

APPREHENSION AND ARGUMENT

STUDIES IN THE HISTORY OF PHILOSOPHY OF MIND

Volume 3

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APPREHENSION AND ARGUMENT

Ancient Theories of Starting Points for Knowledge

by

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 Springer

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Miira Tuominen

ABBREVIATIONS AND A NOTE ON THE TEXTS

The following list contains the abbreviations used in this book. An edition is included in this list if it forms the basis of the reference system I have used. For the works of Plato, Aristotle and Plotinus, the reader is instructed to consult editions in the Oxford Classical Texts series (OCT). If a specific edition is used and discussed, it will be referred to in the text or in the footnotes.

1. Collections of Fragments and Texts

DK = H. Diels and W. Kranz (eds.), *Die Fragmente der Vorsokratiker*, 3 vols., 6th rev. ed. (Berlin: Weidmann 1951–1952).

SVF = I. von Arnim (ed.), *Stoicorum Veterum Fragmenta*, 4 vols., (Leipzig: Teubner 1905 and 1924).

LS = A. A. Long and D. Sedley (eds.), *The Hellenistic Philosophers*, 2 vols., (Cambridge: Cambridge University Press 1987).

2. Edition Series

CAG = *Commentaria in Aristotelem Graeca*

CLCAG = *Corpus latinum commentariorum in Aristotelem Graecorum*

3. Authors and Works

Aët. = Aëtius, a reconstruction of his treatise (*Placita*) is found in H. Diels (ed.), *Doxographi Graeci* (Berlin: de Gruyter 1879).

Alexander of Aphrodisias

De Anima = *Alexandri Aphrodisiensis praeter commentaria scripta minora: De Anima liber cum Mantissa*, ed. I. Bruns (Berlin: Reimer 1887). (CAG Suppl. II 1)

De Mixt. = *Alexandri Aphrodisiensis praeter commentaria scripta minora: quaestiones, de fato, de mixtione*, ed. I. Bruns (Berlin: Reimer 1892). (CAG Suppl. II 2)

in An. Pr. = *Alexandri in Aristotelis Analyticorum Priorum librum I commentarium*, ed. M. Wallies (Berlin: Reimer 1883). (CAG II 1)

in Metaph. = *Alexandri Aphrodisiensis in Aristotelis Metaphysica commentaria*, ed. M. Hayduck (Berlin: Reimer 1891). (CAG I)

in Top. = *Alexandri Aphrodisiensis in Aristotelis Topicorum libros octos commentaria*, ed. M. Wallies (Berlin: Reimer 1891). (CAG II 2)

Arist. = Aristotle

An. Post. = *Analytica Posteriora*

An. Pr. = *Analytica Priora*

Cat. = *Categoriae*

DA = *De Anima*

De Int. = *De Interpretatione*

De Juvent. = *De Juventute*

De Mem. = *De Memoria*

De Som. = *De Somno*

EN = *Ethica Nicomachea*

GA = *De Generatione Animalium*

HA = *Historia Animalium*

Met. = *Metaphysica*

Part. An. = *De Partibus Animalium*

Phys. = *Physica*

Rhet. = *Rhetorica*

Soph. El. = *Sophistici Elenchi*

Top. = *Topica*

Cic. = Cicero

Acad. = *Academica*

Div. = *De Divinatione*

Fin. = *De Finibus*

Nat. deor. = *De Natura Deorum*

Diog. Laert. = Diogenes Laertius, *Lives of Eminent Philosophers*

Galen

Plac. Hipp. et Plat. = *De Placitis Hippocrates et Platonis*

Inst. log. = *Institutio Logica*

Meth. med. = *Methodo Medendi*

On Sects = *περὶ αἰρέσεων τοῖς εἰσαγομένοις* (On the Sects for Beginners), *Claudii Galenii Pergamenii scripta minora* vol. 3, ed. G. Helmreich (Leipzig: Teubner 1893).

Lucr. = Lucretius

Rer. nat. = *De Rerum Natura*

Philoponus (?)

in An. Post. = *Ioannis Philoponi in Aristotelis Analytica Posteriora Commentaria cum anonymo in librum II*, ed. M. Wallies (Berlin: Reimer 1909). (CAG XIII 3)

in An. Pr. = *Ioannis Philoponi in Aristotelis Analytica Priora commentaria*, ed. M. Wallies (Berlin: Reimer 1905). (CAG XIII 2)

in Phys. = *Ioannis Philoponi in Aristotelis Physicorum libros tres priores commentaria*, ed. H. Vitelli (Berlin: Reimer 1887). (CAG XVI)

in De An. = *Commentaire sur le De Anima d'Aristote*, lat. traduction de Guillaume de Moerbeke, ed. G. Verbeke (Louvain: Publications universitaires de Louvain 1966). (CLCAG)

Plato

Ap. = *Apology*

Prot. = *Protagoras*

Rep. = *Republic*

Tim. = *Timaeus*

Plutarch

Adv. Col. = *Adversus Colotem*

Comm. not. = *De communibus notitiis adversus Stoicos*

Sext. Emp. = Sextus Empiricus

Math. = *Adversus Mathematicos*

Pyr. = Πυρρώνειοι ὑποτυπώσεις (Outlines of Pyrrhonism)

Simplicius

in Phys. = *Simplicii in Aristotelis Physicorum libros quattuor posteriores commentaria*, ed. H. Diels (Berlin: Reimer 1895). (CAG XVI)

Themistius

in An. Post. = *Themistii Analyticorum Posteriorum paraphrasis*, ed. M. Wallies (Berlin: Reimer 1900). (CAG V 1)

in De Anima = *Themistii in libros Aristotelis De Anima paraphrasis*, ed. R. Heinze (Berlin: Reimer 1890). (CAG V 3)

in Phys. = *Themistii in Aristotelis Physica paraphrasis*, ed. H. Schenkl (Berlin: Reimer 1900). (CAG V 2)

INTRODUCTION

Every human effort aiming at improving, deepening or clarifying our conceptions of the world – at best to provide us with knowledge – involves some kind of starting point. One has to start from somewhere, end somewhere, and in the course of the inquiry, take something for granted. This means that an inquiry involves a distinction between two classes of statements: those for which the truth is questioned and those which are taken as accepted without further proof. The latter class includes the general principles of valid inference as well as the specific principles concerning the subject matter. In addition to these, we need some criteria which indicate that the inquiry is sufficient. All of these can be called starting points for knowledge in a broad sense.

To talk about starting points or principles of any kind entails one thinking about a structure in which some components are prior to others. In the characterisation of starting points for knowledge just presented, the relevant priority is determined by whether or not a statement is accepted immediately in the context in which it occurs. The existence of starting points for knowledge is often established through a regress argument. Many philosophers, who discuss knowledge in different frameworks and whose general views on human knowledge differ a great deal, share the common conviction that knowledge claims cannot form an infinite structure. Basically this means that if we give reasons for the statement we claim to know, the chain of reasons must not be infinite.

It is important to note that the mere fact that we consider the theme of starting points for knowledge does not necessarily commit us to any particular epistemology. It might easily come to mind that when we talk about the starting points for knowledge, we assume at the same time an epistemologically foundationalist framework. When the starting points are interpreted in a broad sense, as characterised above, this does not follow. The theme of

starting points for knowledge is thus to be taken as being independent of any particular epistemological theory.

THE TOPIC, SCOPE, AND AIM OF THIS BOOK

The topic of this book is how ancient Greek and Roman philosophers¹ treated the question of starting points for knowledge. In the Greek context, a term that was often used for such a starting point is *archê* (ἀρχή), which can be translated as ‘starting point’ or ‘principle’. ἀρχή is one of the central philosophical terms of Greek philosophy. It is also one of those terms that have several philosophically relevant meanings. Its most literal meaning is beginning or origin and it has political connotations of leading and ruling. The basic metaphor in connection with knowledge would be a leading or guiding principle from which other things follow. As such, the connotations of the word in the Greek context differ from contemporary metaphors in epistemology. In the contemporary context starting points for knowledge are often compared to the foundations of buildings. Such an idea of an underlying structure is not central in the connotations of the Greek ἀρχή.

I have often used the more flexible and more literal translation ‘starting point’ for ἀρχή, because ‘principle’ typically refers to general truths or logical rules and these are propositional. In antiquity, however, we do find examples of starting points for knowledge which are not propositional in a straightforward sense. These include basic notions corresponding to natural kinds or to metaphysical structuring factors of reality. In the Neo-Platonic tradition we also find a form of immediate intellectual apprehension, which involves understanding a complex whole instantaneously. Such apprehension is not propositional either.

There are also methodological reasons for formulating the topic loosely. As is well known to any scholar and student working on the history of philosophy, philosophical questions have not necessarily been formulated in quite the same terms and within the same conceptual framework in different periods. However, some crucial themes, such as basic questions concerning existence, the nature of good, and the nature and structure of human knowledge reappear in different periods even though the framework in which they are studied changes.

It is inevitable that any reading of historical texts is influenced by the general intellectual climate and the more precise philosophical theories of

¹ From this point onwards by the phrase ‘ancient philosophers’ I shall refer to Greek and Roman philosophers. The Asian philosophical tradition is outside of the scope of this study.

the reader's own time. The influence, however, comes in degrees. One rather obvious danger of anachronism is involved if the texts are expected to answer questions formulated completely in the framework of the reader's time. This is very rarely done nowadays, and as such it is not a sufficient methodological principle in research into the history of philosophy to avoid doing so. Much more nuanced insight into how to combine systematic philosophical analysis with the aim at historical accuracy is needed. It seems to me that the insight into how we can do this is best described as a form of sensitivity. This is why I shall not attempt to nail down all the relevant considerations as a set of explicit methodological rules. In any case, I do follow the general strategy of formulating the topic of the book on a general level as a philosophical theme of starting points for knowledge. My task is to ask how philosophers in antiquity formulated questions related to this theme and how they answered them.

In this book, the focus is on Aristotle's theory. Both Plato as his predecessor and the later followers are treated in relation to his theory. One reason for doing so is that Aristotle provides a comprehensive and detailed systematic framework for the discussion of starting points for knowledge. However, this is not the only reason. It is a historical fact that the influence of Aristotle's theory was incomparable. Also the commentators with Platonistic orientation infiltrated many basic assumptions from Aristotle.

The scope of my study extends from Plato in the fourth century BC to Philoponus in the sixth century CE. To choose a scope this large serves the purpose of providing a synoptic view of certain key assumptions generally shared or rejected during that period. I believe that the more synoptic approach, which I have chosen, is valuable for scholars and students of ancient philosophy because in this way many central questions will be discussed in connection with each other. In addition, the book will provide material for scholars working on other periods of the history of Western philosophy. In fact, it seems to me that such diachronic co-operation between scholars is one of the most important things research into the history of philosophy can provide. Further, I hope that people studying contemporary philosophy will find fresh ways of thinking about, for instance, questions of self-evidence and direct knowledge. Finally, in modern discussions the expression 'intuitive knowledge' is used vaguely to refer to various kinds of immediate cognition. I shall show that the ancient theories can be useful in specifying the meaning of this common term.

I have excluded the Pre-Socratic discussions of nature's basic principles (*ἀρχαί*) and the later Neo-Platonist commentary tradition (Porphyry, Proclus, and Iamblichus). This is not because these authors would not be relevant for the current theme. However, there are philosophical and philological reasons

for these exclusions. First, questions concerning the interpretation of the Pre-Socratic tradition are even more difficult than those concerning Plato, Aristotle and their followers. This is partly due to the fact that our evidence of the Pre-Socratics is so scarce. In addition, the literary form of the evidence we do have causes additional complications, and it would have required too much space and time to discuss these difficulties. Of the later Neo-Platonic tradition I have only included Plotinus, its founder, to see what direction Platonism was taking in late antiquity. I shall not enter the complex discussion concerning the metaphysics of the intellect prominent in the late Platonistic authors.

I shall concentrate on those philosophers who think that starting points for knowledge do exist. In connection with the Hellenistic philosophers, however, I have included a short treatment of the basic forms of sceptical challenge of that time. It is an important development in that period that the sceptical challenge starts to guide the philosophical discussion of knowledge in a new way.

The topics covered in this book will pertain to epistemological questions. However, they also involve questions we would classify as belonging to the philosophy of science and to a philosophically oriented psychological study of our cognitive capacities. Further, it is typical in antiquity in the framework of Plato, Aristotle and their followers that considerations of knowledge bring with them metaphysical assumptions. The nature of the discussion I am dealing with requires that borderlines between current specific fields of philosophy must be crossed.

Much has been written about ancient philosophical discussion of knowledge. Almost every topic this study covers has been an object of lively scholarly attention for a long time. In addition, the Aristotelian framework for systematic inquiry into nature was utilised as the paradigm for science in some circles up to Descartes' time, and Plato's *Theaetetus* with its attempted definition of knowledge is still taken to provide the background for the discussion of a definition of knowledge. Thus, I am by no means making discoveries in an unknown territory.

My main contribution to the existing literature on the topic lies in the explicit recognition that there was a powerful tradition in antiquity in which starting points for knowledge were discussed from two largely independent points of view: the point of view of argumentation and the point of view of psychology. In the context of argumentation, starting points are claims or statements that are used as premises. Within the psychological framework, the idea is not to analyse what kind of premises are used to enhance the credibility of a conclusion of an argument. Rather, the discussion concentrates on the question of how we come to have true cognition about external things. It

is assumed that we have correct elements in our cognitive structure and such correct elements also function as starting points for knowledge.

Both discussions of starting points involve subcategories. Starting points, understood as principles of argumentation, fall into three categories. Firstly, there are those starting points which we take for granted when we begin our inquiry into the nature and explanation of things. Secondly, in the course of inquiry, we may find general truths concerning reality, which function as starting points of explanations, or express the true nature of things. Those truths form the second class of starting points and they are not initially known. My discussion of starting points as premises concentrates mainly on these two classes of principles. In addition, all argumentation and inquiry presupposes some general logical principles that guide and regulate inferences. This class of principles was also recognised in antiquity, but it was assumed that general logical principles very rarely appear as explicit premises in arguments. It was presumed that such principles exist and that they are not proved. However, we do not have very much evidence about the question of how we come to possess them.

From the psychological point of view, the starting points are divided into two: perceptual ones and intellectual ones. A basic assumption in the Platonic-Aristotelian tradition is that we come to have valid general cognition about external things. Such cognition is acquired through a natural cognitive process in which perceptions are involved. This entails that a transition from perceived material into generalisations was not generally understood as an inferential process.

As I said, the discussion of starting points as premises was largely independent of the discussion of elements of cognition. However, we do have some evidence of how the two were taken to be connected with each other. Basically, the connection comes from the idea that our knowledge claims are true, in the relevant sense of being true about things in the world, only if their elements have an appropriate link with the external things, and if the elements are correctly connected. The elements are assumed to have such a link if there is immediate intellectual apprehension of the elements. The apprehension is explained by psychological theories of human cognitive capacities. Behind such theories, there is the further metaphysical assumption that reality consists of immutable and discrete elements that have the intrinsic property of being intelligible.

The ancient discussion, however, was not completely uniform. It is well known that there were also other influential threads in the ancient discussions of human knowledge. After my discussion of the Platonic-Aristotelian tradition, I shall turn to a brief treatment of the main Hellenistic schools, Epicureans, Stoics, and the Sceptics. In the Hellenistic discussion the question

of whether we can attain the truth at all, becomes prominent. I shall show that it was originally a sceptical intuition to take this question in the sense of whether we are always capable of discerning true appearances from false ones. After the Hellenistic schools, I shall provide a discussion of the main sects of ancient medicine, namely the rationalists and the empiricists. I shall show that whereas the assumption that we can have immediate cognition of general truths is prominent in Plato and Aristotle, in the medical debate this assumption was challenged.

THE STRUCTURE OF THE BOOK

The book is divided into two parts. My main emphasis will be on the first part, on what can be called the 'Platonic-Aristotelian tradition'. The philosophers I have counted in this tradition share some general assumptions which affect the discussion of starting points for knowledge. I shall now briefly present these assumptions and then proceed to describe the contents of the book.

First of all, in the Platonic-Aristotelian framework it is thought that starting points for knowledge exist. This assumption is connected with a form of metaphysical realism. Reality is taken to have an intelligible structure with discrete elements called forms. The forms have necessary connections with each other and the structure involves relations of priority. Therefore, reality itself has an intrinsic order. Knowledge in the proper sense is taken to be knowledge about the structure of reality.

Another important assumption in the Platonic-Aristotelian tradition is that there is an order in which human beings come to know things. The things we first come to know are secondary in the order of things. Nonetheless, through a natural cognitive process, we come to know some basic facts. To know these facts provides us with sufficient initial knowledge, which enables us to pose further questions about reality. Why are there eclipses of the moon? What kind of aquatic animals are dolphins? What is love? Is the human soul immortal? To pose these questions presupposes that we already know something. We know, at least in some sense of the word, that the moon has eclipses, that dolphins exist and that they are a kind of water animal, that love exists, and that the human species has a soul of a specific sort.

It is also thought that all such questions finally lead to an answer which terminates the questions. For instance, when we have found out that the moon is eclipsed because the earth blocks the sun's light and we understand that this is the way light is shadowed in general, we do not ask why there is an eclipse of the moon anymore. To take another example, when we have found all the properties necessary for dolphins to be dolphins, and when we understand that dolphins share many of those properties with other animals but only

dolphins have all of them, we do not ask anymore what kind of animals dolphins are. We can start to ask how the properties identified as characteristically dolphin properties explain dolphins' life and habits. It is also assumed that in this task there comes a point when we have found out the explanatory factors for the general peculiarities of dolphins' lives.

These examples enable us now to illustrate the general types of starting points for knowledge distinguished above. First we distinguished between the main types: *premises* of arguments and starting points as *intellectual apprehension of elements* of the structure of reality. Second, among the premises, we noticed the difference between premises as starting points of inquiry and premises as general explanatory truths found in the course of inquiry. The former are those starting *from which* we inquire into the nature of things; the latter ones are those *towards which* our inquiry proceeds.

If we use dolphins as an example, we have intellectual apprehension on a general level that there are dolphins. This apprehension also involves grasping that dolphins are distinct from all the other kinds of things. In this way we have an accurate general element we call 'dolphin' in our cognitive structure. We have such elements, due to a natural cognitive process, which could also be called 'concept formation'. However, the cognitive elements are not acquired in isolation. Rather, when we come to grasp that there are dolphins, we also grasp that they are animals, perhaps also that they are water animals. Such claims, then, function as the starting point of our inquiry. We know that there are dolphins and that they are water animals; we proceed to ask, 'what are dolphins?' In the end, we can come to find a comprehensive set of properties that are such that, taken together, they belong to dolphins alone. Such set provides a complete answer to our question about what dolphins are; they function as starting points in an explication of dolphin nature.

Another basic type of questions, and this becomes explicit in Aristotle, is the question of explanation. To use moon and its eclipse as an example, we come to know through a natural cognitive process, first, that there is moon and, second, that it occasionally loses its light even though there are no clouds shadowing it. This fact raises in us the question: 'why does the moon lose its light?' Our initial knowledge concerning the fact that the moon loses its light enables us to initiate inquiry. In the course of our inquiry, we then find out that the loss of light from the moon is what we call 'eclipse'. We might have to borrow some basic facts from astronomy which then enable us to understand that the moon has eclipses because the earth blocks sun's light. The fact that the moon loses its light is a starting point we come to grasp through basic intellectual apprehension; we start our inquiry from that fact, and, eventually, find the reason: moon has eclipses because the earth blocks sun's light. The claim that the loss of light is caused by the interposition of

earth, functions as the starting point of the real explanation. An argument involving the real explanation is a proof in the proper sense; it starts *from* those truths that are found in inquiry.

In the Platonic-Aristotelian tradition explanation is taken as a metaphysically based notion. The basic truths about reality explain the initially known facts, because the facts these truths express are real reasons or causes for the facts we initially know. The order of explanation corresponds to the intrinsic order of priority in reality.

As noted above, in addition to these two classes of truths providing us with the starting point and an endpoint of inquiry, it is assumed that there are logical principles regulating all reasoning. The most important of such principles is that of non-contradiction. It is the basis of the argumentation techniques used in inquiry as well as of all the other logical principles. It is assumed that at least the principle of non-contradiction inheres in human rationality.

In the Platonic-Aristotelian tradition perception is treated as a starting point for knowledge as well, but its role as a starting point is mainly instrumental. It is assumed that intellectual apprehension is possible only on the condition that we first become familiar with the perceptible aspects of reality through perception. It is granted that in a sense we can be said to have perceptual knowledge – the Aristotelians are more generous in this respect than the Platonists – but it is knowledge in a weaker sense of the word than knowledge of the intelligible structure. However, the explanation of how we attain the elements in our intellect requires an account of how we perceive the world.

In the book, I shall first discuss the starting points as premises of argumentation, both in the sense of being starting points for inquiry and as general explanatory truths found in inquiry.

I shall begin with Plato. In connection with Plato, my main aim is to show that many of the key assumptions articulated above, are found in his dialogues. At first, I shall discuss the general technique of argumentation known by the name ‘refutation’. The technique is built on the idea that we always have at least some true beliefs, and if we also have false beliefs the two subsets of our beliefs conflict. The conflicts can be brought to light with the refutational argument strategy. After refutation, I shall turn to consider Plato’s so-called method of hypothesis. In Plato’s discussion of the method of hypothesis, we find the assumption that reality itself has an intrinsic order; the order is taken to constitute explanatory relations finding of which is the aim of inquiry. The method of hypothesis involves the idea that we can ‘ascend’ from previously known truths to the explanatory ones. It is also assumed that eventually we are capable of finding an ultimate explanatory principle of the whole reality, which cannot be ascended. This is the form of good. Similar assumptions

concerning explanatory directions are found in Plato's discussion of collection and division.

My discussion of Plato will provide the background for treating Aristotle. Aristotle formulates explicitly the idea that in argumentation, we need to distinguish between three classes of starting points. One is where our inquiry starts from; the other is the class of basic explanatory truths. Aristotle thinks that our inquiry can take the form of a dialectical argument or we can proceed empirically through intellectual generalisation. Which route is to be taken is determined partly by the nature of the topic, partly by the state of the existing research on the topic at issue. Aristotle also recognises that in accordance with the distinction between the two kinds of starting points, we must distinguish between two types of proofs. Another establishes more basic explanatory truths for us through the initially known facts; the other explains the initially known facts by starting from the basic explanatory truths. Only the latter provides proof in a strict Aristotelian sense. The unprovable premises of the proofs are unprovable only in the strict Aristotelian sense. Aristotle allows that they can be argued for even from true premises. Third class consists of logical principles that rarely appear as premises but form the basis of all argumentation.

Then I shall move on to trace some later developments in the Platonic-Aristotelian tradition. I have chosen as examples Galen, Alcinous and Plotinus from the 'Platonist' side and some of Aristotle's late ancient commentators from the 'Aristotelian' side. I shall show that the basic assumption according to which we need to distinguish between starting points for knowledge in the sense of starting points for inquiry and basic explanatory truths expressing more primary facts, is preserved in the later Platonic-Aristotelian tradition in antiquity.

After discussing different types of premises in the Platonic-Aristotelian tradition, I shall discuss starting points as elements of our intellectual structure. At the very beginning, I shall treat briefly the connection between the two discussions. My main claim is that even though the ancient discussion of premises is rather independent of the discussion concerning the elements, there are some common assumptions concerning the connection between them. Most importantly, it is assumed that in addition to discussing what kinds of premises can be accepted in different argumentation contexts, we also need an explanation of how we become familiar with the things in the world on a general level. The intuition behind this idea is that if we discussed premises and truth on a propositional level alone, we would not have explained the connection between the elements of reality and the elements of our statements.

To explain intellectual apprehension of things on a general level, it is assumed, we also need a theory of perception. The ancient theories of perception discussed in this connection are realist in the sense that they assume

that we are aware of the perceptible qualities of external things in an accurate manner. Almost all the theories take perception to involve physical contact between the object and the percipient; they vary with respect to the accounts of how this contact takes place. The theories also differ with respect to the question of whether or how perception is taken to contribute to intellectual apprehension. Plato assumes that the basic intelligible elements structuring the world need to be pre-existent in our minds and that they are not derived from experience. This is explained in the middle dialogues by recollection; in the later dialogues the theory of recollection is replaced by the theory according to which the basic constitutive elements of our soul are the same as the basic constitutive elements of reality, namely the very great kinds. Aristotle denies the assumption of the pre-existence of the elements of the intellectual structure in our minds. According to Aristotle, we come to grasp parts of the intelligible structure of reality, because the intelligible forms of the perceptible things come to be actualised in our intellect when a sufficient number of observations have been preserved in memory.

Most of the later theories in the Platonic-Aristotelian tradition are versions of Plato's and Aristotle's theories. In the Neo-Platonists, however, we find the assumption that we must distinguish between ordinary conceptual thinking and instantaneous apprehension of the intelligible structuring factors of reality. The former is derived from perception; the latter is a separate intellectual occurrence, which is not part of the ordinary reasoning process but a kind of intellectual vision showing us a complex theoretical whole at one glance.

After Aristotle, the framework involving assumptions of intelligible forms and an intrinsic order of reality was abandoned and the Platonic-Aristotelian tradition was interrupted. The assumption according to which knowledge is primarily about intelligible objects was also rejected. In the Hellenistic schools knowledge was taken, if granted possible at all, to be about the same objects as perception. Accordingly, perception was no longer seen as instrumental in attaining intelligible objects, but the question of the reliability of our perceptions came into the focus of the discussion.

The rejection of the assumption that there are intelligible forms which make up a structured whole, brought along with it the rejection of the two-way model of starting points for knowledge. It continued to be thought by the Stoics and the Epicureans that there are evident facts through which we can establish and come to know other non-evident truths. However, it was no longer assumed that only an argument expressing those newly-found and explanatory truths would amount to a proof proper. By contrast, the arguments establishing non-evident truths of the Hellenistic period can be characterised as inferences *towards* an explanation, not *from* the explanation as the Aristotelian proofs.

In the Hellenistic period, the notion of truth also gained new importance. In the Platonic-Aristotelian discussion the very possibility of knowledge is not in focus. By contrast, in the Hellenistic period it became a pressing question whether we can attain truth and have knowledge at all. This question was formulated as the question of whether or not a criterion of truth exists.

In my discussion concerning the criterion of truth, I shall show that all the main schools, Epicureans, Stoics and Academic sceptics understood the notion of a criterion in different ways. For the Epicureans a criterion of truth is a kind of measuring stick providing us with a standard against which to judge the truth-value of our beliefs. The Stoics took the criterion of truth to be a special kind of truth-entailing appearance or notion. For instance, when I have that kind of appearance that there is a table in front of me, it is guaranteed to be the case that there is a table in front of me. The Academic sceptics, for their part, require that the criterion of truth has to provide us with a means to distinguish between true and false appearances in all possible situations. The Stoics claimed, rather, that the criterial role of appearances does not depend on discernibility in all possible situations. It was the sceptics who connected the notion of a criterion of truth with discernibility.

The general treatment of the criterion will lead to the question whether the criteria of truth can be said to function as starting points for knowledge. I shall show that the Epicureans and the Stoics thought they can. Both these schools taught that the criteria of truth are evident and that through them we can establish previously unknown non-evident truths. The Epicureans conceived such transition from evident to non-evident as confirmation through evidence and disconfirmation through counter-evidence. The curious feature in the Epicurean way of understanding these notions is that the absence of counter-evidence is taken to provide us with reasons for accepting beliefs. This entails that multiple explanation is possible. I shall argue that the Epicureans in fact allowed that natural phenomena have multiple explanations; the same phenomenon can and actually does appear for different reasons. The Stoics claimed that we can prove a conclusion through premises by an argument in *modus ponens* form if three strict conditions are fulfilled. First, the premises of proofs need to be evident. Second, the conclusion must be non-evident at first but revealed by the premises. Third, the conditional premise involving the transition from evident to non-evident has to be a necessary one, i.e. that it does not allow falsity of the consequent when the antecedent is true. Such proofs, the Stoics thought, are rare but possible.

The Academic sceptics thought that the Stoic candidate for a criterion of truth, a cognitive impression, cannot function as a criterion of truth, because it does not provide us with an absolutely unerring tool to discern between

truth and falsity. However, some of them, at least Carneades, acknowledged that such clear and distinct appearances can be used as criteria for plausibility. The Pyrrhonian sceptics, most notably Sextus Empiricus, thought that a sceptic should not adopt too dogmatic an attitude towards appearances. From the Pyrrhonist perspective the Academic sceptics do so, because they claim that a criterion of truth does not exist. A Pyrrhonist, by contrast, will accept appearances in everyday life and have ordinary beliefs, but will suspend judgment as to whether or not any appearances are criteria of truth.

One important context, where central questions concerning knowledge and inquiry were discussed in antiquity, is medicine. I shall not deal with the early Hippocratic origins of the discipline. Rather, I shall concentrate on a long-standing debate between two medical schools, the rationalists and the empiricists.

We saw that in the Platonic-Aristotelian tradition it was assumed that it is possible for us to have true, immediate and general knowledge of things. This assumption is connected with assumptions concerning reality and the human cognitive capacities. Also the Hellenistic discussion involves the idea that because certain basic general notions called ‘preconceptions’ are criteria of truth, we do have accurate and general basic knowledge of what kinds of things there are.

By contrast, in the ancient debate about the methodology of medicine, we do find discussions questioning the very possibility of arriving at accurate generalisation on the basis of observation. The rationalist doctors argue that because the empiricists think that medical knowledge is based solely on observation – and not on rational insight into the nature of things – accurate generalisation, and hence also medical knowledge, is impossible. However, I shall argue that the rationalist criticism against the ancient empiricists was in fact a little misplaced.

A BRIEF SURVEY OF THE EXISTING LITERATURE

As already noted, there is a great deal of literature on the topics discussed in my book. General studies of ancient epistemology are typically collections of articles by several authors. Such collections include, e.g. *Companions to Ancient Thought I: Epistemology*, edited by Stephen Everson (1990) and *Language and Logos* edited by Malcolm Schofield and Martha C. Nussbaum (1982). James Allen’s *Inference from Signs: Ancient Debates about the Nature of Evidence* (2001) is a chronologically wide-ranging monograph on ancient discussions on inferences based on evidence.

A general collection of articles on Plato relevant for the present theme is found in *Plato I: Metaphysics and Epistemology* edited by Gail Fine (1999). Plato’s method of hypothesis as well as the method of collection and division has also been subject to wide scholarly attention. A recent discussion of

collection and division is found in Melissa Lane's *Method and Politics in Plato's Statesman* (1998). The theory of recollection is also one of the much discussed themes in connection with Plato. A provocative discussion is included in Dominic Scott's *Recollection and Experience: Plato's Theory and Its Successors* (1995). *Theaetetus* has of course greatly influenced philosophical theories of knowledge throughout the history of Western philosophy. This dialogue will not be in focus in the present study, however, because I will concentrate neither on discussing the definition of knowledge nor Plato's attitude towards perceptual relativism. This notwithstanding, Myles Burnyeat's monograph *The Theaetetus of Plato* (1990) should be mentioned. M. M. Lee's recent book *Epistemology after Protagoras* (2005) includes a comprehensive discussion of Plato's arguments against Protagoras' perceptual relativism.

Of Aristotle's works the *Posterior Analytics* is highly relevant for the present study. Collections of articles on that treatise include, e.g., *Articles on Aristotle I: Science* edited by Jonathan Barnes, Malcolm Schofield and Richard Sorabji (1975) and Enrico Berti's (ed.) *Aristotle on Science* (1981). Richard McKirahan's *Principles and Proofs* (1992) is a fairly recent monograph on the *Posterior Analytics*. David Charles' *Aristotle on Meaning and Essence* (2000) concentrates on Aristotle's theory of definitions. Allan Gotthelf and James Lennox are well known for their work on Aristotle's biology, such as *Philosophical Issues in Aristotle's Biology* (1987). Lennox has also recently published a collection of his own articles, *Aristotle's Philosophy of Biology* (2001). To G. E. L. Owen we owe many seminal contributions on ancient philosophy collected in *Logic, Science, and Dialectic*. In many studies on Aristotle's *Posterior Analytics*, the relevance of the dialectical method presented in the *Topics* is recognised. A recent example is John Cleary's *Aristotle and Mathematics: Aporetic Method in Cosmology and Metaphysics* (1995), which includes discussions on many topics in Aristotle relevant to this book. Studies on the *Topics* are mostly in article form by, e.g., Robert Bolton and Robin Smith. Marja-Liisa Kakkuri-Knuuttila's dissertation (1993) deals with the *Topics* and she has kindly let me read her article on the dialectical argumentation technique which has come out during my writing process.

Hellenistic epistemology has received increasing attention since the 1980s. Early collections include *Doubt and Dogmatism* (1980) edited by Schofield, Burnyeat, and Barnes, and *Science and Speculation* (1982) by the same editors, together with Jacques Brunschwig. Michael Frede's and Gisela Striker's main articles on Hellenistic philosophy are found in the collections *Essays in Ancient Philosophy* (1987) and *Essays on Hellenistic Epistemology and Ethics* (1996), respectively. For a collection of Hellenistic texts, translations, and comments, Anthony A. Long and David Sedley's book *Hellenistic Philosophers* (1987), is indispensable.

A general introduction to Neo-Platonism can be found in *The Cambridge Companion to Plotinus* (1996). Lloyd Gerson's book *Plotinus* (1994) also helps to form a picture of Neo-Platonic thought. The easiest way to familiarise oneself with the ancient commentary tradition is Richard Sorabji's recent and comprehensive sourcebook *The Philosophy of the Commentators 200–600 AD* in three volumes (2004).

I shall mention two studies pertaining to the ancient discussion of human psychology. In Leen Spruit's work *Species Intelligibilis I* (1994) the theme of the actualisation of intelligible form in the human soul is followed from antiquity through to the Middle Ages. Of more specific studies Eyjólfur Emilsson's book *Plotinus on Sense Perception: A Philosophical Study* (1988), is useful for the theory of perception in Neo-Platonism.

Bibliographies on topics related to my work are found in, e.g., Stephen Everson (ed.) *Companions to Ancient Thought I: Epistemology* (1989), in Long and Sedley's *Hellenistic Philosophers* (1987), and in Lloyd P. Gerson (ed.) *The Cambridge Companion to Plotinus* (1996).

Even though there is a great deal of literature on the topics I discuss here, there are few studies in which different ancient theories are compared, Spruit's work being one exception. My study is the first monograph where the theme of starting points for knowledge is traced in antiquity over a period of almost a millennium.