνησις ὅλον ἐστιν ("For recollection is wholly inquiry and learning." – 81D). However, this simply appears to be saying that inquiry and learning are the parts that make up recollection – not that there is no such thing as recollection. Again, this does not provide an explanation for the *origin* of knowledge – for even if the soul has acquired it at some point in the past, Meno's paradox would still be relevant. If we take a look at the way this knowledge of the soul is said to be acquired by Plato, we get the following quote:

Ἅτε οὖν ἡ ψυχὴ ἀθάνατός τε οὖσα καὶ πολλάκις γεγονυῖα, καὶ ἑωρακυῖα καὶ τὰ ἐνθάδε καὶ τὰ ἐν Ἅιδου καὶ πάντα χρήματα, οὐκ ἔστιν ὅτι οὐ μεμάθηκεν· ὥστε οὐδὲν θαυμαστὸν καὶ περὶ ἀρετῆς καὶ περὶ ἄλλων οἷόν τ' εἶναι αὐτὴν ἀναμνησθῆναι, ἅ γε καὶ πρότερον ἠπίστατο. ἅτε γὰρ τῆς φύσεως ἁπάσης συγγενοῦς οὔσης, καὶ μεμαθηκυίας τῆς ψυχῆς ἅπαντα, οὐδὲν κωλύει ἓν μόνον ἀναμνησθέντα—ὃ δὴ μάθησιν καλοῦσιν ἄνθρωποι—τἆλλα πάντα αὐτὸν ἀνευρεῖν, ἐάν τις ἀνδρεῖος ᾖ καὶ μὴ ἀποκάμνῃ ζητῶν·

(81C5-D4)

"Then, because the soul is immortal and has been reborn often, and has seen things here and things in the nether world, and in fact, everything, it is not possible that she has not learned. So that it's no wonder that it is possible that she recollects both regarding virtue and regarding other things, which she in fact has become acquainted with before. For since all nature is of like kind, and the soul has been in a state of knowing regarding all things, nothing prevents a person, while recollecting in a single matter – which men call the act of learning – from finding out all other things, if someone is brave and seeks without growing weary."

Since soul is described as "immortal" and as having "seen things here and things in the nether world", it seems to follow naturally that it would have picked up a thing or two along the way. In fact, this process has been framed by Plato explicitly as "learning"

(μάθησις) and in fact is presented as being inevitable, phrased with double negatives – it's *not* possible that the soul has *not* learned (through the ages). The soul not learning in the time before it is born in a human body is presented as an impossibility. There is doubt about the interpretation of "seeing" things – though e.g. Scott (2006; 96) thinks the seeing involves experience, Fine (2003; 63) interprets it as "understanding" the nature of things.

4.3.2 The problem of the origin of knowledge

Obviously, saying that the soul has never experienced learning is a problem if we start thinking about the origins of knowledge. It does not present a problem for Meno's paradox *as such,* as it does not deal with the origins of knowledge – this was my argument in chapter 4.2. Yet the idea that knowledge has been in us all along does not appear to reconcile with the notion of μάθησις. In the *Phaedo* (76A), Plato suggests two options, either that people are either born with knowledge and have knowledge all their lives, or they acquire knowledge from before their birth and learn by recollection:

ὥστε, ὅπερ λέγω, δυοῖν θάτερα, ἤτοι ἐπιστάμενοί γε αὐτὰ γεγόναμεν καὶ ἐπιστάμεθα διὰ βίου πάντες, ἢ ὕστερον, οὕς φαμεν μανθάνειν, οὐδὲν ἀλλ᾽ ἢ ἀναμιμνήσκονται οὗτοι, καὶ ἡ μάθησις ἀνάμνησις ἂν εἴη.

"So that, as I say, one of two things is true, either verily we are born knowing and we know all things throughout our life, or later, those who we say learn, these people do not but recall, and learning would be recollection."

<div align="right">*Phaedo* 76A4-7</div>

μάθησις is ἀνάμνησις according to Plato here in the *Phaedo*, at least if we assume that knowledge is forgotten at time for birth and recalled. The two options either seem to be:

1) Knowledge is present at birth, and therefore people know "all things" (have *explicit* knowledge) their whole lives.
2) Knowledge has been acquired before birth but is forgotten at time of birth; learning is merely recollection of *latent* knowledge.

Either people know all things all their life (διὰ βίου), that is to say from birth, or they know things later (ὕστερον), and they are actually recollecting when they are learning. This still leaves us with the epistemological problem. For the *Meno* at least, I prefer Bluck's more plausible interpretation that the soul has existed for so many years and learned so long ago

that it may as well have had knowledge "for the entire time". (Bluck, 316) Plato emphasises the lack of traditional learning, and thus lack of teaching in 85D3, when Socrates asks Meno regarding the slave-boy whether "without anyone having taught him, but only asking him questions will he learn, taking up knowledge himself, from himself?" (οὐκοῦν οὐδενὸς διδάξαντος ἀλλ᾽ ἐρωτήσαντος ἐπιστήσεται, ἀναλαβὼν αὐτὸς ἐξ αὑτοῦ τὴν ἐπιστήμην;). The line θεῶ δὴ αὐτὸν ἀναμιμνησκόμενον ἐφεξῆς, ὡς δεῖ ἀναμιμνήσκεσθαι in 82E suggests that there are certain steps that have to be followed in a certain order (ἐφεξῆς) for knowledge by recollection to take place. According to Scott's interpretation, though, the idea that the boy is not being taught, but is actually recollecting, means that the steps of a proof cannot be demonstrated – and what can easily be explained by that (such as the boy's sudden progress in 84D-85B) is actually caused by recollection. (Scott, 115) This appears to contradict Scott's earlier claim (Scott, 101 and chapter 4.1) that Socrates is merely enacting a series of steps in a proof for the boy to follow. However, Scott *does* say that the notion that recollection is not the same as following logical proofs is his own interpretation of Plato's "thesis" (Scott, 115-116). In 81D23-4, Plato claims that οὐδὲν κωλύει ἓν μόνον ἀναμνησθέντα—ὃ δὴ μάθησιν καλοῦσιν ἄνθρωποι—τἆλλα πάντα αὐτὸν ἀνευρεῖν ("Nothing prevents a person, while recollecting in a single matter – which men call the act of learning – from finding out all other things.") He says tha t ἓν μόνον ἀναμνησθέντα (81D2), recalling a single topic, is termed μάθησις by men. From what we have argued until now, it appears that he means that the *act* of ἀναμιμνήσκειν is μάθησις. He appears to be saying that recalling one piece of information can lead to "finding out all other things". As Scott says, while these are normal logical associations made during a proof, for Plato they are evidence of recollection.

In 85C to 86B, Plato returns to recollection once again, with Socrates eliciting answers from Meno while following through on an argument concerning the nature of recollection in the boy. He argues in 86A8 that the soul of the slave-boy (and by extension, Meno) "has been in a state of knowing" (μεμαθηκυῖα) for eternity (τὸν ἀεὶ χρόνον).[44] The implication here is that knowledge has been acquired at *some* point during the long years of the soul's existence; though Fine (2003; 63) translates μεμαθηκυῖα as "a state of once having been in a learned condition", claiming that the perfect aspect allows for the "possibility

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[44] μεμαθηκυῖα is a difficult term to translate. Fine (2014: 159, note 59) points out that μανθάνειν has meanings varying from 'to learn', 'to know' and 'to understand'. I have translated it as "a state of knowing" instead of learning, partly because if we take the meaning to be 'learning', τὸν ἀεὶ χρόνον would not make sense; if the soul has learned, there was obviously a point before it learned. As Bluck (316) says (see next page), the soul may have learned so long ago that it may as well be "eternity". The use of 'learning' instead of 'knowledge' makes the 'learning' seem more recent on the timeline than it was.

that there was no process of learning".[45] Scott translates μεμαθηκυῖα as a "state of 'having learnt'". (Scott, 112) Plato talks about "the time when he [the boy] is a human being" and when he isn't (86A6-10), yet he says in 86A10 that the boy either is or isn't a human being "the whole time", which we can take to mean that either he is or he isn't human, and if he is a human being, he is human the entire time until his death. If the boy has not been taught (οὐκοῦν οὐδενὸς διδάξαντος, 85D3) during the time that he was human, he surely acquired the knowledge before. However, Scott (112) reasons that since "not human" and "human" are only two of the existential categories that Plato offers, we must conclude that knowledge has been in him forever, and he is forever in μεμαθηκυῖα. We could consider that the existence of the soul before its human incarnation is presented as atemporal and aspacial, and thus perhaps we cannot speak of acts such as 'acquiring' something in this context, as this would mean that there was a time before acquisition and a time after. The existence of the soul is only presented in terms of prior to and during its existence as a human. Therefore, I am inclined to agree with Scott that we can only conclude that knowledge has been in the soul forever, i.e. there can be no question of when that knowledge was acquired, because it has *always* been in the soul.

4.3.3 Recollection and the Platonic elenchus

The theory of recollection purports to explain how one can inquire without having knowledge. I will argue that recollection in the *Meno* does not explain the slave-boy's answers to the geometric problem as such. These can simply be explained by elenchus, and thus elenchus provides an adequate reply to the first part of Meno's paradox, explaining how one can inquire even in the absence of knowledge. Rather, it explains a certain aspect

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[45] In the *Phaedrus* (248E-249B), for instance, Plato (speaking through Socrates) claims that the soul is reborn every thousand years, and those particularly enlightened souls such as those of philosophers may "attain wings" and return to where they were born after a briefer time than others, while others may be reborn every thousand years into a new body, whether beast or man – though a soul can never become human if it has never seen ἀλήθεια. The full quote, see the translation below by Harold N. Fowler (1925):
"Now in all these states, whoever lives justly obtains a better lot, and whoever lives unjustly, a worse. For each soul returns to the place whence it came in ten thousand years; for it does not regain its wings before that time has elapsed, except the soul of him who has been a guileless philosopher or a philosophical lover; these, when for three successive periods of a thousand years they have chosen such a life, after the third period of a thousand years become winged in the three thousandth year and go their way; but the rest, when they have finished their first life, receive judgment, and after the judgment some go to the places of correction under the earth and pay their penalty, while the others, made light and raised up into a heavenly place by justice, live in a manner worthy of the life they led in human form. But in the thousandth year both come to draw lots and choose their second life, each choosing whatever it wishes. Then a human soul may pass into the life of a beast, and a soul which was once human, may pass again from a beast into a man. For the soul which has never seen the truth can never pass into human form."

of Platonic elenchus, namely how true opinions can lead to knowledge. Consider, for one, how Socrates tells the slave-boy in 83D to τὸ γάρ σοι δοκοῦν τοῦτο ἀποκρίνου ("For you must answer what you think."). When Socrates and Meno are discussing the slave-boy's progress in 85C-D, Socrates gets Meno to agree that the boy had opinions (ἐνῆσαν δέ γε αὐτῷ αὗται αἱ δόξαι, 85C4 – "Yet these opinions were indeed in him.") while knowing nothing (καὶ μὴν οὐκ ᾔδει γε, 85C2 – "But he did not know."). So knowledge of a certain subject is not a prerequisite for a person to have opinions on that topic. Inquiry by Socrates has stirred these opinions: "And now these opinions have been just awakened in him like a dream." - καὶ νῦν μέν γε αὐτῷ ὥσπερ ὄναρ ἄρτι ἀνακεκίνηνται αἱ δόξαι αὗται, 85C9).[46] Going back to the line "And without anyone having taught him, but only asking him questions will he learn, taking up knowledge from his own accord?" mentioned in the above paragraph makes it clear that knowledge can be recollected through the opinions which are stirred by questioning. Similarly, in 86A6-9, Plato claims that the boy has "true opinions" which need to be "awakened" by questioning:

Εἰ οὖν ὅν τ᾿ ἂν ᾖ χρόνον καὶ ὃν ἂν μὴ ᾖ ἄνθρωπος, ἐνέσονται αὐτῷ ἀληθεῖς δόξαι, αἳ ἐρωτήσει ἐπεγερθεῖσαι ἐπιστῆμαι γίγνονται, ἆρ᾿ οὖν τὸν ἀεὶ χρόνον μεμαθηκυῖα ἔσται ἡ ψυχὴ αὐτοῦ; δῆλον γὰρ ὅτι τὸν πάντα χρόνον ἔστιν ἢ οὐκ ἔστιν ἄνθρωπος.

(86A6-9)

"Accordingly if at the time when he is a human being and at the time he isn't, these true opinions will be in him, which awakened by interrogation become knowledge, his soul will then for the entire time be in a state of learning? For it is clear that he either is or is not a human the whole time."

Yet how does one distinguish true beliefs from false ones? Socrates says in 97A9-10 that even a man who has a true belief in absence of knowledge may give right guidance.[47] First of all, it is clear that ἀπορία plays a major role in shedding false beliefs. In 84B, Socrates asks Meno: οὐκοῦν νῦν βέλτιον ἔχει περὶ τὸ πρᾶγμα ὃ οὐκ ᾔδει; ("Is he then not better off regarding the matter which he did not know?", 84B3). The boy has just admitted to Socrates that he does not know the answer to the geometry problem. Yet far from being destructive, the torpedo-fish's shock has only done the boy good; he is open to true inquiry,

[46] According to Bluck (312), this line indicates that the opinions are vague and don't yet carry the weight of true knowledge.
[47] He uses knowing the road to Larisa as an example, saying that someone could give good guidance on how to get there, even if he had never been there himself.

and his realization of his lack of knowledge has impelled him to the search for the truth (84B8-9). ἀπορία is entirely absent from Chomsky's language model, because the nature of the model is different. There is no need for belief in Chomsky's model the principles and parameters are fixed entities which are in all likelihood genetically encoded. We are not talking about the discarding of false belief because there is no such thing in this model – the child does not have any values set for its parameters and therefore there are no false beliefs to reject.

Perhaps we can say that for Plato, a system of prenatally acquired knowledge tends to favour true beliefs over false ones. Fine notes (2014: 142, note 14) that those who posit innate beliefs generally regard those beliefs to be true. She also suggests that there is an underlying assumption that when self-reflecting, people will tend to reject false beliefs over true ones. (Fine, 2003: 61) This is because those true beliefs were acquired in a prior existence. Since these true beliefs are in the boy, both during and before the time he was human, his soul has always been in μεμαθηκυῖα. Perhaps the use of this term then, also indicates the preliminary state *before* those 'true beliefs' are crystallized into actual knowledge by recollection. This leads us back to the position that recollection explains a certain aspect of the elenchus. In 97E-98A, Socrates tells Meno why knowledge is valued over true beliefs:

πρὸς τί οὖν δὴ λέγω ταῦτα; πρὸς τὰς δόξας τὰς ἀληθεῖς. καὶ γὰρ αἱ δόξαι αἱ ἀληθεῖς, ὅσον μὲν ἂν χρόνον παραμένωσιν, καλὸν τὸ χρῆμα καὶ πάντ'ἀγαθὰ ἐργάζονται· πολὺν δὲ χρόνον οὐκ ἐθέλουσι παραμένειν, ἀλλὰ δραπετεύουσιν ἐκ τῆς ψυχῆς τοῦ ἀνθρώπου, ὥστε οὐ πολλοῦ ἄξιαί εἰσιν, ἕως ἄν τις αὐτὰς δήσῃ αἰτίας λογισμῷ. τοῦτο δ' ἐστίν, ὦ Μένων ἑταῖρε, ἀνάμνησις, ὡς ἐν τοῖς πρόσθεν ἡμῖν ὡμολόγηται. ἐπειδὰν δὲ δεθῶσιν, πρῶτον μὲν ἐπιστῆμαι γίγνονται, ἔπειτα μόνιμοι· καὶ διὰ ταῦτα δὴ τιμιώτερον ἐπιστήμη ὀρθῆς δόξης ἐστίν, καὶ διαφέρει δεσμῷ ἐπιστήμη ὀρθῆς δόξης.

"Of what things do I then speak? Of true opinions. For these true opinions, for how much time they stay beside us, they make a fine possession and all good things; they do now wish to stay for a long time, but run away from the soul of a man, so that they are not of much value, until someone binds these by a working out of cause. This is recollection, friend Meno, as it was agreed by us in these before. But whenever they are bound, they first become pieces of knowledge, secondly they become lasting. And because of this knowledge is more valued than right opinion, and knowledge surpasses right opinion by its fetters."

Here, Plato claims that true opinions don't stay but "run away" from the soul. It is the most direct evidence of from the text that recollection explains the transition from true opinions to knowledge. Plato suggests that true opinions need to be "bound" by αἰτίας λογισμός or they will run away. This appears to contradict with the claim of μεμαθηκυῖα of the soul. However, both claims can be consilient if we regard knowledge in the *Meno* as prenatal, not innate. I shall discuss this idea in a more detailed manner in the chapter 'Innatism in Plato and Chomsky'. Though the boy may not have knowledge, he will still have opinions. However, these opinions do not yet have the weight and certainty of knowledge, thus they need to be metaphorically bound with self-inquiry. Socrates says that τοῦτο δ' ἐστίν ἀνάμνησις, with τοῦτο referring to the process of 'binding' with αἰτίας λογισμός. What could αἰτίας λογισμός mean? Bluck offers that it means "calculating, in the case of every such δόξα, the facts that justify it and make it true." (412) It again involves following the steps of the proof we discussed earlier, but it is not enough for the slave to repeat those steps – he must work out the reason for each of them and understand the causal relationships between them. The slave doesn't have knowledge until he knows *why* he knows. Since Socrates calls this process ἀνάμνησις, we can imagine that the act of self-inquiry stirs deeper truths from a previous, discarnate existence.

4.3.4 Recollection in Plato versus Chomsky's language model

Yet holding the thought for a minute that recollection *is* the explanation for the slave-boy's answers, there is a certain amount of commonality between it and UG. The notion is there that there is not just 'innate knowledge', but that this knowledge needs an external trigger in the form of a quality interlocutor - that is, someone who asks the right questions.[48] In the case of language, a child needs external auditory input in the form of verbal interaction with adults and peers for language acquisition. This input allows the child's mind to set the parameters of the language faculty at certain values. On the flip side, children who are not exposed to linguistic input before a certain age may never develop full linguistic

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[48] In fact, Scott (2006: 61) goes so far as to say that Meno is lacking as an interlocutor – for one, he does not provide his own definitions of virtue, but is strongly influenced by Gorgias. Moreover, the fact of the matter is that rejection of the first definition should have spurred him to find the all-encompassing definition that was sought after. Yet, after Meno agrees that virtue should be the same for slaves and free-born men equally, he provides a definition (73C) that clearly only applies to free-born men (namely the ability to wield power), as if the rejection of the first definition never happened.

competence, even when exposed to language at a later age. For instance, deaf children who are not raised by parents competent in sign language, and who do not go to special schools, may never acquire spoken language.[49]

Yet there are differences between the system of learning (which is recollection, as we've seen) proposed by Plato and Chomsky's language acquisition model. First of all, for Plato's model, an essential part of inquiry is 'receiving the torpedo-fish's shock'. In other words, a person has to come to the realization that they did not really know, even though they thought they knew. Meno's false beliefs are discarded when questioning by Socrates proves them to have fundamental inconsistences. Having been stunned, they realize their former opinions were wrong and are open to search for true beliefs with renewed vigour. These beliefs can only turned into knowledge by αἰτίας λογισμός. αἰτίας λογισμός *is* recollection, says Plato. In other words, recollection can only take place after ἀπορία, which means that recollection requires Socratic inquiry.[50] This means that the conditions for Platonic knowledge retrieval are fairly limited. On the other hand, language learning is guaranteed to happen as long as the child is in full possession of their physical and mental faculties. The initial state of the child is S_0, and the parameters are not yet set. This is in effect a *tabula rasa* in some ways. Therefore, there is no question of discarding false information for true information, because there is no information present in the parameters the first place. The parameters merely govern, for example, whether the verb phrase comes in the initial or final position. And since the parameters are innate, they are necessarily true, as we shall see in the next chapter.

Secondly, language acquisition is triggered by any linguistic input because of the principles and parameters – in fact, generative grammarians emphasize that this linguistic information is, in their view, corrupt and minimal. So we are dealing with a low quality

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[49] Unlike earlier assumptions, the common consensus nowadays appears to be that there is no such thing as a 'critical period' during which children need to acquire language. Evidence from children and adults with brain trauma show varying results of recovery, with young children not recovering at all and adults regaining most of their previous abilities. Similarly, though data on children who have been deprived of human language until adolescence is deficient, what little there is *does* show that some adolescents are able to acquire human language. There may, however, be a 'sensitive period', during which language is acquired more easily than outside of it. The evidence for this may lie in second language acquisition, with adults struggling to acquire a native accent while children acquire it with ease. See for information: Cowie, F. (2010). Innateness and Language. In Edward N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy*, <http://plato.stanford.edu/archives/sum2010/entries/innateness-language/>, Par. 3.3: 'The Critical Period for Language Acquisition'. For the anecdote about deaf children, see Par. 3.3.2: 'Wild Children'.

[50] In the *Theaetetus*, Socrates presents himself as a midwife who delivers the intellectual children of his discourse partners, though he himself is infertile. According to David Sedley (2004: 29), the topic of midwifery shows up in the *Theaetetus* when the interlocutor is reduced to ἀπορία. This corresponds to the point where the theory of recollection makes its appearance in the *Meno*. Sedley points out that the Socrates of the Theaetetus claims that children are devoid of knowledge at birth.

input, which results somehow in adult competence of grammar within a few years. This is pretty much the opposite of the Platonic inquiry, which requires a high quality interlocutor to awaken true beliefs. Not only that, it seems to me also that the active effort of recollection is emphasized. In 84B9, Socrates says that ἀπορία does the boy no harm, since "he may indeed search gladly, not knowing", having discarded his false beliefs. The boy is not merely a passive recipient of information, but is actively involved in working out the truth of the matter for himself. This is also seen in the phrases αὐτὸς ἐξ αὑτοῦ of 85D3 and αὐτὸν ἐν αὑτῷ in 85D6 – both lines emphasize that the boy will work out the true answer on his own accord, which is why teaching does not lead to learning. Parameter-setting, on the other hand, happens automatically. If the child only hears sentences in a head-final setting, then their head-directionality parameter will be set to head-final. It does not require active participation on part of the child.

In conclusion, we have first seen that there is a paradox of learning in the *Meno*. Though it is made clear that the boy has not been taught geometry, Socrates says that his soul had knowledge of it. The question becomes then *when* the soul acquired that knowledge. According to commentators such as Fine and Scott, it never did – it always had that knowledge. I prefer Bluck's similar view that knowledge acquisition happened so long ago that it may as well be 'forever'. Secondly, we found that recollection is used to explain a certain aspect of the Socratic elenchus: namely, how knowledge arises from true beliefs. As we have seen, these beliefs are true because they are prenatal. They can be awakened by inquiry, but since they are opinions, they do not have the weight of knowledge and need to be 'fastened' through αἰτίας λογισμός. Recollection bears some resemblance to UG because in both cases, a person receives an external trigger (inquiry in Plato, auditory input for Chomsky) which 'recalls' information that is either innate or prenatal – at the very least, present already in the person's soul or mind. Yet, the similarities end there. For one, Platonic recollection requires a condition of ἀπορία. Recollection cannot take place before a person understands the incommensurability of their beliefs, and is therefore able to discard them and search afresh. Therefore, Socratic inquiry is a precondition for recollection. ἀπορία does not figure in UG, however, since there is no question of rejecting false beliefs in favour true beliefs. Secondly, recollection requires an active stance on the one who is learning, while a child acquiring language is merely a passive recipient of linguistic input.

There is a third aspect of the geometry exercise to consider, and that is the question of innatism. Here is where we find the most commonality with Chomsky's UG system,

which too posits that knowledge is already present in a person at birth. I shall discuss innatism in Plato and its similarities with UG in the next chapter.

4.4 Innatism in Plato and Chomsky

Both Plato and Chomsky appear to agree on the existence of knowledge before birth. As we have seen in the previous paragraph, Plato appears to posit that knowledge has always existed in the soul, though this appears to contradict the line "because the soul... has seen things here and things in the nether world, and in fact, everything, it is not possible that she has not learned", which implies that the soul has picked up different kinds of knowledge along the way. One could easily state that in this way, Chomsky has interpreted Plato in a modern way, using evolution and genetics as a way of explaining the presence of the hypothetic universal language faculty. To understand Chomsky's stance on innatism versus Plato, it is useful to first define the term.

4.4.1 Types of innatism

Gail Fine (2014: 141) distinguishes between *cognitive condition innatism* and *content innatism*, the former being defined as having knowledge or knowing itself, the second as the object of that knowledge.[51] According to Fine, having knowledge in the cognitive condition sense necessarily means having knowledge in the content sense, for knowing automatically means knowing *something*. Conversely, we can have knowledge of something (*content*) without actually being in the *cognitive condition* of knowing what we know. One could, however, have knowledge of content without being in the cognitive condition of knowing it. This distinction appears to me to be one of implicit and explicit knowledge. To make a parallel with modern linguistics, a person may not explicitly know that they are creating sentences of the SVO-word order type, but they do have implicit knowledge of it (as they are producing these sentences). They have *content* knowledge of word order without having *cognitive condition* knowledge of it.

   A third type of innatism also exists, called *dispositional innatism* (Fine, 2014: 142-143). This generally means that a person has a disposition to acquire certain abilities or kinds of

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[51] Fine, G. (2014). *The Possibility of Inquiry: Meno's Paradox from Socrates to Sextus*. Oxford: Oxford University Press

knowledge. But it is not innate knowledge in itself, merely a predisposition to acquire a type of knowledge.[52]

4.4.2 Prenatal vs. innate knowledge

Meanwhile, there is some discussion over whether the innatist label can be applied to Plato. Fine suggests that Plato does not posit innate knowledge at all, merely prenatal, and claims that the two terms are not one and the same (2014: 138). One can argue that 'prenatal' obviously implies something that is present *before* birth, while innate knowledge, being the opposite of acquired, is not necessary *pre*natal – it could be present from the moment of birth, for instance. Fine claims that previous knowledge can be forgotten or lost, whether prenatal or not ("One might lose knowledge one once had in such a way that one no longer knows at all. Perhaps we entirely forget our prenatal knowledge on being born, with the result that we no longer know at all." – 138). She appears to be saying that knowledge that can be lost cannot be innate knowledge, and since prenatal knowledge can be forgotten entirely, it cannot be the same as innate knowledge. This is the interpretation she favours with regard to the *Meno* – that the boy had prenatal knowledge but somehow lost it. Fine focuses on the use of ἀναλαμβάνω, when Plato is making the connection between the geometry problem and the boy's recollection: "Without anyone having taught him, but only asking him questions will he learn, taking up knowledge himself, from himself?" (οὐκοῦν οὐδενὸς διδάξαντος ἀλλ' ἐρωτήσαντος ἐπιστήσεται, ἀναλαβὼν αὐτὸς ἐξ αὑτοῦ τὴν ἐπιστήμην;, 85D3). He follows up with τὸ δὲ ἀναλαμβάνειν αὐτὸν ἐν αὑτῷ ἐπιστήμην οὐκ ἀναμιμνήσκεσθαί ἐστιν; ("And the act of taking up knowledge, in himself, from himself, is it not recollection?", 85D6). Fine claims that ἀναλαμβάνειν not only means 'recovering' or 'taking up' but that it has the additional connotation of 'for the first time'. Yet on first sight this account is not wholly convincing. For one, the distinction between prenatal knowledge (that has been forgotten), and innate knowledge is still not very clear. It would be more straightforward to say that the slave-boy had latent innate knowledge, which is the view most often propagated, particularly by Scott (Fine, 2014: 146-147, Scott: 108-111). What muddies the waters of the 'latest knowledge' viewpoint is the "true opinions" of which Plato speaks, which are awakened and become knowledge (86A7). It is clear that true opinions and knowledge are then mutually exclusive. So the boy has once acquired

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[52] Fine furthermore distinguishes between weak and strong *dispositional innatism*. With the former, the person with the disposition may not necessarily acquire the abilities he/she is predisposed to. With the second, they will necessarily acquire those abilities. (2014: 144)

knowledge, forgotten it, and is now recovering (ἀναλαμβάνειν) it. As Socrates says, the boy must have either have acquired (explicit) knowledge at some point, or always had the knowledge he now has. (ἆρ' οὖν οὐ τὴν ἐπιστήμην, ἣν νῦν οὗτος ἔχει, ἤτοι ἔλαβέν ποτε ἢ ἀεὶ εἶχεν;, 85D9-10). Since Meno confirms that he was never taught geometry, he must have acquired it before he was a human being (85E5-86A4). However, Scott disagrees that explicit knowledge can ever be formed from true opinions, only from latent knowledge (Scott, 110). He provides little to support this belief. Based on textual evidence, I therefore have reason to agree with Fine that Plato does not posit innate knowledge, merely prenatal knowledge that has been forgotten after birth. What is left to the boy are opinions, which are true because they are imprints of the Forms which have been acquired in the long ages that the soul has been discarnate.

4.4.3 A comparison with Chomsky's paradox

We have now concluded that Plato cannot be regarded as a true innatist, at least in the *Meno*, since he appears to say that recollection is the recovering of knowledge *forgotten* at birth. So where does that leave us with regard to 'Plato's Problem'? As we have seen, Chomsky claims that "certain aspects of our knowledge and understanding are innate, part of our biological endowment, genetically determined" (see chapter 3.1). We have seen that Plato and Chomsky share a common view since they both think that certain types of knowledge go beyond common learning. For Chomsky, this difference is explained by Universal Grammar; for Plato, it is prenatal knowledge present in the soul.

It becomes clear from the context of Chomsky's writings that he is referring to implicit knowledge rather than explicit knowledge of parameters. Young children do not *consciously* or explicitly know anything about abstract parameters such as head-directionality, but assuming principles and parameters are real, they have *latent* knowledge of it. Their knowledge of these rules only becomes explicit if they are taught about it later in life, and it may never become explicit at all – after all, plenty of people go through their lives without ever explicitly knowing why Dutch has the word order subject-verb-object, for instance. They just reproduce that word order unconsciously. In that sense, if we accept Plato's position that 'knowing' requires you to explain *why* we know, Chomsky's children (and adults) would fail to fulfil that criterion. It could also be argued that the language faculty system that he proposes, and indeed a person's propensity for language itself, is prenatal, since it is encoded in our DNA. Then why do I say that Chomsky posits innate knowledge and not prenatal? First of all, as Fine points out in her own comparison (2014:

167, see note 87 in Fine as well), Chomsky rejects the existence of the 'P-languages' that Plato proposes.[53] Without the condition of P-languages, any other aspects of prenatal knowledge will fail to materialize. But the strongest evidence in favour of innatism in Chomsky is simply that there is no recollection mechanism and subsequent ἀπορία. There is no need for them because Chomsky's language faculty is a property of the human brain. There's the fact that Chomsky sees language as "part of our biological endowment". It is what makes us human beings, like bipedalism. The terminology from Chomsky's quote, with its references to growing limbs instead of wings, appears to be derived from the field of 'evo-devo'.[54] Unlike Plato's true beliefs, the information present in the language faculty does not need to be 'bound' by reasoning or αἰτίας λογισμός – it is not fleeting, but always present, even outside of the so-called 'sensitive period'.[55]

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[53] Where 'P' of course stands for 'Platonic. The P-languages are described by Chomsky as languages "existing in a Platonic heaven alongside of arithmetic and (perhaps) set theory, and that a person who we say knows English may not, in fact, have complete knowledge of P-English, or, indeed, may not know it at all." (1986: 33) This is a direct response to the Platonists' claim that such P-languages do exist, and that humans can never really know such abstract objects. Chomsky's objection is that there is not the slightest reason to suppose that languages are like arithmetic.

[54] An informal term that stands for 'evolutionary developmental biology'.

[55] According to the distinctions made by Fine, Chomsky may perhaps be considered a dispositional innatist, if we consider the language faculty a specific type of knowledge. Perhaps we can even consider him a strong dispositional innatist, since virtually everybody except perhaps those who have had no exposure to language during the sensitive develop full linguistic competence. Chomsky himself disavows that language faculty is a question of "dispositions, skills or habits". (Chomsky, 1988: 10) What he is talking about is a complex cognitive system of knowledge of the mind. Regarding the 'critical age', see note 49 for more information on the 'sensitive period'.

5. The linguistic Platonists and the *Meno*

Like Chomsky, Katz too quotes the *Meno*, but from section 81C5-7, which precedes the dialogue with the slave-boy. (Katz, 1981: 200). The content of the quote has been discussed in detail in the previous chapters. The context in which Katz cites the *Meno* is precisely the epistemological problem I discussed in the introduction with regarding to Platonism. The subject of that particular section. The question that arises is how people can get to know objects which are "atemporal and aspacial and hence not particular", in Katz's words. Katz, however, disclaims that linguistic Platonism has any relationship to the traditional Platonism with regard to intuitive knowledge. To put it simply, he does not believe that abstract objects can be mentally represented through perception, or really 'known' at all. (Katz, 1981: 201) This is because perception, or αἴσθησις in Plato, necessitates a causal relationship between the perceiver and the perceived, which is not possible for the kind of abstract objects he is talking about because of their specific characteristics (aspacial and atemporal, among others). The difference between Katz and Chomsky with regard to their reception of Plato, lies in the fact that Katz rejects certain facets of traditional Platonism, which he makes clear. He disagrees with Plato's tenet that the immortal soul has learned all in its long existence, and that therefore we are able to recollect the truths that have been in our souls since before our births. This is because for Katz, there can be no relationship between Platonic Forms and human perception. Though Katz incorporates Platonic forms in his theories, his school of linguistic thought cannot truly be called Platonist if it rejects that Platonic Forms are represented in our souls.

As for Bever and his hypothesis of language acquisition, there appears to be some similarity between his 'hypothesis-testing' model and the slave-boy's (and Meno's) adoption and rejection of various solutions to Socrates' question. Certainly, the resemblance between both theories is that both the slave and Bever's hypothetical child discover truths on their own by some version of αἰτίας λογισμός. This is reminiscent of But ultimately, it diverges from Plato's account simply for the reason that learning in the *Meno* bears much more similarity to Chomsky's 'trigger' model than that of Bever; for Plato, learning is actually recollection and recollection is a type of associative thinking, in which facts can be recalled through other facts. These facts are then 'bound' by αἰτίας λογισμός. Recollection can be said to be 'triggered' by input in the form of inquiry. There is "minimal input" and there an output which cannot be explained by input alone. Bever does appear to believe in a form of innatism, though he thinks that the structures involved in language acquisition are not specific but are general structures involved in other forms of cognition

as well, such as memory. Yet he does not make the role of external input clear, unlike in Plato, where inquiry can lead to recollection. If the child is testing and rejecting language hypotheses on his own, what is the role of external language input? After all, we can assume that all linguistic input has the basic features of that language (e.g. head-final versus head-initial). So, there is not very much more to Bever's Platonism either than simply the name. Though he accepts a form of innatism, unlike Plato, he does not have a solution for how language can be represented in a person.

6. The relevance of Plato to modern language research

If we conclude from analysing the dialogue that there is very little connection between the *Meno* and Chomsky's formulation 'Plato's Problem', it raises the question why 20th century linguist would make an explicit connection, repeated many times, with a work that was written 2,500 years ago.[56] After all, one could easily say that the advent of the modern scientific method, and a deeper understanding of human biology, and the increased secularization od society made ancient natural philosophy obsolete. The *Meno* does not appear to be directly relevant towards the issue of L1 language acquisition, as it deals with the question of whether virtue is teachable. It is difficult to read into any researcher's motivations, but we can hypothesize nevertheless. My hypothesis is that Chomsky wishes to place himself in a certain intellectual tradition not only by referencing Plato, but by claiming that 'Plato's Problem' is a reinterpretation of the slave-boy exchange. This tradition is philosophical rather than empirical, more concerned with abstract mental states rather than observation and data. Generative grammarians are after all only concerned with I-language - meaning that they are not as concerned with language as a tool of communication, a point which their opponents would claim is what the study of language should actually be about. However, the classical canon still deeply influences Western culture, and perhaps even modern scientists could be tempted to see themselves associated with Aristotle and Plato. Chomsky claims that the geometry exercise "raises a problem that is still with us". This implies that Chomsky's paradox is rooted in the *Meno*. The claim legitimises Chomsky by association with Plato. The underlying assumption seems to be that Chomsky's paradox *must* be good and correct, because it appears in the *Meno*. McGilvray furthers this legitimisation in his appendices, particularly in the quote in chapter 3.1. The quote by Daniel Everett from 1.4 ("The roots of these theories go back, Chomsky's to Plato and mine goes back to Aristotle. That's incredible isn't it? I mean how many good ideas were had by the Greeks thousands of years ago?") only furthers this suspicion. It appears to be a circle of affirmation: the Greek ideas were 'good' because they were had by Chomsky and Everett (though Everett is an opponent of Chomsky), and the latter pair's ideas are good because they are rooted in the Greeks. Chomsky never goes as far as Everett as to say that the Plato's ideas were good, but the fact that he named his paradox after Plato is an affirmation of the association between Chomsky and Plato, and

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[56] Though Noam Chomsky is obviously still very much alive, I refer to him as a '20th century linguist' here because the bulk of his work, including the greater part of the quotes which contained references to the *Meno*, was published in the 20th century.

thus Chomsky is the latest avatar in a history of philosophers concerned with the inner workings of the mind.

Similarly, Katz claims that language is a Platonic object. If this is true, it obviously presents a problem regarding language acquisition, because people cannot gain mental representations of abstract objects. For Katz, this does not appear to be important – he appears to be invested rather in the nature of linguistics research itself. Linguistic research becomes a research about abstract objects (see 1.3). In other words, Katz is not concerned with empiricism either, but with a philosophical question regarding the nature of language research. Katz's interests, as with Chomsky, do not lie in, for example, phonetic recordings, or eye-tracking research of the kind that is common in the field of cognitive linguistics. His focus is on the abstract, but the external, not the internal. When Katz positions himself as a Platonist, it is perhaps also because of Chomsky's attempts to associate himself with Plato. I would say that Katz both positions himself in the long intellectual tradition of Platonism, and associates himself with Platonism because he positions himself as an opponent to Chomsky. Perhaps we could hypothesize that Katz seems himself as a more legitimate heir to Plato than Chomsky, for he does reference one of the more basic components of Plato's philosophy (Forms, in claiming that language is a Platonic Form) while Chomsky's paradox is merely a modern interpretation (in Chomsky's own words) of the *Meno*. I do not claim that either Katz or Chomsky see themselves as "the new Plato" or any such thing, only that they wish to place themselves in a longstanding philosophical tradition concerning the origins of knowledge.

7. Conclusion

In conclusion, we can say that though both Chomsky's and Katz's theories bear some resemblance to respectively the geometry exercise in the *Meno* and Plato's theory of Forms, these similarities do not justify actual associations with Plato. With regard to Chomsky, we have looked at both the geometry exercise itself and at three different aspects associated with it, namely Meno's knowledge paradox, the theory of recollection and innatism. Let us look at the geometry exercise first.

Chomsky cites Socrates' exchange with the slave as the original 'Plato's Problem' – hence the name. Therefore, investigating this exchange is the first step. As we have seen, this exchange was supposed to be a demonstration of recollection in action. The boy gives the wrong answer twice to the geometry problem, then gives up, having been reduced to ἀπορία. According to Plato, this actually allows him to discard his previous false beliefs and reinvigorates him in his search for the truth, since he now knows that he does not know, and that his previous beliefs were wrong. Now as we have seen, the exchange with the slave was simply a demonstration of the Socratic elenchus. Recollection is not apparent from the dialogue itself. Socrates asks questions which seem leading: they are often phrased in the manner of "[X] is so, is it not?", with particles such as οὐκοῦν, which indicates that an affirmative answer is expected. Scott (101) argues that Socrates is allowing the boy to follow steps in a proof instead of merely teaching him.

The similarity between 'Plato's Problem' and the dialogue lies mainly in the *idea* that the boy receives "minimal" input, yet is able to answer correctly and to full capacity. The input 'triggers' certain beliefs, or parameters in the case of 'Plato's Problem'. However, the fact that the boy's answers can be clarified through elenchus means that comparing 'Plato's Problem' to the dialogue from which it derives its name is problematic. It then becomes important to consider the underlying concepts of the dialogue as well: Meno's paradox of inquiry, recollection and innatism.

It is Meno's paradox that leads to the geometry exercise, so we cannot ignore it when we talk about the exercise. Meno is embarrassed after his definitions of virtue are shown to be unworkable, and challenges Socrates' qualities as an interlocutor. Since Socrates claims that he does not know anything at all about virtue, Meno doubts that he can inquire into virtue well. Meno asks in what way one can inquire into something of which one does not know anything at all, and how one can recognise that which one was seeking, if one does not know it. As we have seen, not knowing something does not preclude a person from having beliefs on the subject. This is what Socrates says in the end,

as true beliefs can lead to knowledge via recollection. However, true beliefs can only be had through inquiry. In that sense, we still see the similarity between the *Meno* and 'Plato's Problem'. Yet Meno's paradox itself and 'Plato's Problem' are quite dissimilar. 'Plato's Problem', at its most basic level, concerns the origin of knowledge. Meno's paradox is not a problem of the origin of knowledge. Those origins *are* ultimately alluded to in the *Meno*, but never fully explained - Plato says that the soul in its long years of existence has seen all things in the worlds above and below. Yet several commentators debate whether the soul has really gone through acquisition of knowledge, presumably by acquaintance, or whether it has somehow always possessed this knowledge. In the end, the epistemological problem is not the main point of the *Meno*. Though recollection purportedly explains the boy's answers, the actual question of the origin of knowledge is pushed back to the soul's discarnate existence. As such, it is disingenuous to for Chomsky to pretend that that the geometry exercise revolves around "how we can know what we do know", when the actual issue is how to inquire in the absence of knowledge. Socrates wishes to show Meno through the exercise that he does not teach, but that the boy recollects all by himself.

Moving on to the theory of recollection, we see that Plato makes clear that all learning is recollection. The knowledge we recollect is already present in our souls. But how is that knowledge acquired? As we have seen, that question is not answered in the *Meno* – although it is implied that knowledge was acquired by the soul during its long years of existence, many commentators believe that this knowledge has always been present. Plato does not speak of the soul's acquaintance with the Forms in the *Meno*. The argument for knowledge having always been in the soul ultimately rests with the two types of existence offered: human, or discarnate. Since the soul is immortal and its existence before birth is not corporeal, knowledge has always been in the soul. Knowledge, however, is not a prerequisite to inquiry, as someone can have beliefs on a topic without knowing anything about it.

This is where elenchus comes in. We have seen that the boy's answers can be explained by elenchus, as Socrates' questions all require affirmative answers. So recollection does not explain his answers, but instead provides an explanation for an aspect of elenchus – namely, how beliefs can become knowledge. The beliefs need to be bound with αἰτίας λογισμός, or they will be fleeting. Recollection thus requires a lot of active effort on the part of the learner/inquirer. Language acquisition in the early years of childhood is on the other hand a passive affair in comparison – though obviously the child is communicating actively with adults and peers, this does not require conscious effort on

their part. And in their earliest months, when they do not have speech at all, they nevertheless hear language, and we can presume perhaps that parameter-setting happens even at that stage (though this is not made entirely clear by Chomsky). The act of setting values for parameters appears to be entirely automatic. Therefore, we cannot compare the slave-boy's progress in the *Meno* to the progress of children in language acquisition, presuming recollection plays a role in the exercise. Socratic inquiry plays a key role in recollection, administering the torpedo-fish's shock, and allowing one to discard one's false beliefs in favour of true ones. These are then other points of difference with 'Plato's Problem'.

Lastly there is the issue of innatism. There is much discussion among scholars whether Plato posits innate knowledge or not. Fine argues that he posits prenatal knowledge that is forgotten after birth, which is not the same as innate knowledge. The emphasis in the *Meno* is on how the boy *didn't* have knowledge and that he was guided by true opinions. If we say the boy has only opinions, not knowledge, we cannot take him to have latent knowledge, but only prenatal. The boy has *content* knowledge of geometry, but he is not in the *cognitive condition* of knowing. This is similar to Chomsky's children, who have knowledge of principles and parameters, but who are not aware of knowing them. However, for Plato, this implicit knowledge of geometry can become explicit. For Chomsky, this does not happen – knowledge of principles and parameters can never become explicit. Moreover, Chomsky posits latent innate knowledge, not prenatal – he sees language as "part of our biological endowment", meaning it is developed by evolution and genetically encoded in the mind. It does not need to be bound with reasoning as it is always with us.

Finally we come to Katz and his followers. We can be briefer in this regard. Though Katz cites the *Meno*, he does so to point out to his readers that he is not a traditional Platonist in the sense of the *Meno* – he does not believe that the soul can acquire knowledge through perception. He does not adequately explain how the soul *can* acquire it, but that is beside the point – though he thinks that language is a Platonic Form, he does not believe in immortal souls which gain knowledge through perceiving the Forms. That seems to invalidate his claim of being a linguistic Platonist. Though he believes language is a Platonic Form, he does not have an aetiology for people's mental representations of knowledge. As for Bever, his hypothesis-testing model does bear a resemblance to Plato's working out of beliefs through αἰτίας λογισμός. However, he does not indicate the role of external input in language acquisition, and so his theory bears less similarity to the *Meno* than 'Plato's Problem'.

It therefore seems clear to me that the reason both linguists reference Plato is for reasons other than a passing resemblance between their theories and Plato's. It appears to me that both wish to position themselves in a certain intellectual tradition. Neither are empiricists, and perhaps see themselves as heirs to a long-standing tradition of Platonism. By saying that their ideas are rooted in Plato, instead of validating their hypotheses through experiments, they are perhaps legitimizing their own ideas.

All in all, though we can see some resemblance between the *Meno* and Chomsky's knowledge paradox, we cannot say that Chomsky justifiably named his paradox after Plato, and we cannot say that it was correct of him to suggest that his paradox is a modern interpretation of the *Meno*. Likewise, Katz is not justified describing language as a Platonic object, as related concepts to his linguistic Platonism bear no resemblance to Plato's theory of Forms and recollection.

8. Bibliography

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