Forms of Representation in the Aristotelian Tradition

VOLUME THREE:
CONCEPT FORMATION

EDITED BY

CHRISTINA THOMSEN THÖRNQVIST
& JUHANA TOIVANEN

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BRILL

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Preface

Christina Thomsen Thörnqvist and Juhana Toivanen

The common title of the present three volumes, *Forms of Representation*, echoes the name of the research project that made them possible. *Representation and Reality: Historical and Contemporary Perspectives on the Aristotelian Tradition* was funded by Riksbankens jubileumsfond, Sweden, and hosted by the University of Gothenburg from 2013 to 2019. The project enabled a group of specialists on Greek, Latin, and Arabic Aristotelianism to join forces in a study of various processes and phenomena involving mental representation in late ancient, Byzantine, medieval Latin, and Arabic commentaries on the *Parva naturalia* until c.1400. Furthermore, the project concentrated on the three philosophical themes that are the topics of the three parts of the present collection: sense-perception, dreaming, and concept formation.

Two circumstances in particular have influenced the character of these volumes: the breadth of the project of which they are the outcome, and the fact that almost none of the relevant sources had been edited before the project started. An important aim of *Representation and Reality* was to make a number of unedited medieval commentaries on Aristotle's *De sensu et sensibilibus* and the treatises on sleep and dreams (*De somno et vigilia*, *De insomniis*, *De divinatione per somnum*) available in modern critical editions. Several of the chapters aim at offering an analysis of the Aristotelian problems discussed in these texts, which were edited for the first time under the auspices of the project. Other chapters focus instead on one specific philosophical problem dealt with by more than one linguistic tradition and seek to map out the interactions between them. Some chapters highlight the fact that the study of the reception triggers new questions regarding Aristotle's own account, and some chapters deal with the aftermath of Aristotle and his commentators long after the middle ages had come to an end. What links the chapters and the volumes together is the fact that they all in one way or another, directly or indirectly, demonstrate how Aristotle's successors understood, explained, and further developed the idea that when we perceive, dream, think, or communicate about the external world, reality is somehow represented in our mind. Reality is present to us first and foremost through sense-perception (vol. 1), whereas dreams (vol. 2) and concepts (vol. 3) take us in opposite directions, one of representation in detachment from reality and the other of representation supposedly revealing the truth of reality.

We expect many of our readers, but not all, to be specialists in ancient and medieval philosophy. For those who are not familiar with a broader historical background, the general introduction in volume one offers an overview of the origin and development of Aristotelianism, its sources and literary genres. In addition, each of the three volumes contains an individual introduction that serves several purposes: to provide an overview of the works of Aristotle that are the starting point for the chapters in each respective volume, to present the main philosophical problems that form the core of the historical discussions, and to show how each chapter relates to Aristotle's account and to the other chapters in the same volume. Each volume then proceeds chronologically, covering discussions from all three linguistic traditions, and occasionally pointing out connections to contemporary philosophical discussions.

The fundamental aim of the present volumes is to offer a broad range of interesting examples of how the late ancient and medieval commentary tradition on the *Parva naturalia* and related parts of Aristotle's other writings contributed to the development of philosophical theories on mental representation. Our sincere hope is that these examples will spark the interest for further philological and philosophical research into this and the many other related, and still understudied, aspects of ancient and medieval philosophy.

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Abbreviations

APo.	Aristotle, *Analytica posteriora*
APr.	Aristotle, *Analytica priora*
Cael.	Aristotle, *De caelo*
Cat.	Aristotle, *Categoriae*
de An.	Aristotle, *De anima*
	Alexander of Aphrodisias, *De anima*
De an.	Adam of Buckfield, *De anima*
	Albert the Great, *De anima*
De hom.	Albert the Great, *De homine*
de Int.	Alexander of Aphrodisias(?), *De intellectu*
	Philoponus, *De intellectu*
De sensu	Albert the Great, *De sensu et sensato*
De somno	Albert the Great, *De somno et vigilia*
De veg.	Albert the Great, *De vegetabilibus*
EN	Aristotle, *Ethica Nicomachea*
Enn.	Plotinus, *Enneades*
Exp. Sens.	All exposition commentaries on *Sens.*
Exp. Somn.Vig.	Walter Burley, *Expositio in Somn.Vig.*
GA	Aristotle, *De generatione animalium*
GC	Aristotle, *De generatione et corruptione*
HA	Aristotle, *Historia animalium*
in Cat.	Ammonius, *In Aristotelis Categorias commentarius*
	Simplicius, *In Aristotelis Categorias commentarium*
in de An.	Philoponus, *In Aristotelis De anima libros commentaria*
	Priscian of Lydia, *In libros Aristotelis De anima commentaria*
	Ps.-Philoponus, *In Aristotelis De anima librum 3 commentarium*
	Sophonias, *In libros Aristotelis De anima paraphrasis*
	Themistius, *In libros Aristotelis De anima paraphrasis*
In De somno	Adam of Buckfield, *Commentarium in De somno et vigilia*
In Metaph.	Alexander of Aphrodisias, *In Aristotelis Metaphysica commentaria*
In Mete.	Alexander of Aphrodisias, *In Aristotelis Meteorologicorum libros commentaria*
	Olympiodorus, *In Aristotelis Meteora commentaria*
In Sens.	Alexander of Aphrodisias, *In librum De sensu commentarium*

In tertium de An.	Siger of Brabant, *Quaestiones in tertium De anima*
	Radulphus Brito, *Quaestiones in Aristotelis librum tertium De anima*
Insomn.	Aristotle, *De insomniis*
Int.	Aristotle, *De interpretatione*
Juv.	Aristotle, *De juventute*
Liber Sens.	Roger Bacon, *Liber de sensu et sensato*
Long.	Aristotle, *De longitudine et brevitate vitae*
MA	Aristotle, *De motu animalium*
Mem.	Aristotle, *De memoria et reminiscentia*
Metaph.	Aristotle, *Metaphysica*
Mete.	Aristotle, *Meteorologica*
Quaest. De animal.	Albert the Great, *Quaestiones super De animalibus*
Quaest. Sens.	All question commentaries on *Sens.*
Quaest. Somn.Vig.	All question commentaries on *Somn.Vig.*
PA	Aristotle, *De partibus animalium*
Ph.	Aristotle, *Physica*
Phys.	Albert the Great, *Physica*
Rep.	Plato, *Republic*
Resp.	Aristotle, *De respiratione*
SE	Aristotle, *Sophistici Elenchi*
Sens.	Aristotle, *De sensu et sensibilibus*
Sent. de An.	Thomas Aquinas, *Sentencia libri De anima*
Sent. Sens.	Thomas Aquinas, *Sentencia libri De sensu et sensato*
ST	Thomas Aquinas, *Summa Theologiae*

Notes on Contributors

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Cognition and Conceptualisation in the Aristotelian Tradition

Sten Ebbesen and Pavel Gregoric

This[1] is the third and final volume of the *Forms of Representation in the Aristotelian Tradition* series. The volume focuses on the most complex and uniquely human way of representing reality, one in which the mind goes beyond the senses to cognise truths about the world. Cognition is mediated by concepts that represent objects. Concepts are acquired naturally by human beings, as one experiences things and learns language from fellow humans. Of course, concepts have to represent objects adequately and they have to be connected in the right way for cognition to be successful. However, for Aristotle and his successors, much as for Plato and his followers, cognition does not amount just to having the right concepts and connecting them in the right sequence of thoughts. Rather, having the right concepts and connecting them in the right sequence of thoughts enables human beings, first and foremost, to grasp immutable and imperceptible features of objects out there in the world, to use this grasp to explain the structure and behaviour of objects, to organise such explanations in a body of science, and to communicate science to others. Obviously, we are dealing with a notion of cognition that is deeply embedded in a distinctive epistemology and metaphysics.

The purpose of this introduction is threefold. First, we would like to prepare the reader, especially if they do not have a firm footing in ancient and medieval philosophy, for the papers collected in this volume. More specifically, we will present the elements of Aristotelian metaphysics and epistemology, introduce the main texts, and explain the relevant vocabulary. We will also discuss how Aristotle thought of concepts, their acquisition, and their relation to language. These are the fundamental issues that later philosophers in the Aristotelian tradition tried to address, often in very different ways, opening

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avenues of philosophical speculation that continue to exercise theoreticians today. With this background knowledge, we hope, the reader will be able to follow and appreciate the contributions collected in this volume. The second and more conventional purpose of this introduction is to present the individual papers and briefly indicate their relevance for the topic of this volume. Finally, we add a list of editions, translations, commentaries and scholarly studies on the subject of cognition and conceptualisation in the Aristotelian tradition. The list is highly selective, intended primarily for the orientation of readers who are new to this subject.

1   The Platonic Background and a General Outline of Aristotle's Views on Rationality and Intellect

The topic of cognition and conceptualisation is sandwiched between metaphysics and epistemology, since cognition is first and foremost of things that exist. Whatever else may be cognised, it is cognised in a way that is derivative from the cognition of things that exist. Now, Plato thought that there are two types of things that exist. There are perceptible things, that is, bodies and their attributes, and there are thinkable things which he called "forms" or "ideas" (*eídē*, *idéai*). Perceptible things, he held, exist only in an attenuated sense, since their existence is temporary and marked by constant flux, so that there can be no definite knowledge of them. By contrast, forms are independent and unchangeable entities, existing in a full and unqualified way, and as such they are the true objects of knowledge. The main challenge for Plato's philosophy is to explain how these two types of existing things are related and how the cognition of one type affects the cognition of the other.

Aristotle accepted Plato's division of reality and addressed the challenge, but in so doing he had to make departures from Plato. Aristotle agrees with Plato that certain things, bodies and their attributes, are perceptible, whereas other things, forms, are thinkable. Consequently, he agrees with Plato also that we are equipped with two modes of cognition, that is, with two distinct cognitive faculties: perception (*aísthēsis*) and intellect (*nóus*). However, while agreeing with Plato that forms are the true objects of knowledge, apprehended by intellect only, Aristotle disagrees on two important points: (1) he thinks that forms do not exist independently of perceptible things (save for a few exceptions), and (2) he insists that forms cannot be cognised independently of the cognition of perceptible things. These two crucial points of departure, one metaphysical and the other epistemological, mark Aristotle's entire

philosophy, forming the background of the discussions concerning cognition and conceptualisation in the Aristotelian tradition.

Although Aristotle agreed with Plato that human beings have a unique ability to form concepts and grasp forms, he disagreed greatly as to the nature of this ability. Plato thought that all humans are born with a rational soul that allows them to make assumptions, form propositions and connect them in discursive thought, and communicate with others. With proper education, which includes detachment from the senses through rigorous mathematical and dialectical practice, humans are also able to glimpse the forms and understand the world. In the *Timaeus*, historically his most influential dialogue, Plato posited that the rational soul consists of two concentric circles in everlasting motion, the circle of the Different, by which ever-changing particulars are grasped, and the circle of the Same, with which unchanging forms are grasped. Education essentially consists, according to Plato in the *Timaeus*, in bringing the two circles of the rational soul to their natural orbits, the circle of the Same dominating and regulating the motions of the circle of the Different.

Aristotle disliked the idea of the soul having an extension and, especially, the idea of thinking as a bodily process. Soul itself is a form, according to Aristotle, but not a Platonic form, independent of the bodies subject to change; it is an Aristotelian form, the organising principle of a particular chunk of matter, in this case a living body, and a program, as it were, for its development over time. As a form, the soul is not an extended sort of thing that can be moved. Souls determine the shape of their bodies and endow them with various capacities and patterns of behaviour. The human soul is the most complex sort of soul, as it includes rational capacities. So, every human individual is a compound of a certain sort of body defined by its characteristic human shape and organisation of its parts, and a certain sort of soul characterised by the possession of a range of capacities organised into three soul-parts: the nutritive, the perceptual, and the thinking part. All rational capacities of human beings belong to the thinking part of the soul, to which Aristotle refers in different contexts with different terms, such as intellect (*nóus*), theoretical or scientific knowledge (*epistēmē*), discursive thought (*diánoia*), and reason (*lógos*).

All human beings, then, are endowed with the thinking part of the soul, and as they grow, they employ more and more of its resources: they learn words, string them together into sentences, connect them with certain images or appearances in their minds; moreover, they group these images in various ways and it seems that such groupings spontaneously bring about corresponding universal concepts in their minds. As they live their lives, most people will acquire a language and develop a significant number of concepts that

help them organise their experience and behaviour. Some people, however, go further. They use the concepts they have acquired so as to make explanatory connections among them (in response to asking the question *why*), which leads them to discover essences and make more systematic explanatory connections among things. This is largely what doing science amounts to, according to Aristotle. To do science properly, one has to observe the phenomena in a particular domain and collect as much data as possible. So, the path to understanding the world does not require detachment from the senses, as Plato had taught; on the contrary, it requires extensive and studious employment of the senses.

As the scientist organises the collected data, finding the right concepts and putting them in the right explanatory hierarchy, he will, if he is talented enough, develop an ability to grasp the concepts or propositions of the highest explanatory order, the first principles. All explanatory connections lead to them, whereas they themselves cannot be explained by anything else. The first principles cannot be reached deductively, so they have to be intuited. The ability to intuit first principles is called intellect (*nóus*) in the strictest and purest sense. This ability, it should be clear, is instantiated only in practitioners of theoretical sciences, not in the common folk, and such individuals come to develop it only with the help of extensive use of the senses.

On the interpretation offered here, our *lógos* is what allows us to acquire, manipulate, and communicate concepts. It is the most basic capacity, or set of capacities, of the thinking part of the soul, and one that all humans possess, although not everybody cares to develop *nóus* in the narrower sense of the capacity to grasp essences of things and arrange them into explanatory relations, let alone in the narrowest sense of the capacity to grasp the highest explanatory features, the indemonstrable first principles.[2]

Aristotle provides an account of the thinking part of the soul in his *De anima* 3.4–8 (sometimes referred to as *De intellectu*). Unfortunately, this account is extremely sketchy and focused on the higher capacities of that part of the soul. We hear disappointingly little about concept acquisition, language, and discursive thought in *De anima* 3.4–8. What we do learn, however, is that the proper objects of thought are essences of things. Aristotle seems to recognise three types of essences. Essences of perceptible things are substantial forms of these things that are embedded in matter, essences of mathematical objects are abstract forms that have something analogous to matter (for

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2   See Michael Frede, "Aristotle's Rationalism," in *Rationality in Greek Thought*, ed. M. Frede and G. Striker (Oxford: Clarendon Press, 1996), 157–73; and Pavel Gregoric and Filip Grgic, "Aristotle's Notion of Experience," *Archiv für Geschichte der Philosophie* 88 (2006): 1–30.

instance, geometrical objects have extension), whereas essences of separate substances are pure forms, free of all matter. The intellectual apprehension or grasp of an essence is the proper act of thinking, and all other sorts of thinking, including combinations of thoughts in propositions or practical judgements, are to be accounted for in terms of the more basic, proper acts of thinking.

Probably the most baffling part of *De anima* 3.4–8 is the short chapter 5, where Aristotle distinguishes between the agent intellect (*nóus poiētikós*) and the patient intellect (*nóus pathētikós*). The former is compared to light and said to be immortal, which led some commentators to identify it with the prime mover of the universe and others with the immortal part of our individual souls, whereas the patient intellect is perishable and often identified with the capacity to have appearances (*phantasía*). It seems that Aristotle's main motivation for the distinction between the agent and the patient intellect is to give some explanation of the fact that all objects of thought are out there, always available for thinking, yet each person can think only some of the objects and only some of the time. Gallons of ink have gone into the exegesis of this distinction and many other details of *De anima* 3.4–8, as the reader of some papers in this volume will quickly realise.

2   Main Passages in Aristotle

There is no one work by Aristotle providing his theory of cognition and conceptualisation. The bricks needed for the reconstruction must be collected from several places. Apart from the treatment of the thinking part of the soul in *De anima* 3.4–8, the main passages of relevance to the topic are the following:

– *Metaphysics* 1.1, which starts with the famous declaration that all human beings desire to know, and provides a sketchy model of the acquisition of knowledge. This acquisition starts with input from the senses being stored in memory; repeated such cases of storing identical content lead to "experience" (*empeiría*), a sort of knowledge or aptitude in a limited sphere, with clearly delimited contents. Such "experience" seems to bring about or involve a range of experiential notions (*ennoēmata*) that, if connected in a certain way, become an "art" (*téchnē*), that is, the sort of knowledge specialists in various crafts have that allows them to explain the procedures pertaining to their craft and to transmit their knowledge; at the top of the ladder one reaches *epistēmē*, theoretical or scientific knowledge of things in a certain domain.

– *De anima* ("On the Soul") 2.5–3.3 and *De sensu et sensibilibus* ("On Sense and its Objects"), where the workings of the senses are examined.

– *De memoria et reminiscentia* ("On Memory and Recollection"), which treats of the workings of memory and how we recall memories that do not present themselves automatically when needed.

– *De interpretatione* ("On Linguistic Communication of Information") 1, which is a sort of preface to an investigation of the logical properties of various sorts of sentences, and hence contains a brief sketch of the relationship between linguistic items and the corresponding mental and extramental items.

– *Posterior Analytics*, which, as a whole, deals with how to obtain first-class "scientific" knowledge of necessary universal propositions, a knowledge that implies the ability to explain *why* a certain theorem is true. In the very last chapter of the work (2.19) there is a sketch of the road from perception to theoretical knowledge very similar to the one in *Metaphysics* 1.1. Aristotle himself provides a sort of summary of the doctrine in *Nicomachean Ethics* 6.3, which is worth quoting in full:

> Now, what scientific knowledge is, if we are to speak exactly and not follow mere similarities, is plain from what follows. We all suppose that what we know is not even capable of being otherwise; of things capable of being otherwise we do not know, when they have passed outside our observation, whether they exist or not. Therefore the object of theoretical knowledge is of necessity. Therefore it is eternal; for things that are of necessity in the unqualified sense are all eternal; and things that are eternal are ungenerated and imperishable. Again, every science is thought to be capable of being taught, and its object of being learned. And all teaching starts from what is already known, as we maintain in the *Analytics* also; for it proceeds partly through induction and partly by deduction (*syllogismós*). Now induction (*epagōgē*) is the starting-point which knowledge even of the universal presupposes, and deduction proceeds from universals. These are therefore starting-points from which deduction proceeds, and so cannot be reached by deduction; it is therefore by induction that they are acquired. Theoretical knowledge is, then, a state of capacity to demonstrate, and has the other limiting characteristics that we specify in the *Analytics*; for it is when a man believes in a certain way and the starting points are known to him that he has scientific knowledge, since if they are not better known to him than the conclusion, he will have his knowledge only incidentally.[3]

3   Aristotle, *Ethica Nicomachea*, trans. W. D. Ross, rev. J. O. Urmson, in *The Works of Aristotle Translated into English*, vol. 9 (Oxford: Oxford University Press, 1975), 6.3, 1139b18–35; translation modified by Ebbesen.

– *Nicomachean Ethics* 1.13–2.1, 1103a3–18 divides virtues into intellectual (*dianoētikaí*) and moral (*ēthikaí*). In 6.2 intellectual virtue is divided into a purely theoretical variant that is only concerned with truth and falsity, and a practical variant that aims at what is both true and in accordance with a correct choice (*prohaíresis*). In 6.3 Aristotle divides the mental powers that discriminate between truth and falsity by affirming or denying into art (*téchnē*), theoretical knowledge (*epistēmē*), prudence (*phrónēsis*), wisdom (*sophía*), and intellect (*nóus*) in the strictest sense – with wisdom being an accomplished combination of theoretical knowledge, with all the demonstrations that it involves, and intellect as the highly specialised ability to grasp the indemonstrable first principles. This list, with the addition of reason (*diánoia*), is repeated in *Posterior Analytics* 1.33, 89b7–8. Belief or opinion (*dóxa*) and surmise or supposition (*hypólēpsis*) are disqualified from a place in the list because "in these we may be mistaken."[4]

3　Aristotle's Systematic Vocabulary

Aristotle possessed a fairly systematic vocabulary for dealing with cognition. The central verbs for a typically reliable grasp of things and facts are *aisthánesthai* "to perceive," *mnēmonéuein* "to remember," *gi(g)nōskein* "to know," *epístasthai* "to know in a scientific or theoretical way, to understand," *dianoéisthai* "to reason," *logízesthai* "to reason or calculate," and *noéin* "to think or grasp intellectually." Less reliable relationships to the underlying objects are expressed by the verbs *doxázein* "to believe" or "to be of the opinion" and *hypolambánein* "to surmise, assume, suppose." An important verb that takes the object of consideration for its subject is *phaínesthai* "to appear." In the table below each of the central verbs is listed together with a number of derivative nouns and adjectives attested in the *Corpus Aristotelicum*. Also, each Greek term is accompanied by the Latin word or words used to render it in medieval scholastic Latin, and also with at least one of the Arabic renditions (but there is considerable variation in how different translators rendered Aristotelian terms in Arabic).[5]

4　See also *de An.* 3.3, 428a1–5, 428a18–b9.
5　The Arabic terms were provided by David Bennett.

Verb	English translation	1. Ability/act	2. Object, potential or actual
horān videre *r-ʾ-y*	to see	*ópsis, hórasis* visio, visus	*horatón* visibile
aisthánesthai sentire *ḥ-s-s*	to perceive	*áisthēsis* sensus, sensatio *ḥiss*	*aisthētón* sensibile, sensatum
phaínesthai, *phantázesthai* apparere *kh-y-l*	to appear, to seem	*phantasía* fantasia, imaginatio *takhayyul*	
mnēmonéuein, *mémnēsthai* memorari *dh-k-r*	to remember	*mnēmē* memoria *dhikr*	*mnēmoneutón* memorabile, memoratum
doxázein (*dokéin*) opinari *r-ʾ-y*	to believe	*dóxa* opinio *raʾy, ẓann*	*doxastón* opinabile
hypolambánein opinari, suspicari *r-ʾ-y*	to surmise, to suppose, to assume	*hypólēpsis* opinio, suspicio *raʾy*	*hypolēptón* opinabile, suspicabile
logízesthai ratiocinari *f-k-r*	to reason, to calculate	*logismós* ratiocinatio *fikr*	
dianoéisthai intelligere *f-k-r*	to reason, to think discursively	*diánoia* ratio, intelligentia, intellectus *fikr*	*dianoētón* intellectuale

3. Perceived content (information obtained)	4. Active adjective	5. Capacity of the soul	6. Organ
hórama visio, visum	*horatikós* visi-bilis, -vus	*to horatikón* visi-bile, -vum	
aísthēma sensibile (simulacrum) *maḥsūs*	*aisthētikós* sensitivus, sensibilis *ḥassās, ḥāss*	*to aisthētikón* sensitiv-a, -um, sensibile	*aisthētērion* sensitivum, sensorium, organum sentiendi *ḥāssa*
phántasma fantasma *khayāl*	*phantastikós* fantasticus *takhayyul*	*to phantastikón* fantastica *mutakhayyil*	
mnēmóneuma memorabile, memoratio	*mnēmonikós* memorativus *mudhakkira*	*to mnēmonikón* memorativa *dhikrā*	
dógma dogma, doctrina *ra'y*		*to doxastikón* opinativ-a, -um	
	logistikós ratiocinabilis *fikrī*	*to logistikón* ratiocinativa	
	dianoētikós intellectivus, intellectualis *fikrī*	*to dianoētikón* intellectiva	

(*cont.*)

Verb	English translation	1. Ability/act	2. Object, potential or actual
noéin intelligere *ʿ-q-l*	to grasp intellectually, to intuit, to think	*nóus/nóēsis* intellectus, intelligentia *ʿaql*	*noētón* intell-igibile, -ectum
ennoéin intelligere	to think, to be aware of, to have in mind	*énnoia* intelligentia, at-, in-tentio, sententia	
epístasthai scire *ʿ-l-m*	to know theoretically or scientifically, to understand	*epistēmē* scientia *ʿilm*	*epistētón* scibile, scitum
eidénai scire, cognoscere	to know		
gi(g)nōskein cognoscere *ʿ-l-m, ʿ-r-f*	to know	*gnōsis* cognitio *maʿrifa, ʿilm*	*gnōstón* cogn-oscibile/-itum

As shown in the list, most of the verbs have several nominal derivatives, and several have all of 1–5, whereas only one has 6. The derivatives are:

(1)   A noun substantive, most often ending in *-sis*, that ambiguously signifies (a) the ability to do what the verb means, and (b) the actual exercise of that ability, for instance, an act of sensing. Thus to *aisthánesthai* "to perceive" corresponds *aísthēsis* "sense, perception."

(2)   A substantivised neuter adjective ending in *-tón* ambiguously signifying (a) a potential, and (b) an actual object of the verbal action. Thus *aisthētón* "object of perception."

(3)   A substantive noun ending in *-ma* signifying the result of the verbal action – in the case of verbs of knowing, the information obtained. Thus *aísthēma* "sense-impression."

3. Perceived content (information obtained)	4. Active adjective	5. Capacity of the soul	6. Organ
nóēma intellectus, intelligentia, conceptus *maʿqūl*	*noētikós* intellectivus	*to noētikón, nóus* intellectiva intellectus	
ennóēma conceptio, intellectum			
	epistēmonikós faciens scire, scientialis, scientificus *ʿilm*	*to epistēmonikón nóus* intellectus	
	gnōstikós cogn(osc)itivus	*to gnōstikón* cogn(osc)itiva	

(4) An adjective ending in *-tikós* that can characterise powers or activities involved in the verbal action. Thus *aisthētikós* "sensitive," "able to perceive."

(5) A substantivised neuter form of the same adjective ending in *-tikón* signifying the capacity of the soul responsible for the verbal action. Thus *to aisthētikón* "the perceptual capacity of the soul."[6]

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6 The perceptual capacity of the soul is fundamental to the perceptual part of the soul, one of the three parts of the soul that Aristotle recognises. The perceptual part of the soul comprises several other capacities, such as the capacity to have appearances (*to phantastikón*) and the capacity to remember (*to mnēmoneutikón*). The other two parts of the soul recognised by Aristotle are the nutritive and the thinking part, each comprising a plurality of capacities. For the distinction between parts and capacities of the soul, see Klaus Corcilius and Pavel

(6)   A noun substantive signifying the organ of the verbal action. Thus
      aisthētērion "sense organ." There are no similar nouns formed from
      the other relevant verbs, because there were traditional names for the
      organs of sight, hearing, smell, and taste, while touch has no localised
      external organ,[7] and thought, Aristotle held, does not have the same sort
      of relation to bodily organs as the senses.

The systematic nomenclature is of great help in reconstructing Aristotle's
views, but it is not always clear enough. Thus, a noun of type 1 in sense (a) is
for all practical purposes equivalent to the substantivised adjective of type 5;
aísthēsis in sense (a) need not denote a different entity from *to aisthētikón*, the
choice of one designation rather than the other only indicates what the scho-
lastics called a distinction of reason, that is, a conceptual distinction, not a real
one (*ratiōne*, not *rē*) – which word is most appropriate depends on the point
of view adopted in a given context. By contrast, *aísthēsis* in sense (b) denotes
something clearly different from *to aisthētikón*. A further complication with
aísthēsis is that it is a generic term that may be used both of the perceptual
capacity in general and of specific instances or modalities of this capacity, that
is, the five senses: sight, hearing, smell, taste, and touch.

    Another problem for the interpreter is that the four verbs for thinking
(*noéin*, *dianoéisthai*, *ennoéin*, and *logízesthai*) have overlapping semantic
fields, with the result that the first three of them ended up as *intelligere* in
Latin translations. The vague *gi(g)nōskein* and *eidénai*, both of them stan-
dardly translated as "to know," have little personality. In Latin they both appear
as *cognoscere*, but for *eidénai* one also finds *scire*, whose primary role was to
render *epístasthai* "to know theoretically, to understand in a scientific way." For
interpreters in the Western tradition it has been (and is) a problem that neither
Latin nor any modern Western Indo-European language possesses matching
sets of deverbative nouns, that is, nouns derived from verbs, corresponding to
the Greek *-sis* and *-ma* nouns, which makes their interpretation in some cases
quite challenging.

    Interestingly, soon after Aristotle the ancient Stoics created a rather
rigidly regimented philosophical language that notably allowed one to distin-
guish terminologically between genuine corporeal entities and incorporeal
quasi-entities, and for this purpose they used at least one feature of the
Greek language that Aristotle had already used, namely the existence of two

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    Gregoric, "Separability vs. Difference: Parts and Capacities of the Soul in Aristotle," *Oxford
    Studies in Ancient Philosophy* 39 (2010): 81–119.

7   In fact, Aristotle argued that the proper organ of taste and touch is the heart, which is also the
    central organ of the perceptual part of the soul.

suffixes *-sis* and *-ma* with which to derive *nomina actionis* from verbs.[8] I suspect Zeno the Stoic had studied Aristotle's technique and concluded he could use it, although in a very different theoretical framework.

A note on Greek terminology. *Ennoéin* in Aristotle covers "have in mind, be aware of, think of, have a mind to." *Énnoia* is a not very precise term for "thought" or "awareness"; with a genitive it can correspond to "notion of," as in *Nicomachean Ethics*: "they have no notion of the noble and truly sweet (*tou de kalóu kai hōs alēthōs hēdéos oud' énnoian échousin*), since they have not tasted it."[9] *Ennoēma* occurs only once, in *Metaphysics* 1.1, in the sentence: "Now, art arises when from many notions (*ennoēmata*) gained by experience one universal assumption (*hypólēpsis*) arises about things that are similar."[10] *Dianoéisthai* and its derivatives are mainly used with respect to discursive reasoning or, at least, thought of a propositional nature. *Noéin* and its derivatives are the preferred terms for thinking that consists in a grasp of primitive universal terms and propositions. *Nóēma* is Aristotle's term for the result of an individual act of such grasp, or for the content thus grasped, and hence it is the closest to our notion of a single thought or concept (more on that below).

4   Acquisition of Concepts

As already mentioned, Aristotle famously rejected any notion of a realm of Platonic forms (ideas) metaphysically independent of particular things but responsible for our ability to think of particulars as instances of universals because in some sense the ideas are innate in us, or at least a capacity for grasping them is. Aristotle's rejection of innate knowledge is memorably expressed in his comparison of the intellect (*nóus*) to an initially blank tablet that has the capacity to carry written information but does not carry any until somebody writes on it:

> [...] the intellect is in a way potentially the objects of thought (*ta noētá*), but not any of them actually before it intellectually grasps (*noéi*) them. By "potentially" I mean like in a tablet on which nothing is actually written, which is the case with the intellect.[11]

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8   For this trait of Stoicism, see Sten Ebbesen, "Imposition of Words in Stoicism and Late Ancient Grammar and Philosophy," *Methodos* 19 (2019), http://journals.openedition.org/methodos/5641.

9   *EN* 10.10, 1179b15–16.

10   *Metaph.* 1.1, 981a6.

11   *De An.* 3.4, 429b30–430a2; trans. Ebbesen.

Now, the objects of intellectual thought must, according to Aristotle, be universal, but ultimately the information they contain must be derived from perception. As medieval Aristotelians formulated it, "There is nothing in the intellect that has not previously been in a sense" (*Nihil est in intellectu quod non prius fuerit in sensu*). However, an act of sensing, an actual *aísthēsis*, is a particular act and results in a piece of information gathered through the senses (a sense-impression, *aísthēma*) about a particular perceptible object (*aisthētón*). So, a major problem facing all Aristotelian interpreters through the ages has been to explain how the gap between perception and intellection is bridged, that is, how do we manage to get an actual thought such that the intellect acquires a piece of information (concept, *nóēma*) about a universal thinkable object (*noētón*)? And what is the ontological status of such a thinkable object, given that it is not autonomous like a Platonic idea?

Aristotle provided clues to possible solutions, but did not give one continuous description mapping the road from the perception of particulars to the acquisition of universal concepts. One thing has been clear to all interpreters, however: any attempt to bridge the gap between the particular and the universal must assign a central role to the Aristotelian form.

Every object we can perceive may be analysed as a compound of stuff ('matter') and a programme for its organisation ('form'). Forms in this sense came to be called "substantial forms" in the Aristotelian tradition, to distinguish them from accidental forms. Accidental forms are, among other things, perceptible features of material objects like colour, taste, shape, and size, that is, the proper objects of each of the five senses plus some features that more than one sense can catch ("common objects of perception"). Substantial forms, by contrast, are thinkable features, that is, proper objects of the intellect, though there are circumstances in which they can be said to be perceived (see below). In the case of a living being, its substantial form is its soul (*psychē*).

Aristotle seems to assume that every form of a particular thing is not particular *tout court*; in some sense it is identical with forms found in other particular things of the same kind, and thus the definition of one individual's form will be identical with that of the form of any other individual of the same species: the definition of Socrates' form will be identical to that of Alcibiades', and indeed exactly identical with the definition of the universal man; what the definition captures is the essence of man. In any case, the objects of intellection, *ta noētá*, Latin *intelligibilia*, are contained in the forms we can perceive, Aristotle says in *De anima* 3.8. In the same chapter he says that in perception the sense receives the form (*éidos, speciēs*) of the perceptible object and actualises its potentiality for becoming like that object: "It is not the stone, but its form that is in the

soul";[12] "Initially, the perceptual capacity of the soul (*to aisthētikón*) is poten-
tially such as the perceptible object (*to aisthētón*) is actually, and when it is
being affected [by the object] it is not like (*hómoion*) it, but after being affected
it has become like (*hōmoíōtai*) it and is such as it [i.e. the object] is."[13]

What exactly is meant by the assimilation to the object of perception has
been endlessly debated, among other reasons because some passages seem to
indicate that it is the sense organ rather than the capacity of sensation that is
assimilated, but this need not detain us here.[14] More importantly: whatever
happens when we perceive a whitish thing, we do not just perceive a proper
object of perception, such as the whitish colour of something in front of us,
but also some common objects of perception; thus we are likely to notice that
the colour belongs to something with a certain shape and size and that it is
moving or at rest, and at *De anima* 2.6, 418a20–23 Aristotle even indicates that
through "accidental perception" we may be aware that the thing is actually a
person we know.[15]

So, Aristotelian sense-perception is rich in information. Still the Philosopher
is very stingy when it comes to explaining how we get from perception to
intellection, that is, how we grasp the universals embedded in the forms of
particulars that we perceive. At the end of *Posterior Analytics* he seems to indi-
cate that once we have gathered and stored several similar sense-impressions,
we make an intuitive leap to the universal. In other words, a being with a ratio-
nal soul will spontaneously form concepts of universals after perceiving and
remembering a sufficient number of similar things. This is what it is to acquire
universals by induction (*epagōgē*). Aristotle also stresses that any intellectual
thought-process requires the contemplation, somehow, of *phantásmata*. Now,
an Aristotelian *phántasma* is the result in us of something appearing to us –
the contents of an appearance as absorbed by us – and both in *De anima* 3.8
and elsewhere Aristotle links *phantasía*, the faculty of entertaining appear-
ances, very closely to sensory input; it may perhaps be described as an ability

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12   *De An.* 3.8, 431b29–432a1; trans. Ebbesen.

13   *De An.* 2.5, 418a3–6; trans. Ebbesen.

14   A philosophically sophisticated account is Hendrik Lorenz, "The Assimilation of Sense to
     Sense-object in Aristotle," *Oxford Studies in Ancient Philosophy* 33 (2007): 179–220.

15   The subject of the so-called "accidental perception" in Aristotle is notoriously difficult,
     since it is not clear whether and to what extent the perception of accidental objects of
     perception requires involvement of the intellect. A classic study is Stanford Cashdollar,
     "Aristotle's Account of Incidental Perception," *Phronesis* 18 (1973): 156–75. See also Mika
     Perälä's chapter "Aristotle on Incidental Perception" in *Forms of Representation in the
     Aristotelian Tradition, Volume One: Sense Perception*, ed. J. Toivanen (Leiden: Brill, 2022),
     66–98.

to regurgitate, as it were, stored sense-impressions, *aisthēmata*.[16] So, even after having intuitively leaped from the particular to the universal, we preserve a life-line back to the senses and particulars.

5   Concepts and Language

It was pointed out in section one above that, according to Aristotle, our having rational souls means that we human beings have a natural ability to acquire concepts as a follow-up to our natural abilities to perceive, represent, and remember things. But what does Aristotle actually tell us about concepts? The Aristotelian word that best fills the bill for meaning "concept" is *nóēma*, but, alas, he only uses it sparingly. As we shall see in a moment, it can be used of mental units like man and white, but also about mental propositions, which are composite like the assertoric sentences that are their vocal counterparts, and which are true or false. This ambiguity is pervasive in Aristotle: the border between universal terms and universal propositions is fluid. In fact, the universal that, according to *Posterior Analytics* 2.19, one reaches at the end of an induction looks more like a universal proposition than like a universal concept-term. The key passage on *noēmata* is *De interpretatione* 1:

> Now spoken sounds are symbols of affections in the soul (*en tēi psychēi pathēmata*), and written marks symbols of spoken sounds. And just as written marks are not the same for all men, neither are spoken sounds. But what these are in the first place signs (*sēméia*) of – affections of the soul (*pathēmata tēs psychēs*) – are the same for all; and what these affections are likenesses (*homoiōmata*) of – things (*prāgmata*) – are also the same. These matters have been discussed in our work on the soul, they do not [properly] belong to the present discipline. Now, just as some thoughts (*noēmata*) in the soul are neither true nor false while some are necessarily one or the other, so also with spoken sounds. For falsity and truth have to do with combination and separation. Thus names and verbs by themselves – for instance 'man' or 'white' when nothing further is added – are like a thought (*nóēma*) that is without combination or

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16   Cf. Aristotle, *Somn.Vig.* 2, 456a24–26: "Some people move in their sleep and do many things like people awake, but not without some *phántasma* and some *aísthēsis*, for a dream-sight is in a way an *aísthēma*" (κινοῦνται δ᾽ ἔνιοι καθεύδοντες καὶ ποιοῦσι πολλὰ ἐγρη-γορικά, οὐ μέντοι ἄνευ φαντάσματος καὶ αἰσθήσεώς τινος· τὸ γὰρ ἐνύπνιόν ἐστιν αἴσθημα τρόπον τινά); trans. Ebbesen.

separation; for so far they are neither true nor false. A sign of this is that even 'goat-stag' signifies (*sēmaínei*) something but not, as yet, anything true or false – unless 'is' or 'is not' is added (either simply or with reference to time).[17]

Notice here that the word for "affection" is *páthēma*, that is, a noun of the type describing the outcome of the verbal "action," in this case the result of *páschein*, that is, of being subjected to some outside stimulus. The source of the *páthēma* Aristotle had in mind most probably was sensory input or some derivative thereof. Such an affection is described as a *homoíōma*, that is, the result of an assimilation to some *prāgma*. Aristotle refers to his lectures on the soul for further discussion of assimilation – if a definite passage in *De anima* is intended, a good candidate is the one from 3.8 quoted above, where perceiving was described as an assimilation of the sensitive part of the soul to the object of sensation. But what is it that the soul has been assimilated to? *Prāgmata*, the text says, using the plural of the noun *prāgma*. Unfortunately, *prāgma* is ambiguous;[18] according to its formation, the word ought to signify the outcome produced by somebody acting (*práttein*), a state of affairs, and this may have been what Aristotle had in mind, but in everyday language *prāgma* had become an unspecific word for "thing," and this seems the only possible sense in *De interpretatione* 7:

> Now, *prāgmata* come in two types: universal and particular. I call universal that in whose nature it is to be predicated of several [items], and particular that for which this is not the case. Thus Man is an example of a universal, Callias of a particular.[19]

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17 *Int.* 1, 16a3–18, trans. Ackrill, in Aristotle, *Categories and De Interpretatione: Translated with Notes* (Oxford: Clarendon Press, 1963), modified by Ebbesen. The literature on this passage is huge. See, for instance, Deborah Modrak, *Aristotle's Theory of Language and Meaning* (Cambridge: Cambridge University Press, 2001), 13–27; David Charles, *Aristotle on Meaning and Essence* (Oxford: Clarendon Press, 2000), 78–110; Ronald Polansky and Mark Kuczewski, "Speech and Thought, Symbol and Likeness: Aristotle's *De Interpretatione* 16a3–9," *Apeiron* 23 (1990): 51–63. The literature about the specific issue of interior discourse or mental language ("mentalese" in contemporary philosophical jargon) is less enormous. For an overview of the history of the notion of a language of thought, see Claude Panaccio, *Le discours intérieur de Platon à Guillaume d'Ockham* (Paris: Seuil, 1999).

18 Cf. Pierre Hadot, "Sur divers sens du mot *pragma* dans la tradition philosophique grecque," in *Concepts et catégories dans la pensée antique*, ed. P. Aubenque (Paris: Vrin, 1980), 309–19.

19 *Int.* 7, 17a38–b1, trans. Ebbesen, slightly paraphrasing.

There may be ways to reconcile the state-of-affairs interpretation with the characterisation of man and Callias as *prāgmata*,[20] but the Aristotelian tradition has overwhelmingly opted for taking the "things" meant to be items like man and not states of affairs.

Aristotle does not explicitly identify the *noēmata* of which he speaks next with the affections of the soul mentioned earlier, but most commentators have done so. And rightly so, it seems.

According to *De interpretatione*, then, a concept is a mental entity, the soul in the state of having been assimilated to some object of intellectual thought, whether this object be term-like or of a propositional character. Let me call them "simple" and "compositional" concepts, respectively. Concepts have linguistic counterparts, the text says: verbs or nouns for simple concepts and sentences for compositional ones. These counterparts differ according to which linguistic community a speaker belongs to, but the concepts of which they are symbols or signs[21] are shared by all humans – not, of course, in the sense that everybody must have exactly the same stock of concepts, but in the sense that the same type of object will elicit an identical concept in everybody. When Aristotle says that linguistic entities are signs of mental entities, that is, concepts, he must mean "of the speaker's concepts," but the claim of inter-human identity of concepts makes room for a listener's reproducing in himself the speaker's thought.

A note on Latin terminology. The authoritative Latin translation of *De interpretatione* by Manlius Boethius from the early sixth century rendered *nóēma* as *intellectus* and *pathēmata* as *passiones*, but in his commentary on the passage Boethius used *conceptiones* to paraphrase *pathēmata*, availing himself of a term of Stoic origin, Greek *katálēpsis* "grasp(ing)," a variant translation of which is *conceptus* – the direct ancestor of the English *concept*. In the early phase of Western scholasticism (twelfth century), *intellectus* was the standard word for "concept" with only a moderate competition from *conceptus* and *conceptio*, which were long used interchangeably. In the thirteenth century, *intentio*, a translation of Avicenna's *maʿnā* also began to be used, though it was mainly restricted to specialised contexts, while *conceptus* started to gain ground. Finally, *conceptus* became the standard term in the fourteenth century.

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20   See, in particular, Lambertus Marie de Rijk, *Aristotle, Semantics and Ontology* (Leiden: Brill, 2002), esp. 1:105–14.

21   In recent generations some scholars have argued – wrongly, I think – that to Aristotle "being a symbol of" and "being a sign of" were not synonymous, as they have traditionally been taken to be. The debate was started by Norman Kretzmann, "Aristotle on Spoken Sound Significant by Convention," in *Ancient Logic and its Modern Interpretations*, ed. J. Corcoran (Dordrecht: Reidel, 1974), 3–21.

For *prāgmata* Boethius offers *res*, which is not ambiguous in the way that the Greek word is.

6   Aristotle's Mental Language

From Plato Aristotle inherited the notion of an internal discourse (*ésō lógos*) that underlies the utterance of sentences.[22] He only mentions it by name once, in *Posterior Analytics* 1.10, in a passage that runs:

> demonstration is not addressed to the external (*éxō*) *lógos*, but to the one in the soul (*ho en tēi psychēi*), since deduction (*syllogismós*) is not either. For one can always object to the external *lógos*, but not always to the internal (*ésō*) *lógos*.[23]

There is, however, also an indirect reference to the internal discourse in *Categories* 6:

> that a *lógos* is a quantity is evident, since it is measured by long and short syllables; I mean here the *lógos* that is spoken.[24]

A compositional concept of the type mentioned in the beginning of *De interpretatione*, one that can be true or false, must be an internal *lógos* in the sense of a mental proposition corresponding to an external, spoken assertoric sentence (*lógos apophantikós*). Does it have a structure? The way Aristotle introduces it strongly suggests so, and also that it has the same structure as a well-formed external counterpart, which, following in Plato's footsteps, he takes to be made up of two different types of component: one (the subject) is a name (*ónoma* in Greek, *nōmen* in Latin) identifying the topic of discourse, the other (the predicate, *rhēma*, *verbum*) enounces something about the thing named. Aristotle does, however, in a departure from Plato, notice that instead of being represented by a verb the predicate can be broken up into a noun (substantive, adjective or participle) + *is* and in the *Prior Analytics* he treats assertoric sentences as composed of two end-points ("terms") of the same type joined by means of *is* or *is not*. His syllogistics depends on the ability of a term to switch from having the role of predicate in one premise to having that of subject in another.

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22   Plato, *Sophist* 263e3–5; *Philebus* 38e1–39a7.

23   *APo.* 1.10, 76b24–7, trans. Ebbesen.

24   *Cat.* 6, 4b32–5, trans. Ackrill, modified by Ebbesen.

The passage from *Posterior Analytics* cited above suggests that the primary bearer of truth and falsehood is the mental proposition rather than its spoken representation.

This is about as much as we can safely say about Aristotelian concepts and their relation to language and the external world without getting involved in violent disputes between interpreters. There was plenty for later Aristotelians to develop and disagree about.

7   Hot Topics in the Aristotelian Tradition

7.1   *Abstraction*

The sketchy Aristotelian accounts of how to get from sensible particulars to intelligible universals cry for supplementation.[25] In much of the later tradition "abstraction" becomes a key notion, and there were any number of theories of how the forms perceived in sensation are separated, "abstracted," from all traces of matter and particularity. In one version, popular in thirteenth-century Latin Aristotelianism, this involves the production in the mind of a *species intelligibilis*, that is, a "form of the object of intellection," abstracted from and analogous to the *species sensibilis*, "the form of the thing perceived." Just as, according to *De anima*, we sense a thing by means of a *species sensibilis*, so by means of a *species intelligibilis* we can think of something in a universal way and entertain a concept (*intellectus* or *conceptus*).

Some theories of abstraction stayed loyal to Aristotle in not introducing any autonomous universal factors, but a Platonic streak is found in many Aristotelians, be they Greek, Arabic, or Latin. Thus the agent intellect described by Aristotle in *De anima* 3.5 could be developed into a supra-personal "agent intellect" (*intellectus agens*), and this, or some matter-less "intelligence," or divine illumination – effectively access to a world of ideas – might be held responsible for the fact that humans share concepts.

The intrusion of the Platonist theory into Aristotelian exegesis was facilitated by the shared vocabulary: words like *noéin*, *noētós*, *nóēma*, etc. were used by extreme Platonists as well as by Aristotle, but with different metaphysical and epistemological baggage attached to them, and an interpreter without a thorough knowledge of the history of philosophy could easily come to conflate doctrines from a Platonist source with Aristotelian doctrine, whether he read his texts in Greek, in Arabic, or in Latin.

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25   A recent study on the subject is Allan Bäck, *Aristotle's Theory of Abstraction* (Cham: Springer, 2014).

A note on Greek and Latin terminology. The Greek *éidos*, originally "looks," is Aristotle's technical word for "form." The Latin translators of Aristotle rendered it *forma* on most occasions, except when it means a class subordinate to a *genus*. However, in some passages, including *De anima* 3.8, 431b29–432a1, where *forma* would have been preferable, they used *species*. The phrases *species sensibilis* and *species intelligibilis* were slightly ambiguous: they were often taken to mean "perceptible/intelligible form," but were also sometimes interpreted as "form of the object of perception/intellection."

The Greek *aphaírēsis*, rendered *abstractio* in Latin, meant the subtraction of matter from form or the extraction of form from matter. Aristotle himself had primarily used the term *aphaírēsis* with respect to the process of subtraction that produces mathematical entities like the number 5 considered without the objects counted. In Latin it became traditional to distinguish between the *concrētum* and the *abstrāctum*. *Concrētum* originally meant "grown together" (a participle of the verb *concrēscō*), but in the heyday of Latin scholasticism it was taken to be the participle of *concernō* "consider together." Aristotle's own preferred terms for hylomorphic entities considered with respect to both of their components were *to sýntheton*, "the composite," and *to sýnolon*, "the complete totality."

Intelligentiae was the common medieval name for such separate, that is, matter-less, substances as the movers of the celestial spheres and those occurring in the emanation hierarchies of *Liber de causis* (an Arabic compilation based on Proclus' *Elements of Theology*), al-Fārābī, and Avicenna (*al-ʿuqūl* in Arabic).

7.2 *Do Words Signify Things or Concepts?*

Historically, the dominant interpretation of the remarks about signification in *De interpretatione* 1 has been that words are only signs of extra-mental realities via their signification of mental entities. "Words signify things via concepts," as the Aristoteli-Platonists of Late Antiquity said. Around the 1270s, some Western scholastics started to argue for a direct signification of realities, though not denying that underlying concepts are needed for words to be significative.[26] But their "things" or "realities" (*res*) were of a very abstract character, for example, Avicennian common natures or quiddities rather than particulars. The fourteenth-century nominalist John Buridan (d. c.1360), who was to wield great influence until the early sixteenth century, reverted to the "things via concepts" view, but his "things" were all particulars.

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26   See Ana María Móra-Márquez, *The Thirteenth-Century Notion of Signification* (Leiden: Brill, 2015), 52–61.

7.3   *What Are Concepts Concepts Of?*

7.3.1   Supposing all concepts are universal, are they also *of* universal entities or of particulars? In an Aristotelian world there ought to be no free-floating universal entities around to grasp. What has traditionally been labelled "the problem of universals" has elicited any number of ingenious solutions from Aristotelians, ranging from something very similar to Platonism (for instance Avicenna's solution) to the resolute nominalism of William of Ockham (d. 1347) and John Buridan, whose concepts are linked by a relation of signification to every member of their respective sets of particulars.

7.3.2   Are there really, as Aristotle supposed, concepts corresponding to whole sentences? And, if not, what sort of thing does a sentence signify? For John Buridan, there were such concepts, although he called them *propositiones mentales* rather than *conceptus*. Many twelfth- and fourteenth-century Latin Aristotelians operated with a *dictum* (or *enuntiabile* or *complexe significabile*) as the signified content of a sentence, but did not necessarily locate it as an item of a mental language.[27] In fact, the scarcity of information about the interior *lógos* in Aristotle meant that it played a very modest role in the Aristotelian tradition until William of Ockham and John Buridan developed his hints into elaborate theories of mental language.[28]

7.3.3   Are there singular concepts, that is, concepts of individuals? The problem had been treated both in Antiquity and in the early Middle Ages in various guises: Can any definite description single out Socrates among all possible men? Is there such a thing as an individual essence, a Socraticity? The question about singular concepts became urgent for fourteenth-century nominalists with their assumption that the truth of a concept-proposition is required for the truth of a spoken sentence, so that the truth of "Socrates is running" would seem to depend on there being a concept of Socrates. John Buridan held that, indeed, there is such a concept, but his theory of singular concepts was anything but simple and naïve.[29]

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27   Although in several respects outdated, the best overview of the topic is still Gabriel Nuchelmans, *Theories of the Proposition: Ancient and Medieval Conceptions of the Bearers of Truth and Falsity* (Amsterdam: North-Holland, 1973) with the sequel *Late-Scholastic and Humanist Theories of the Proposition* (Amsterdam: North-Holland, 1980).

28   See Panaccio, *Discours intérieur*; Jenny Pelletier and Magali Roques, eds., *The Language of Thought in Late Medieval Philosophy: Essays in Honor of Claude Panaccio* (Cham: Springer, 2017).

29   See Earline Jennifer Ashworth, "Singular Terms and Singular Concepts: From Buridan to the Early Sixteenth Century," in *John Buridan and Beyond: Topics in the Language Sciences,*

7.3.4 Are there concepts corresponding to the copula 'is' and to the words the scholastics called syncategoremes (quantifiers, conjunctions, prepositions, etc.)? Nobody seems to have thought so before the fourteenth century nominalists, although it was well-known among the Latins, at least since the twelfth century, that Aristotle's logic is stepmotherly in its treatment of most syncategoremes, and a major production of studies of syncategoremes had started in the thirteenth century. Once again, John Buridan bites the bullet and accepts such concepts.

7.3.5 Are there concepts corresponding to names of fictional entities? No standard theory of abstraction can account for the production of a chimera-concept, but if there is no such concept, how can "chimera" be a meaningful word, and how can there be true and false statements about chimeras? This was a heavily debated topic in both ancient and, especially, medieval times.[30]

7.3.6 Supposing there is a proper word, W_{CT_1}, by which to express a certain concept, C_{T_1}, of some genuine thing T1, for someone to externalise his thought, alias concept, C_{T_1}, does he not need also a further concept, C_{WCT_1}, of W_{CT_1}? Or else, how come he says "W_{CT_1}" rather than "W_{CT_2}" or some other word? Some Latin Aristotelians, at least, felt the need for such a link between the concept and its vocal counterpart.[31]

7.3.7 What about second-order concepts? Aristotle has no terminology for distinguishing between first- and second-order concepts. Late-ancient commentators on Aristotle employed a (Stoic?) distinction between words of the first and words of the second *institution* or *imposition* (Greek *thésis*, Latin *positio* or *impositio*). Those of the first imposition signify the elementary furniture of the world, the sort of "things" that fall under the Aristotelian categories. These are words like "cat," "tawny," "yesterday," to each of which corresponds some concept. Words of the second imposition gather classes of first imposition words in the way "noun" and "verb" do, or classes of first order concepts in

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1300–1700, ed. R. L. Friedman and S. Ebbesen (Copenhagen: Det Kongelige Danske Videnskabernes Selskab, 2004), 121–51.

30 See Sten Ebbesen, "The Chimera's Diary," in *The Logic of Being: Historical Studies*, ed. S. Knuuttila and J. Hintikka (Dordrecht: Reidel, 1986), 115–43; reprinted in *Greek-Latin Philosophical Interaction: Collected Essays of Sten Ebbesen* (Aldershot: Ashgate, 2008), 1:35–58.

31 See Sten Ebbesen, "Psammetichus' Experiment and the Scholastics: Is Language Innate?" in *The Language of Thought in Late Medieval Philosophy: Essays in Honor of Claude Panaccio*, ed. J. Pelletier and M. Roques (Cham: Springer, 2017), 287–302.

the way "species" and "genus" do; their mental correlates will be second-order concepts.[32]

This ancient doctrine underlies Avicenna's famous dictum that logic studies the second *ma'ānī* (Lat. *intentiones*) that are attached to the primary ones.[33] The straightforward interpretation is that while the natural sciences are about first-order universals like man, logic is about second-order universals like species or the subject of a proposition. This was recognised by Latin scholastic readers of Avicenna, for whom *intentiō* developed the specialised meaning of "type of concept," the process culminating in the work of Radulphus Brito (fl. 1290s). Brito combined the first/second intention distinction with that between concrete and abstract, so that the concept man is a first intention *in concreto*, humanity a first intention *in abstracto*, universal a second intention *in concreto*, and universality a second intention *in abstracto*.[34]

7.4   *How Do We Get Concepts That Encapsulate the Essences of Things?*

If concepts contain no information beyond what our senses provide, and the senses can only register accidental forms like colour, shape, and size, how does it come about that we have genuine concepts of substances such as man, whose substantial form or essence is not observable? In a baffling remark in *Posterior Analytics* 2.19, Aristotle says:

> when one of the undifferentiated things makes a stand, there is a primitive universal in the mind (for though one perceives the particular, perception is of the universal – e.g. of man but not of Callias the man).[35]

This would suggest that one can take a shortcut to the universal by contemplating just one individual of a species and save oneself the trouble of induction,

32   See Sten Ebbesen, *Commentators and Commentaries on Aristotle's Sophistici Elenchi: A Study of Post-Aristotelian Ancient and Medieval Writings on Fallacies* (Leiden: Brill, 1981), 1:141–58; reprinted as "Porphyry's Legacy to Logic: A Reconstruction," in *Aristotle Transformed*, ed. R. Sorabji (London: Duckworth, 1990), 141–71. See also Ebbesen, "Imposition of Words."

33   Avicenna, *The Metaphysics of Healing: A Parallel English-Arabic Text* [= *al-Ilahīyāt min al-Shifā'*], trans. M. Marmura (Utah: Brigham Young University Press. 2004), 7; Avicenna Latinus, *Liber de philosophia prima sive scientia divina* I–IV, ed. S. Van Riet (Louvain: Peeters / Leiden: Brill, 1977), 1.2, 10. For more about Avicennian *ma'ānī*, see chapter three in this volume, 95–140.

34   Cf. Ana María Mora-Márquez and Iacopo Costa, "Radulphus Brito," in *The Stanford Encyclopedia of Philosophy*, ed. E. N. Zalta (2018), https://plato.stanford.edu/archives/spr2018/entries/radulphus-brito/.

35   *APo.* 2.19, 100a15–b1; trans. J. Barnes, *Posterior Analytics* (Oxford: Clarendon Press, 1975).

and indeed someone like Radulphus Brito thought this was possible, although he did not believe substantial forms to be directly accessible to the senses. Rather, inspired by Averroes, he thought that *operatio arguit formam*: the function reveals the form. And the essential functions of the form of, for instance, man are accessible to perception (plus a little intellectual processing of the data provided by the senses): we can see, hear, and feel by touch that a human being metabolises food and grows, that it moves and senses, even that it reasons. These are the outward manifestations, the *apparentia*, of a form – a soul – comprising the nutritive, the perceptual, and the thinking part. Brito thought that it does not necessarily take observation of several humans to recognise that the defining feature of being rational is apt to be shared by several individuals or that having sensation (the defining feature of an animal) is apt to be shared by even more individuals.

Some forty years after Brito, Nicholas of Autrécourt (d. 1369) in the 1330s caused consternation by claiming that there was no way to infer the existence of a substance from the existence of accidents. With this strike at the heart of Aristotelian ontology and epistemology he became a harbinger of later revolts against Aristotelianism, which culminated in David Hume's critique of the notion of substance.

7.5   *Can Extra Information Ride Piggy-Back on Sense-Perception?*

In a famous passage Avicenna claims that in sensing an object an animal may get a *maʿnā* out of the situation that is not actually conveyed by the senses.[36] The example is a lamb seeing a wolf: besides what the lamb sees, it also comes into possession of a *maʿnā*, namely the hostility of the wolf: this is the *maʿnā* of the wolf, the meaning it has to this type of observer. *Maʿnā* was translated as *intentiō* in Latin, and in the Western tradition many people would say that two sorts of information may be extracted from the process of perception, namely perceived forms (*species sensatae*) and imperceptible intentions (*intentiones insensatae*). The imperceptible intentions are not, strictly speaking, formal traits of the object – certainly they are not essential traits, and at most they are formal in the weak sense in which properties in the categories of relation, time, and place may be said to be "formal."

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36   Avicenna, *al-Shifāʾ, al-Nafs*, ed. F. Rahman (Oxford: Oxford University Press, 1959), 43 and 166; Avicenna, *Liber de anima seu Sextus de naturalibus*, ed. S. Van Riet (Louvain: Éditions Orientalistes / Leiden: Brill, 1968), vol. 2, 4.1, 6.79–84.

8   Contributions to This Volume

As in many other matters, so in the matter of concept formation and concept use Aristotle has a richer story to offer than Plato, but also a story that is riddled with holes – untold parts of the story that are needed to make the parts he actually tells cohere properly. Countless generations of Aristotelians – Greek, Arabic, and Latin alike – have tried to develop the story into a coherent whole, sometimes by importing into it ideas that are fundamentally foreign to Aristotelian thought, but often rather (or also) by developing hints offered by the old master. The most famous (or infamous) example is offered by the many developments of the obscure remarks about an active or productive intellect in *De anima* 3.5. Many interpreters think that Aristotle introduced the agent intellect in order to explain how essences become actually intelligible. Namely, to become actually intelligible, they have to be separated from the external world in which they exist and transferred to the soul. But this act of separation, which was later termed "abstraction," can itself only be an act of intellection, and it seems impossible that an intellect which has "no other nature than this, that it is potential" (*de An.* 3.4, 429a21–22) – admittedly, that is our human intellect – should be able to carry out such an act. So, in addition to the potential or passive intellect, an active one is needed.

The nature of this active intellect has been the subject of endless controversy. Aristotle left a clue of sorts by comparing the active intellect to light (*de An*. 3.5, 430a14–17). This momentous comparison is the subject of chapter one by BÖRJE BYDÉN. One should keep in mind that on Aristotle's theory even visible objects, although they do act on the eye and thereby cause episodes of vision, can only do so under certain circumstances, namely when the body intervening between the visible object and the eye is illuminated. Apparently, then, the actualisation of intelligible objects should be in some way analogous to the actualisation of visible objects by light. It remains a moot point, though, how this is supposed to overcome the obvious disanalogy: essences are not like colours and the potential intellect is not like the eye. Bydén shows how Aristotle's followers, from his successor Theophrastus to Byzantine scholars, grappled with the comparison.

Another absolutely crucial text of Aristotle's, as we have seen, is *De interpretatione* 1. One may wonder if the whole notion of a concept would have come to play such an important role in both past and present philosophy, were it not for that text. In chapter two, DAVID BENNETT begins with the semantic triad from that chapter – "spoken sounds, *pathēmata*, *prāgmata*" – and considers how the Arabic reception of these notions resulted in a transformation of *prāgmata* into *maʿānī* (sing. *maʿnā*), conceptual properties. Bennett argues that the introduction of *maʿānī* was a feature of the Arabic translations of

Aristotle (this may have just been a case of translators being weird), and the contemporary theological discourse on concepts and their referents. So, the paper serves a dual purpose, as indicated by the ambiguous title ("Introducing the *Maʿānī*"): it shows how the term *maʿnā* was introduced to the philosophical tradition, with all the semantic complexity it entailed, and it introduces the term to historians of philosophy, who have (perhaps) only come across it in its later, *intentio* phase.

The problems associated with the interpretation of *maʿnā* in Arabo-Islamic heritage turn out to be numerous, multifaceted, and long-standing. In chapter three, Seyed N. Mousavian confines his attention to Avicenna (Ibn Sīnā, c.980–1037) and puts forward a new perspective on the study of *maʿnā* by focusing on the "semantic" features attributed to it. He begins with an exposition of a scholarly disagreement on the interpretation of Avicenna's *The Interpretation*, in the context of Aristotle's *De interpretatione* 1, 16a7, between Dimitri Gutas and Deborah Black. Mousavian's study has three main sections. First, he looks into Avicenna's use of the term *maʿnā* and tries to explicate its technical use in some of his major works insofar as it relates to some other key concepts, such as signification and (genuine) definition, in his semantics. Second, Mousavian develops further the semantics of *maʿnā* in the context of Avicenna's logic and epistemology. His interpretation is used to explain two major logical distinctions among *maʿānī*, namely particularity vs. universality and uniqueness vs. generality, and to argue that *maʿānī* have various epistemological profiles, namely they may be intelligible, imaginable, or sensible. Third, Mousavian returns to the disagreement between Gutas and Black and explains where he thinks Gutas' argument goes astray. By putting different pieces of his interpretation together, Mousavian provides a more detailed account of the semantics of *maʿnā* and indicates some subtle points at which his reading differs from Black's.

Long before Avicenna, al-Jāḥiz's (776–868) influential view was based on the idea that "the expression is a body for the *maʿnā*, and the *maʿnā* is a soul to the expression [...] a *maʿnā* can exist without having a name, but there is no name without a *maʿnā*" (see 82n18 below). The latter claim, that is "there is no name without a *maʿnā*," immediately raises the question: What are *maʿānī*? In chapter four, Seyed N. Mousavian tries to reconstruct, at least partly, his reading of Avicenna's reply to the question. Mousavian extends that picture and applies it to some, but not all, cases of "apparent reference failure." First, he introduces the problem, the standard interpretation of Avicenna's reply, and his reasons for being dissatisfied with this interpretation. Then, in a series of short sections, he explains Avicenna's view on the distinction between the truth conditions of a simple negative predicative proposition and the nature of the proposition. Accordingly, he suggests a semantic analysis of past and

future propositions that is, in principle, applicable to propositions about imaginary objects and the assumptions in *reductio ad absurdum* arguments. At the end, Mousavian shows how his alternative interpretation can solve the original problem without leading to the undesirable consequences of the standard reading.

In chapter five, ANA MARÍA MORA-MÁRQUEZ focuses on two distinct operations crucial to concept formation that were in the focus of the medieval Latin Aristotelian tradition, abstraction and intellection. The chapter analyses the accounts in commentaries on Aristotle's *De anima* by three thirteenth-century scholars who are representative of three notoriously different accounts of concept formation: Albert the Great (c.1200–1280), Siger of Brabant (c.1240–1284) and Radulphus Brito (c.1270–1320). Mora-Márquez formulates what she calls the "medieval integration challenge for intellection" (MICI). The challenge is to account for intellection by means of a (1) non-cognitive/non-epistemic, (2) plausible and (3) positive link between intellection and essences that (4) makes intellection a good basis for non-accidental knowledge about them. All three philosophers, Mora-Márquez shows, meet (1) and (3). Siger fails to meet (4), on which Brito fares better, but leaves a gap as regards (2). Mora-Márquez argues that only Albert succeeds in meeting all four conditions. Although the three philosophers have structurally similar accounts, in that they all understand concept formation as crucially composed of two distinct psychological processes – intellection and abstraction – by submitting their accounts to the test of MICI, Mora-Márquez exposes subtle but substantial differences between their accounts.

Like Siger of Brabant, John of Jandun (c.1285–1328) subscribed to Averroes' (Ibn Rushd, 1126–1198) controversial view that all human beings, when they think, take part in one and the same intellect, which is unembodied and eternal. This view has been considered a threat to the Christian doctrine of personal immortality and it was criticised by a number of medieval Latin philosophers, most famously by Thomas Aquinas (1225–1274). However, Averroist monopsychism had its philosophical strengths, especially as an interpretation of Aristotle's *De anima* 3.4–8, so it has never been short of supporters, at least until the seventeenth century. In chapter six, MICHAEL STENSKJÆR CHRISTENSEN shows how John of Jandun was guided by monopsychist premises in his discussion of one typical Aristotelian philosophical micro-problem, that is the problem of simultaneous thought. In his *De anima* 3.2 and *De sensu* 7, Aristotle wonders whether simultaneous perception of two or more sensible qualities is possible (incidentally, this problem is also discussed by Juhana Toivanen in the first volume of this series), and Jandun raises the same problem for thought in connection with Aristotle's *De anima* 3.6, where Aristotle discusses composite

thoughts. Whereas most interpreters, before and after Jandun, believe that Aristotle would not admit simultaneous thinking of two or more unrelated objects, Jandun argues that this is possible and Christensen suggests that he came to defend that non-standard position because of his monopsychist commitments. Such commitments come with a certain set of ideas about the structure and operation of human mind, which is something that Christensen's chapter brings to light.

Finally, in chapter seven, ALEXANDER GREENBERG considers what we can learn by comparing Aristotle's views about concept acquisition to seemingly similar contemporary theories. Aristotle is usually taken to have an empiricist theory of concept possession, according to which all concepts derive from sense perception. Now in contemporary philosophy and psychology, concept empiricism has seen something of a resurgence, having been defended by the philosopher Jesse Prinz and the psychologist Lawrence Barsalou. Greenberg's focus in this chapter is on how these contemporary theories are similar to Aristotle's concept empiricism and how they differ from it. Greenberg suggests that the key difference in Aristotle's account of concept acquisition is that, despite being empiricist, it gives a greater role to the intellect than contemporary theories do. Greenberg also suggests that this key difference might be an advantage that an Aristotle-inspired concept empiricism has over contemporary concept empiricism. Thus, Greenberg's chapter highlights how an issue which has been at the heart of the Aristotelian tradition – the question of what role the intellect plays in concept acquisition and learning, and how it transcends perception – has relevance for contemporary debates in the philosophy of mind.

We hope this volume clearly demonstrates that, although the old master's body may have been cremated more than 2,300 years ago, his intellect has remained very much alive, from antiquity to date.

9 The Resources

As we have pointed out in section two above, Aristotle's theory of cognition and conceptualisation has to be reconstructed from several places. The first central text is *De anima*, especially chapters 2.5–3.2 on sense perception, chapter 3.3 on imagination, and chapters 3.4–8 on the thinking part of the soul. The second place to look at is the collection of short psycho-physiological treatises known as the *Parva naturalia*, where the first two are of immediate relevance: *De sensu et sensibilibus*, which supplements Aristotle's treatment of sense perception in *De anima*, and *De memoria et reminiscentia*, which gives an account of memory

and the human ability to recall things that do not present themselves automatically when needed. For the editions and translations of *De anima* and *Parva naturalia*, we refer the reader to the introduction to volume one of this series.[37]

Another central text is the very first chapter of *De interpretatione*, where we find a brief sketch of the relationship between linguistic items and the corresponding mental and extramental items. This chapter has been described as "the most influential text in the history of semantics."[38] The latest critical edition was prepared by Hermann Weidemann.[39] The standard English and German translations with accompanying commentaries are by John Ackrill and Hermann Weidemann, respectively.[40] A book-length commentary on this one chapter of *De interpretatione*, with extensive bibliography, is Simon Noriega-Olmos' *Aristotle's Psychology of Signification*.[41]

The very first chapter of *Metaphysics* (1.1) and the very last chapter of *Posterior Analytics* (2.19) tell a story of how we get from sense perception and memory, through experience (*empeiría*) – a sort of knowledge or aptitude in a limited sphere which involve a range of experiential notions (*ennoēmata*) – to art (*téchnē*) and science (*epistēmē*), that is the productive and theoretical knowledge in a certain domain. Such knowledge operates with causal explanations and it can be taught. If coupled with the ability to grasp the first principles, which is called "intellect" (*nóus*), theoretical knowledge can be organised into a system of demonstrations from the first principles. *Nicomachean Ethics* 6.3–4 can be profitably read as a larger framework of that story.

There are countless editions, translations and commentaries on these three texts, so we can only list a few. The critical editions in the Oxford Classical Text series are considered standard.[42] The most widely used English translations of these works can be found in the Oxford translation of the complete

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37   Pavel Gregoric and Jakob Leth Fink, "Sense Perception in Aristotle and the Aristotelian Tradition," in *Forms of Representation in the Aristotelian Tradition, Volume One: Sense Perception*, ed. J. Toivanen (Brill: Leiden, 2022), 34–39.

38   Norman Kretzmann, "Aristotle on Spoken Sound Significant by Convention," in *Ancient Logic and its Modern Interpretation*, ed. J. Corcoran (Dordrecht: Springer, 1974), 3.

39   Aristotle, *De interpretatione*, ed. H. Weidemann (Berlin: De Gruyter, 2014).

40   Aristotle, *Categories and De interpretatione*, translated with notes and glossary by J. L. Ackrill (Oxford: Clarendon Press, 1963); Aristotle, *Peri hermeneias*, translation and commentary by H. Weidemann (Berlin: Akademie Verlag, 1994, 2002).

41   Simon Noriega-Olmos, *Aristotle's Psychology of Signification: A Commentay on De interpretatione 16a13–18* (Berlin: De Gruyter, 2013). See also C. W. A. Whitaker, *Aristotle's De interpretatione: Contradiction and Dialectic* (Oxford: Clarendon Press, 1996), 8–34, and Deborah K. W. Modrak, *Aristotle's Theory of Language and Meaning* (Cambridge: Cambridge University Press, 2001), 1–50.

42   Aristotle, *Metaphysica*, ed. W. Jaeger (Oxford: Clarendon Press, 1957); Aristotle, *Analytica priora et posteriora*, ed. W. D. Ross (Oxford: Clarendon Press, 1964); Aristotle, *Ethica Nicomachea*, ed. I. Bywater (Oxford: Clarendon Press, 1920).

works of Aristotle, prepared under the editorship of William D. Ross in the early twentieth century and updated by Jonathan Barnes in 1984.[43] Barnes also wrote an influential translation and commentary of *Posterior Analytics*.[44] The volume with proceedings from the Symposium Aristotelicum on *Posterior Analytics*, published in 1981, contains still relevant papers, especially by Myles Burnyeat and Charles Kahn.[45] Giuseppe Cambinano provides a careful analysis of *Metaphysics* 1.1 in his contribution to the volume with proceedings from the Symposium Aristotelicum on the first book of *Metaphysics*.[46]

There are several Greek and Arabic as well as a host of Latin commentaries on these works. Among late ancient Greek ones we may mention Ammonius' on *De interpretatione*, composed in Alexandria in the years around 500, and his pupil, John Philoponus' on *De anima* (book three only preserved in a medieval Latin translation). The first Latin commentator was Manlius Boethius (early sixth century), who produced two commentaries on *De interpretatione*, both rooted in the Greek tradition, and highly influential in medieval and early modern scholasticism. All Greek commentaries from antiquity, and a few medieval ones, were published in the Prussian Academy's *Commentaria in Aristotelem Graeca* series (1882–1909). English translations of many of them have appeared in the *Ancient Commentators on Aristotle* series, edited by Richard Sorabji (published from 1987 to 2010 by Duckworth and since 2011 by Bloomsbury), where one also finds translations of a major part of the bigger of Boethius' two companions to *De interpretatione*. The still largely unedited Greek material from the Byzantine period is to appear in the *Commentaria in Aristotelem Graeca et Byzantina* series (De Gruyter, 2020–).

Among the Arabophone philosophers, al-Fārābī (c.872–951), Avicenna, and Averroes are perhaps best known to have developed the Aristotelian proposals for how to understand the formation and use of concepts, each in his own way. In Latin translation, relevant parts of Avicenna's monumental encyclopaedia *al-Shifāʾ* and Averroes' commentaries on *De interpretatione*, *De anima*, and *Metaphysics* were to have a major impact on Western scholasticism. There are twentieth-century editions of the Latin translation of parts of *al-Shifāʾ* and of Averroes' "Long" *De anima* commentary (only extant in Latin), as well as older

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43   *The Complete Works of Aristotle: The Revised Oxford Translation*, ed. J. Barnes, 2 vols (Princeton: Princeton University Press, 1984).

44   Aristotle, *Posterior Analytics*, translated with a commentary by J. Barnes (Oxford: Clarendon Press, 1975, 2nd ed. 1993).

45   Myles Burnyeat, "Aristotle on Understanding Knowledge", in *Aristotle on Science*, ed. E. Berti (Padua: Antenore: 1981), 97–139; Charles H. Kahn, "The Role of *Nous* in the Cognition of First Principles in *Posterior Analytics* II 19," in ibid., 385–414.

46   Giuseppe Cambiano, "The Desire to Know", in *Aristotle's Metaphysics Alpha*, ed. C. Steel (Oxford: Clarendon Press, 2012), 1–42.

uncritical editions of all of the Latin translations of Avicenna and Averroes.[47] Translations of the relevant texts into modern languages are still scant,[48] but this trend is changing as the wealth of the Arabic philosophical tradition is being unlocked and studied by an increasing number of scholars and historians of philosophy versed in Arabic. General introductions to Avicenna's and Averroes' life and work can be found in the monographs by Dimitri Gutas, Jon McGinnis, Majid Fakhry, and Matteo Di Giovanni.[49] On the subject of the intellect in cosmology as well as in human psychology, the reader may wish to consult Herbert A. Davidson's monograph and the recent volume edited by Meryem Sebti and Daniel De Smet, which contains chapters on several philosophers before Averroes.[50]

From the twelfth century onwards, there was a massive production of Latin commentaries on the central Aristotelian texts – in the twelfth century only on *De interpretatione*, later also on all the rest. From the thirteenth century alone, some 25 on *De interpretatione* are still extant. However, most of the works from the medieval period have never been edited, and standard histories of philosophy tend to concentrate on authors who were members of religious orders, and whose confrères not only facilitated the manuscript diffusion of their literary legacy but also took care to have it printed at an early date, and later in several cases critically edited. The Dominicans Albert the Great and Thomas Aquinas, and the Franciscan John Duns Scotus (c.1265–1308) are among the most famous

47   Avicenna, *Liber de anima seu Sextus de naturalibus*, ed. S. Van Riet, 2 vols. (Louvain: Peeters / Leiden: Brill, 1972; vol. 2, Louvain: Éditions Orientalistes / Leiden: Brill, 1968); Avicenna, *Liber de philosophia prima sive scientia divina*, ed. S. Van Riet, 2 vols. (Louvain: Peeters / Leiden: Brill, 1977–1980); Avicenna, *Logica* (*Logique du Šifāʾ*), ed. F. Hudry (Paris: Vrin, 2018); Averroes, *Commentarium magnum in Aristotelis De anima libros*, ed. F. S. Crawford (Cambridge, MA: The Mediaeval Academy of America, 1953).

48   Al-Fārābī, *Commentary and Short Treatise on Aristotle's De interpretatione*, trans. F. W. Zimmermann (London: Oxford University Press, 1981); Avicenna, *Metafisica* (Milano: Bompiani, 2002) contains the Arabic text, a reprint of Van Riet's edition of the Latin translation and an Italian translation by O. Lizzini; Averroes, *Commentaire moyen sur le De interpretatione*, trans. A. Benmakhlouf and S. Diebler (Paris: Vrin, 2000); Averroes, *Long Commentary on the De Anima*, trans. R. C. Taylor (New Haven: Yale University Press, 2009).

49   Dimitri Gutas, *Avicenna and the Aristotelian Tradition* (Leiden: Brill, 2014); Jon McGinnis, *Avicenna* (New York: Oxford University Press, 2010); Majid Fakhry, *Averroes* (*Ibn Rushd*): *His Life, Works and Influence* (Oxford: Oneworld, 2001); Matteo Di Giovanni, *Averroè* (Rome: Carocci, 2017). For al-Fārābī, see Ulrich Rudolph, "Chapter 8: Abū Naṣr al-Fārābī," in *Philosophy in the Islamic World*, vol. 1: *8th–10th Centuries*, ed. U. Rudolph, R. Hansberger, and P. Adamson, trans. R. Hansberger (Leiden: Brill, 2017), 526–654.

50   Herbert A. Davidson, *Alfarabi, Avicenna, and Averroes, on Intellect* (New York: Oxford University Press, 1992); Meryem Sebti and Daniel De Smet, eds., *Noétique et théorie de la connaissance dans la philosophie arabe du IXᵉ au XIIᵉ siècle: Des traductions gréco-arabes aux disciples d'Avicenne* (Paris: Vrin, 2019).

examples. Since about 1950 increased attention has been accorded to the products from the arts faculties, in particular that of the University of Paris. There is a huge literature on epistemology in Latin Aristotelianism, but few translations into modern languages of the relevant commentaries on Aristotle.[51] Some guidance into the field may be found in part six ("Metaphysics and Epistemology") of *The Cambridge History of Later Medieval Philosophy* and in part four ("Soul and Knowledge") of the first volume of *The Cambridge History of Medieval Philosophy*.[52]

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51 Even Thomas Aquinas has been translated only fragmentarily. See the list in *Thomas Aquinas in English: A Bibliography*, at http://aquinas-in-english.neocities.org/. We are only aware of one translation of a whole question commentary on *De interpretatione*: John Duns Scotus, *Duns Scotus on Time & Existence: The Questions on Aristotle's De Interpretatione*, trans. E. Buckner and J. Zupko (Washington, DC: Catholic University of America Press, 2014). This, in fact, contains both of Scotus' two sets of questions on *De interpretatione*.

52 Norman Kretzmann, Anthony Kenny, and Jan Pinborg, eds., *The Cambridge History of Later Medieval Philosophy* (Cambridge: Cambridge University Press, 1982), 383–517; Robert Pasnau and Christina Van Dyke, eds., *The Cambridge History of Medieval Philosophy* (Cambridge: Cambridge University Press, 2010), 1:293–396.

Aristotle's Light Analogy in the Greek Tradition

Börje Bydén

1   Introduction

In *De anima* 3.5, 430a14–17, Aristotle makes a famous distinction between two kinds of intellect (*noûs*), one which "becomes all things" and one which "makes all things." By "things" we should no doubt understand "things in the realm of intellect," maybe episodes of intellection (or individual thoughts), maybe intelligible objects (or concepts). Aristotle compares the intellect that "makes all things" to "a kind of state (*héxis*), such as light." The light analogy is a rare clue to understanding his views about the nature of this intellect – the "active" or "productive" intellect (*noûs poiētikós*), as it came to be called in the later tradition – and its role in human intellection, whether it is supposed to "produce" individual thoughts or concepts or both (or, for that matter, neither, but something else).[1] The pity is that the analogy itself is rather obscure. Aristotle left it to his commentators to explain exactly what the relation is between the *secunda comparata* or source terms of the analogy, namely, light and colours, that he considers to be similar to that between the *prima comparanda* or target terms, so as to be able to define more precisely the respective natures and roles of the two kinds of intellect.

In this paper, I will outline some of the problems that face the interpretation of the light analogy and examine some of the responses to these problems offered by the Greek commentators on the *De anima*. "Commentators" should be understood here in a wide sense. In fact, my main focus will be on the responses offered by Alexander of Aphrodisias (fl. early third century), whose most relevant extant work, also entitled *De anima*, is a compendium of

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1   Shelves of articles and books have been written on the nature and role of the productive intellect. A brief introduction to its history of interpretation will be found in Fred D. Miller Jr., "Aristotle on the Separability of Mind," in *The Oxford Handbook of Aristotle*, ed. C. Shields (Oxford: Oxford University Press, 2012), 306–40, esp. 320–40; for a "survey of earlier interpretations" (which omits, e.g., all the Greek Neoplatonists), see Franz Brentano, *Die Psychologie des Aristoteles, insbesondere seine Lehre vom νοῦς ποιητικός* (Mainz: Franz Kirchheim, 1867), 5–36 (trans. R. George as "*Nous Poiētikos*: Survey of Earlier Interpretations," in *Essays on Aristotle's De anima*, ed. M. C. Nussbaum and A. Oksenberg Rorty (Oxford: Oxford University Press, 1992), 313–41).

Aristotelian psychology rather than a commentary proper,[2] and on the criticism of Alexander's responses in two of those line-by-line commentaries that were written in the sixth and seventh centuries by Neoplatonists, namely those by John Philoponus and his spurious namesake, Ps.-Philoponus. Philoponus' commentary is based on lectures by Ammonius: the part on book three is extant only in a medieval Latin translation covering chapters 4–8 and fragments in the original Greek.[3] Only book three of Ps.-Philoponus' commentary

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2 Cf. Alexander, *De anima*, ed. I. Bruns (Berlin: Georg Reimer, 1887), 2.4–9. According to Paolo Accattino and Pierluigi Donini, trans., *Alessandro di Afrodisia, L'anima* (Rome: Laterza, 1996), vii–viii, the *De anima* depends closely on Alexander's lost commentary on Aristotle's *De anima*. The section on intellect (*de An.*, 80.16–92.11) roughly follows the plan of Aristotle's work (*de An.* 3.4–5; 3.8); from 88.17 to 91.6 it follows Aristotle's *de An.* 3.5 so closely as to be to a large extent, in effect, a paraphrase. For the correspondences between the two works, see M. Bergeron and R. Dufour, eds. and trans., *Alexandre d'Aphrodise, De l'âme* (Paris: Vrin, 2008), 15–18. The account of intellect in the so-called *Mantissa*, ed. I. Bruns (Berlin: Georg Reimer, 1887), 106.18–113.24, henceforth Alexander(?), *De intellectu* (or *de Int.*), has been held to differ subtly but significantly from that in Alexander's *De anima*. This has led some modern scholars to conclude that it is probably spurious (see especially the arguments in Paul Moraux, *Alexandre d'Aphrodise: Exégète de la noétique d'Aristote* (Liège: Bibliothèque de la Faculté de Philosophie et Lettres de l'Université de Liège, 1942), 135 and 140–41 with notes), whereas others think it may reflect an earlier phase in the development of Alexander's views (e.g., Paul Moraux, *Der Aristotelismus bei den Griechen von Andronikos bis Alexander von Aphrodisias*, vol. 3, *Alexander von Aphrodisias* (Berlin: De Gruyter, 2001), 392–94; Robert W. Sharples, ed., *Alexander Aphrodisiensis, De anima libri mantissa* (Berlin: De Gruyter, 2008), 2, 148–49, 151, and 154–55). A minority view worthy of consideration is that it is a later attempt by Alexander to fill in the details left unstated in the *De anima* (Bernardo C. Bazán, "L'authenticité du 'De intellectu' attribué à Alexandre d'Aphrodise," *Revue philosophique de Louvain* 71 (1973): 468–87). Bruns' edition of the *Mantissa* was superseded by Sharples, ed., *Alexander Aphrodisiensis, De anima libri mantissa*, but the page and line numbering of the former is retained in the latter.

3 William of Moerbeke's translation of chapters 4–8 is usually referred to as the *De intellectu* (John Philoponus, *Commentaire sur le De Anima d'Aristote: Traduction de Guillaume de Moerbeke*, ed. G. Verbeke (Louvain-la-Neuve: Publications Universitaires de Louvain / Paris: Béatrice-Nauwelaerts, 1966)). Numerous extracts of the Greek original have been preserved in Sophonias' paraphrase (late thirteenth century), as documented by Simone van Riet, "Fragments de l'original grec du 'De Intellectu' de Philopon dans une compilation de Sophonias," *Revue Philosophique de Louvain* 63 (1965): 5–40. Sophonias' paraphrase may derive from an intermediary paraphrase, also lost in the Greek but preserved in an Arabic adaptation (see Rüdiger Arnzen, *Aristoteles' De anima: Eine verlorene spätantike Paraphrase in Arabischer und Persischer Überlieferung* (Leiden: Brill, 1998), 104–7). Extracts of the Greek original have also been preserved in the margins of cod. Laur. Plut. 87,20, as announced by Carlos Steel, "Newly Discovered Scholia from Philoponus' Lost Commentary on *De anima* III," *Recherches de Théologie et Philosophie médiévales* 84 (2017): 223–43. For Philoponus' authorship, see the introduction to the English translation by William Charlton (John Philoponus, *On Aristotle on the Intellect* (London: Duckworth, 1991)).

is extant.[4] I will only sporadically refer to the paraphrase by Themistius, the fourth-century orator and statesman, and not at all to the line-by-line commentary by Priscian of Lydia (Ps.-Simplicius, early to mid-sixth century).

2 Text and Context

All commentators devote disproportionately large parts of their *De anima* commentaries (or the equivalent) to chapter 3.5. But the passage of Aristotle's chapter in which we are now interested is very short, only three lines. So let us begin by looking at a rather literal translation of our focus text, as established by Sir David Ross in his 1961 edition (T_2), preceded by the first four lines of the chapter (T_1). The texts have been divided into segments for easy reference.[5]

> (T_1) (a) Since, in the whole of nature, one thing is matter for each genus – (b) and this is what is potentially all those things – (c) and another thing is what is causative and productive, (d) in virtue of making all things, (e) as is the situation with an art relative to its matter, (f) it is necessary that these divisions obtain also in the soul (430a10–14).[6]
>
> (T_2) (a) And this kind of intellect exists in virtue of becoming all things, (b) whereas the other [exists] in virtue of making all things, (c) in the manner of a kind of state (d) such as light: (e) for in a certain way light, too, makes what are potentially colours into actual colours (430a14–17).[7]

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4   For arguments in favour of attributing this commentary to Stephanus (fl. c.610?), see the introduction to the English translation by William Charlton (*"Philoponus," On Aristotle on the Soul 3.1–8* (London: Duckworth, 2000), 1–12); for a recent attempt to defend Philoponus' authorship, see Pantelis Golitsis, "John Philoponus' Commentary on the Third Book of Aristotle's *De anima*, Wrongly Attributed to Stephanus," in *Aristotle Re-Interpreted: New Findings on Seven Hundred Years of the Ancient Commentators*, ed. R. Sorabji (London: Bloomsbury, 2016), 393–412. For a reassessment of the evidence concerning Stephanus' identity and date, see Mossman Roueché, "A Philosophical Portrait of Stephanus the Philosopher," in A*ristotle Re-Interpreted: New Findings on Seven Hundred Years of the Ancient Commentators*, ed. R. Sorabji (London: Bloomsbury, 2016), 541–63.

5   For summaries of Aristotle's discussion of intellect in *de An.* 3.4–5, see Sten Ebbesen's and Pavel Gregoric's Introduction, 4–5, and Ana María Mora-Márquez' "Abstraction and Intellection of Essences in the Latin Tradition," 181–82, in this volume.

6   (a) Ἐπεὶ δ᾿ [ὥσπερ] ἐν ἁπάσῃ τῇ φύσει ἐστὶ [τι] τὸ μὲν ὕλη ἑκάστῳ γένει ([b] τοῦτο δὲ ὃ πάντα δυνάμει ἐκεῖνα), (c) ἕτερον δὲ τὸ αἴτιον καὶ ποιητικόν, (d) τῷ ποιεῖν πάντα, (e) οἷον ἡ τέχνη πρὸς τὴν ὕλην πέπονθεν, (f) ἀνάγκη καὶ ἐν τῇ ψυχῇ ὑπάρχειν ταύτας τὰς διαφοράς· (*de An.*, ed. W. D. Ross (Oxford: Clarendon Press, 1961), 3.5, 430a10–14).

7   (a) καὶ ἔστιν ὁ μὲν τοιοῦτος νοῦς τῷ πάντα γίνεσθαι, (b) ὁ δὲ τῷ πάντα ποιεῖν, (c) ὡς ἕξις τις, (d) οἷον τὸ φῶς· (e) τρόπον γάρ τινα καὶ τὸ φῶς ποιεῖ τὰ δυνάμει ὄντα χρώματα ἐνεργείᾳ χρώματα. (*De An.* 3.5, 430a14–17.)

I will say a few words about the grammar and lexicon of T_2 in a moment. Let me first say something about its immediate context (T_1) and the way that our commentators understand it.

The text of T_1 as transmitted in our manuscripts is ungrammatical: both "*epeí*" ("[s]ince") and "*hṓsper*" ("just as") in 430a10 mark the beginnings of dependent clauses, each of which would require a main clause to complete its meaning; but there is in fact only one (compound) dependent clause ($T_1a + c$) and one main clause (T_1f). To remedy this situation one may delete either "*epeí*" or "*hṓsper*." Since both Alexander's and Themistius' paraphrases of T_1–T_2 begin with "*epeí/-dé*"[8] and neither of them includes any word or phrase corresponding to "*hṓsper*" in T_1a,[9] it was suggested by Ross in his two editions (1956, 1961) that "*hṓsper*" should be removed.[10]

Whether or not it is justifiable in the eyes of Textual Criticism to emend Aristotle's text just to save him from grammatical blunders, there may be an additional reason for following Ross' suggestion. If the main clause (T_1f) is modified by a dependent clause beginning with "*hṓsper*," the most natural interpretation of T_1 will be that it infers a fact about the soul *by analogy with* a fact about the whole of nature.[11] This is precisely how T_1 is interpreted by the Neoplatonist commentators, who all apparently had "*hṓsper*" in their texts, and who all hold that the human soul partly transcends nature, understood as the realm of change.[12] According to Philoponus, for instance, the reason why it is necessary that things are with the soul as they are in the whole of nature is that even the soul is not completely unchangeable ("intransmutabilis," from "*ametáblētos*"), since it is changed with respect to the passage from potentiality to actuality, although not with respect to its nature or substance.[13] Alexander

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8   Alexander, *de An.*, 88.17–24; Themistius, *in de An.*, ed. R. Heinze (Berlin: Georg Reimer, 1899), 98.12–24.

9   Alexander's "ὥσπερ" at *de An.*, 88.20 corresponds to "οἶον" in T_1e. So also Themistius' "ὡς" at *in de An.*, 98.24.

10   See the brief discussion in Sir David Ross, ed., *Aristotle, De anima* (Oxford: Clarendon Press, 1961), 296.

11   Philoponus thinks that "ἐν ἀπάσῃ τῇ φύσει" means "in the whole realm of nature," although he admits that the phrase is used loosely, so as to exclude the heavenly bodies (*de Int.*, 54.86–90). Ps.-Philoponus instead suggests (*in de An.*, ed. M. Hayduck (Berlin: Georg Reimer, 1897), 539.20–24) that it means "in each individual nature." Alexander's and Themistius' paraphrases do not allow any inferences as to whether they took "ἀπάσῃ" "collectively" or "distributively." The important thing, however, is that all commentators took "τῇ φύσει" literally, as implying the potentiality for change.

12   Philoponus, *de Int.*, 48.33–35, 54.90–94, 55.00–3, and 55.7–11; Ps.-Philoponus, *in de An.*, 539.15–18. Cf. Priscian, *in de An.*, ed. M. Hayduck (Berlin: Georg Reimer, 1882), 241.35–242.4, 242.8–9.

13   Philoponus, *de Int.*, 55.7–11; cf. id., *in de An.*, 24.23–27. It is clear that Philoponus is thinking of the passage from second potentiality (*héxis*) to second actuality (activity): cf. Ps.-Philoponus, *in de An.*, 558.30–31.

of Aphrodisias, on the other hand, interprets T$_1$ straightforwardly as setting out a general principle of causation covering everything that comes to be by nature, which is then applied, by subalternation, to the human intellect.[14] The principle is that all such causation involves two terms: a material cause and an efficient one.[15] It can be extended to those things that come to be by art, where the art is what imposes a form upon the matter.[16]

It stands to reason that, in natural as well as artificial causation, the material cause, "what is potentially all things," must be part of nature; but this is not necessarily true of the efficient cause. There seems to be no reason why an entity acting upon a natural entity could not itself be exempt from change, let alone coming-to-be. Still, if T$_1$ sets out a general principle of causation in nature and the principle applies to the human intellect, this can only be because at least the material cause of the human intellect is part of nature. And, according to Alexander, that is precisely what it is. Souls are, as Aristotle says,[17] forms of natural bodies potentially possessed of life; and thus they are, according to Alexander, inseparable from these bodies;[18] the kind of souls that belong to human beings are rational;[19] and "intellect" is just another name for the cognitive capacity of the rational soul.[20] This means that all normal human beings are born with what Alexander calls a "material intellect,"[21] which, he thinks, is "the part of soul called intellect" that Aristotle describes in the preceding chapter as being "in actuality none of the things that exist, prior to intellection."[22]

As the reader may have guessed, however, Alexander does not think that the efficient cause of the human intellect is part of nature. As a matter of fact, he identifies it with the intrinsically immaterial First Cause, which is obviously exempt from change, let alone coming-to-be.[23] It is what Aristotle, in

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14   Alexander, *de An.*, 88.17–24.

15   Alexander speaks of the second term as "something productive." The use of the expression "productive cause" to mean "efficient cause" is standard in Alexander as well as in all the other commentators. Aristotle never seems to use it, but definitely thinks of the "producer" (i.e., "agent") or "productive (i.e., active) factor" as an efficient cause (cf. *Phys.*, ed. W. D. Ross (Oxford: Clarendon Press, 1950), 2.3, 195a21–23; *GC*, ed. C. Mugler (Paris: Les Belles Lettres, 1966), 1.7, 324b13–14; *Sens.*, ed. W. D. Ross (Oxford: Clarendon Press, 1955), 4, 441a8–9; *GA*, ed. H. J. Drossaart Lulofs (Oxford: Clarendon Press, 1965), 1.21, 729b13–14).

16   Alexander, *de An.*, 88.20–22.

17   *De An.* 2.1, 412a19–21.

18   Alexander, *de An.*, 17.9–15.

19   Alexander, *de An.*, 29.23–30.6, 73.14–16, and 80.20–24.

20   Alexander, *de An.*, 81.5–12.

21   Alexander, *de An.*, 81.26–82.3.

22   *De An.* 3.4, 429a22–24. Cf. 429b30–430a2; contrast 429b5–9; cf. Alexander, *de An.*, 84.21–85.1.

23   Alexander, *de An.*, 88.24–89.21.

Metaphysics 12.7–9, refers to as a divine intellect. And since the human soul in Alexander's view is entirely natural, he does not think that the efficient cause of the human intellect is part of the human soul either, but rather that it is what Aristotle, in *De generatione animalium* 2.3, describes as an intellect "from outside." But hold on a minute: is not what Aristotle says in T$_1$f that there must be both a material and an efficient cause *in the soul*?

It is indeed, as the later commentators are quick to point out.[24] And they interpret this to mean that *not only* the kind of intellect mentioned in T$_2$a – which, like Alexander, they identify with "the intellect prior to intellection" in *De anima* 3.4, although they prefer to call it a "potential" rather than a "material" intellect – but *also* the kind of intellect mentioned in T$_2$b – that is, the "productive intellect," as it is called by Alexander and Themistius, or the "intellect in actuality," as it is called by the Neoplatonists[25] – is part of the human rational soul.[26] Accordingly, both Themistius and Ps.-Philoponus take Alexander to task for disregarding Aristotle's choice of words.[27] For Alexander only infers from the general principle of causation in T$_1$ that there should be these divisions "in the case of the intellect, too."[28]

In Philoponus' and Ps.-Philoponus' minds, on the other hand, there is no doubt that both the potential and the productive intellect are part of the human rational soul. Both commentators in fact endorse the view that the intellect in actuality is the same as the intellect in potentiality,[29] but it seems that they disagree about the type of sameness involved. Ps.-Philoponus simply claims that the two intellects are the same in subject ("*tôi hypokeiménôi*"), although not in time.[30] Philoponus, in contrast, while acknowledging that the

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24   Although, as has often been argued (e.g., by Victor Caston, "Aristotle's Two Intellects: A Modest Proposal," *Phronesis* 44 (1999): 205–7), Aristotle may well use the preposition "ἐν" with the dative in the more abstract sense of "in the case of" (LSJ s.v. ἐν A.I.7).

25   One might have supposed that "intellect in actuality" in this usage is shorthand for "intellect *only* in actuality" (cf. Themistius, *in de An.*, 98.20–22). But this is not the case: neither Philoponus nor Ps.-Philoponus accepts that the intellect mentioned in T$_2$b is *only* in actuality. Note that Philoponus also speaks of the intellect "on the level of *héxis*" as "in actuality" (i.e., first actuality) in his comments on *de An.* 3.4 (*de Int.*, 18.43–44).

26   Ps.-Philoponus, *in de An.*, 539.15–19. Cf. Priscian, *in de An.*, 223.4–11, 240.2–5. The reason why I have resorted to the seemingly pleonastic expression "human rational soul" is that, according to Philoponus, it is not strictly true that the intellect is (as Aristotle says at 429a10) a part of the *soul,* since, if it were, "either the whole soul would be immortal or the whole would be mortal, since a part is of one substance with the whole" (Philoponus, *de Int.*, 2.33–37, trans. Charlton).

27   Themistius, *in de An.*, 102.36–103.6; Ps.-Philoponus, *in de An.*, 537.17–21.

28   Alexander, *de An.*, 88.22–23.

29   Philoponus, *de Int.*, 45.53–59; Ps.-Philoponus, *in de An.*, 535.13–16.

30   Ps.-Philoponus, *in de An.*, 534.31–32, 536.7–10, 537.35–37, 540.19–20, and 554.21–23.

same intellect is at one time in potentiality and at another time – once it has been actualised – in actuality, insists that the intellect in potentiality must be actualised by an intellect from which it is numerically different: the intellect in actuality, he repeatedly says, is the intellect of the teacher.[31] Since he nowhere hints that this is a personal observation (*epístasis*), we should probably assume that his view reflects Ammonius' teaching.[32] Indeed, there is reason to suspect that it ultimately derives from the commentary of Plutarch of Athens, the teacher of Syrianus and Proclus. Both Philoponus and Ps.-Philoponus present the view they endorse as the last in a series of four pre-existing opinions about the intellect in actuality.[33] Philoponus does not mention the names of their authors, but his first three reports correspond relatively closely to the opinions attributed by Ps.-Philoponus to Alexander, Marinus, and Plotinus, and the view that the intellect in actuality is the same as the intellect in potentiality is attributed by Ps.-Philoponus to Plutarch.

Whether we should follow Ps.-Philoponus in thinking that Plutarch considered the intellects in actuality and in potentiality to be the same in subject, or emend his report on the basis of Philoponus, depends partly on our assessment of Ps.-Philoponus' reliability as a witness, partly on the inherent plausibility of the reported view. As for Ps.-Philoponus' reliability, it is worth noting that even though he appears to have made direct use of Plutarch's commentary (he mentions Plutarch's name more than 40 times in 150 pages, not infrequently in connection with finer points of textual as well as philosophical criticism), his reports are tantalisingly inconsistent. As for the plausibility of the view, it seems to have the consequence – granted that Ps.-Philoponus affirms that the intellect in potentiality is actualised by the intellect in actuality – that individual intellects are actualised by their own future selves.[34] In the name of charity, then, it seems preferable to credit Plutarch with the view reported by Philoponus, namely, that each human intellect in potentiality is actualised by another human intellect, which is in actuality beforehand.

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31 Philoponus, *de Int.*, 50.79–81, 55.4–7; cf. ibid., 10.34–37, 45.53–59, 48.28–32, 56.31–37, 58.99–3, and 91.42–49. For the teacher having (not *being*) a *héxis* and leading the student to it, see Philoponus, *in de An.*, 94.20–27.

32 On Philoponus' editions of Ammonius' lectures and the significance of *epistáseis* within them, see now Pantelis Golitsis, "Μετά τινων ἰδίων ἐπιστάσεων: John Philoponus as an Editor of Ammonius' Lectures," in *Aristotle and His Commentators: Studies in Memory of Paraskevi Kotzia*, ed. P. Golitsis and K. Ierodiakonou (Berlin: De Gruyter, 2019), 167–93.

33 Philoponus, *de Int.*, 43.18–48.32; Ps.-Philoponus, *in de An.*, 535.1–539.10.

34 As far as I can see, Ps.-Philoponus never says that the human intellect is actualised by *another* human intellect, as suggested by Henry J. Blumenthal, "Neoplatonic Elements in the *de Anima* Commentaries," in *Aristotle Transformed: The Ancient Commentators and Their Influence*, ed. R. Sorabji (London: Duckworth, 1990), 315.

This goes to show, I think, that it is wrong to suppose that the later commentators, in insisting that the productive intellect is part of the human rational soul, are simply motivated by their wish to persuade themselves and others of Aristotle's belief in the immortality of the latter. At least for the Neoplatonists this would be pointless, since in their view Aristotle considered the whole human rational soul, including the potential intellect, to be immortal. In the case of Philoponus such a motive can be definitely ruled out, since he locates the productive intellect in a numerically different soul from that on which it acts. Most of the criticism on the part of the later commentators of Alexander's identification of the productive intellect with the First Cause is in fact rather closely based on Aristotle's text.[35] I have mentioned their insistence on a literal reading of the phrase "in the soul" in T_1f. Two other points of criticism have to do with the comparison of the productive intellect to a kind of state and to light. I shall return to them in the following sections.

So, while it is very likely that the Neoplatonists had non-exegetical reasons for attributing to Aristotle, as they do, the view that the whole human rational soul is immortal, this view does not seem to entail that the productive intellect is part of the human rational soul. The only non-exegetical reason for thinking that it is that seems to be safely attributable to the Neoplatonists is the methodological principle, invoked in this context already by Plutarch of Athens, as reported by Ps.-Philoponus, that philosophical works have their unique themes, which should as far as possible govern their interpretation.[36] For the consensus is that the unique theme of the *De anima* is the souls of natural beings, so the only rational soul within its scope is human.[37]

Conversely, however, the view that the productive intellect is part of the human rational soul does seem to entail that at least part of the human rational soul is immortal. That is to say, given what Aristotle says about the productive intellect in the remainder of *De anima* 3.5, the immortality of at least part of

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35   For a recent discussion of Philoponus' arguments against the views of his opponents (especially Alexander's) and in favour of his own, see Frans A. J. de Haas, "Intellect in Alexander of Aphrodisias and John Philoponus: Divine, Human or Both?" in *The History of the Philosophy of Mind*, vol. 1, *Philosophy of Mind in Antiquity*, ed. J. E. Sisko (New York: Routledge, 2019), 306–11.

36   Ps.-Philoponus, *in de An.*, 536.2–5.

37   Philoponus, *in de An.*, 20.30–31, 55.7–13; *de Int.*, 46.80–85; Ps-Philoponus, *in de An.*, 446.5–18. Cf. Priscian, *in de An.*, 172.4–11, 187.16–17, and 191.5–8. On this application of the methodological principle, see Carlos Steel, trans., *"Simplicius," On Aristotle on the Soul 3.6–13* (London: Bristol Classical Press, 2013), 7–9. It should be noted, however, that Philoponus accepts that, towards the end of his treatises on natural philosophy, Aristotle usually "elevates himself also to the transcendent causes of natural things," and that he does so also in the *De anima* (Philoponus, *in de An.*, 20.31–34, 55.13–19; cf. ibid., 261.32–35).

the human rational soul is a necessary but not a sufficient condition for the productive intellect's being part of that soul. Consider, for instance, the following text:

> (T₃) And this intellect is separable, unaffected and unmixed, being in its essence actuality (430a17–18).[38]

T₃ follows immediately on T₂, so it seems inevitable that the phrase "this intellect" in 430a17 should refer to the productive intellect, introduced in T₂b. A few lines further down it appears – notwithstanding some difficult interpretative issues – as though Aristotle goes on to say that the productive intellect is the only thing that is immortal and eternal:

> (T₄) And once it is separated, [this intellect] is precisely what it is and nothing else, and this, and nothing else, is immortal and eternal […] (430a22–23).[39]

In view of this it goes without saying that it is impossible for Alexander, who thinks that the human soul is wholly inseparable from its natural body and therefore mortal, to identify the productive intellect with any part of it.[40]

It is worth mentioning also how the Neoplatonists deal with T₃ and T₄. Philoponus' approach is to take "this intellect" in 430a17 to refer to the sum total of potential and productive intellect, that is, the whole human rational soul, and to explain the fact that it is characterised in 430a18 as "in its essence actuality" by saying that this is not because it is not at all potential, but because like everything else it is characterised in accordance with its form rather than its matter.[41] A similar explanation is afforded by Ps.-Philoponus.[42] If this is accepted, there is nothing to prevent taking the subject of T₄, too, to be the whole human rational soul. And hey presto, what Aristotle is saying here is simply that the rational soul – as a whole – is the only thing that is immortal *in*

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38   καὶ οὗτος ὁ νοῦς χωριστὸς καὶ ἀπαθὴς καὶ ἀμιγής, τῇ οὐσίᾳ ὢν ἐνέργεια. (*De An.* 3.5, 430a17–18.)

39   χωρισθεὶς δ' ἐστὶ μόνον τοῦθ' ὅπερ ἐστί, καὶ τοῦτο μόνον ἀθάνατον καὶ ἀΐδιον […]. (*De An.* 3.5, 430a22–23.)

40   Cf. Philoponus' criticism at *de Int.*, 44.20–23 and 58.82–84. Ironically, Themistius (*in de An.*, 103.9–15) sees Alexander's position as incompatible with *de An.* 3.5, 430a22–23, since Aristotle could not possibly have meant that the productive intellect is *without qualification* the only thing that is immortal and eternal, although it is the only *part of the soul* that is so.

41   Philoponus, *de Int.*, 57.71–58.96; cf. ibid., 53.50–62.

42   Ps.-Philoponus, *in de An.*, 538.10–32, 540.6–13.

human beings. Or rather, according to Ps.-Philoponus, that it is the only thing in human beings that is *both* immortal *and* eternal, "for the non-rational and the vegetative soul [...] are immortal but not eternal."[43]

3   Grammar and Lexicon

But let us now look at our text (T_2), and let me begin by making some brief remarks on matters of grammar. The compound sentence in T_2a–d (430a14–15) presents a few syntactic problems. I would like to draw attention especially to T_2c–d, which is where the light analogy appears.

T_2c is made up of the phrase "*hṓs héxis tis*" ("in the manner of a kind of state"). This can be taken either as a predicative complement of the subject of the sentence, "*ho dé*" ("the other [intellect]") in T_2b, or as an adverbial modifier of "*poieîn*" ("making") in the same segment. On the former option, it is the productive intellect itself that is said to be like a kind of state such as light; on the latter, which is compatible with several different construals of T_2b as a whole,[44] it is rather the manner in which the productive intellect makes (all) things that is compared to the manner in which a kind of state such as light makes colours. Scholars have been divided over the issue. Thomas Aquinas read the phrase as a predicative complement: this construction was forcefully defended by Franz Brentano, who was followed by Georges Rodier.[45] To the extent that it is possible to ascertain the way that the Greek commentators construe the sentence, it seems that this is also their preferred option,[46] whereas modern interpreters and translators, at least from Robert Drew Hicks onwards, tend to take the phrase as an adverbial modifier of "*poieîn*,"[47] which is what I have also done in the translation above.

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43   Ps.-Philoponus, *in de An.*, 541.9–10.

44   (1) ὁ δὲ [ἔστιν] τῷ πάντα ποιεῖν; (2) ὁ δέ [ἔστιν τοιοῦτος νοῦς] τῷ πάντα ποιεῖν; (3) ὁ δέ [ἔστιν νοῦς] τῷ πάντα ποιεῖν. Each of the three construals presupposes a somewhat different interpretation of T_2a.

45   Thomas Aquinas, *Sent. de An.*, ed. Fratres Praedicatores, 3.4, 218b20–23; Brentano, *Die Psychologie des Aristoteles*, 169; Georges Rodier, ed. and trans., *Aristote, Traité de l'âme* (Paris: Ernest Leroux, 1900), 1:181; cf. 2:459.

46   See Philoponus, *de Int.*, 43.8–9, 56.43, 56.47–51, and 57.65–66; Ps.-Philoponus, *in de An.*, 539.26–27; cf. ibid., 534.28–30.

47   R. D. Hicks, ed. and trans. *Aristotle, De anima* (Cambridge: Cambridge University Press, 1907), 500–501. Of recent translators into English, D. W. Hamlyn (*Aristotle, De anima, Books II and III (with Passages from Book I)*, 2nd ed. (Oxford: Clarendon Press, 1993), 60) and C. D. C. Reeve (*Aristotle, De Anima* (Indianapolis: Hackett, 2017), 55) definitely do so; Christopher Shields' (*Aristotle, De anima* (Oxford: Clarendon Press, 2016), 61) and

The good news is that, despite Brentano's protestations to the contrary, it really makes little difference which construction we choose. For even if we follow the predicative option, it must be because or in so far as it makes (all) things ("*tôi pánta poieîn*," instrumental dative) that the productive intellect is said in T_2b–d to be like a kind of state such as light. On either construction, then, it is most natural to take the point of the comparison to be to qualify the manner in which the productive intellect is "productive," namely, in the same restricted sense in which a kind of state such as light makes colours. For we are told in T_2e that light makes colours only in a restricted sense ("in a certain way"). Again, to the extent that it is possible to ascertain the opinions of the Greek commentators, they seem to agree that this is indeed the point of the comparison.[48] Most if not all of them also agree that when Aristotle says that light "makes what are potentially colours into actual colours," what he really means is that light makes actual colours, which are potentially visible, actually visible.[49]

A second syntactic problem is whether the appositive "*hoîon phôs*" ("such as light") in T_2d is restrictive (answering to an omitted "*toiaútē*" in T_2c), so as to specify a unique kind of state as the *secundum comparatum*, or non-restrictive, so that it simply offers one among many possible examples of the kind of state – or *héxis* – to which the productive intellect is compared. But if the point of the comparison is to qualify the manner in which the productive intellect is "productive" as that which is described in T_2e, the scales seem already for semantic reasons to be tipped in favour of the former alternative. For it is not any random *héxis* that "makes" things in the sense in which light makes colours: the art of building, for instance, is a *héxis*, and a productive

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Fred D. Miller's (*Aristotle, On the Soul and Other Psychological Works* (Oxford: Oxford University Press, 2018), 57) renderings are more ambiguous.

48 See especially Ps.-Philoponus, *in de An.*, 539.31. Cf. Priscian, *in de An.*, 242.39–243.6.

49 Philoponus, *de Int.*, 40.31–34, 43.8–10, 56.47–50; Ps.-Philoponus, *in de An.*, 539.28–29; cf. Alexander, *de An.*, 89.1–2; Alexander(?), *de Int.*, 107.31–32; Priscian, *in de An.*, 242.36–243.3. In this they seem to follow a standard interpretation of Aristotle's theory of colours, necessary in order to avoid circularity in the definition of vision, which dates back at least to Alexander's commentary on *Sens.* 3, 439a13–16. See Todd Stuart Ganson, "What's Wrong with the Aristotelian Theory of Sensible Qualities?" *Phronesis* 42 (1997): 263–82, and Alexander, *in Sens.*, 1.14–18, 41.15–18. Themistius, however, adheres to Aristotle's wording (*in de An.*, 98.35–99.1), although he follows Alexander's interpretation in his paraphrase of *de An.* 3.2 (*in de An.*, 83.35–84.2): cf. Ganson, "What's Wrong…?" 269–70. Aristotle's wording might still be defended to the extent that he means that light makes what are *colours* in second potentiality (which are *visible* in first potentiality) into colours in second actuality (which are visible in first actuality; when they are visible in second actuality they are, of course, actually seen: *de An.* 3.2, 426a15–26).

one to boot; but this *héxis* brings buildings into existence and light does not, on Aristotle's theory, bring colours into existence. In fact, as we shall later see, it does not even act upon them: rather, it allows them to act, that is, to pass from second potentiality to second actuality. The art of building, in contrast, imposes the form of a building on some building materials, which are thereby subjected to genuine change (*kínēsis*), which is a development from first potentiality to first actuality.

Accordingly, if the point of the comparison is to qualify the manner in which the productive intellect is "productive" as that which is spelt out in T_2e, it is clear that the real *secundum comparatum* must be light, so that it is with good reason that we speak of Aristotle's "light analogy" rather than his "state analogy." In that case, the question is only why Aristotle would have bothered to mention that light is a *héxis* in the first place (if, indeed, he did: as we shall see, there may be cause for doubt). To be better equipped to answer this question, we shall have to inquire briefly into the concept of *héxis*. What role could it possibly play in the context, and how did the commentators understand it?

• • •

"*Héxis*" is the action noun of the verb "*échein*." But "*échein*" can be used both transitively, so as to mean "to have – or hold, or contain – (something)," and intransitively, usually with an adverbial modifier, so as to mean "to be (somehow) disposed." And "*héxis*" is the action noun of both transitive and intransitive "*échein*." As a result, it is radically ambiguous.[50] It is so because it is impossible to reduce either of the two verbal actions – on the one hand, the having of something, on the other, a disposition – to the other, or indeed both to a common core. Every time "*héxis*" is translated, then, the ambiguity between the two verbal actions has to be resolved – unless it is presumed that the author conflates them.[51]

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50   This ambiguity is reflected in the main division of the entry "ἕξις" in LSJ and other Greek lexica, but also in Hermann Bonitz, ed., *Index Aristotelicus* (Berlin: Georg Reimer, 1870), 260b31–261b4. See also Pierre Chantraine, *La formation des noms en grec ancien* (Paris: Edouard Champion, 1933), 283–89.

51   It has been fashionable recently to render "ἕξις" as "a state of possession/having." But this seems to me a merely apparent solution, based on a misunderstanding of the problem. For what is the difference between a having and a state of having? Of course a *héxis* in the sense of "having" is a state of having: a having is after all a state. But so is a being-(somehow)-disposed. By the same principle, then, I suppose, "ἕξις" in the sense of "state" should be rendered as "a state of being (somehow) disposed" – or why not "a state of being in a state"? But there is no reason to specify the *Aktionsart* of the verbal action every

Aristotle uses "*héxis*" in both these senses. And he seems to be aware of it. In fact, it seems to me (*pace* Stephen Menn[52]) that he makes precisely the distinction between the two verbal actions in his discussion of the different ways in which a thing can be said to be a *héxis* in *Metaph.* 5.20, 1022b4–14. Moreover, I think he shows in this discussion that he has as good a grasp of the cause of the ambiguity as could be expected from someone in possession only of a very rudimentary grammatical conceptual apparatus.[53] At any rate, he there makes a basic distinction between (1) "a kind of activity of the possessor and the thing possessed,"[54] and (2) a kind of disposition ("*diáthesis*"),[55] and points out, as a characteristic feature of (1), that it is impossible, on pain of an infinite regress, to *have* such a *héxis*.[56] But this impossibility is characteristic of all and only transitive *héxeis*.

The definition of "*héxis*" in *Categories* 8 as the more enduring subspecies of disposition ("*diáthesis*") – dispositions being one species of quality besides natural capacities and incapacities, affections, and figure or shape – clearly relates to the verbal action of intransitive "*échein*." This is the sense familiar from Aristotelian ethics, in which moral excellence is a kind of *héxis* in virtue of which we are well disposed relative to our affections.[57] Likewise, opinion, reasoning, scientific knowledge, and intellect, "by which we grasp the truth," according to *Posterior Analytics* 2.19, 100b5–6, are *héxeis* in this sense.[58] "*Héxis*"

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time a verb or a deverbal noun is translated: it is simply not informative enough to be worthwhile.

52   Stephen Menn, "The Origins of Aristotle's Concept of Ἐνέργεια: Ἐνέργεια and Δύναμις," *Ancient Philosophy* 14 (1994): 85.

53   Menn may well be right to say ("The Origins of Aristotle's Concept," 85) that Aristotle's *example* of the first type of *héxis* is of clothes being actually worn rather than tucked away in a closet. Whether Aristotle's *description* of the first type of *héxis* as "a kind of activity of the possessor and the thing possessed" (1022b4–5) fits only clothes that are actually being worn is perhaps more questionable. At least there seems to be no more reason for assuming this to be the case than for thinking that first actualities or states cannot be described as activities. In fact, supposing that Aristotle did want to say that a *héxis* in one sense is an action involving both the referent of a subject and that of a direct object (i.e., a transitive action), it is hard to envisage how he could have expressed that, with the conceptual apparatus at his disposal, in a better way than this.

54   *Metaph.* 5.20, 1022b4–5.

55   *Metaph.* 5.20, 1022b10–12.

56   *Metaph.* 5.20, 1022b8–10.

57   *EN*, ed. I. Bywater (Oxford: Clarendon Press, 1894), 2.5, 1105b25–28; 2.5, 1106a10–12; 2.6, 1106b36–1107a3.

58   Cf. also *EN* 6.3–6; *de An.* 3.3, 428a1–5.

in this sense is standardly translated as "(positive) state." Again, there is nothing impossible about *having* a *héxis* in this sense.[59]

So far, so uncontroversial. Some scholars seem to suppose,[60] however, that the sense in which a *héxis* is opposed to a privation must relate to the verbal action of transitive "*échein.*" After all, the opposite of lacking a thing is having it. But this may not be as straightforward as it appears. For it may well be the case that within this opposition, too, a *héxis* is on the basic level simply conceived of as a state, the absence of which, in a subject in which one may expect it to be present, is a privation (*stérēsis*). But since (in Greek, but not in English) a natural way to distinguish a subject in which the state is present from one in which it is absent is to say that the former "has" (English: "is in") the state, whereas the latter does not, it is but a small step to referring, in the same context, to the having of the state, too, as a "*héxis.*" The step may be all the more tempting as it allows "*héxis*" to be opposed to "*stérēsis*" even when what is present or absent is not a state, but, for instance, an activity. In this way, the privation will be opposed in one way to the state itself and in another way to the having of that state,[61] but the Greek-speaking philosopher will express both relations by the term pair "*héxis*"–"*stérēsis.*"[62] Thus "*héxis*" will be used alternately of states and of havings – and of havings, indeed, that are not even necessarily of states.[63]

So *héxeis* such as moral excellence and scientific knowledge are states. They can be possessed, but are not themselves possessings. What these two *héxeis* also have in common is that they enable activities. That is to say, they are "first actualities," as these are described, notably, in *De anima* 2.5, 417a21–b2. In the Greek commentators from Alexander onwards, "*héxis,*" in the sense of "state,"[64]

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59 Cf. *Cat.*, ed. L. Minio-Paluello (Oxford: Clarendon Press, 1949), 8, 9a10–13 et passim. See also Alexander, *in Metaph.*, ed. M. Hayduck (Berlin: Georg Reimer, 1891), 417.36–37 (commenting on *Metaph.* 5.20, 1022b8–10): τῆς γὰρ κατ' ἄλλο σημαινόμενον ἕξεως ἔστιν ἕξις, ὡς τῆς ἀρετῆς καὶ τῆς ἐπιστήμης τε καὶ τέχνης. Cf. ibid. 418.9–12.

60 E.g., Christopher Kirwan, trans., *Aristotle, Metaphysics Γ, Δ, E* (Oxford: Oxford University Press, 1971), 170.

61 Cf. *Metaph.* 10.4, 1055b11–16.

62 The discussion by Iamblichus apud Simpl., *in Cat.*, ed. K. Kalbfleisch (Berlin: Georg Reimer, 1907), 394.12–395.31 is enlightening on this subject.

63 *Mutatis mutandis*, the same may apply to the opposition state – activity, expressed by the term pair "ἕξις"–"ἐνέργεια," where there is an extra complication in that there is also the term pair "ἕξις"–"χρῆσις," where we may expect "ἕξις" to mean "having (of a state or other form)," since "χρῆσις" means "use (of a state or other form)."

64 First actualities are states but not havings. However tempting it may be, for instance, to take the genitive limiting the meaning of "ἕξιν" in Themistius, *in de An.*, 95.30–31 ([ὁ νοῦς] τὴν ἕξιν λέγεται ἔχειν τῶν νοημάτων) as an objective genitive, it seems clear that "[the intellect] is said to have the state of possessing thoughts" (Frederic M. Schroeder and

is so frequently – and sometimes formally[65] – opposed, on the one hand, to "*epitēdeiótēs*" ("suitability" or "first potentiality"), and, on the other hand, to "*enérgeia*" ("activity" or "second actuality"), that it seems fair to say that it is a technical term for "first actuality." Accordingly, all Greek commentators refer to the intellect in second potentiality described in *De anima* 3.4, 429b5–9, as being in possession of its *héxis* (or "on the level of *héxis*": "*kath' héxin*").[66]

What kind of *héxis* is it, then, to which the productive intellect is compared in T$_2$c? Is it a having or a state? Is it a "first actuality"? In T$_2$d it is specified as light. So it should be the kind of *héxis* that light is. That light is the actuality (*enérgeia*, *entelécheia*) of a transparent body *qua* transparent is expressly stated in *De anima* 2.7, 418b9 and 419a11. It is also implied in the same chapter that light is a *héxis* that belongs to a transparent body:

> (T$_5$) We have said, then, what the transparent is and what light is: it is nei-ther fire nor in general a body – nor an emanation from any body, for in that case, too, it would be some kind of body – but the *presence of* fire or something similar *in the transparent*. For, to begin with, it is not possible for two bodies to be in the same [place]. Moreover, light is considered to be contrary to darkness. But darkness is a privation of this kind of *héxis* from something transparent. It follows, clearly, that light is also the pres-ence of this [sc. fire or something similar in the transparent].[67]

For the argument to be valid, the phrase "this kind of *héxis*" (418b19) must refer either to "fire or something similar" – in which case darkness is contrary to light in the sense of being the privation, in something transparent, of that of which light is the presence – or to "the *presence of* fire or something similar" – in which case darkness is contrary to light in the sense of being, simply, the

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Robert B. Todd, *Two Greek Aristotelian Commentators on the Intellect* (Toronto: Pontifical Institute of Mediaeval Studies, 1990), 82) is a less satisfying interpretation than "[the intel-lect] is said to have the first actuality-state of the concepts" (i.e., the concepts in a state of first actuality: cf. id., *in de An.*, 95.21, 115.16).

65   Examples of the oppositions in definitional contexts are Ammonius, *in Cat.*, ed. A. Busse (Berlin: Georg Reimer, 1895), 84.21–28; Philoponus, *in de An.*, 296.25–26, 296.33–297.4.

66   Alexander, *de An.*, 85.25–86.6; Alexander(?), *de Int.*, 107.21–28; Themistius, *in de An.*, 95.21–32; Philoponus, *de Int.*, 18.43–44, 19.59–62; Ps.-Philoponus, *in de An.*, 524.28–31. Cf. Priscian, *in de An.*, 219.12–17, 228.28–34, and 229.19–32.

67   τί μὲν οὖν τὸ διαφανὲς καὶ τί τὸ φῶς, εἴρηται, ὅτι οὔτε πῦρ οὔθ' ὅλως σῶμα οὐδ' ἀπορροὴ σώματος οὐδενός (εἴη γὰρ ἂν σῶμά τι καὶ οὕτως), ἀλλὰ πυρὸς ἢ τοιούτου τινὸς παρουσία ἐν τῷ διαφανεῖ· οὔτε γὰρ δύο σώματα ἅμα δυνατὸν ἐν τῷ αὐτῷ εἶναι, δοκεῖ τε τὸ φῶς ἐναντίον εἶναι τῷ σκότει· ἔστι δὲ τὸ σκότος στέρησις τῆς τοιαύτης ἕξεως ἐκ διαφανοῦς, ὥστε δῆλον ὅτι καὶ ἡ τούτου παρου-σία τὸ φῶς ἐστιν. (*De An.* 2.7, 418b13–20.)

privation of light. The former alternative can be excluded out of hand: a *héxis* cannot be a body.[68] It follows that the kind of *héxis* we have to do with in this passage is the presence ("*parousía*") of one body in another body, although, admittedly, not in the strictest sense of the word, since one body cannot in the strictest sense be present in another body: they would be in the same place, and that is ruled out as impossible in the following line.

Does this also mean that it is the one body's "having" the other body? Or, more precisely, is it because illuminated air or water "has" fire or aether that Aristotle calls light a "*héxis*"? An alternative interpretation may be that what is described as the presence of fire or aether in a transparent body is the *effect on* the transparent body of being acted upon by a contiguous body of fire or aether. If this is what light is, then Aristotle's rationale for calling it a "kind of *héxis*" may have been that he wanted to do justice to the fact (as he saw it) that this effect is a state, a being-somehow-disposed, of the transparent body. But this is already somewhat speculative, and one may worry about whether light is enduring enough to qualify as a *héxis* in this sense anyway. Other states in Aristotle seem to correspond to the definition in *Categories* 8: at least they do not have the tendency of sublunary light to go on and off once a day or more.[69]

On the sole evidence of *De anima* 2.7, then, it may seem better to accept that light is a *héxis* because illuminated air or water "has" fire, either in the sense that fire is at its disposal, or – as suggested both by the prepositional phrase "in the transparent" (418b16–17) and by the parallel passage in *De sensu* 3[70] – in the sense that it *contains* fire.[71] This would imply that "*héxeōs*" in 418b19 is opposed to "*stérēsis*" not as any enduring state is opposed to the corresponding privation, nor indeed as the simple and unqualified having of an enduring state or of anything else is opposed to the corresponding privation, but as the containing of a body is opposed to the corresponding privation, which is a non-containing of the selfsame body (which might be why Aristotle qualifies it as "this kind of *héxis*").

The obvious objection to this is that when Aristotle in T₂ is comparing the productive intellect to a *héxis* such as light, he cannot possibly be using "*héxis*"

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68   Mark Eli Kalderon, *Form without Matter: Empedocles and Aristotle on Color Perception* (Oxford: Oxford University Press, 2015), 43–46, instead concludes that the fire referred to here is incorporeal, but I do not think this is conceivable within an Aristotelian theoretical framework.

69   Cf. Philoponus, *in de An.*, 341.27–32.

70   *Sens.* 3, 439a19–21: ὅταν γὰρ ἐνῇ τι πυρῶδες ἐν διαφανεῖ, ἡ μὲν παρουσία φῶς, ἡ δὲ στέρησίς ἐστι σκότος […].

71   For transitive "ἔχειν" meaning "to contain," cf. *Metaph.* 5.23, 1023a13–17, 1023a23–25.

in the sense of the containing of a body or even in that of having a body at one's disposal. And if the choice is between contending that the productive intellect is compared to the containing of a body and accepting that Aristotle conceived of light as an enduring state, there is no doubt that the latter option, as worrying as it may be, is much to be preferred.

4   *Héxis* in the Commentators

Neither Alexander nor Themistius ever speaks of light as a *héxis*. Philoponus, however, being the author of a line-by-line commentary, is duty-bound to take note of Aristotle's usage in T$_5$, which he does at *in de An.*, 344.13–17. It seems likely from a comparison with *in de An.*, 341.14–16 that he understands the *héxis* of which darkness is said to be a privation as a *héxis* in the sense of state, which to him as to the other commentators implies that it is a first actuality.[72] For while it may be true that light is the second actuality (or *enérgeia*) of the transparent body *qua* transparent,[73] it is only when illuminated that the transparent body is susceptible of being acted upon by colour, which means that light is the first actuality of the transparent body *qua* transmissive of colour:

> (T$_6$) For light is a *héxis* of what is transparent, but colour is such as to perfect the actuality on the level of *héxis*. For when the colour is present, that which is transparent, in turn, becomes in actuality such as to transmit the colours.[74]

In his commentary on *De anima* 2.5, Philoponus defines perfect actuality (as opposed to imperfect actuality, i.e., change) as "the instantaneous projection of the *héxis* [...]," and provides an interesting example: "[...] such as the projection of light is: for all that is suitable is instantaneously illuminated at the

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72   Philoponus uses "ἕξις" ("habitus" in Moerbeke's translation) frequently to distinguish the intellect in first actuality from the other states of intellect in his comments on *de An.* 3.4–8, including once in his discussion of 3.5 (*de Int.*, 56.34).

73   By and large, Philoponus accepts Aristotle's definition of light in *de An.* 2.7, 418b9–10, although he tries to amend it by suggesting that "actuality" in the definiens is used in lieu of "form" and "perfection" (*in de An.*, 324.27–30). Sometimes he seems to make a distinction between light and its actuality (most explicitly at *in de An.*, 153.20–21).

74   τὸ μὲν γὰρ φῶς ἕξις ἐστὶ τοῦ διαφανοῦς, τὸ δὲ χρῶμα τῆς ἐνεργείας ἐστὶ τῆς κατὰ τὴν ἕξιν τελειωτικόν. παρόντος γὰρ τοῦ χρώματος γίνεται καὶ τὸ διαφανὲς ἐνεργείᾳ διαπορθμευτικὸν τῶν χρωμάτων. (Philoponus, *in de An.* 349.25–28.) See also id., *in de An.* 322.2–11.

same time as the illuminating [body] appears."[75] Presumably the *héxis* in the definition is the subject of the projection – that is, the illuminating body's ability to illuminate – and light in the example is the (internal) object of the projection, that is, a second actuality (*enérgeia*). If so, there may be an echo in Ps.-Philoponus, who must have forgotten that the art of building is also a *héxis*: since a *héxis*, he says, projects actuality (*enérgeia*) but not substance, Aristotle's comparison of the productive intellect to a *héxis* shows that the productive intellect cannot be, as Alexander thought, the divine intellect, which projects both actuality and substance.[76] However, Ps.-Philoponus also seems to share Philoponus' understanding of the sense in which light is a first actuality, since he says that *it* projects the actuality of colours.[77]

From Philoponus' and Ps.-Philoponus' point of view, then, light is a *héxis* only in so far as it is a first actuality. Accordingly, if the productive intellect is compared to a *héxis* such as light, it is compared to a first actuality.[78] But at the end of the day, a first actuality is only a second potentiality. Philoponus takes the comparison to confirm that Aristotle's productive intellect is not, as Alexander thought, the divine intellect, for the divine intellect is no *héxis*: it is "from the outset [...] actuality without potentiality."[79] On the other hand, as Aristotle says in the text to which Philoponus refers in the cited passage (*de Interpretatione* 13, 23a21–26), an actuality that is combined with potentiality is posterior to it in time. So the comparison can also be taken to suggest that whatever possesses the productive intellect must previously have had a potentiality for possessing it. Still, it is not necessarily the case that Philoponus thinks it must have had a *first* potentiality, for, as we shall see, he distinguishes between different degrees of second potentiality. Again, Ps.-Philoponus aligns

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75 καὶ ἔστι τῷ ὄντι τελεία ἐνέργεια ἡ ἀθρόα προβολὴ τῆς ἕξεως [...] οἵα ἐστὶν ἡ τοῦ φωτὸς προβολή· ἅμα γὰρ τῷ φανῆναι τὸ φωτιστικὸν ἀθρόον πᾶν τὸ ἐπιτήδειον καταλάμπεται. (Philoponus, *in de An.* 297.2–7.) Cf. id., *de Aeternitate mundi contra Proclum*, ed. H. Rabe (Leipzig: Teubner, 1899), 65.11–18.

76 [...] καὶ ὥσπερ ἡ ἕξις ἐνέργειαν προβάλλεται καὶ οὐκ οὐσίαν, οὕτω καὶ ὁ ἐν ἡμῖν νοῦς ἐνέργειαν προβάλλεται καὶ οὐκ οὐσίαν· διὸ τούτοις ἀναλογεῖ. εἰ δὲ ταῦτα οὕτως, οὐ περὶ τοῦ θείου νοῦ ἐστιν ὁ λόγος. ἐκεῖνος γὰρ καὶ οὐσίας προβάλλεται. (Ps.-Philoponus, *in de An.*, 539.29–32.)

77 ὥσπερ γὰρ τὸ φῶς τὰ χρώματα ποιεῖ ὁρατά (οὐ γὰρ χρώματα αὐτὰ ποιεῖ, ἀλλὰ τὴν ἐνέργειαν αὐτῶν προβάλλεται) [...] (Ps.-Philoponus, *in de An.*, 539.27–29).

78 Philoponus' phrasing at *de Int.*, 56.43–47 (see n79) suggests that he considers *héxis* rather than light as the real *secundum comparatum*.

79 "Habitui proportionari ait actu intellectum, et hinc autem palam quia non de divino dicit, sed de nostro. Non enim dixit habitui proportionari divinum intellectum neque habitum esse, sed *autothen*, ut in libro Peri Hermeneias dictum est, *sine potentia actus est*. Deinde habitus proponit exemplum lumen [...]." (Philoponus, *de Int.*, 56.43–47, quoted words in italics.)

himself with his non-spurious namesake by adding, quite explicitly, that a *héxis* is a second potentiality, whereas the First Cause is not in any kind of potentiality.[80] Arguably, however, he breaks ranks a couple of pages later, when he explains that the intellect in actuality stands to the potential intellect "just as the *héxis* stands to the first potentiality (for it perfects it)."[81] For in contrast to Philoponus, Ps.-Philoponus is adamant that the potential intellect is in first potentiality. I shall return to this point towards the end of the chapter.

As has been seen, Philoponus and Ps.-Philoponus both argue that the comparison of the productive intellect to a *héxis* rules out the possibility that Alexander was right to identify it with the First Cause. Their arguments are based on the assumption that the relevant kind of *héxis* is a first actuality, an assumption that sits well with their own view that the productive and the potential intellect are one and the same, whether numerically (Ps.-Philoponus) or not (Philoponus). But does the criticism hit the mark? Inasmuch as Alexander shares the assumption that the relevant kind of *héxis* is a first actuality – or even that the relevant kind of *héxis* is inseparable from the thing that has it[82] – and inasmuch as he believes – as Philoponus suggests, and as seems reasonable anyway – that Aristotle in T₃ is referring to the productive intellect, it will certainly not be easy for him to explain how the productive intellect can *be* a *héxis*. Still, the only thing that one can reasonably demand that he explain, in his capacity of an interpreter of Aristotle, is how it can in some respect be *comparable to* a *héxis*. This should be a more manageable task, so to that extent Philoponus' and Ps.-Philoponus' criticisms are irrelevant. But there may be an even stronger reason for dismissing them. Let us see which.

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Perhaps the most intriguing feature of the Greek reception of Aristotle's light analogy is this: not only do Alexander and Themistius omit from their paraphrases the comparison of the productive intellect to a *héxis*, they do so under such circumstances that scholars have been led to suspect that they may have had a different text from ours.[83] Both of them speak, in paraphrasing T₁–T₂, of the *héxis* of the intellect, but not as a *secundum comparatum* of the productive intellect: on the contrary, this *héxis* is the result of the productive intellect's

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80   Ps.-Philoponus, *in de An.*, 537.33–35.

81   καὶ κατ' ἄλλο δὲ ἀναλογεῖ ἕξει ὁ ἡμέτερος νοῦς, οὐχ ὅτι ποιότης τίς ἐστιν, ἀλλ' ὥσπερ ἡ ἕξις ἔχει πρὸς τὸ πρῶτον δυνάμει (τελειοῖ γὰρ αὐτό) οὕτω καὶ ὁ κατ' ἐνέργειαν νοῦς τελειοῖ τὸ δυνάμει τοῦ νοῦ. (Ps.-Philoponus, *in de An.*, 539.32–35.)

82   Cf. Alexander, *de An.*, 15.12–13.

83   Rodier, *Aristote, Traité de l'âme*, 460; Hicks, *Aristotle, De anima*, 501.

action on the potential intellect. In other words, it is the first actuality of the human intellect described by Aristotle at *de An.* 3.4, 429b5–9. Thus Alexander says in the immediate sequel to his paraphrase of T$_1$ that

(T$_7$) since there is a material intellect, there must also be a productive intellect, which becomes the cause of the *héxis* of the material intellect.[84]

Similarly, Themistius affirms that by promoting the potential intellect to actuality "the intellect in actuality completes the intellect on the level of *héxis*."[85] And according to the first section of Alexander(?), *De intellectu* (Sharples' "A" section), the productive intellect, which Aristotle is said to have compared to light, "makes the potential and material intellect into an intellect in actuality by imposing the intellective *héxis* on it."[86]

Pierluigi Donini suggested that the "singularity" of Alexander's interpretation could have been obtained by "simply modifying the word order,"[87] so as to read:

(T$_2$') (a) And this kind of intellect is, in virtue of becoming all things, (c) like a kind of state, (b) whereas the other [is], in virtue of making all things, (d) similar to light.[88]

Such transpositions, he claimed, are an interpretative method well attested in Alexander's commentaries: he referred especially to *in Metaph.* 221.34–222.3.[89] But in that passage Alexander (1) expressly says that the clause order of the

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84 […] ἀναγκαῖον δοκεῖ καὶ ἐπὶ τοῦ νοῦ ταύτας εἶναι τὰς διαφοράς. καὶ ἐπεί ἐστιν ὑλικός τις νοῦς, εἶναί τινα δεῖ καὶ ποιητικὸν νοῦν, ὃς αἴτιος τῆς ἕξεως τῆς τοῦ ὑλικοῦ νοῦ γίνεται. (Alexander, *de An.*, 88.22–24.)

85 […] ἀνάγκη ἄρα καὶ ἐν τῇ ψυχῇ ὑπάρχειν ταύτας τὰς διαφοράς, καὶ εἶναι τὸν μέν τινα δυνάμει νοῦν, τὸν δέ τινα ἐνεργείᾳ νοῦν […] ὃς ἐκείνῳ συμπλακεὶς τῷ δυνάμει καὶ προαγαγὼν αὐτὸν εἰς ἐνέργειαν τὸν καθ' ἕξιν νοῦν ἀπεργάζεται. (Themistius, *in de An.*, 98.21–23.)

86 […] ὡς γὰρ τὸ φῶς αἴτιον γίνεται τοῖς χρώμασιν τοῦ δυνάμει οὖσιν ὁρατοῖς ἐνεργείᾳ γίνεσθαι τοιούτοις, οὕτως καὶ οὗτος ὁ τρίτος νοῦς τὸν δυνάμει καὶ ὑλικὸν νοῦν ἐνεργείᾳ νοῦν ποιεῖ ἕξιν ἐμποιῶν αὐτῷ τὴν νοητικήν. (Alexander(?), *de Int.*, 107.29–34.) For the testimony of the "C" section, see below.

87 Pierluigi Donini, "Alessandro di Afrodisia e i metodi dell'esegesi filosofica," in id., *Commentary and Tradition: Aristotelianism, Platonism and Post-Hellenistic Philosophy*, ed. M. Bonazzi (Berlin: De Gruyter, 2011), 103–6.

88 καὶ ἔστιν ὁ μὲν τοιοῦτος νοῦς τῷ πάντα γίνεσθαι ⟨, ὡς ἕξις τις⟩, ὁ δὲ τῷ πάντα ποιεῖν [, ὡς ἕξις τις], οἷον τὸ φῶς. Since οἷον τὸ φῶς in T$_2$'d is not likely to be an adverbial modifier of ποιεῖν in T$_2$'b, it will be preferable to construe ἔστιν in T$_2$'a (and mentally supplied in T$_2$'b) as the copula.

89 For the claim, see Donini, "Alessandro di Afrodisia," 104; for the reference, see ibid., 95–96.

transmitted text makes for obscurity, and (2) only suggests an alternative clause order that makes the sense of the transmitted text clearer, not one that alters the sense. That T$_2$', in contrast, has a different sense from T$_2$ can hardly be denied: for how could it otherwise explain the "singularity" of Alexander's interpretation?

To my mind, it is scarcely conceivable that Alexander would have interfered with T$_2$ in the way suggested by Donini unless he considered the text to be corrupt. If he did, his reasons for emendation will doubtless have been stated in his commentary proper; but since this, alas, is lost, we can only speculate. The later commentators' silence on the matter may perhaps be taken as an indication that there was no such interference with T$_2$ on Alexander's part. On the other hand, the "singularity" not only of Alexander's interpretation, but also of those of Themistius and Alexander(?) in the "A" section, would be equally well explained on the hypothesis that T$_2$' was in fact the text transmitted in the manuscripts available to these authors. And there are independent reasons to suspect that this may have been the case.

The results of our inquiry so far have shown that "*hṓs héxis tis*" is problematic in its current location (T$_2$c). That the productive intellect cannot be both a *héxis* and what is described in T$_3$ and T$_4$ is perhaps no insurmountable difficulty: T$_2$b–d is after all a comparison, which may focus on some specific common feature that does not involve separability or mode of existence. Still, the obvious candidate for such a common feature is the way in which the terms of comparison "produce" things, and in this respect the productive intellect is not comparable to *héxeis* (in the sense of states) in general, since many *héxeis* produce substances and the productive intellect apparently does not. As we have seen, there is reason to doubt whether Aristotle really conceives of light as a *héxis* in the sense of state. But even if he does, he can hardly think that this is more than coincidental to the fact that the productive intellect is comparable to light. So it remains unclear why he should mention in this connection that light is a *héxis*.

Doubts about our text may also be encouraged by the fact that Theophrastus (fr. 320B), according to Heinze's Greek text of Themistius, in his "investigations concerning Aristotle's productive intellect," asked himself what the consequences are "if the potentiality (*hē dýnamis*) is like a *héxis*."[90] This question certainly sounds as if it were prompted by T$_2$' rather than by T$_2$. According to Dimitri Gutas, however, the text on which Isḥāq ibn Ḥunayn's translation was based must have read "if it (sc. the productive intellect) is like a *héxis* or a

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90   Themistius, *in de An.*, 102.24–27. Cf. also Theophrastus fr. 316, briefly discussed in n98 below.

potentiality (*ē dýnamis*)."[91] And the three Neoplatonic commentators clearly had our text in front of them, as did Marinus, if Ps.-Philoponus' report is anything to go by.[92]

The long and the short of it is that while the indirect tradition supports the reading of our manuscripts from the fifth century onward, in its earlier stages it never seems to connect a *héxis* with the productive intellect, but rather with the potential intellect, as in T_2'. There is one apparent exception. This is Alexander(?), *De intellectu* 113.4–6 (Sharples' "C" section), where an anonymous philosopher is reported to have said that

> (T_8) one should also adapt the text in the third book on the soul to these [doctrines] and bring the *héxis* and the light to bear upon *this* [intellect], the one that is everywhere.[93]

According to the doctrines referred to by the anonymous philosopher – and rejected by Alexander(?) in the following section[94] – the intellect in actuality always pervades the whole corporeal realm: whenever an individual human body develops an organ, or instrument, suitable for use by it, the intellect in actuality latches on to this and individual human intellection ensues. This instrument is what Aristotle calls a potential intellect. The intellect in actuality is compared by the anonymous philosopher to an artisan whose art is exercised sometimes with, sometimes without an instrument.[95] Thus conceived, the intellect in actuality can be separable, in its essence actuality, and eternal, in compliance with T_3 and T_4.[96] But relative to individual human intellection it will be a *héxis*, that is, a second potentiality, which is activated by the presence of a suitable instrument, that is, a potential intellect. It does not fit this conception to compare the potential intellect, even when wielded by the intellect in actuality, to a *héxis*, since the idea is – as Alexander(?) complains in his reply[97] – that the real agent of human intellection is the intellect in actuality,

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91   Dimitri Gutas, "Appendix: Themistius on Theophrastus in Arabic (or, What Averroes Read)," in *Theophrastus of Eresus: Sources for His Life, Writings, Thought and Influence*, Commentary Volume 4: *Psychology* (*Texts 265–327*), ed. P. M. Huby (Leiden: Brill, 1999), 213 and n16.

92   Ps.-Philoponus, *in de An.*, 535.34–38.

93   […] καὶ τὴν λέξιν δὲ τὴν ἐν τῷ τρίτῳ Περὶ ψυχῆς τούτοις προσοικειοῦν ἔλεγεν δεῖν καὶ τὴν ἕξιν καὶ τὸ φῶς ἐπὶ τοῦτον φέρειν τὸν πανταχοῦ ὄντα. (Alexander(?), *de Int.*, 113.4–6.)

94   Alexander(?), *de Int.*, 113.12–24.

95   Alexander(?), *de Int.*, 112.5–113.2.

96   Cf. Alexander(?), *de Int.*, 113.2–4.

97   Alexander(?), *de Int.*, 113.12–18, esp. 16–18.

whose activity, in this specific case, is only channelled through the potential intellect.

It may be argued that the anonymous philosopher only means to recommend that T_2c should be reinterpreted, not emended by transposition. But the only conceivable reinterpretation that does not presuppose a standard interpretation according to which "the *héxis* and the light" are the *secunda comparata* of two distinct intellects is one that simply substitutes the anonymous philosopher's conception of the productive intellect for any other conception, and it would be strangely superfluous for the anonymous philosopher to end a prolonged argument in favour of his own conception by recommending that this particular passage should be reinterpreted accordingly, unless the passage presented some particular obstacle to this conception.

T_8 is really only comprehensible on the presumption that in the standard interpretation "the *héxis* and the light" are the *secunda comparata* of two distinct intellects. Such an interpretation is also implied by the paraphrases of Alexander and Themistius, as well as Alexander(?)'s "A" section. It is difficult to see how it could have become standard unless the transmitted text corresponded to T_2' rather than to T_2. And on the most natural reading of T_8 it recommends emendation of the text in such a way as to make both "the *héxis* and the light" *secunda comparata* of the productive intellect. I would submit, therefore, that Alexander(?)'s "C" section should be added to the group – otherwise consisting of Alexander, Themistius and Alexander(?)'s "A" section – of paraphrastic witnesses that testify to a text of *De anima* 3.5, 430a14–15 corresponding to T_2' rather than to T_2. Since all these witnesses are older than the entire direct tradition, their testimony should carry considerable weight.

It can hardly be claimed, however, that emending in accordance with T_2' would instantly resolve all the interpretative problems relating to T_2. To begin with, it may seem to create a new one. As we have seen, T_2 applies, either by analogy or by subalternation, the principle of causation set out in T_1 to the human intellect. We should expect T_2' to do the same. Accordingly, "this kind of intellect" in T_2'a should be the instantiation "in the soul" of the material cause invoked in T_1. A suitable candidate for such a role is the kind of intellect mentioned in *de An.* 3.4, 429a22–24 and compared in 429b30–430a2 to a blank writing-tablet, since it is in first potentiality (contrast 429b5–9). But whereas the intellect mentioned in T_2a can be identified with the intellect in first potentiality, the intellect mentioned in T_2'a cannot, since a first potentiality is not (comparable to) a *héxis*. The intellect in first potentiality only comes to be "like a kind of state" by becoming all things, that is, as a result of being acted upon by the productive intellect. And then it is already the kind of intellect in second potentiality discussed by Aristotle in *de An.* 3.4, 429b5–9, before

the excursion on "thises" and essences leading up to the two puzzles at the end of that chapter. It is entirely, I think, within the realm of possibilities for "this kind of intellect" in T_2'a to refer back to this passage,[98] but rather more disputable – to say the least – whether the intellect in second potentiality can instantiate the material cause invoked in T_1.

On the positive side, however, emending in accordance with T_2' might go some way towards resolving a problem that we have not yet really dealt with, namely, how the productive intellect can be compared to *light*.

5   Light in the Commentators

As I said above, we should expect "this kind of intellect" in T_2'a to be an instantiation of the material cause invoked in T_1. By the same token, we should expect "the other [intellect]" in T_2'b to be an instantiation of the efficient cause also invoked in T_1. In T_2', as in T_2, "the other [intellect]" is compared to light. We have seen that the point of the comparison is most naturally taken to be to qualify the way in which this intellect is "productive," that is, the sense in which it is an efficient cause. Light, Aristotle says in T_2e, is productive in the sense of actualising colour. Whether or not "colour" needs to be corrected into "the visibility of colour," in accordance with the Greek commentators' suggestion, the "production" in question can only amount to, as Thomas Aquinas pointed out, making the transparent body susceptible of being acted upon by colour.[99] In fact, light *is* this susceptibility, which enables colour to pass from first to second actuality. If one accepts that light is a *héxis* in the sense of state, one can

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98   Cf. Theophrastus, fr. 316, in Priscian, *Metaphrasis in Theophrastum*, ed. I. Bywater (Berlin: Georg Reimer, 1886), 31.8–13, where a paraphrase of *de An.* 3.4, 429b5–9 is immediately followed by the questions: (1) what is the efficient cause of the intellect's becoming each thing? And (2) what is the result of the becoming, a *héxis* or a substance? Theophrastus' answer to the second question is: "rather a *héxis*, and this is like a thing that perfects its nature." (For this interpretation – which differs from those of Pamela Huby, trans., *Priscian, On Theophrastus on Sense-Perception*, in Priscian, *On Theophrastus on Sense-Perception* with "Simplicius," *On Aristotle On the Soul* 2.5–12, trans. P. Huby and C. Steel (London: Duckworth, 1997), 40–41, and William W. Fortenbaugh et al., eds. and trans., *Theophrastus of Eresus, Sources for His Life, Writings, Thought and Influence*, Part Two: *Psychology, Human Physiology, Living Creatures, Botany, Ethics, Religion, Politics, Rhetoric and Poetics, Music, Miscellanea* (Leiden: Brill, 1992), 87 – cf. Priscian, *Metaphrasis*, 31.24–32, as well as Pamela M. Huby, *Theophrastus of Eresus: Sources for His Life, Writings, Thought and Influence*, Commentary Volume 4: *Psychology (Texts 265–327)* (Leiden: Brill, 1999), 171.)

99   "[…] hoc autem solummodo lumen facit ipsum esse actu colorem in quantum facit dyaphanum esse in actu ut moueri possit a colore et sic color uideatur." (Thomas Aquinas, *Sent. de An.* 3.4, 219b47–50.) See also Brentano, *Die Psychologie des Aristoteles*, 172–73.

argue that the action of the colour upon the transparent body promotes the latter from its illuminated state to the corresponding second actuality, which is the actual transmission of the colour: this train of thought was exemplified in T_6. But it remains a fact that the action is caused not by the light but by the colour. In short, it would seem that, on Aristotle's theory, light does not really act upon colour: it merely enables it to act upon the transparent body.[100] But this does not seem to qualify it for the role of efficient cause in the sense adumbrated in T_1.

Consequently, if the productive intellect makes things in the manner in which light "makes" colours, that is, by enabling them to act, *it* is not really an efficient cause in the sense adumbrated in T_1. It definitely cannot be compared to an art (e.g., that of building), which imposes a form upon some suitable matter, thereby changing what is an *F* in first potentiality into an actual *F*. But our reason for thinking that there is a productive intellect in the first place is that (according to T_1) the slot for efficient cause must be filled, as "in the whole of nature," so also "in the soul."

There is another side to the coin. If the potential intellect is actualised in the manner in which colours (or their visibility) are, it is itself a causal agent and cannot be a first potentiality. In which case, of course, it makes perfect sense to compare it to – indeed to say that it *is* – a kind of *héxis*.

When viewed solely in terms of the light analogy, then, T_2' makes perfect sense. "This kind of intellect" in T_2'a would refer back to *de An.* 3.4, 429b5–9. The productive intellect would "make (all) things" in the sense of enabling the potential intellect's activity. The potential intellect would "become (all) things" in the sense in which – on Aristotle's view – a field of lilies becomes multicoloured at sunrise. The productive intellect's role on such an interpretation is not to promote an intellect from first potentiality to *héxis* (first actuality) but to allow episodes of intellection (second actuality) to happen. But on such an interpretation, of course, "this kind of intellect" in T_2'a cannot instantiate the material cause invoked in T_1.

Alexander, as we have seen, takes T_1 seriously. He infers from the principle invoked by Aristotle that there is one intellect that is literally material (for change) and one that imposes its form on the material intellect. As a result, the material intellect is promoted to first actuality. Accordingly, if Alexander's manuscripts did exhibit T_2', he would have been forced to read the clause T_2'a–c as if it stated, not that "this kind of intellect" *is* a *héxis*, but that it *is made into*

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100   Similarly, when Aristotle says in *Sens.* 6, 447a11, that light "produces" (ποιεῖ) vision, this can only mean that it *enables* vision, which is the "action" of colour *qua* visible object, relayed by the illuminated body and the sense organ, upon the visual sense.

a *héxis* by the productive intellect, as suggested by his paraphrase (and even more clearly by Alexander(?), *de Int.*, 107.29–30).[101] But this would not have helped him with the light analogy. Fortunately, Alexander had the resources to make sense of the light analogy even within the framework of the interpretation suggested by his paraphrase. As we shall see below, he displays but does not actively deploy them in the *De anima*.

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It has often been pointed out that Aristotle's light analogy owes a debt to the analogy of the sun in Plato's *Republic* 6 (507a–509b). It has often been noted, too, at least from Themistius onwards,[102] that, in spite of this, the two analogies are different. We saw above that Philoponus and Ps.-Philoponus take the comparison of the productive intellect to a *héxis* to imply that Aristotle cannot have meant to identify the productive intellect with the First Cause, as Alexander thought. They take the comparison of the productive intellect to light to imply the very same thing, and for the very same reason: light, too, produces actuality, not substance. At *de Int.*, 57.57–58, for instance, Philoponus says that

> (T$_9$) if he [sc. Aristotle] were speaking in this passage of the creative intellect, it would have been more reasonable to compare it to the sun than to light.[103]

And Ps.-Philoponus makes a similar statement at *in de An.*, 537.27–28. In effect, then, both commentators reproach Alexander for misinterpreting Aristotle's light analogy along the lines of Plato's sun analogy. At *in de An.*, 539.35–39, Ps.-Philoponus suggests that it was this misinterpretation that led Alexander to misidentify the productive intellect, and that the misinterpretation was in turn based on the failure to notice that Aristotle only says that light makes all things *in a certain way*. Philoponus' diagnosis, again, is similar.[104]

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101 It is hardly by coincidence that Donini's paraphrase of T$_2$'a–c reads "['siffatto intelletto' …] *si realizza infine* come abito" ("Alessandro di Afrodisia," 104: my italics).

102 Themistius, *in de An.*, 103.32–36. For discussion of this passage, see Frans A. J. de Haas, "Themistius," in *A History of Mind and Body in Late Antiquity*, ed. A. Marmodoro and S. Cartwright (Cambridge: Cambridge University Press, 2018), 125–26.

103 "Et utique si intellectum conditorem in his diceret, rationabilius utique ipsum magis soli assimilaret, non lumini."

104 Philoponus, *de Int.*, 5.92–93.

To a certain extent, I suppose Alexander reaps what he has sown here. Having first argued, in the immediate sequel to T₇, for identifying the productive intellect with an intrinsically immaterial form,[105] he proceeds to add, in apparent emulation of Plato (*Republic* 6, 509b), that the First Cause, being the cause of all other things (and this time "things" should no doubt be taken in the widest possible sense), is also "productive" in the sense of generating "every object of intellection"[106] – a phrase that in this context must refer to the enmattered intelligible forms or essences that, according to Alexander's theory, will only subsequently be promoted from potential to actual intelligibility in the act of intellection (see below). This addition left an indelible (and I think unfortunate) mark on the twentieth-century discussion, since it convinced Paul Moraux that the productive intellect's task in Alexander's *De anima* is to produce potentially intelligible objects, the actualisation of which is then taken care of by the individual human intellects.[107]

But this is not the role assigned by Alexander to the First Cause *qua* productive intellect. On the contrary, this role is to promote the material intellect to its *héxis*, as he says in T₇. For clearly, when he goes on to say, at *de An.*, 89.6–7, that "if there did not exist something intelligible by nature, nor would any other thing become intelligible,"[108] what he means is that if there did not exist something *actually* intelligible by nature – for if something is intelligible by nature, it is *actually* intelligible[109] – nor would any other thing become *actually* intelligible. In this regard, then, neither the Neoplatonists' nor Moraux's criticism seems deserved.

Moraux also brought other charges of Platonism against Alexander, this time referring to Alexander's actual argument for identifying the productive intellect with an intrinsically immaterial form. This is again the application of a general principle, namely:

> (*P*) in every set of things with a certain property *F*, what is strictly and eminently *F* is the cause of the *F*-ness of the other members of the set.[110]

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105   Alexander, *de An.*, 88.24–89.8.
106   Alexander, *de An.*, 89.9–11.
107   Moraux, *Alexandre d'Aphrodise*, 89, 92–93; cf. id., *Der Aristotelismus bei den Griechen*, 3:389.
108   εἰ γὰρ μὴ ἦν τι νοητὸν φύσει, οὐδ' ἂν τῶν ἄλλων τι νοητὸν ἐγίνετο [...].
109   Alexander, *de An.*, 87.28–29: τὰ δὲ τῇ αὑτῶν φύσει νοητὰ κατ' ἐνέργειαν νοητά [...].
110   Cf. Alexander, *de An.*, 88.26–89.1: ἐν πᾶσιν γὰρ τὸ μάλιστα καὶ κυρίως τι ὂν καὶ τοῖς ἄλλοις αἴτιον τοῦ εἶναι τοιούτοις.

Thus it is reasonable, Alexander says, that what is strictly and eminently intelligible should be the cause of the intellection of other (less intelligible) objects too.[111] And since all intelligible objects are forms, but enmattered forms are potentially intelligible before being rendered actually so, whereas intrinsically immaterial forms are always actually intelligible, what is strictly and eminently intelligible must be an intrinsically immaterial form – granted that there is such a form, of course.[112] According to Moraux, *P* is an illegitimate (Platonist) conversion of the orthodox Aristotelian principle that the cause is greater than its effect.[113] There is no need to discuss here the legitimacy of the conversion, except to say that it was defended, I think rightly, by A. C. Lloyd.[114]

When Alexander suggests that the intrinsically immaterial form is the cause of the *intellection* ("*nóēsis*": *de An.* 89.5) of other objects, the italicised word is not necessarily a mistake for "intelligibility," as one might suspect. It appears from several passages in the *De anima* and elsewhere that it is Alexander's view that nothing can be actually intelligible unless it is actually being intelligised.[115] Ultimately, this is the reason why enmattered intelligible forms are in themselves incapable of causing intellection in a way analogous to that in which enmattered perceptible forms cause sense perception. In order to be an object of intellection, an enmattered form must be separated from its material environment by the intellect, and this separation is already an act of intellection.[116] It makes no difference, then, whether what is eminently intelligible is said to be the cause of the actual *intelligibility* of the less intelligible objects or of their actually being *intelligised*. If, on the other hand, Alexander had meant that what is eminently intelligible is the cause of the *potential* intelligibility of the less intelligible objects, as Moraux maintained, the word "intellection" would have had to be a mistake.

However, if this is Alexander's view, a problem looms. For the less intelligible objects would then have to be promoted from potentiality to actuality for each new episode of intellection; in other words, it would be impossible for concepts to be retained as such. This is a consequence that Alexander seems to accept a bit later in the text:

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111   Alexander, *de An.*, 89.4–5.

112   Alexander, *de An.*, 87.25–29.

113   Moraux, *Alexandre d'Aphrodise*, 90–92.

114   A. C. Lloyd, "The Principle That the Cause Is Greater than Its Effect," *Phronesis* 21 (1976): 150.

115   Alexander, *de An.*, 87.28–88.2, 88.10–15, and 90.2–11; cf. ibid. 86.23–28; Alexander(?), *Quaestio* 3.3, 85.7–14; *de Int.*, 108.3–15, 110.16–17, 110.28–30, 111.22–27, and 111.36–112.4.

116   Alexander, *de An.*, 84.6–9, 84.19–21, 86.29–87.1, 87.24–25, and 88.10–14; Alexander(?), *Quaestio* 1.1, 4.15–16; 1.25, 39.15–17; *de Int.*, 108.3–7, 108.14–15, and 110.17–20.

(T₁₀) For to be sure, universal and common items have their existence in particular and enmattered things, but it is when they are intelligised without matter that they become common and universal [...]. Accordingly, when separated from the intellect that intelligises them, they pass away, assuming that their being consists in being intelligised.[117]

But the evidence is ambiguous. At *de An.*, 86.5–6, for instance, Alexander speaks of the intellect on the level of *héxis*, that is, in first actuality, as "in a way" a storehouse of concepts "at rest."[118] Exactly how this metaphor is to be understood – for instance, whether there is a role here for the faculty of *phantasía* – will have to be deferred to another discussion.

Alexander adduces two other examples of *P*: light, which, being strictly and eminently visible, is the cause of the visibility of other visible objects, and the eminently good, which is the cause of the goodness of other good things,

(T₁₁) for the other things are deemed good on account of being conducive to this [sc. that which is eminently and primarily good].[119]

At first glance, neither of these examples seems to be a valid application of *P* within an Aristotelian theoretical framework.[120] To begin with the light-and-visibility example (*de An.*, 89.1–2), it presumes that light is strictly and eminently visible in the same sense in which colours are visible. This does not seem to be an orthodox Aristotelian presumption, since light on the Aristotelian theory is not visible in itself in the sense of having an intrinsic cause of visibility, but only on account of extraneous colour.[121] Alexander, on the other hand, repeatedly says, and so presumably thinks, that light *is* what

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117   τὰ γὰρ καθόλου καὶ κοινὰ τὴν μὲν ὕπαρξιν ἐν τοῖς καθέκαστά τε καὶ ἐνύλοις ἔχει. νοούμενα δὲ χωρὶς ὕλης κοινά τε καὶ καθόλου γίνεται [...]. ὥστε χωρισθέντα τοῦ νοοῦντος αὐτὰ νοῦ φθείρεται, εἴ γε ἐν τῷ νοεῖσθαι τὸ εἶναι αὐτοῖς. (Alexander, *de An.*, 90.5–8.)

118   ὁ γὰρ κατὰ ἕξιν νοῦς ἀποκείμενά πώς ἐστιν ἀθρόα καὶ ἠρεμοῦντα τὰ νοήματα.

119   τό τε γὰρ μάλιστα ὁρατόν, τοιοῦτον δὲ τὸ φῶς, καὶ τοῖς ἄλλοις τοῖς ὁρατοῖς αἴτιον τοῦ εἶναι ὁρα-τοῖς, ἀλλὰ καὶ τὸ μάλιστα καὶ πρώτως ἀγαθὸν καὶ τοῖς ἄλλοις ἀγαθοῖς αἴτιον τοῦ εἶναι τοιούτοις· τὰ γὰρ ἄλλα ἀγαθὰ τῇ πρὸς τοῦτο συντελείᾳ κρίνεται. (Alexander, *de An.*, 89.1–4.)

120   Cf. Lloyd, "The Principle," 151.

121   *De An.* 2.7, 418b4–6. On this count, too, Alexander was criticised by Moraux, *Alexandre d'Aphrodise*, 89–90. He has been defended by Accattino and Donini, *Alessandro di Afrodisia*, 185–86, and, more recently, by Victor Caston, trans., *Alexander of Aphrodisias, On the Soul*, Part 1: *Soul as Form of the Body, Parts of the Soul, Nourishment, and Perception* (London: Bristol Classical Press, 2012), 163–64n395.

is strictly and eminently visible.[122] This puts him in a position to interpret the light analogy in a way that may seem to honour the principle of causation set out in T₁, but that Aristotle could not, I think, have intended.

The goodness example (*de An.*, 89.2–4) is a more complex case. Again, there is no need to discuss the details here: Moraux condemned what he saw as a relapse into a Platonic theory of participation; others have spoken in Alexander's defence, most successfully, perhaps, Accattino and Donini, who drew attention to the correspondences between Alexander's example and *Eudemian Ethics* 1.8, 1218b7–24.[123] The fact that Aristotle in the latter text speaks of the eminently good as the final cause of human actions does not necessarily undermine the relevance of these correspondences, since the general principle *P*, which Alexander's examples are meant to illustrate, is a principle for identifying an unspecified type of cause of any determinate property. Accordingly, there is no reason to expect the examples to be restricted to efficient causes only. It is perhaps more of a worry that there are no other indications that Alexander was conversant with the *Eudemian Ethics*.[124]

Be that as it may, it is worth noting that both of these examples, the goodness example as well as the light-and-visibility one, are introduced as special instances of *P*; but *P* is only a principle for identifying causes, employed by Alexander to identify the cause of intellection. That is to say, neither example is part of a paraphrase of Aristotle's comparison of the manner in which the productive intellect produces things to the manner in which light makes colours. That is *not* to say, however, as I have already hinted, that the light-and-visibility example does not lend itself to such a paraphrase. If the productive intellect is what is strictly and eminently intelligible and light is what is strictly and eminently visible, then the productive intellect and light cause other things to be, respectively, intelligible and visible, by the same principle, namely *P*. That is, they "make (all) things" by being, respectively, the eminently intelligible and the eminently visible object. As for Alexander's interpretation of the light analogy, it is probably reflected in Alexander(?), *de Int.*, 107.31–108.2 (Sharples' "A" section) and especially 111.32–36 (Sharples' "B" section).

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122 Alexander, *de An.*, 44.13–15; id., *in Sens.*, 43.13–14, 46.21–47.1, and 47.13. Although, as Accattino and Donini point out (*Alessandro di Afrodisia*, 186), he sometimes reserves this honorific for the source of light (*de An.*, 46.2–3; *in Sens.*, 45.26–46.3).

123 Moraux, *Alexandre d'Aphrodise*, 90; Accattino and Donini, *Alessandro di Afrodisia*, 288–92.

124 See R. W. Sharples, "Schriften und Problemkomplexe zur Ethik," in Moraux, *Der Aristotelismus bei den Griechen*, 3:593–97; Gweltaz Guyomarc'h, "Racine et rejetons: Le *pros hen* selon Alexandre d'Aphrodise," *Quaestio* 13 (2013): 42n14.

In the final section I shall briefly discuss how some of Aristotle's Neoplatonist readers tried to exploit the light analogy to the full by extending its implications to the intellect compared by Aristotle in *de An.* 3.4, 429b30–430a2 to a blank writing-tablet.

As was argued above, if "this kind of intellect" in T_2a is an instantiation of the material cause invoked in T_1, it is reasonable to identify it with the intellect compared to a blank writing-tablet, since the latter is in first potentiality.[125] Not unexpectedly, some Neoplatonist readers disputed this rather literal interpretation of the writing-tablet analogy. According to a report in Ps.-Philoponus, Iamblichus maintained that the whole point of the analogy is that the souls of children do contain the rational principles (*lógoi*) of things, albeit faintly and non-manifestly.[126] A bit earlier in Ps.-Philoponus' commentary, the same interpretation is attributed to Plutarch of Athens, who apparently for this reason redesignated the intellects of children as being "on the level of *héxis*."[127] For this he was criticised, Ps.-Philoponus says, by Ammonius, who may – if 519.37–520.6 is part of the criticism introduced at 518.32–33 – have protested that he foisted on Aristotle what is really a distinctively Platonic view. If this reconstruction is correct, it is to Ammonius' credit that he took issue with what is evidently a rather strained interpretation of the writing-tablet analogy, despite being, presumably, as sympathetically disposed towards the Platonic view as he was towards the idea that the two philosophers are in fundamental agreement.[128]

Strained as it may be, this interpretation allows for the intellect in T_2a to be identified with the intellect compared to a blank writing-tablet and still be "produced" in much the same way in which colour is "produced" by light, that is, by being enabled to act. The light analogy, as Philoponus points out, is grist to the mill of the Platonisers.[129] Although the evidence is again somewhat ambiguous, it seems as though it was Philoponus' idea to make Iamblichus' and Plutarch's interpretation seem more sensible in the following ingenious way.[130] Assuming, with Aristotle, that the world is eternal and that an actual

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125   *De An.* 3.4, 429a22–24, 429b30–430a2; contrast 429b5–9.

126   Ps.-Philoponus, *in de An.*, 533.25–35.

127   Ps.-Philoponus, *in de An.*, 518.19–32. On Ps.-Philoponus' reports of Plutarch's commentary, see p. 40 above.

128   See T_{14} below. For Ammonius' acceptance of extensive harmony between Plato and Aristotle, see Richard Sorabji, "The Ancient Commentators on Aristotle," in *Aristotle Transformed: The Ancient Commentators and Their Influence*, ed. R. Sorabji (London: Duckworth, 1990), 3–4.

129   Philoponus, *de Int.*, 57.63–69.

130   On this and the other Neoplatonic attempts to read Aristotle as a champion of innate forms, see Frans A. J. de Haas, "Recollection and Potentiality in Philoponus," in *The Winged Chariot: Collected Essays on Plato and Platonism in Honour of L. M. de Rijk*, ed. M. Kardaun

infinity of immortal souls is impossible, Philoponus argues that if the rational soul is immortal, it must (at birth) possess the forms "on the level of *héxis*," that is, as a second potentiality; and, by contraposition, if it possesses the forms only as a first potentiality it must be generated and thus – since everything generated is perishable – mortal.[131] But there can be no doubt, he says, that Aristotle considers the rational soul to be immortal.[132]

The apparent contradiction between the conclusion of this argument and Aristotle's statement that the intellect prior to intellection is all its objects potentially but none actually[133] is resolved by introducing a distinction between two degrees of second potentiality, illustrated by, on the one hand, a sleeping geometer and, on the other, a waking one, and suggesting that when Aristotle describes the intellect prior to intellection as being in a first potentiality,[134] what he has in mind is the first of these two degrees: "the intellect that emerges in the world of becoming is comparable to a sleeping or raging person."[135] When he describes the intellect posterior to "learning or discovering" as being in a second potentiality,[136] he has in mind the second degree. Philoponus finds support for this interpretation in Aristotle's light analogy, inasmuch as the rising sun does not give subsistence to colours, but makes already subsisting colours manifest. In the same way,

> (T₁₂) intellect which is in actuality perfects intellect which is in potentiality and brings it to actuality not by putting into it forms which are not there, but by bringing to light forms which are non-manifest and hidden because of the state of swoon which is the effect of birth.[137]

and J. Spruyt (Leiden: Brill, 2000), 165–84. One reason for thinking that the attempted solution is Philoponus' idea, even though his commentary is based on Ammonius' teaching, is that it is introduced by the phrase "Attendere autem oportet in his […]" (*de Int.*, 37.81), corresponding to Ἐπιστῆσαι δ' ἐν τούτοις χρή […] in Sophonias, *in de An.*, 134.38. It is thus the subject of an *epístasis*, a personal observation (cf. above n32).

131   Philoponus, *de Int.*, 16.82–96, 37.81–38.98.

132   Philoponus, *de Int.*, 39.21–27.

133   *De An.* 3.4, 429a22–24, 429b29–430a2.

134   Contrast *de An.* 3.4, 429b5–9.

135   "Assimilatur intellectus in generatione proveniens dormienti aut alienato" (Philoponus, *de Int.*, 38.99–39.20, 39.27–40.43; the quoted passage at 40.42–43). It should be noted that, disconcertingly, the theory that forms are in the (newborn) rational soul "sicut sunt in dormiente geometra theoremata, et indigere ad promptum usum theorematum auferente hoc impedimentum" is credited, at *de Int.*, 14.38–45, to *Plato* and *contrasted* with Aristotle's theory that forms are in the soul in first potentiality.

136   *De An.* 3.4, 429b5–9.

137   "[…] sic videlicet et qui actu intellectus perficit eum qui potentia et ducit in actum, non imponens in ipso non entes species, sed immanifestas entes et occultas propter id quod

And thus, once the intellect in the writing-tablet analogy has taken half a step forward and the one in the light analogy half a step backward, the two are indistinguishable. The individual human intellect is at birth in potentiality, not in the sense of being a mere suitability for receiving the intelligible forms, but in the sense of lacking the intellectual transparency required in order for the existing forms to be actually intelligised. This state may equally well be described as a first potentiality of the second degree or a second potentiality of the first degree. It is a *héxis* disabled by the circumstances.

This is where the teacher comes in (cf. above, pp. 39–40), whose role is simply to remove the opacity from the student's intellect.[138] Even though individual human intellects are not from birth in a position to launch themselves into second actuality, on account of "the state of swoon" that they are in, the fact that they are born with non-manifest and hidden forms dispenses with the need for an explanation as to how they have been promoted into first actuality. And assuming, with Aristotle, that the world is eternal, there will always have been teachers around to disperse the fog.[139]

One might have expected that the same role could also be played by experience.[140] At *de Int.*, 56.31–40, however, Philoponus tries to forestall the objection that since we can find out things by ourselves, the teacher is superfluous, by insisting that it is only when we have received the principles and the *héxis* from the teacher that we can find out things by ourselves. This looks like a throwback to a "transmission-model" understanding of the productive intellect's action upon the potential intellect, and so it is tempting to speculate that it reflects Ammonius' teaching.[141]

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a nativitate nubilum, elucidans." (Philoponus, *de Int.*, 40.34–37, trans. Charlton, slightly modified.) Cf. ibid., 56.47–57.69.

138   See Philoponus, *in de An.*, 5.4–5 with context; ibid., 110.31–34; id., *de Int.*, 33.82–91.

139   Cf. Philoponus, *de Int.*, 52.17–29, 59.14–24. Arguably, even if every individual human intellect that ever existed was actualised by a previously actualised individual human intellect, the principle of prior actuality demands that there be a cause that explains why any individual human intellect has been actualised in the first place. Perhaps this is the reason why Philoponus mentions the divine intellect as well as the teacher's intellect at *de Int.*, 40.29 and 91.49, although he elsewhere (esp. *de Int.*, 56.43–47) criticises the idea that the productive intellect is divine.

140   Cf. Philoponus, *in de An.*, 110.29–36, 306.31–33.

141   Similarly, Philoponus' account of the fall and subsequent ascent of the rational soul in *in de An.*, 306.24–307.1 is in agreement with that in *de Int.*, 38.99–40.43, except for specifying (306.29–31) that the state of the soul at birth is simply first potentiality or suitability: one might be inclined to suspect, then, again, that this reflects Ammonius' teaching. Still, the anomaly is glaring, since it is hard to see, if this is the state of the soul at birth, (1) to what purpose a pre-natal state of first actuality is assumed (306.27–28) and (2) how the soul could be brought back to a state of first actuality by perceptible objects (306.31–33).

But it could also be a symptom of unresolved tension in Philoponus' interpretation. For even if, admittedly, the analogy between Philoponus' teacher's intellect and Aristotle's light is about as perfect as they come and, furthermore, there is nothing to prevent Philoponus' student's intellect from being identical with the intellect prior to intellection, since they are both understood to be in the first degree of second potentiality, there is still no way in which T_2 on Philoponus' interpretation can be the application of the principle of causation set out in T_1. For on Philoponus' interpretation, "this kind of intellect" in T_2a is not really a material cause and "the other" intellect in T_2b is not really an efficient cause.

Nor does it help to retain "*hósper*" and suppress "*epeí*" in T_1a, since the divisions that must "obtain also in the soul" (T_1f) are supposed to be identical with those "in the whole of nature" (T_1a) regardless of the nature of the relation between the two realms and the reason for the inference. It is worth reflecting upon, however, that Philoponus' justification of what he thinks is Aristotle's analogy between nature and soul (see above, p. 37), namely that the soul, too, is "changed" with respect to the passage from potentiality to actuality, also places a limitation on the degree to which the divisions in the two realms can be identical.

Ps.-Philoponus takes a much stricter view of the potential intellect. He repeatedly insists that it is not "on the level of *héxis*" but a mere suitability, containing no rational principles, and sharply rebukes anyone who argues otherwise.[142] It is surprising, therefore, to find that his elucidation of the light analogy is very similar to that of Philoponus:

> (T_{13}) For just as light does not itself make the colours, but makes those already existing manifest, so the intellect in actuality does not make things, but imprints and engraves those already existing on the potential intellect.[143]

It is tempting to read this in the light of the above-mentioned report of Iamblichus, and especially a passage in which Ammonius seems to be paraphrased to the effect that the potential intellect

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Probably, then, one has to give some "latitude" (cf. *de Int.*, 39.6, 39.12) to the meaning of "first potentiality" and "suitability" in this passage, too.

142   See Ps.-Philoponus, *in de An.*, 469.17–19, 516.24–25, 516.28–29, 516.30–31, 524.12–16, 533.24–25, 552.30–553.1, 564.38–565.6 (cf. also 558.16–17).

143   ὥσπερ γὰρ τὸ φῶς οὐκ αὐτὸ ποιεῖ τὰ χρώματα, ἀλλὰ τὰ ἤδη ὄντα φανερὰ ποιεῖ, οὕτω καὶ ὁ ἐνεργείᾳ νοῦς οὐ ποιεῖ τὰ πράγματα, ἀλλὰ τὰ ἤδη ὄντα ἐντυποῖ καὶ ἐγχαράττει τῷ δυνάμει νῷ. (Ps.-Philoponus, *in de An.*, 534.28–31; cf. ibid., 537.29–31.)

(T$_{14}$) has the intellection of all things, just as the underdrawing in a picture has the outlines of all the things [the picture] will receive, even though they are not manifest.[144]

As noted above, Ammonius is also reported by Ps.-Philoponus to have criticised Plutarch precisely for ascribing to Aristotle the view that children have in their intellects the rational principles of things although they do not yet cognise things.[145]

Are our Neoplatonists just being inconsistent? Desperate as it may seem, let us make an effort to clear at least Ps.-Philoponus of that suspicion. The metaphor of engraving reappears a couple of pages down, where Ps.-Philoponus is trying to show that "making all things" in T$_2$b can be a property of the human intellect. It can, he says, because "making all things" means "inscribing the imprints of all things in the potential intellect." Thus Aristotle "puts [the intellect in actuality] down as a scribe."[146] As employed by Ps.-Philoponus, the metaphor seems to allow that the forms should be conceived of as present in the potential intellect only in first potentiality (as characters are on a blank writing-tablet), while they actually pre-exist in the "intellect in actuality." So the metaphor by itself does not seem incompatible with Ps.-Philoponus' strict view of the potential intellect.

But how on earth is it to be combined with the light analogy? Does Ps.-Philoponus think of colours as somehow contained in and projected by light? Since no commentary by Ps.-Philoponus on *De anima* 2.7 is extant, we should obviously exercise caution, but we saw above (p. 51) that he describes light as "projecting" the activity of colours,[147] only not, presumably, onto potentially visible surfaces, but rather onto potentially seeing eyes. It is possible, then, that the light analogy has been stood on its head in Ps.-Philoponus, so that the action of the "intellect in actuality" on the potential intellect is compared to the effect of light on the visual sense rather than on the potentially visible object. And this is perhaps not so unreasonable. For as we have seen, light does not, properly speaking, act on the potentially visible object any more than it does on the visual sense: it only enables the former to act on the latter.

It is, however, a presupposition of any interpretation of the light analogy according to which the action of the productive intellect is compared to the

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144   ὁ γὰρ ἐν ἡμῖν δυνάμει νοῦς πάντων ἔχει τὴν νόησιν, ὥσπερ καὶ ἡ σκιαγραφία ἐν εἰκόνι πάντων
        ἔχει τοὺς τύπους, εἰ καὶ μὴ φανερούς, ὧν μέλλει δέξασθαι. (Ps.-Philoponus, *in de An.*, 519.8–12.)
145   Ps.-Philoponus, *in de An.*, 518.21–26.
146   Ps.-Philoponus, *in de An.*, 538.4–7.
147   Ps.-Philoponus, *in de An.*, 539.28–29.

effect of light on the visual sense that Aristotle in T$_2$e means to say not only that light promotes potentially visible objects to actuality, as all Greek commentators say he does (see above, n49), but that it promotes them to second actuality, that is, to being seen. For the only visible objects that exist in the visual sense are in second actuality.[148] Whether this kind of interpretation is in fact endorsed by Ps.-Philoponus is not so easy to ascertain: "manifest" ("*phanerá*") in T$_{13}$ could refer to a first-actuality visibility as well as a second-actuality one. It is obviously difficult to square with his claim that the intellects in actuality and in potentiality are the same in subject, although not in time, but it might work with Philoponus' identification of the former with the teacher's intellect, understood on the "transmission-model."

6   Conclusion

In broad outline, the following picture has emerged from the above discussion. One of the major challenges faced by the Greek commentators on Aristotle's *De anima* 3.5, 430a10–17 was to negotiate the tension between the principle of causation from which the existence of a "potential" and a "productive" intellect is supposed to follow and the light analogy by which the relation between the two intellects is meant to be illustrated. The principle of causation suggests (1) that the potential intellect stands to the productive one as a material cause stands to an efficient cause. That is to say, it suggests that the potential intellect is promoted from first potentiality to first actuality by the productive intellect. The light analogy, in contrast, suggests (2) that the productive intellect merely enables the activity of the potential intellect, which must then already be in first actuality independently of the productive intellect – as colours, on Aristotle's theory, are actual independently of light.

In Alexander's interpretation, all the stress is on (1). Alexander may not have been particularly troubled by its conflict with (2), since his conception of light as the eminently visible object allowed a different interpretation of the way in which light can be "productive," namely of vision rather than mere visibility. It remains the case, however, even if the "patient" of the "action" of light is understood to be the visual sense rather than colour, that this "patient" must be in first actuality independently of light. Philoponus, on the other hand, embraces the innatist implications of (2) for the interpretation of Aristotle's view of "the intellect prior to intellection," mentioned in *De anima* 3.4. He improves upon

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148   This presupposition is made explicit in the paraphrase of the light analogy in the "B" section of Alexander(?)'s *De intellectu*, 111.32–36.

earlier Neoplatonic accounts by introducing a distinction between degrees of second potentiality intended to facilitate the identification of the potential intellect mentioned in 430a14–15 with "the intellect prior to intellection."

Philoponus' and Ps.-Philoponus' criticism of Alexander's interpretation is principally aimed at his identification of the productive intellect with the First Cause. This identification, they claim, is incompatible with Aristotle's express requirements that the productive intellect should be (a) in the soul, (b) like a state (*héxis*), and (c) productive in the same way as light. Although based on Aristotle's text, their criticism is arguably irrelevant. This is particularly the case with (b), since there is reason to believe that the productive intellect was not compared to a *héxis* in Alexander's text of Aristotle. In fact, there seems to be no record of such a comparison in paraphrases and discussions of *De anima* 3.5, 430a10–17 before the fifth century CE. In these sources – including Alexander – it is instead the potential intellect that is said to become a *héxis* by the agency of the productive intellect. This suggests that they are based on a slightly different text from ours. Since this different text would readily lend itself to an innatist interpretation of the potential intellect, however, it seems unlikely that it was known to the Neoplatonic commentators, in whose accounts it has left no trace.

Appendix: Aristotle's Light Analogy in the Late Byzantine Paraphrases

Introduction

On the following pages I will briefly report and analyse the passages dealing with Aristotle's light analogy in three Late Byzantine paraphrases of the *De anima*, namely those by Sophonias (fl. c.1285), Theodore Metochites (1270–1332), and George Scholarios (Patriarch Gennadius II, c.1400–after 1472). I have searched in vain for a discussion of the light analogy in George Pachymeres' (1242–after 1307) *Philosophia* (book 7, part 3, ch. 5–8),[149] a compendium that draws, for the relevant chapters, rather heavily on Priscian's commentary and more lightly on that of Ps.-Philoponus.

Sophonias

As was noted above (p. 35n3), Sophonias' paraphrase draws either on the lost commentary on *De anima* 3 by John Philoponus or perhaps, as Arnzen

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149   Berol. Ham. 512, 122r–29v.

has argued,[150] on a paraphrase of the *De anima* (*Ψ) closely related to both Philoponus' and Ps.-Philoponus' commentaries that has been lost in the Greek original but is preserved in an Arabic adaptation (with additions from other sources).

Since the parallels between the Arabic paraphrase and Sophonias are in some passages closer not only than those between the Arabic paraphrase and the late antique commentaries on which it ultimately depends but also than those between Sophonias and Philoponus, Arnzen concludes that *Ψ must have been still accessible to Sophonias.[151] *Ψ must have been composed after c.575, regardless of the authorship of Ps.-Philoponus' commentary, since the author was also familiar with works by the late sixth-century commentators David and Elias, and before c.830, when the Arabic adaptation was executed (Arnzen ascribes it to Yaḥyā ibn al-Biṭrīq, allowing for later redactional interventions[152]). The Arabic text was later translated into Persian by Afḍaladdīn Kāshānī (d. before 1268).

A clear idea of the nature of Sophonias' paraphrase of *De anima* 3.4–8 can be gained from van Riet's table of sources.[153] Over the course of the fifteen pages devoted to these five chapters, there are about two lines per page that are not verbatim quotation or close paraphrase of either Philoponus' commentary, Aristotle's text, or, in two cases, other identifiable sources, one of which is Priscian's commentary.[154] Sophonias mentions the light analogy twice. The first time is in the course of his thirteen-line treatment of *De anima* 3.5, which appears, somewhat unexpectedly, in the middle of his section on *De anima* 3.4.[155] It consists in a reproduction of Aristotle's text with a few minor subtractions and additions, most notably the explanation, interpolated between T_2d and e,[156] that the creative intellect is similar to the sun, but our human intellect in actuality to light.[157] As we have seen, this point is made by Themistius and repeated, as part of their criticism of Alexander, by

150   Arnzen, *Aristoteles' De anima*, 80–139.

151   Arnzen, *Aristoteles' De anima*, 104–7.

152   Arnzen, *Aristoteles' De anima*, 174.

153   Van Riet, "Fragments de l'original grec," 37–40.

154   According to Hicks (*Aristotle, De anima*, 496), Sophonias' paraphrase (*in de An.*, 125.37–39) of *de An.* 3.4, 429b31–430a2 "betrays the influence of Alexander." And so it does: of Alexander's *De anima* commentary as reported by Philoponus (*de Int.*, 15.65–81).

155   Sophonias, *in de An.*, 125.15–27.

156   *De An.* 3.5, 430a15 "φῶς" and 430a16 "τρόπον"; see above p. 36n7.

157   ἔοικε γὰρ ὁ μὲν δημιουργὸς νοῦς καὶ οὐσιοποιὸς τῷ ἡλίῳ, ὁ δὲ κατ' ἐνέργειαν ἀνθρώπινος καὶ ἡμέτερος τῷ φωτί. (Sophonias, *in de An.*, 125.20–21.)

Philoponus and Ps.-Philoponus.[158] The nearest parallel in Philoponus' commentary to Sophonias' phrasing is probably *de Int.*, 57.57–61.[159]

Sophonias addresses the question of whether the intellect in actuality is internal or external to the individual human intellect at *in de An.*, 136.6–24. By way of reply he summarises the reports of the four views on the productive intellect in Philoponus, *de Int.*, 43.18–45.59 and 48.28–32.[160] His second mention of the light analogy is part of the description of the second view, according to which the intellect in actuality is "second to the first and divine [intellect], but also immediately superordinate to us and illuminating our intellect: this is also that to which, in [the proponents'] view, the example of light refers."[161]

Sophonias' description of the fourth view is based on the report in *de Int.*, 48.28–32, to the exclusion of that in 45.53–59, and his understanding of the way in which the teacher's intellect works tends decidedly towards the "transmission model" suggested by *de Int.*, 56.31–40, rather than the "illumination model" suggested elsewhere by Philoponus.[162] Interestingly, he then seems to combine the report of the fourth view in *de Int.*, 45.53–59 with Ps.-Philoponus' interpretation of it[163] into a fifth distinct view, which he himself endorses:

> Others claim that this [sc. the intellect in actuality] is that of the teacher, which perfects the potential intellect in another person by depositing the theorems and concepts of the sciences, and which has itself once been brought from potency to actuality. A fifth view besides these, which I believe is closer to the truth, is the one which states that the potential intellect and the intellect in actuality are one and the same, and not external, but internal to one and the same soul and one and the same individual human being, differing from itself in respect of perfection and imperfection.[164]

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158   P. 59 and nn102–4.

159   Cf. van Riet, "Fragments de l'original grec," 37.

160   See above, p. 40 and n33.

161   […] δεύτερον μὲν τοῦ πρώτου καὶ θείου, προσεχῶς δὲ καὶ ὑπερκείμενον ἡμῶν καὶ ἐλλάμποντα τῷ ἡμετέρῳ νῷ. πρὸς τοῦτο καὶ τὸ τοῦ φωτὸς αὐτοῖς τείνει παράδειγμα. (Sophonias, *in de An.*, 135.12–14.) Cf. Philoponus, *de Int.*, 44.25–38 (and Ps.-Philoponus, *in de An.*, 535.5–8, 535.31–536.1, who ascribes the view to Marinus).

162   E.g., Philoponus, *in de An.*, 5.4–5.

163   See above, p. 39 and n30.

164   ἄλλοι τὸν διδασκαλικὸν τοῦτον εἶναι, ὃς τελειοῖ τὸν ἐν ἄλλῳ δυνάμει παρατιθέμενος τὰ τῶν ἐπιστημῶν θεωρήματα καὶ νοήματα, καὶ αὐτὸς ἐκ δυνάμεως εἰς ἐνέργειαν ἀχθείς ποτε. πέμπτη πρὸς τούτοις δόξα, ἣν οἶμαι καὶ μᾶλλον ἀληθῆ, ἢ ἕνα καὶ τὸν αὐτὸν εἶναι λέγει τὸν δυνάμει καὶ ἐνεργείᾳ, καὶ οὐκ ἔξωθεν ἀλλ᾽ ἐν μιᾷ τῇ αὐτῇ ψυχῇ καὶ ἐν ἑνὶ καὶ τῷ αὐτῷ καθ᾽ ἕκαστα ἀνθρώπῳ, διαφέροντα δὲ ἑαυτοῦ τῷ τελείῳ καὶ ἀτελεῖ. (Sophonias, *in de An.*, 136.17–23.)

Still, he ends by generously allowing that "the other views are also true if attuned to different interpretations."[165]

Theodore Metochites

Theodore Metochites' paraphrase of the *De anima* is part of a collection of paraphrases covering all of Aristotle's extant works on natural philosophy, probably published around 1312–13.[166] An edition of the *De anima* paraphrase is currently being prepared by myself.[167] References to it in the following are to codex Vat. gr. 303.

Metochites understands the subject matter of *De anima* 3.5 to be the productive intellect, just as that of the preceding chapter was the potential intellect. For his exposition he makes eclectic use of Themistius' paraphrase and Priscian's commentary. Like Priscian,[168] he understands the relation between the matter invoked in T₁[169] and the potential intellect to be one of analogy. Despite this, he follows Themistius[170] in explaining that nature would be acting in vain if the potential intellect were not brought to perfection; but since nothing is brought to perfection by itself, there must be another intellect which brings the potential intellect to perfection. Since it does so "in virtue of its combination with the other [intellect], [it must] be understood to be a kind of *héxis* of it."[171]

For the last phrase, Metochites has clearly referred back to Aristotle's text, since it is the productive intellect that he describes as a kind of *héxis*, whereas the only *héxis* mentioned by Themistius is the result of the action of the productive intellect on the potential one.[172] But he retains an element of the Themistian paraphrase, since he describes it as a kind of *héxis* of the potential intellect. He must himself have felt that the effect is to divest the productive

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165   κατ' ἄλλην δὲ καὶ ἄλλην ἐκδοχὴν καὶ αἱ λοιπαὶ δόξαι προσβιβαζόμεναι ἀληθεύουσι. (Sophonias, *in de An.*, 136.23–24.)

166   For the date, see Börje Bydén, "The Byzantine *Fortuna* of Alexander of Aphrodisias' Commentary on Aristotle's *De sensu et sensibilibus*," *Jahrbuch der Österreichischen Byzantinistik* 68 (2019), here 101–2n52. For a general discussion of Metochites' paraphrases, see Martin Borchert, *Der paraphrastische Kommentar des Theodoros Metochites zu Aristoteles' "De generatione et corruptione": Textkritische Erstedition und deutsche Übersetzung* (Berlin: De Gruyter, forthcoming).

167   For the series Commentaria in Aristotelem Graeca et Byzantina, published by De Gruyter.

168   Priscian, *in de An.*, 241.35–37, 242.8–9.

169   See above, p. 36n6.

170   Themistius, *in de An.*, 98.12–24.

171   ἀνάγκη [...] τὸν δὲ εἶναι τὸν τελειωτικὸν τὸν πάντα ἐν τῷ πρώτῳ ποιοῦντα ἃ δυνάμει ἐστίν, ὃν τῇ πρὸς ἐκεῖνον συμπλοκῇ τελειοποιοῦντα ὡς ἕξιν τινὰ αὐτοῦ καταλαμβάνεσθαι [...] (V175r).

172   See above, p. 53n85.

intellect of whatever priority it needs to fulfil its causal role, since he hastens to introduce the light analogy as a *correction* of the description of the productive intellect as a kind of *héxis*, just as Priscian does,[173] and with roughly the same justification:

> Or rather, he says, [it must be understood] to be such as light is in what are potentially colours. For this is more appropriate for purposes of illustration, lest someone should believe, in accordance with the characteristic property of a state, that it is entirely insubstantial and [only] found to exist in something else. For light, he says, while itself being something, makes the potentially existing colours into colours that are actually present, and is in a sense productive of them.[174]

Thereupon Metochites reverts to the Themistian interpretation,[175] stressing the unity of the productive and the potential intellects and pointing out that comparing the productive intellect to an art would also be misleading, inasmuch as an art is external to its own appropriate matter.[176]

As is seen, the light analogy on Metochites' interpretation serves to qualify, first, the comparison of the productive intellect to a *héxis*, since a *héxis* is inseparable from its subject, and second, the comparison of the productive intellect to an art (which is not, it should be noted, directly drawn by Aristotle[177]), since an art is external to its matter. On Metochites' interpretation, then, the

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173   Priscian, *in de An.*, 242.31–243.6.

174   [...] μᾶλλον δὲ οἷόν ἐστι, φησί, τὸ φῶς ἐν τοῖς δυνάμει χρώμασι· τοῦτο γὰρ κυριώτερον εἰς τὸ παραδειγματίζειν, ἵνα μή τις αὐτὸν κατὰ τὸ τῆς ἕξεως ἴδιον ἀνούσιόν τε πάμπαν καὶ ἐν ἄλλῳ θεωρούμενον νομίσῃ· τὸ γάρ τοι φῶς αὐτό τι ὄν, φησί, τὰ δυνάμει ὄντα χρώματα ἐπιδημοῦν ἐνεργείᾳ ποιεῖ χρώματα καὶ τρόπον τινὰ ποιητικόν ἐστιν αὐτῶν (V175r).

175   Themistius, *in de An.*, 99.13–20.

176   οὕτω δὴ καὶ ὁ νοῦς ὁ ποιητικὸς ἔχει πρὸς τὸν δυνάμει, ὡς φῶς τι συμπλεκόμενον αὐτῷ τελειοποιεῖ καὶ κατασκευάζει αὐτὸν ἃ δυνάμει πρότερον ἦν ἐνεργείᾳ εἶναι, γινόμενος εἷς μετ᾽ ἐκείνου, οὐ κατὰ τὸ τῆς τέχνης ὑπόδειγμα ἔξωθεν ὤν, ὡς ἡ χαλκευτικὴ τῆς οἰκείας ὕλης ἔξω τοῦ χαλκοῦ καὶ ἡ τεκτονικὴ τοῦ ξύλου (V175r). It should be noted that the Greek text of Themistius is corrupt in the passage that Metochites is drawing on here (*In De anima*, 99.13–14). It was restored by Gerald M. Browne ("Ad Themistium Arabum," *Illinois Classical Studies* 11 (1986): 240), by recourse to Isḥāq ibn Ḥunayn's translation: οὐ γὰρ ἔξωθεν ⟨τοῦ δυνάμει νοῦ ὁ ποιητικός, ὥσπερ ἔξωθεν⟩ τῆς ὕλης ἡ τέχνη, ὥσπερ χαλκευτικὴ τοῦ χαλκοῦ καὶ τεκτονικὴ τοῦ ξύλου (the emendation was accepted by Robert B. Todd, trans., *Themistius, On Aristotle's On the Soul* (Ithaca, NY: Cornell University Press, 1996), 187n7). Whether Metochites had a better text at his disposal than that offered by the extant Greek manuscripts or supplied the missing words by his own ingenuity is not clear.

177   *Pace* Michael Frede, "La théorie aristotélicienne de l'intellect agent," in *Corps et âme: Sur le De anima d'Aristote*, ed. G. Romeyer Dherbey and C. Viano (Paris: Vrin, 1996), 379–80.

productive intellect is a substantial part of the individual human soul, and its substance is identical to its activity: it is always thinking all of its objects at once.[178] This interpretation seems to ascribe to Aristotle a view like that of Plotinus, who famously holds that a part of the individual human soul remains undescended.[179] When Ps.-Philoponus criticises Plotinus' opinion about the intellect in actuality,[180] this is the view he has in mind, apparently unconcerned that it may not have been intended as an interpretation of Aristotle at all.[181] Whether Metochites took notice of the similarity between his own interpretation and that attributed to Plotinus is not clear.

George Scholarios

Metochites' paraphrase was later epitomised by George Scholarios (date uncertain, but before 1450).[182] The relevant passage is found in *Adnotationes in Aristotelis opera diversa*, 451.20–33.[183] Scholarios' epitome departs from the original in leaving out both those comparisons (art, *héxis*) that on Metochites' interpretation the light analogy is there to qualify. Instead it says that while the potential intellect is analogous to the matter of natural and artificial things, the productive intellect is analogous to their form.[184] It is likely that the substitution of "form" for *héxis* is influenced by Thomas Aquinas, whose commentary Scholarios translated into Greek (c.1435).[185]

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178   οὐσία γὰρ αὐτοῦ ταυτὸν καὶ ἐνέργεια, ὡς εἴρηται, καὶ οὐ μεταβάλλει ἄλλο τι ὂν τὴν οὐσίαν καὶ ἄλλο τὴν ἐνέργειαν ἐκ τοῦδε εἰς τόδε μεταβατικῶς καὶ διεξοδικῶς χρώμενος πρὸς τὰς νοήσεις, ἀλλὰ ἀθρόον πάντα ἔχων τὰ εἴδη καὶ τὰ ἐπιστητὰ πάντα· οὕτω γὰρ μόνως ἂν εἴη ταυτὸν ἥ τε οὐσία αὐτοῦ καὶ ἡ ἐνέργεια (V175v); cf. Themistius, *in de An.*, 100.5–11.

179   Plotinus, *Enn.* 4.7.13; 4.8.8 et alibi, in *Plotini opera*, ed. P. Henry and H.-R. Schwyzer (Leiden: Brill, 1951–1973). For the reception of the idea in later Platonists, see Richard Sorabji, *The Philosophy of the Commentators 200–600 AD, A Sourcebook*, vol. 1: *Psychology* (*with Ethics and Religion*) (Ithaca, NY: Cornell University Press, 2005), 93–99.

180   See above, p. 40 and n33.

181   Ps.-Philoponus, *in de An.*, 535.8–13, 535.29–31, 536.15–17, 536.24–28, 536.34–537.1, and 538.32–539.1. Ps.-Philoponus' report of Plotinus' view is discussed by Blumenthal, "Neoplatonic Elements," 312–15.

182   For the date, see Franz Tinnefeld, "Georgios Gennadios Scholarios," in *La théologie byzantine et sa tradition*, vol. 2 (*XIIIᵉ–XIVᵉ s.*), ed. C. G. Conticello and V. Conticello (Turnhout: Brepols, 2002), 516.

183   In *Œuvres complètes de Georges* (*Gennadios*) *Scholarios*, ed. M. Jugie, L. Petit, and X. A. Siderides, vol. 7 (Paris: Maison de la bonne presse, 1936).

184   [...] οὕτω καὶ ἐπὶ τῆς ψυχῆς ὁ μὲν δυνάμει νοῦς ἀνάλογον ἔχει ὕλη καὶ ὥσπερ παθητικός ἐστιν· ὁ δὲ ποιητικὸς νοῦς ἀνάλογον εἴδει, οὐκ ἔξωθεν ἐπιών (George Scholarios, *Œuvres complètes*, 7:451.21–23).

185   The dating is suggested by Tinnefeld, "Georgios Gennadios Scholarios," 517. Cf. Thomas Aquinas, *Sent. de An.* 3.4, 219a36–39: "Dicendum est ergo quod 'habitus' hic accipitur secundum quod Philosophus frequenter consuevit nominare omnem formam et

While the light analogy itself is retained, Scholarios adds his own emphasis here as well: the productive intellect is, he says,

> like a light which is connatural but latent, which shoots up and inter-twines with the potential intellect and illuminates it, and becomes entirely unified with it.[186]

So there it is, the final distillate of everything the ancient and medieval Greek-speaking world had to say about Aristotle's comparison of the productive intellect to light. Whether Scholarios was aware of it or not, the adjective "con-natural" (*sýmphytos*) connects his exposition with the very first contributions to that discussion, namely Theophrastus' fragments 320AB (if the productive intellect were connatural – *sýmphytos* – it should have been present at once and always),[187] and 307A (how it is possible for the productive intellect, if it is external, to be connatural – *symphyḗs* – all the same?). Theophrastus is, of course, quoted by Themistius.[188]

And, basically, it is Themistius' interpretation that is encapsulated in Scholarios' exposition, except that its obscurity regarding the prehistory of the encounter of the potential and the productive intellects has been cleared up in a way that suggests the influence of those Neoplatonic authors (especially Ps.-Philoponus) who hold that the two intellects are numerically identical. Thus, according to Scholarios, if I understand him correctly, the productive intellect is part of our souls from birth. It is always active, but its interaction, indeed union, with the potential intellect begins at a determinate point in the latter's development, and it is only after this that its actions become manifest (i.e., I suppose, conscious).

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naturam habitum [...]"; George Scholarios, *Translatio commentarii Thomae Aquinae De anima Aristotelis*, 3.10.22–23 (in *Œuvres complètes de Georges (Gennadios) Scholarios*, ed. M. Jugie, L. Petit, and X. A. Siderides, vol. 6 (Paris: Maison de la bonne presse, 1933)).

186   [...] ἀλλ' ὥσπερ τι φῶς σύμφυτον μέν, ὑποκεκρυμμένον δέ, ἀναθρῷσκον καὶ συμπλεκόμενον τῷ δυνάμει νῷ καὶ καταλάμπον αὐτόν, καὶ εἷς μετ' αὐτοῦ (scripsi: αὐτὸν Jugie) τὸ σύμπαν γινόμενος (George Scholarios, *Œuvres complètes*, 7:451.24–26).

187   The paraphrase within brackets is of fr. 320A. For the different wording of fr. 320B and the concomitant complications, see Pamela Huby, *Theophrastus of Eresus, Sources for His Life, Writings, Thought and Influence, Commentary*, vol. 4: *Psychology (Texts 265–327)* (Leiden: Brill, 1999), 183–90.

188   Themistius, *in de An.*, 108.25, 102.26–27, and 107.31–32. Metochites does not use "σύμφυτος" in this context. The word is chiefly employed in his *De anima* paraphrase as a variant of "συμφυής" in speaking of media that are naturally continuous with sense organs.

Acknowledgements

Introducing the *Ma'ānī*

David Bennett

1   Introduction

Aristotle's semantic triad of "spoken sounds," "affections of the soul," and the "actual things" of which those affections are meant to be likenesses[1] resonated with medieval Arabic readers, for whom the issue of language and its referents was philosophically and theologically important. Already in Isḥāq ibn Ḥunayn's ninth century translation of *De interpretatione*, those three aspects (sounds, affections, things) were rendered as "sounds," "traces" of the soul (*āthār al-nafs*), and *ma'ānī*.[2] Over a century later, in the section of the *Healing* corresponding to *De interpretatione* (*al-'Ibāra*, "Interpretation"), Avicenna presents the three aspects as sounds, "traces" (*āthār*), and "that which is in the soul signifying things, which are called *ma'ānī*, that is, things intended by the soul."[3] *Athr* (plur. *āthār*) was regularly used to translate *páthos* and easily bears the sense of the Aristotelian "affection." Even more than the Greek term *prágma*,[4] the technical term *ma'nā* (plur. *ma'ānī*), which will be the subject of this chapter, opens a rich seam of interpretive possibilities. Avicenna's qualification of the term in the semantic context above sounds fussy precisely because of the role that *ma'ānī* play outside of linguistic analysis – that is, in

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1   *Int.* 1, 16a3–8; see the Introduction to this volume, section five, pp. 15–18.

2   This has been noted, and commented upon, by Alexander Key, *Language between God and the Poets* (Berkeley: University of California Press, 2018), 164–65. It is worth noting that in al-Fārābī's (d. 950) reading, the *pathémata* are *ma'qūlāt* ("intelligibles") and the "actual things" are objects of sense (*maḥsūsāt*); see Thérèse-Anne Druart, "Al-Fārābī: A Philosopher Challenging Some of the Kalām's Views on the Origin and Development of Language," *Studia Graeco-Arabica* 8 (2018): 183. The introduction of *ma'qūlāt* follows the Greek interpretive move of *pathémata* to *noémata*: see Peter Adamson and Alexander Key, "Philosophy of Language in the Medieval Arabic Tradition," in *Linguistic Content: New Essays on the History of Philosophy of Language*, ed. M. Cameron and R. J. Stainton (Oxford: Oxford University Press, 2015), 78–79.

3   Avicenna, *al-Shifāʾ, al-Manṭiq, al-'Ibāra*, ed. M. el-Khodeiri (Cairo: Dār al-Kutub al-'Arabī, 1970), 2.15–3.2, also translated by Deborah Black, "Intentionality in Medieval Arabic Philosophy," *Quaestio* 10 (2010): 68–69. Black adduces this in support of her thesis that *ma'nā* "signif[ies] some object in the external world."

4   I borrowed "actual things" from Ackrill's translation.

his epistemology.[5] Here, we will examine the pedigree of *maʿnā* as a technical term in pre-Avicennan theory.

The chief difficulty in appraising early Arabic discussions about language and mental experience is the interpretation of the term *maʿnā* when it occurs in isolation – that is, when it is not obviously a *maʿnā of* something. For the term denotes either what is meant or intended by a term (from the verb at its root, *ʿ-n-y*, *ʿanā*, to mean or to intend) or, when it is predicated of some subject, that the subject is a conceptual reality (e.g., X is a *maʿnā*). One may say that the *maʿnā* of "body" is that it is extended in space: that is the meaning of the term. One may say that "body" is a *maʿnā* belonging to that which is extended in space: the term "body" is a conceptual reality applicable in certain circumstances. At first glance, these two usages may seem mutually reducible. The content of a particular concept ought to correspond in some useful way to a lexical definition. But although lexical meaning is clearly involved when a *maʿnā* is posited, its operation as a constituent of mental experience is of a demonstrably different order when it appears in ninth- to eleventh-century Arabic theory.[6] In this chapter I will show how *maʿānī*, as irreducible mental items, function in that theory: in a word, how "meaning" is elegantly squared with "concept," thereby laying the groundwork for Avicenna's intervention.

2   A Third Domain

Recently, Alexander Key produced a monograph on the usage of *maʿānī* in post-classical Arabic (that is, eleventh-century literature); noting the constant

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5   On the faculty of estimation and its processing of *maʿānī*, see Ahmed Alwishah, "Avicenna on Animal Self-Awareness, Cognition, and Identity," *Arabic Sciences and Philosophy* 26:1 (2016): 83–88, which includes a review of current scholarship on the subject.

6   That is, in pre-Avicennan Muʿtazilite theory as recorded in later Ashʿarite and Muʿtazilite sources, and in the "mature" positions of figures whose works have survived intact; if this chapter's overall argument is to be accepted, the Graeco-Arabic translation movement must be included as well. In a previous publication (David Bennett, "Cognisable Content: The Work of the *Maʿnā* in Early Muʿtazilite Theory," in *Philosophy and Language*, ed. N. Germann and M. Najafi (Berlin: De Gruyter, 2021), 1–20), I examined the various senses of the term in reports found in a single treatise, al-Ashʿarī's *Maqālāt*. The present chapter aims to build upon that foundation to show how the role of *maʿānī* was refined up to the time of Avicenna. As such, divergent traditions will be included even though their representatives may disagree, e.g., on other fundamental aspects of theology; on text-criticism relevant to this method, see David Bennett, "Sense Perception in the Arabic Tradition," in *Forms of Representation in the Aristotelian Tradition, Volume One: Sense Perception*, ed. J. Toivanen (Leiden: Brill, 2022), 99–123.

and common appearance of the term *maʿnā* across literary, philosophical, theological, and linguistic disciplines, he emphasised and tracked the "slippage" between its epistemological, linguistic, and ontological applications.[7] As Key hints, the proliferation of terminology for "concept"-related business in European languages (and especially in ancient Greek[8]) may kindle a suspicion in non-Arabist readers that *maʿnā* is applied ambiguously, or at least equivocally. It should help, then, if I introduce the basic scheme which served as the basis for the world-view (epistemological and ontological) to which all genres of Arabic literature in this period roughly adhered. According to this scheme, there are three inter-related and interacting domains of reality: that of expression, that of cognition, and that of the physical world. In the domain of expression, utterances[9] reign; at the other end of the spectrum, in the domain of the physical world, there are things, however they may be analysed or articulated.[10] It is in the "middle" domain that we find the *maʿānī*: a domain of the mind (we might say), in which the *maʿānī* are related, more or less accurately,[11] to the utterances on the one hand, and the things on the other. Thus it may be seen that a *maʿnā* has a special ontological reality unto itself, of a thing to which it refers, and for an utterance which it informs. We would like to think that there can neither be a thing of which there is no *maʿnā*, nor an utterance for which there is no *maʿnā*; in addition to unearthing some difficulties with that happy thought, this investigation will challenge our natural assumption that these three domains precisely coincide with the semantic categories of *De interpretatione*.

This triadic scheme produced curious borderline cases immediately, which were identified as problems to be resolved. Some problems were ontological: namely, *maʿānī* of non-existent things (i.e., the *maʿnā* exists, but its referent does not, or cannot), and *maʿānī* for nonsensical utterances. The latter case might be resolved by discounting the utterability of nonsense – that is,

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7   Key, *Language*, 4.

8   See, e.g., Christoph Helmig, *Forms and Concepts: Concept Formation in the Platonic Tradition* (Berlin: De Gruyter, 2012), with a capsule list, 14–15.

9   *lafẓ*, plur. *alfāẓ*.

10   Things: *shayʾ*, plur. *ashyāʾ*. They may be analysed as atoms, substances, accidents, etc., according to the prevailing physical theory; they may be existent, possible, or non-existent, depending on the allowances of the prevailing metaphysics. I have used "physical world" here to emphasise the materialist tendencies of early *kalām*, but metaphysical considerations (as in the case of a thing "before it exists," an unperformed act, a non-material attribute, or divine feature) regularly present *maʿānī*. In such cases, there may be an "expression" and a *maʿnā* with no *physically existent* corresponding object.

11   That is, according to their *ḥaqīqa* (reality); here I have introduced Key's English term for appraising the validity of the relation.

reducing it to *meaningless* noise. But even so, as a sound, it would have to have a *maʿnā*, just as does the colour green. Some problems were metaphysical, such as the particularity of *maʿānī*, or their causal relationships, e.g., to the things to which they refer. Still other problems were theological in nature, as when *maʿānī* were ascribed to the attributes or to the entirety of God, or His actions (including His speech: that is, especially with regard to the relationship between the uttered words of the Qurʾan and their *maʿānī*). Each of these borderline cases provoked disputation concerning extra-semantic, extra-mental reality, and each will be examined in turn in this chapter.

The triadic scheme I have presented was applied (one might say automatically) in Arabic translations of the Greek, as is illustrated by an early example provided by Key. In a representative passage, Galen notes that confusion about names leads to confusion about things.[12] Ḥunayn ibn Isḥāq (d. 873, father of the translator mentioned above) translated this as follows: "When the appellations indicating them are confused, knowledge of the *maʿānī* and the things is thereby confused."[13] According to Key, here we have Ḥunayn introducing a "third category" besides the "appellations" and the "things" to which they apply: namely, "a core conceptual category not found in Greek or English without recourse to neologism."[14] If this third category were reducible to the *pathḗmata* in Aristotle's semantic scheme, there would be no cause for surprise.

Key is especially dogged in demonstrating the tension in nearly every register of Arabic between *maʿānī* on the one hand, and articulated (written or spoken) words on the other.[15] As he remarks, it is present in the first sentence of al-Sībawayh's (d. c.796) universally acknowledged classic of Arabic grammar, which describes how *maʿānī* are related to nouns and verbs; the greatest litterateur of the ninth century, al-Jāḥiẓ (d. 868), considered eloquence to be a function of the balance between *maʿānī* and utterances – finer *maʿānī* deserve

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12   Galen, *De Simp. Med.* 3.12, in *Claudii Galeni Opera Omnia*, ed. K. G. Kühn (Leipzig: C. Cnobloch, 1821–33), 11:569: ἐξ οὖν τούτων τῶν προφάσεων ἡ τῶν ὀνομάτων χρῆσις ταραχθεῖσα καὶ τὴν τῶν πραγμάτων ἐπιταράττει γνῶσιν.

13   لماﺗﺸﻮّﺷﺖ الألقاب الدالة عليها ﺗﺸﻮّش بذلك العلم بالمعاني والأمور

14   This example and the conclusion come from Key, *Language*, 29: the Ḥunayn text was lifted from Ullmann. I reworded the English translation from the Arabic. The use of *maʿnā* in translations from the Greek is not important for Key's argument; he uses Ullmann's *Wörterbuch* for citations from the translations of Galen (only), noting the use of *maʿnā* for a variety of Greek terms – *theōría, prâgma, sēmaínō, trópos*, etc. He does not pick out its use for *lógos* in the translation of Themistius' *In de Anima* (see below).

15   This is broadly acknowledged in Arabic studies. On the resolution of the apparent conflict between this "bipartite theory of meaning" and the theory encapsulated in *Int.*, see Adamson and Key, "Philosophy of Language."

(demand) finer words.[16] Nowhere in the Islamic world is this relation more keenly considered, more acutely appreciated by observer and practitioner alike, than in discussions about Qurʾān itself. The conventionally accepted "inimitability" of the Qurʾān is not exclusively due to the unique sound-structure of the text (let alone its orthography) nor to its true meaningful content, but to the *concomitance* of the two. That the idea that *maʿānī* are conveyed along with (not always *by means of*) articulated sounds was so central to lived *Muslim* experience may seem irrelevant to our philosophical study, but it is crucial that we note the widespread acceptance of the principle that *maʿānī* are utterly distinct from the names to which they may (or may not) be related.

This attitude is illustrated by al-Jāḥiẓ. Responding to a Qurʾānic cue (namely, God's statement that "He taught Adam all the names"[17]), al-Jāḥiẓ offers the following interpretation:

> It would have been impossible for Him to teach [Adam] a name and leave aside the *maʿnā* […]. A name without a *maʿnā* is nonsense, like an empty vessel. Names have the status of bodies, and *maʿānī* have the status of souls. The expression is a body for the *maʿnā*, and the *maʿnā* is a soul to the expression […] a *maʿnā* can exist without having a name, but there is no name without a *maʿnā*.[18]

Al-Jāḥiẓ' distinction may seem hierarchical, in that he describes the range of *maʿānī* as broader (infinitely, he specifies, later in the same passage) than the range of articulatable names.[19] In fact, there were plenty of arguments in Arabic linguistic discourse which posited utterances without *maʿānī*, of which we might mention two: (1) that there are incomprehensible utterances, and (2) that *maʿānī* are not conveyed in the "speech" of animals.

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16   Key, *Language*, 36 (on al-Sībawayh) and 42–43 (on al-Jāḥiẓ); see also Richard Frank, "Meanings are Spoken of in Many Ways: The Earlier Arab Grammarians," *Le Muséon* 94 (1981): 265.

17   *Al-Baqara* 2.31. In *Genesis*, of course, Adam gets to name the animals; in the Qurʾān, God downloads the names of everything for Adam, not just animals.

18   Translated by Jeannie Miller in "Man is Not the Only Speaking Animal: Thresholds and Idiom in al-Jāḥiẓ," in *Arabic Humanities, Islamic Thought*, ed. J. E. Lowry and S. M. Toorawa (Leiden: Brill, 2017), 103, from al-Jāḥiẓ' "Epistle on Jest and Earnest" in his collected *Rasāʾil*, ed. A. M. Hārūn (Cairo: Maktabat al-Khānjī, 1965–79), 1:262. (She uses "meanings" for *maʿānī* in this context, noting that there is some "slippage" from the linguistic sense to the ontological sense we will pick up in Kalām, below.) Lest the title of the epistle suggest otherwise, the analogy to soul/body was prevalent in Islamic philosophy: see Key, *Language*, 46, who cites its use by the Ikhwān al-Ṣafāʾ.

19   Regarding the application of this idea to tenth-century discussions of language and the role of logic, see Adamson and Key, "Philosophy of Language," 80–81 on al-Sīrāfī.

3 Absurdities

To take the first case, we must deliberately produce a sound which has no corresponding *maʿnā*. In the model developed to suit Aristotelians, according to which a semantic relation would be realised for the triad *"phōnḗ, noēma, prâgma,"* no *semantic* relation would obtain if there was no conceivably existent third member of the triad; nonsensical sounds would correspond to neither of the two other members.[20] Among nonsensical utterances we might first consider accidental noises, such as the noise I may make when hit over the head. In such cases there would be some reason (*maʿnā*[21]) that I made that particular sound instead of another one; moreover, my cry of pain does have meaning. Our attempt to produce an absurdity should rather produce a word for an impossible thing, an absurd statement, or (perhaps) a lie. In trying to formulate contentless speech, we discover that utterances and *maʿānī* are *not* related on a one-to-one basis. For if we say "goat-wing," we only acknowledge its absurdity after affirming that there is a *maʿnā* related to "goat," and a *maʿnā* related to "wing," but no *maʿnā* (we might suppose, for now) related to the combination. This is not because there are no complex *maʿānī*: indeed there are individual *maʿānī* for, e.g., David Bennett, David Bennett eating a pie, and David Bennett eating a pie while at a rodeo. *Maʿānī* are not like forms. Here is the ninth-century heresiarch Ibn al-Rāwandī trying to construct an absurd statement:

> An absurd statement is one which is removed from its normal patterns of usage, which comprises inappropriate material, which is diverted from its course, which incorporates that which invalidates it, which is combined to what cannot be combined with it such that it alters it or renders it false, making it fall short of its aim and fail to communicate any *maʿnā*. This is like when one says, "I came to you tomorrow," or "I will come to you yesterday."[22]

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20 On the development of the architecture of Aristotelian semantic theory, see Sten Ebbesen, *Commentators and Commentaries on Aristotle's Sophistici Elenchi* (Leiden: Brill, 1981), 1:141–56; consider the plight of the chimera, in the first case, and utterances such as *blityri*, in the second.

21 So, in a peculiar usage associated with Muʿammar, on whom see below.

22 Al-Ashʿarī, *Maqālāt al-islāmiyyīn*, 4th edition, ed. H. Ritter (Beirut: Klaus Schwarz Verlag, 2005), 388.4–7:

كل قول ازيل عن منهاجه واتّسق على غير سبيله وأحيل عن جهته وضُمّ اليه ما يُبطله ووُصل به ما لا يتصل به مما يغيّره ويفسده ويقصر به عن موقعه وافهام معناه فهو محال، وذلك كقول القائل اتيتك غدًا وسآتيك امس.

Such a statement resists making sense. Of course, one could simply say (as some did) that "any speech which does not have a *ma'nā* is absurd,"[23] but Ibn al-Rāwandī's mind-bendingly exact typology demonstrates how difficult it is to be truly absurd. Nevertheless, one could still posit a special *ma'nā* for such cases, thereby reversing the relation which should obtain, as in this unattributed position related by al-Ash'arī: "An absurdity is a *ma'nā* underlying the statement whose existence is impossible."[24]

Moreover, there is a precedent for this usage: in another paper, I have discussed contentless *ma'ānī* in the accounts of actions that are *not* taken by a subject – that is, distinct non-acts.[25] In such cases, of course, there would be unlimited *ma'ānī* for every *ma'nā* represented by an action taken. (Yes, actions have associated *ma'ānī*; yes, similar problems vis-à-vis the possibility of actions without a *ma'nā* occur.)

4   Knowledge

The immediate ontological problem these discussions derived from, in all their variety, is the problem of non-existent objects. In the ninth century, this problem was considered first and foremost a theological problem: namely, whether God knows things before they exist. The resolution of this problem reveals another unique feature of the sphere of *ma'ānī*: they are not, in themselves, objects of knowledge (i.e., intelligibles), however much we may be tempted to think of them that way. Later philosophers, of course, *did* think of them that way: both contenders in the famous dispute about logic related by al-Tawḥīdī held that *ma'ānī* are "objects of the mind or intellect [and] objects of reason (*ma'qūlāt*)," and as such, universals.[26] Yet this is not how they are used in Mu'tazilite epistemology. God, for example, does not know *ma'ānī*; He knows things, atomic entities, and accidents, as Abū 'Alī al-Jubbā'ī (d. 915) put it.[27] If, like certain Mu'tazilites, one was to claim that a non-existent is a thing, then God would know non-existents in the same way. The relation at play is between knower, object of knowledge, instance of knowledge. To reject the

23   On the same page, unattributed.

24   Al-Ash'arī, *Maqālāt*, 387.8.

25   Bennett, "Cognisable," 7–9.

26   Adamson and Key, "Philosophy of Language," 77.

27   Al-Ash'arī, *Maqālāt*, 160.15–161.1. "Atomic entities," *jawāhir*, had different connotations for different practitioners of *kalām*, depending on what they considered the most elemental conceivable quantum of reality. The term *jawhar* was used for the Greek *ousía* in Arabic Aristotelianism.

possibility of God's knowing the non-existent, a later Ashʿarite wrote that "the non-existent is a privation in all respects: the *maʿnā* which correlates knowledge to it is just the knowledge of its absence."[28] It is important to note that we have here another special case of a contentless *maʿnā*, and that this *maʿnā* operates outside the knower/object-of-knowledge/knowledge relation by connecting ("correlating," *taʿalluq*) knowledge to a (non-existent) object.

I claimed above that *maʿānī* are not treated as objects of knowledge in *kalām*, and I introduced the apparently banal agent-object-content relation of terms relating to knowledge acquisition. (In Arabic, of course, these terms are formed from the same triliteral root of a given lexeme: *ʿālim*, *maʿlūm*, *ʿilm*, i.e., knower, object of knowledge, instance of knowledge.) Ibn Fūrak (d. 1015) begins his account of al-Ashʿarī's (d. 936) philosophy with a clarification on the *maʿnā* of knowledge:

> Know that his discourse on this topic and on the other definitions of all the *maʿānī* is consistent. Namely, he said: "the *maʿnā* of knowledge and its true nature is that by which the knowing agent knows the object of knowledge." He relied upon this in his demonstration that God is knowing by virtue of an instance of knowledge,[29]

and not, as some Muʿtazilites would have it, by virtue of His Self. In most Ashʿarite and Muʿtazilite compendia after al-Ashʿarī, knowledge as such is the first topic of discussion; note that Ibn Fūrak indicates that this model for *maʿānī* is not exclusive to the issue of knowledge. The linguist will apply *maʿānī* as they correspond to parts of speech; the philosopher, as they correspond to reality. Yet every science has its *maʿnā*. Key likens the situation to a concurrent series of football matches: each is a different game, but played by the same rules.[30]

Maʿānī were used only provisionally for objects about which Muʿtazilites were reluctant to make concrete claims, objects such as the divine attributes. Ibn Fūrak's exposition above relates a *maʿnā* to an instance of knowledge, but Muʿtazilites proceeded more delicately when it came to reifying particular

28 Al-Juwaynī (d. 1085), *al-Shāmil fī uṣūl al-dīn*, ed. A. S. Nashshar et al. (Alexandria: Munshaʾat al-Maʿārif, 1969), 124.4–5 (I discuss this further in a paper on non-existents which has been awaiting publication indefinitely):

والمعدوم منتف من كل الوجوه ومعنى تعلق العلم به العلم بانتفائه.

29 Ibn Fūrak, *Mujarrad Maqālāt al-Ashʿarī*, ed. D. Gimaret (Beirut: Dar el-Machreq, 1987), 10.11–13. On "true nature" for *ḥaqīqa*, cf. Key, *Language*, who persuasively argues that this should be understood as something like "accuracy."

30 Key, *Language*, 56.

attributes ascribed to God. Even Ibn Kullāb, who was favoured by al-Ashʿarī, was reticent about the claim that God is a "thing," for example: "He is a thing not by virtue of some *maʿnā* by which He is a thing [...] the attributes of the Creator are not mutually distinct," such that His knowledge is not distinct from His power, etc.[31] Positing distinct attributes would threaten divine unity; here Ibn Kullāb is particularly concerned with some *maʿnā* by virtue of which God is such-and-such. Other early theologians would claim that the *maʿnā* of the utterance "God knows" is the *same as* the *maʿnā* for the utterance "God acts."[32]

But let's return to human knowledge. A Neoplatonising Ismāʿīlī like Nāṣir-i Khusraw (d. 1088) defining his technical terminology in a Persian treatise would naturally include *maʿānī* in his account of 'things' and knowledge:

> When asked, what is the true nature of 'thing,' that is, what do we give the name 'thing' to? We say, we give the name 'thing' to a *maʿnā* which it is possible to know and give information about. When asked, what is the true nature of 'existent'? We say, 'existent' is that which is apprehended by one of the five senses, or conceived by the imagination,[33] or indicated by something.[34]

Khusraw's epistemology is too complex to be considered in full here, but already we can see that it requires accurate ("true nature") accounts of objects considered as *maʿānī* on the one hand – *maʿānī* which can be properly named and described ("information" about them can be transmitted) – while positing that it is the object itself which is "known" (here, sensed or conceived).[35]

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31   Al-Ashʿarī, *Maqālāt*, 170.1–2.

32   Al-Ashʿarī, *Maqālāt*, 220.10.

33   Here, *taṣawwur* by the *wahm*-faculty.

34   Nāṣir-i Khusraw, *Jāmiʿ al-ḥikmatayn*, ed. H. Corbin and M. Muʿīn (Tehran: Institut Franco-Iranien, 1953), 87.12–88.1:

اگر گوید: حقیقت «چیز» چیست، یعنی نام چیز بر چه افتد؟ گوییم: بر آن معنی افتد نام چیز که ممکن باشد اورا دانستن، وزو خبر دادن. اگر گوید: حقیقت «موجود» چیست؟ گوییم که موجود آنست که یا حاشّتی از پنج حاشت مر اورا اندر یابد، یا وهم مر اورا تصوّر کند، یا چیزی برو دلیل کند.

35   Khalil Andani, "Reconciling Religion and Philosophy: Nāṣir-i Khusraw's (d. 1088) *Jāmiʿ al-ḥimatayn*," in *The Oxford Handbook of Islamic Philosophy*, ed. K. el-Rouayheb and S. Schmidtke (Oxford: Oxford University Press, 2017), 186, mentions this passage when he claims that Khusraw "defines knowledge (*ʿilm, dānish*) as 'a conception (*taṣawwur*) on our parts of a thing as it really is.' [...] This view of knowledge as conception appears to be a discursive knowing, relating to the definition (*ḥadd*) of a thing as the means of knowing its true nature [...]. In this respect, knowledge is dependent upon articulate discourse (*sukhan*)." Cf. Ormsby's translation, *Between Reason and Revelation: Twin Wisdoms*

Khusraw's "thing" is a name applied to a *maʿnā* with noetic attributes: such a *maʿnā* may correspond to the *prâgma-maʿnā* of Avicenna, and would appeal to Muʿtazilites insofar as its range is broader than "existent," but it is also quite obviously an object of knowledge. Nevertheless, this description ("possible to know") is not complete without the capacity for accurate communication.

Giving accurate information about an object is the practical business of eloquence, as al-Jāḥiẓ relates in a beautiful passage in the *Kitāb al-Bayān wa-l-tabyīn*:

> One of the scholars of utterances and critics of *maʿānī* said: *Maʿānī* are subsistent in the breasts of people, conceived in their minds, bustling[36] in their souls, connecting their notions, originating from their cogitative faculty, secret and hidden, kept apart and internal, veiled and concealed, existent in the sense (*maʿnā*) of being non-existent,[37] [such that] a man does not know the innermost thought of his comrade […]. These *maʿānī* are only brought to life by people's mentioning of them, by their transmission of information about them, and their use of them.[38]

This admittedly florid illustration makes *maʿānī* into a kind of secret code: one may (must, if one hopes to communicate) speak about them without ever grasping the *maʿānī* in another person. They do so much internal mental work in this passage that Richard Frank felt justified in calling them "thoughts."[39]

Reconciled, trans. E. Ormsby (New York: I. B. Tauris, 2012), which Andani was using. I think that the passage in question is more complicated than Andani's summary lets on.

36   *Mutakhallija*: this seems like a peculiarly resonant expression to use.

37   Frank, "Meanings," 265: "Present in the sense of not-actual."

38   Al-Jāḥiẓ, *Kitāb al-Bayān wa-l-tabyīn*, ed. A. M. Hārūn (Cairo: Maktabat al-Khānjī, 1960–61), 1:75:

قال بعض جهابذة الألفاظ ونقاد المعاني: المعاني القائمة في صدور الناس المتصورة في اذهانهم، والمتخلّجة في نفوسهم، والمتصلة بخواطرهم، والحادثة عن فكرهم، مستورة خفية، وبعيدة وحشية، ومحجوبة مكنونة، وموجودة في معنى معدومة ... وإنما يحيى تلك المعانى ذكرهم لها، وإخبارهم عنها، واستعالهم إيّاها.

39   Frank, "Meanings," 265; however, the word for "notion" or "thought" (*khawāṭir*, sing. *khāṭir*) already occurs in the passage, as we have seen: *maʿānī* are busy binding thoughts together. Frank's 1981 article on *maʿānī* was, before Key's monograph, the most comprehensive study of the term and (especially) its application by grammarians and linguists in classical Arabic; see Bennett, "Cognisable," 18–19. His study also informed James Montgomery's important technical note on this passage ("Why al-Jāḥiẓ Needs Slonimsky's Earbox," *Journal of the American Oriental Society* 131:4 (2011): 627–28).

The description of *maʿānī* as "existent in the *maʿnā* of a non-existent," as it stands literally, may indeed refer to the contemporaneous discussions of non-existent things (see above); at the very least it allows *maʿānī* for such non-things. For Frank, when he does not reduce them to "thoughts," *maʿānī* pertain just as much to events in the mind, whether they concern words or sentences, as they do to "the world as referents."[40]

5   Animals

There is much more to the passage I cited above on the hidden life of *maʿānī*. Crucial to al-Jāḥiẓ' account of the information hidden in the breasts of humans were "needs," the expression of which constitutes the fundamentally political role of language. Al-Jāḥiẓ seems particularly intent on responding to what he takes to be Aristotle's characterisation of the human as a political animal due to its unique capacity for speech.[41] Yet the speech of birds (and plenty of other animals), according to al-Jāḥiẓ, demonstrates a "mutual understanding of each other's needs through [speech]."[42] He goes on to demonstrate, using highly technical contemporary linguistic jargon, that animal speech is articulated, ordered, constructed out of phonemes, and so forth.[43] Articulation of one's needs indicates a socio-political consciousness of some sort, however idiomatically we may take stories of animal speech.

It is not clear that we are at liberty to take reports of animal speech as allegorical, given the Qurʾānic pedigree for the phenomenon. To take a striking example, Solomon had been taught by God the language of the birds and, having assembled an army of "jinn and men and birds," was marching through a valley populated by ants. As the army arrived, one ant spoke to her comrades: "O fellow ants, enter your dwellings so that you are not crushed by Solomon and his soldiers without their being aware."[44] Al-Jāḥiẓ notes that the ant "recognised Solomon, identifying him individually [… and] instructed her small

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40   Frank, "Meanings," 316.

41   Obviously, the Aristotelian tradition was much more complicated than this simple rule. Al-Jāḥiẓ was evidently referring to the passage in *Politics* (7.13, 1332b4–6) where Aristotle attributes *lógos* exclusively to humans.

42   Al-Jāḥiẓ, *Kitāb al-Ḥayawān*, ed. A. M. Hārūn (Cairo: Muṣṭafā al-Bābī al-Ḥalabī, 1938–45), 7:57, translated in Miller, "Man," 96. *Manṭiq al-ṭayr*, the "speech" of birds, is affirmed in the Qurʾān.

43   Miller, "Man," 97: cats "utter the greatest variety of phonemes," as can be ascertained by listening to them caterwauling in the night.

44   *Al-Naml* 27.18.

companions to do what was most prudent and safe. [Moreover,] she distinguished soldiers from those who were not soldiers," and was even aware of the lack of awareness among the potential ant-squashers.[45] Moreover, Solomon understood her speech and remarked upon it, amused.[46] As al-Jāḥiẓ notes, this set of complexities is indicative of intelligence. We may well be dealing with a particularly astute ant, but the ability to distinguish between apparently like objects is something achieved by discrete *maʿānī*: that is how, for example, a mother animal knows her offspring. A limited range of phonemes does not entail limited access to *maʿānī*: consider the goat, whose sole phoneme (*māʾ*)[47] does not preclude access to a range of *maʿānī* governing its economy of ideas.

6   Muʿammar

So far, we have examined the way *maʿānī* relate to knowledge and language, noting how scholars have been vexed by the apparent "slippage" of the term between epistemological and linguistic registers. We may find the mature Ashʿarite framing of knowledge "by virtue of" a *maʿnā* (see Ibn Fūrak, above) satisfactory, or at least non-threatening. Suggestions of *maʿānī* pertaining to unutterable realities, non-existents, or the discourse of animals notwithstanding, the evidence as a whole seems to restrict *maʿānī* to the philosophy of language. As I have hinted above,[48] however, this is not quite the entire story: Muʿammar (d. 830), for example, apparently made *maʿānī* the central concepts of his "theological-philosophical system."[49]

Muʿammar described each instance of differentiation or change in the world as brought about by virtue of a particular *maʿnā*; most notoriously, he held that the particular *maʿnā* by virtue of which a certain motion (or non-motion, or

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45   Al-Jāḥiẓ, *Kitāb al-Ḥayawān*, 4:9, translated in Miller, "Man," 109. In the subsequent Qurʾānic verses, the more glamorous discussion between Solomon and the hoopoe is related.

46   It is unclear whether Solomon was amused by the fact of her speech, by its quality, or by the gift bestowed upon him by God to understand it (*al-Naml* 27.19).

47   Al-Jāḥiẓ, *Kitāb al-Ḥayawān*, 5:287.

48   See also the evidence assembled in Bennett, "Cognisable."

49   Borrowing Hans Daiber's label from the title of his work, *Das theologisch-philosophische System des Muʿammar ibn ʿAbbād as-Sulamī* (Beirut: Franz Steiner, 1975). On Muʿammar's *maʿānī*, see Richard Frank, "Al-maʿnā: Some Reflections on the Technical Meanings of the Term in the Kalām and its Use in the Physics of Muʿammar," *Journal of the American Oriental Society* 87 (1967): 248–59; Josef van Ess, *Theologie und Gesellschaft im 2. und 3. Jahrhundert Hidschra: Eine Geschichte des religiösen Denkens im frühen Islam* (Berlin: De Gruyter, 1992), 3:74–83; and Daiber in the volume just mentioned, 78–90.

accident of any sort) came about was itself instantiated by another *ma'nā*, and so on, infinitely.[50] These *ma'ānī* are neither objects of knowledge nor notions underlying (vocal) expression; they are not universal but momentary and hyper-articulate in their effects. It would be tempting to dismiss Mu'ammar's usage of *ma'nā* as exceptionally unrelated to any semantic or epistemological functions of the term, were it not for three striking points of contact: (1) we have seen practitioners of *kalām* regularly employ *ma'nā* in a causal sense; (2) the particularity of *ma'ānī* is a regular feature in *kalām*; and (3) Mu'ammar's independent domain of *ma'ānī*, applicable at all levels of reality,[51] coincides in its breadth and ontological sequestration with the "middle" domain I have been positing for *ma'nā* in the rest of this chapter.

Writing at some time in the eleventh century, the Mu'tazilite Ibn Mattawayh engaged persistently with these early theories. Mu'tazilite metaphysics was exhaustive: every conceivable problem had to be addressed, testing the cohesion of the system. A typical point of difficulty may be found in the case of a newly created entity, given that every entity is temporally created by God. We saw how its transition into being was survived by some constant *ma'nā* for it such that the same thing could be known by God regardless of its current existence; now consider its "state" – is it at rest in this first moment, or in motion? If the former, it would have had to be there already; if the latter, it would have had to transit from another location, where it had been already. Yet every entity is either in motion or at rest. The way to speak of the attribute of motion that would apply to such an entity is to affirm the presence of a *ma'nā* for the attribute – a *ma'nā* that itself is "neither motion nor rest," but whose presence in the parallel sphere of *ma'ānī* could account for the next motion (or, as the case may be, the next instance of rest).[52] Such a *ma'nā* would be momentary and discrete: in a word, particular.

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50   Frank ("*Al-ma'nā*," 250) called them "intrinsic causal determinants."

51   See Bennett, "Cognisable," 14–16. Mu'ammar employs the concept to explain motion in the physical world as readily as he does to describe God's knowledge: God knows "by virtue of an instance of knowledge, for which He has a *ma'nā*, and that *ma'nā* has a *ma'nā*, and so on, without end" (al-Ash'arī, *Maqālāt*, 168).

52   Ibn Mattawayh, *al-Tadhkira fī aḥkām al-jawāhir wa-l-a'rāḍ*, ed. D. Gimaret (Cairo: Institut Français d'Archéologie Orientale, 2009), 1:249. This particular solution was attributed to Abū l-Hudhayl, Abū 'Alī [al-Jubbā'ī], and Abū l-Qāsim [al-Balkhī]. Abū l-Hudhayl had a particularly ambivalent attitude towards *ma'ānī*. He occasionally referred to attributes (i.e., accidents) as *ma'ānī* (e.g., Ibn Mattawayh, *al-Tadhkira*, 203) in nearly the same way Hishām ibn al-Ḥakam had (see Bennett, "Cognisable," 4–5), but he was especially careful not to apply the term to the divine attributes, which he held to be identical with God:

7 Graeco-Arabic Translations

The analysis of *maʿānī* was also an important aspect of the Graeco-Arabic translation movement, as indicated at the start of this paper by examples from *De interpretatione* and Galen. Whereas it had easily conveyed *prâgma* in Isḥāq ibn Ḥunayn's translation of *De interpretatione*, the term was agile enough to represent other concepts, as in Themistius' *In De anima*, for example. In the Arabic translation, also ascribed to Isḥāq,[53] *maʿnā* finds work replacing *tōi lógōi* in order to "separate [animals' psychic] capacities in definition (*tōi lógōi* > *bil-maʿnā*) [but not] spatially."[54] The term was so conducive for *lógos* that it appears again in a very different context, on the "ratio" (*lógos*) – that is, the "attunement" required for healthy sense perception.[55] Here is Todd's translation of the Greek text:

> For if the movement [caused by the object of sensation] exceeds the capacity of the sense-organ, the power is necessarily destroyed, since the ratio that defined perception is dissolved. For while every ratio is a specific proportion and attunement (and resembles a mean), everything that is attuned is destroyed by anything excessively out of tune.[56]

The Arabic, with an attempt to match Todd's wording as far as is possible:

> For if the motion of [the sensing subject][57] exceeds its capacity, the power must be corrupted, since the *maʿnā* of the power – that is, the sensation – is dissolved. Every *maʿnā* is [a proportion of something], and a harmony,

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see Racha el Omari, *The Theology of Abū l-Qāsim al-Balkhī / al-Kaʿbī* (Leiden: Brill, 2016), 92n18.

53 See M. C. Lyons, "An Arabic Translation of the Commentary of Themistius," *Bulletin of the School of Oriental and African Studies* 17:3 (1955): 426–35 on the text and his edition of the text.

54 Themistius, *In libros Aristotelis De anima paraphrasis*, ed. R. Heinze (Berlin: Reimer, 1899; hereafter, "Heinze"), 46.1 = Themistius, *On Aristotle on the Soul*, trans. R. B. Todd (London: Duckworth, 1996) (whose translation I follow here; hereafter, "Todd"), 64 = the Arabic version in *An Arabic Translation of Themistius' Commentary on Aristoteles De anima*, ed. M. C. Lyons (hereafter "Lyons") (Thetford: Cassirer, 1973), 59.10.

55 Heinze, 78.20 and 78.21 = Todd, 100 = Lyons, 132.17 (both instances).

56 Todd, 100; as Todd points out, the allusion is to a loud lyre: see Todd, 179n6 (= Heinze, 78.19–23).

57 *Al-ḥāss* is supplied by the editor. I have put the editorial insertions in brackets in this passage; see the Arabic, in the next footnote.

and like a mean; and every harmonised thing is destroyed [by that which] proceeds according to excess, or by departure from the mean.[58]

Of course, *ma'ānī* may be said in many ways, but to describe them as a "proportion" or "harmony" susceptible of dissolution is particularly weird. Plenty of Arabic terms could have conveyed the sense of a "ratio" here, and indeed plenty of other Arabic terms were used by the translator for *lógos* in other contexts in the same text,[59] even if we were not to acknowledge that he was the very same Isḥāq who had used *ma'ānī* for *prágmata* in *De interpretatione*.

Yet the reason may not be too far afield, for a few lines later in the text, discussing how plants "are affected by objects of touch" without properly having sense perception, Themistius declares that "plants are affected, but not in a way that results in their receiving the imprint of the ratio [*tòn lógon*] of the affection without the matter."[60] The Arabic, rather more emphatically, has: "for upon my life, we say that [plants] may be affected, but their being affected is not by virtue of deriving a *ma'nā* of the affection without the matter."[61] Here, the "affection," *al-infi'āl*, stands in for *páthous*, and the choice of verb "deriving" suggests the semantic triad, of which plants may not avail themselves.[62]

The Arabic adaptation of the *Parva naturalia*, currently under (re-)construction by Rotraud Hansberger,[63] presents another version of this tripartite scheme. Explaining how the three faculties of cogitation, memory, and the formative faculty[64] must be united in order for one to properly apprehend objects, the adaptor writes:

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58   Lyons, 132.16–133.1:

وذلك أنّه إذاكانت حركة [الحاسّ] مجاوزة لقوّته فبالواجب تفسد القوّة يخلّ
وهذاكان الحسّ فإنّ كلّ معنى فهو [اعتدال ما] وايتلا ف وكالتوسّط وكلّ مؤلّف فهو يفسد [بما] يجرى
على طريق الإفراط والخروج من التألّف.

59   Including, for example, *qiyās* ("reasoning"), *nisba* ("relation"), etc.

60   Todd, 100 = Heinze, 78.30–31.

61   Lyons, 133.8–9:

فنقول انّها لعمرى قد تنفعل إلّا أنّ انفعالها ليس هو بأنّها تنتزع معنى الانفعال دون الهيولى.

62   On plant sensation, see Christina Thomsen Thörnqvist, "Affected by the Matter," in *Forms of Representation in the Aristotelian Tradition, Volume One: Sense Perception*, ed. J. Toivanen (Leiden: Brill, 2022), 183–212.

63   See Rotraud Hansberger, "*Kitāb al-Ḥiss wa-l-maḥsūs*: Aristotle's *Parva naturalia* in Arabic Guise," in *Les Parva naturalia d'Aristote: Fortune antique et médiévale*, ed. C. Grellard and P.-M. Morel (Paris: Sorbonne, 2010), 143–62, as well as the provisional edition in Rotraud Hansberger, *The Transmission of Aristotle's Parva Naturalia in Arabic* (PhD diss., University of Oxford, 2007).

64   On the historical background of this faculty scheme, see Hansberger, "Arabic Adaptation."

For each faculty is designated for a certain action, and hence only makes present that which it designates. The thing which is designated by a single faculty is not [realised as] complete, for no form [?[65]], and indeed no 'thing' whatsoever, can be without a form, a name, and a *maʿnā*. Moreover, the name, *maʿnā*, and form must either be composite or separated. The thing's form is one of the parts [i.e., the aspect dealt with by] of the formative faculty, [its] *maʿnā* is one of the parts of the faculty of memory, and its name [as well as] composition and discrimination belong to the cogitative faculty.[66]

The text is difficult. The notion of "form" at play here is complicated by other details in the manuscript.[67] But the *maʿnā*, however "indeterminate" and (as established elsewhere in the manuscript) immaterial, is nevertheless particular to a specific object[68] and (as we can see in the excerpted text) dealt with by the faculty of memory. At other points, the adaptation details the mode of transmission of the *maʿānī*: they "'flow' (*yasīḥu*) from the intellect to the dream interpreter."[69]

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65   Thus in the text, but I suspect it should just be "things" or "objects" of which we are speaking: each of which consists of a name, a form, and a *maʿnā*.

66   Translated by Rotraud Hansberger; text from her unpublished edition (22b–23a):

لا نّ كل قوة خاصة بفعل فإنما تحضر خاصيتها والشيء الذي هو خاصة للقوة الواحدة لا يتمّ لا نّه لا تخلو الصورة ولا شيء من الأشياء من صورة واسم ومعنى وأيضًا انه لا يخلو الاسم والمعنى والصورة من تأليف او افتراق فالصورة التي للشيء من أجزاء المصوّر والمعنى من أجزاء الذكر والاسم التأليف والتمييز للفكر .

67   On "spiritual forms," see Rotraud Hansberger, "Averroes on Divinatory Dreaming," in *Forms of Representation in the Aristotelian Tradition, Volume Two: Dreaming*, ed. C. Thomsen Thörnqvist and J. Toivanen (Leiden: Brill, 2022), 110–49.

68   On this, see Rotraud Hansberger, "The Arabic *Parva naturalia*," in *Noétique et théorie de la connaissance dans la philosophie arabo-musulmane des IXᵉ–XVIIᵉ siècles*, ed. M. Sebti and D. De Smet (Paris: Vrin, 2019).

69   Hansberger, "The Arabic *Parva naturalia*," 56. Hansberger is ambivalent about possible English terms to use for *maʿnā*, noting that we are, in this text, far enough from Avicennan usage to want to avoid any of the English terms developed for it. At another point she used "cognitive content," which I quite like, except that not every *maʿnā* is destined to be cognised; hence my "cognisable content."

8   Conclusion

It may be claimed that the Arabic *Parva naturalia* does not belong to the same thought-environment as the other texts we have been examining. But the *ma'ānī* described therein, like Muʿtazilite *ma'ānī* and those of al-Jāḥiẓ, are atomic units which do not correspond perfectly to either utterances or concrete objects. Since they do not inhere in language or in mental content like kernels of reality, but are rather involved alongside the formation of objects as physical entities (allowing that not all objects need be physically constituted: e.g., non-existents) or the performance of mental acts, they are free to co-exist in a realm of their own. As in the case of Saint Anthony of Padua preaching to the fishes, they may or may not be conveyed to an audience of rational or non-rational souls. This evidence from the ninth and tenth centuries demonstrates that the realm of *ma'ānī* was a site for constant theoretical inquiry, irreducible to a single doctrinal or disciplinary tradition. The introduction of the faculty of memory (exclusively?) to process *ma'ānī* by the adaptor of Arabic *Parva naturalia* was a curious step, but as we shall see in the following chapter, it was left to Avicenna to posit decisively a faculty (estimation) by which they might be apprehended.[70]

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70   There is another story to be told: that of the application, in Medieval Hebrew philosophy, of the *ma'nā* cognate *inyān*. Elaborating on Averroes' treatment of *ma'ānī* as "in the soul" (*fī l-nafs*), Hebrew commentators developed a taxonomy of these notions which could accommodate particular characteristics and general sciences (scientific knowledge), as well as "likenesses in the soul signifying something outside the soul." This comes from a manuscript of Judah Messer Leon, brought to my attention by Yehuda Halper.

Avicenna on the Semantics of *Maʿnā*

Seyed N. Mousavian

1 Introduction

Dimitri Gutas concludes his discussion of Avicenna's alleged empiricism as follows:

> *Maʿnā* is an evocatively polysemic word in Arabic intellectual history and extreme care should be taken in interpreting it in its context. [...] The word does not mean "intention," as it is frequently but erroneously and misleadingly translated, and has nothing to do with intentionality in any of its philosophical senses. The fact that this *maʿnā* was translated as *intentio* in medieval Latin, the starting point of many a misled scholar, does not mean by itself that the term means "intention" in any sense.[1]

Gutas then enumerates some recent works on Avicenna on *maʿnā* that he finds "misguided," "irrelevant," or "mistaken." Among them, he refers to a paper by Deborah Black:

> The mistake is consistently repeated by Deborah Black, "Intentionality in Medieval Arabic Philosophy," *Quaestio* 10 (2010): 65–81 (and in other previous articles). She refers to the term *maʿnā* in Avicenna's *aš-Šifāʾ*, *al-ʿIbāra*, 3, as meaning "intention," while in reality the term in that context is a rendition of Aristotle's πράγματα in *De interpretatione* 16a7 – the actual "things" to which the affections or likenesses in the soul refer – and has nothing to do with any sense of "intentionality."[2]

Maʿnā in the above context, as Gutas explains, stands for "the actual 'things'" and "has nothing to do with any sense of intentionality." In a footnote, he further backs up his claim as follows: "It should be noted that in this context when Avicenna says in the passage referred to by Black that the external 'things which are called *maʿānī* are *maqāṣid* of the soul' (*al-umūr wa-hiya llatī*

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1 Dimitri Gutas, "The Empiricism of Avicenna," *Oriens* 40:2 (2012): 430.

2 Gutas, "The Empiricism of Avicenna," 430–31.

tusammā maʿāniya ay maqāṣida lin-nafs [and not *maqāṣada li-nafs*, as printed by Black, 68]), he means by it 'referents,' not 'intentions'."[3] Gutas' argument can be reformulated as follows:

(ARG 1)

(1.1) In the context of *De interpretatione*, 16a7, Avicenna uses *maʿnā* to stand for "the actual 'things' to which the affections or likenesses in the soul refer."

(1.2) "The actual 'things' to which the affections or likeness in the soul refer" are "referents."

(1.3) Referents are not intentions.

Therefore,

(1.4) In the context of *De interpretatione*, 16a7, Avicenna does not use *maʿnā* as intention.

Let's bring in Avicenna's crucial paragraph of *De interpretatione* that Black and Gutas interpret differently:

[Text 1.] What is emitted vocally (*bi-al-ṣawt*) signifies what is in the soul, and these are what are called 'impressions' (*āthāran*),[4] whereas what is in the soul signifies things (*al-umūr*), and these are what are called 'meanings' (*maʿānī*), that is, the things intended by the soul (*maqāṣida lin-nafs*). In the same way, the impressions too, {in relation to}[5] the expressions (*bi-al-qiyās ilā al-alfāẓ*), are intentions [*maʿānin*].[6]

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3 Gutas, "The Empiricism of Avicenna," 431n100.

4 For some references on the translation and reception of expressions *āthār* and *maʿānī*, used in this context, see footnote 2 in David Bennett's "Introducing the *Maʿānī*" above (chapter two).

5 Curly brackets are mine. The phrase "*bi-al-qiyās ilā*" in this context should be translated as "in relation to" instead of "by analogy to." Likewise, "*imtinaʾ bi-al-qiyās ilā al-ghayr*" should be translated as "impossibility in relation to something else," not "impossibility by analogy to something else." Thanks to Stephen Menn for this point. Moreover, I will try not to make any decisive judgement on the use of "affection" vs. "impression," without being committed to the view that they are interchangeable. This problem of translation is subtle and may partly be related to the role of the human soul in perception; I am under the impression that "impression" leaves less room for the active role of the human soul in the process of perception. This, however, needs to be carefully considered in the wider context of Avicenna's psychology, philosophy of mind, and epistemology.

6 Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-ʿIbāra* [*The Healing, The Logic, The Interpretation*], ed. M. al-Khuḍayrī (Cairo: al-Hayʾa al-miṣrīyya al-ʿāmma li-t-taʾlīf wa-n-našr, 1970), 2–3. This is a slightly revised version of Deborah Black's translation, see the previous note: Deborah Black, "Intentionality in Medieval Arabic Philosophy," *Quaestio* 10 (2010): 68.

Note that Black translates '*maʿānī*' and '*maʿānin*', which are two occurrences of the same Arabic word in two different grammatical positions, as two different English words, namely "meaning" and "intentions," respectively. According to Black, though *maʿnā* literally means *meaning*, "*intentio* is an entirely legitimate Latin rendition of the term" in its technical sense and this "is *explicitly* justified by" Text 1.[7] Black, then, continues:

> In this important passage, Avicenna clearly links the concept of a meaning or *maʿnā* to the mind's 'intention' to signify some object in the external world. In this context, it is the extramental things or objects themselves that are primarily denominated as 'intentions', inasmuch as they are the referents of a deliberate act of signification by the mind [...]. Moreover, the 'traces' or 'impressions in the soul' are intentions secondarily, inasmuch as they function as the objects of signification for the expressions, i.e., what the expressions intend to signify. The fundamental point here, then, is that we can label as an 'intention' anything that functions as a *significandum* relative to either a mental or a linguistic sign.[8]

In the last sentence, Black provides a functional analysis of *maʿnā*, translated as "meaning" or "intention." Black seems to link these two translations together

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7   Black, "Intentionality," 68, emphasis is original. It may be insightful to compare this passage to its counterpart in Aristotle's *De interpretatione*: "Now spoken sounds are symbols of affections in the soul, and written marks symbols of spoken sounds. And just as written marks are not the same for all men, neither are spoken sounds. But what these are in the first-place signs of – affections of the soul – are the same for all; and what these affections are likenesses of – actual things – are also the same. These matters have been discussed in the work on the soul and do not belong to the present subject." (*Int.* 1, 16a3–9, trans. J. L. Ackrill, in Aristotle, *The Complete Works of Aristotle: The Revised Oxford Translation*, ed. J. Barnes (Princeton: Princeton University Press, 2014).) The language of "*maʿānī*," or, more precisely, a counterpart of it, is missing from Aristotle's text, and that of "likeness" or "sameness" is missing from Avicenna's. The commentary traditions on both texts are rich and insightful. In developing my own interpretation of Avicenna's view on *maʿnā*, however, I will not rely on the commentary tradition for the simple reason that classical interpreters have overtly ignored *maʿnā* and *maʿāni* (its plural) as technical terms. For some relatively recent interpretations of Aristotle's view on "meaning," see David Charles, *Aristotle on Meaning and Essence* (New York: Oxford University Press, 2001), 78–109; Deborah Modrak, *Aristotle's Theory of Language and Meaning* (Cambridge: Cambridge University Press, 2003), 19–43; Terence H. Irwin "Aristotle's Concept of Signification," in *Language and Logos: Studies in Ancient Greek Philosophy Presented to G. E. L. Owen*, ed. M. Schofield and M. Nussbaum (Cambridge: Cambridge University Press, 2006), 241–66; and Matthew D. Walz, "The Opening of 'On Interpretation:' Toward a More Literal Reading," *Phronesis* 51:3 (2006): 230–51. For a very helpful overview of the discussion see the introduction to this volume, esp. sections four and five, pp. 13–18.

8   Black, "Intentionality," 68–69.

in the following way: there is an 'intentional act of signification' such that when one deliberately intends to perform this act, what is intended, namely the object of the intentional act of signification, is the 'intention.' Accordingly, one may *intend* the 'object,' i.e., the intention, because it is the object of her act of signification.[9] The kind of sign employed, being vocal or mental, does not change the functional characterisation of *ma'nā*; one may intend to perform the act of signification via different means. More particularly, one may intend to signify 'impressions in the soul,' which can be called "intentions," by means of some utterances of a natural language, e.g., English, and one can also intend to signify 'extramental objects,' which again may be called "intentions," by means of some impressions in the soul. This may suggest that being an 'intention' does not tell one much about the metaphysical character of the entity that serves the semantic roles of the intention. Hence, mental and extramental objects can both be called "intentions." This may be exactly what Gutas complains about: "The fact that this *ma'nā* was translated as *intentio* in medieval Latin, the starting point of many a misled scholar, does not mean by itself that the term means 'intention' in any sense."[10]

The problems associated with the interpretation of *ma'nā* in Avicenna particularly, and in Arabo-Islamic heritage generally, are numerous, multifaceted, and long-standing.[11] In this paper, I will confine my attention to Avicenna and will try to put forward a new perspective on the study of *ma'nā* by focusing on the "semantic" features attributed to it.[12] This study is divided into three main parts.

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9   I am not sure whether I wish to follow Black in using "primarily" and "secondarily" vocabulary in describing "extramental objects" and "impressions in the soul" as "intentions," correspondingly. In fact, Avicenna's discussion of "signification" (*dalāla*) suggests that utterances primarily signify mental entities (or impressions in the soul) and secondarily signify extramental objects (see chapter four, "Avicenna on Talking about Nothing," in this volume, esp. sections four and twelve).

10   Gutas, "The Empiricism of Avicenna," 430.

11   On the interpretation of *ma'nā* in Arabo-Islamic tradition, both within and without the philosophical tradition, the following references may be helpful: Kamal Abu Deeb, *al-Jurjānī's Theory of Poetic Imagery* (Warminster: Aris & Phillips, 1979); Richard Frank, "Meanings Are Spoken of in Many Ways: The Earlier Arab Grammarians," *Le Muséon: Revue d'Études Orientales* 94 (1981): 259–319; and Peter Adamson and Alexander Key, "Philosophy of Language in the Medieval Arabic Tradition," in *Linguistic Content: New Essays on the History of Philosophy of Language*, ed. M. Cameron and R. J. Stainton (Oxford: Oxford University Press, 2015).

12   Some other approaches to Avicenna's view on *ma'nā* may be found in Marina Paola Banchetti-Robino, "Ibn Sīnā and Husserl on Intention and Intentionality," *Philosophy East & West* 54 (2004): 71–82; Ahmed Alwishah, *Avicenna's Philosophy of Mind: Self-Awareness and Intentionality* (PhD diss. UCLA, 2006); Jon McGinnis, "Making Abstraction less

First, in section two, I will look into Avicenna's use of the term *ma'nā* and try to explicate its technical use in some of his major works insofar as it relates to some other key concepts in his semantics. I will explain the relationship between *ma'nā* and signification in 2.1; the distinction between single and composite *ma'ānī* in 2.2; the relationship between a name, its *ma'nā*, and the (genuine) definition (*ḥadd*) in 2.3; the identity/non-identity of the *ma'nā* of the name and the *ma'nā* of its definition in 2.4; the distinction between simple and non-simple *ma'ānī* in 2.5; the link between *ma'nā* and the ways of signification in 2.6; and finally the role that *ma'nā* plays in three varieties of "vocal" signification in 2.7.

Second, in section three, I will try to develop further the semantics of *ma'nā*, as reconstructed in section two, in the context of Avicenna's logic and epistemology. I use my interpretation to explain, in 3.1, two major logical distinctions among *ma'ānī*, namely particularity vs. universality and uniqueness vs. generality and, in 3.2, to argue that *ma'ānī* have various epistemological profiles, namely they may be intelligible, imaginable, or sensible. The latter observation may provide evidence that the ontology of *ma'ānī* is complex enough that I cannot do justice to it here (see my note on the methodology below).

Third, in section four, I will return to the disagreement between Gutas and Black. I will explain why I disagree with Gutas and where I think Gutas' argument, namely (ARG 1), goes astray. Then, I will try to put different pieces of my interpretation together to provide a more detailed account of the semantics of *ma'ānī*. By doing so, I will explain the subtle points at which my reading differs from Black's.

Before ending this introduction, I would like to add a brief note on my methodology. My working hypothesis is that *ma'ānī*, in general, serve some specific semantic functions and do not occupy a fixed ontological category. I will try to show that *ma'ānī* are neither necessarily mental nor necessarily extra-mental. This position may be explicated in different ways. It may be

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Abstract: The Logical, Psychological, and Metaphysical Dimensions of Avicenna's Theory of Abstraction," *Proceedings of the American Catholic Philosophical Association* 80 (2007): 169–83; id., "Avicenna's Naturalized Epistemology and Scientific Method," in *The Unity of Science in the Arabic Tradition: Science, Logic, Epistemology and Their Interactions*, ed. S. Rahman, T. Street, and H. Tahiri (Dordrecht: Springer, 2008), 129–52; Dimitri Gutas, *Avicenna and the Aristotelian Tradition: Introduction to Reading Avicenna's Philosophical Works*, 2nd ed. (Leiden: Brill, 2014); Jari Kaukua, "The Problem of Intentionality in Avicenna," *Documenti e studi sulla tradizione filosofica medievale* XXV (2014): 215–42; and Alexander Key, *Language between God and the Poets: Ma'nā in the Eleventh Century* (Oakland, California: University of California Press, 2018), 152–95. My lists, in this footnote and the previous one, are selective and incomplete; for a more comprehensive bibliography, consult Key's *Language between God and the Poets*.

said that the entities that serve the semantic roles of *maʿānī*, and thus can be called *maʿānī*, do not necessarily fall under a fixed ontological 'category.' This formulation may resonate with Meinong's idea of *sosein* (*being so*), which is applicable to both existent and non-existent objects.[13] Or, it may be said that *x* and *y* (I use '*x*' and '*y*' as devices of direct reference) are the same *maʿnā*, but different entities. This formulation may resonate with Peter Geach's idea of *relative identity*.[14] I will not assess any of these suggestions here,[15] nor will I explicitly argue for my hypothesis. However, my reconstruction of Avicenna's semantics of *maʿānī* should corroborate my hypothesis, or at least I hope so. It may be worth emphasising that though *maʿānī* may be described as not falling under a fixed ontological 'category' and thus the *maʿnā* of "Zayd," in Avicenna's language, may share some features with the *sosein* of Zayd, in Meinong's language, I do not wish to imply that *maʿānī* are like Meinongian objects.[16] A Meinongian object, say *the golden mountain*, may be there, as an object of thought or semantic reference, even if it is actually nonexistent and has never existed. However, if a *maʿnā* is there, it *exists* in some way, though its mode of existence may not contribute to its identity. As Avicenna explains below: "Animal in itself is a meaning (*maʿnā*), regardless of whether it exists in external reality or is conceived in the soul" (see Text 9 below).

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13   Alexius Meinong, "The Theory of Objects," in *Realism and the Background of Phenomenology*, trans. I. Levi, D. B. Terrell, and R. M. Chisholm (Glencoe, IL: The Free Press, 1960), 76–117.

14   Peter T. Geach, "Identity," *Review of Metaphysics* 21 (1967): 3–12.

15   The two ideas have differences and similarities. In neo-Meinongian theories, normally, the identity relation between nonexistent objects is "absolute identity." Also, Meinong's idea of *sosein* works within his framework of nonexistent objects which is based on the distinction between *sein* and *sosein* (that, again, may resemble Avicenna's distinction between existence and essence/quiddity). In contrast, Geach's relative identity holds between *existent* objects. The basic idea is that "the self-same objects indiscernible according to one theory may be discernible according to another." (Harry Deutsch and Pawel Garbacz, "Relative Identity," in *The Stanford Encyclopedia of Philosophy*, ed. E. N. Zalta (2018), section 1, https://plato.stanford.edu/archives/fall2018/entries/identity-relative/.) In fact, Geach took his view as "the" way to resist "a baroque Meinongian structure" (Geach, "Identity," 10). The two ideas, nonetheless, share the approach that, with regard to a *realm* of objects, properties are prior to objects. A neo-Meinongian starts from predicates/predications/modal statements to characterise objects. A Geachean starts from identity relations whose formulations require predicates expressing natural kinds to introduce the "same objects."

16   Note that in that last sentence in the body of the text, the first occurrence of "Zayd" is in quotation and the second one is not; in Avicenna's language the "*maʿnā*" is applicable to a name (and what is named) but in Meinong's language, "sosein" is only applicable to an object.

Furthermore, I presuppose that (composite) *maʿānī* are hyper-intensional (structured) entities.[17] *Maʿānī* may be distinct but necessarily co-extensive. Composite *maʿānī* are structured entities; they have "compositional structures" that contribute to their identities. Though I presuppose this, I will discuss different aspects of this presupposition in section two, particularly in subsections 2.4 and 2.7.

The above considerations, methodologically speaking, suggest that the study of *maʿānī* need *not* begin with the study of the ontology of *maʿānī*. In fact, if my hypothesis holds and *maʿānī* do not occupy a fixed ontological category and my presupposition that *maʿānī* are hyper-intensional structured entities is true, then the instances or extensions of *maʿānī* do not individuate *maʿānī*, and the search for the ontology of *maʿānī* is not the best methodology for studying them. Instead, one needs to focus primarily on the semantics of *maʿānī*.[18]

2   Semantics of maʿnā

2.1   *Maʿnā and Signification*

For Avicenna, *maʿnā* is closely linked to "expressions" or more specifically, "utterances of expressions" or "vocal expressions," on the one hand, and "signification," on the other hand:

> [Text 2.] The meaning (*maʿnā*) of signification (*dalāla*) of a vocal expression (*lafẓ*) is this: when what is heard from the name (*masmūʿu ismin*) is

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17   For an introduction to hyperintensionality in contemporary context, see M. J. Cresswell, "Hyperintensional Logic," *Studia Lógica* 34 (1975): 25–38.

18   When working on this paper, I learned that Gholamreza Fayyazi (/Fayyāḍī) has been developing and defending an account of *maʿānī*, as distinct from "understood contents" (*mafāhīm*) and "extensions" (*maṣādiq*) that may resemble, in some respects, my interpretation of Avicenna, see Gholamreza Fayyazi et al., "Chīstī maʿnā" ["The what-ness of maʿnā"], *Faṣlnāme ʿilmī Pajuhiṣī Āʾīne Hikmat* 16 (1392/2013): 125–60; and S. M. Mahdi Nabavian, *Justārhāyī dar Falsafe Islami; Muštamal bar Ārāʾ Ikhtiṣāṣī Āyatullāh Fayyaḍī* (Majmaʿ ʿālī ḥikmat Islāmi: Qum, 1395/2016). However, I suppose, our differences are striking. I mention three: first, Fayyazi does not attempt to give an interpretation of Avicenna; rather, he tries to explicate his own philosophical language. In contrast, I try to interpret Avicenna's philosophy of language and mind. Second, Fayyazi attempts to save some features of Mulla Ṣadrā's ontology, for example the thesis of the Principality of "Existence" (*Aṣālat ul-Wujūd*); I have no such ambition. Third, I believe that Avicenna's semantics of *maʿnā* has many gaps and requires reconstruction. Fayyazi does not express any such approach. Since Fayyazi does not primarily relate his work to Avicenna, the possible connections and interesting points of contact cannot be discussed here.

imprinted (*irtasama*)[19] in the imagination (*al-khayal*), then the *ma'nā* is imprinted in the soul (*an-nafs*) and the soul recognises/realises (*ta'arrafu*) that this heard [expression] belongs to this understood [content] (*al-mafhūm*). Then, whenever the sense brings it [i.e., what is heard from the name] to the soul, then it [i.e., the soul] turns/attends (*iltafatata ilā*) to its *ma'nā*.[20]

By "the meaning (*ma'nā*) of signification of an expression" Avicenna tries to explain what he means by 'signification' as associated with vocal expressions. Thus, the first occurrence of "*ma'nā*" in the first sentence can be translated as "meaning" in a non-technical use.[21] Avicenna, then, explains 'signification' as an association relation between the impression of the utterance of the expression imprinted in the imagination, and the corresponding *ma'nā* imprinted in the soul under the condition that the soul recognises/realises that the former belongs to the latter.

Three points are worth mentioning. First, let me explain my reading and translation of "*ta'arrafu*." The same Arabic string of symbols may be read as "*ta'rifu*," first form active imperfect feminine, and thus be translated, for example, as "knows." However, I read it as the fifth form active present feminine, which is *effective* in meaning, implying that some act is performed or some cause has been involved and the knowledge or cognition (in the soul) is the result of that act or cause. Syntactically speaking, the first letter in this form may be omitted due to repetition: e.g. *tatanazzalu* is compressed into *tanazzalu*, and the same, I suggest, goes with *ta'arrafu*. The result is that I translate the verb as "recognises" in which the structure of re-cognition is built in: the

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19   I am following Gutas, *Avicenna and the Aristotelian Tradition*, 218, in translating *irtisām* as *imprinting*.

20   Ibn Sīnā, *aš-Šifā', al-Manṭiq, al-'Ibāra* [*The Interpretation*], 4. All translations are mine unless otherwise specified. If a translation is not mine, curly brackets introduce my revisions to the translation. In my language, I use small-caps to refer to *ma'ānī*, e.g. HUMAN refers to the *ma'nā* of "human." (This notation should not be conflated with our modern convention to use small-caps to refer to concepts, which I do not follow in this paper; cf. Greenberg's contribution in this volume.) In Avicenna's language, namely when I am using (the translations of) his words, I use italics to refer to *ma'ānī*. (I may use italics for other purposes as well, such as emphasis or producing names, e.g. *Zayd* refers to the name that signifies the person, i.e. Zayd.) I hope that on each occasion, the context of use disambiguates my use of italics.

21   This occurrence of "*ma'nā*" may also be taken as a technical term that expresses the *ma'nā* of the "signification of an expression." This produces a more uniform reading. Accordingly, "*ma'nā*" here expresses an association relation between the impression of the utterance of "signification of an expression" and the corresponding general characterisation of *ma'nā*.

soul, upon the impression caused by what is heard from the expression in the imagination, re-cognises the *ma'nā* of the expression.

Second, my use of "understood [content]" for "*al-mafhūm*" needs clari-fication. It seems that Avicenna here uses *al-mafhūm* in a descriptive sense, namely for "what one understands from an expression or utterance" or "what is conceived." Thus, I use "understood content" as a placeholder for such a *wh*-clause. More particularly, "understood content," in this use, should not be identified with intelligibles or universals. Note that *ma'nā*, more precisely, what the second occurrence of the term in the first sentence of Text 1 stands for, is described as "being imprinted" in the "soul" and then, i.e., what the third occurrence of the term stands for, is described as the "understood content" or "what is conceived" (*al-mafhūm*), when the soul re-cognises the associa-tion relation between the utterance and the *ma'nā* as imprinted in the soul. This suggests that *al-mafhūm* (or understanding) is related to the *ma'nā* as *conceived*. This relation, in its most straightforward way, may be absolute identity. If so, *al-mafhūm* is the *ma'nā* as *conceived* or the *ma'nā* as imprinted in the soul.[22] Thus, 'understood content' for Avicenna can be interpreted as having a relational character. When something is described as an 'under-stood content,' the feature in virtue of which it is called "understood content" is *being conceived by the mind*, namely being in a particular relation to an epistemic power of the human soul. This relation is "toward-the-mind," so to speak. The *ma'nā*, in itself, does not have this relation. In fact, if one can talk about the relational character of the *ma'nā*, since it is a *significandum*,[23] the relation is toward-the-object.

Third, the nature of this "turning (or attending) relation" in the last sen-tence of Text 2 is not explained here. I speculate that different mental powers may play the primary role in constituting this relation depending on different

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22   I am inclined to think that Avicenna's primarily metaphysical (or epistemological-ontological) distinction of essence and existence (or quiddity and existence) can be 'generalised' to a semantic-ontological distinction of *ma'nā* and existence. The *ma'nā* as *conceived* or understood content exists as a mental entity, an accident of the human mind, and is referred to as "imprinted in the soul." The *ma'nā* itself, when for example an ordinary object is signified, exists as an extramental entity, and is referred to as "significandum."

23   Black uses *significandum* (see above), whereas others use *significatum* more often. The modal connotation of "significandum" (to-be-signified), as opposed to the factive con-notation of "significatum" (what-is-signified), is a point in favor of using "significandum" instead of "significatum," at least if cases of apparent reference failure are accepted as having *ma'nā* (see the next chapter in this volume). However, in this paper, I overlook such considerations and use these two terms mostly interchangeably.

"ways" of signification (see 2.6). For example, in Text 13 below Avicenna explains that in the signification of the expression "white" the imagination plays a more central role than the intellect. In the signification of the expression "the necessary existent," I speculate, the intellect plays a more central role than the imagination. This implies that turning or attending to the *ma'nā* of an utterance may be realised by different underlying mental activities and powers.

This connection between *ma'nā* and signification leads to the first major distinction amongst *ma'ānī*, namely simple vs. composite.

2.2   *Ma'nā: Single (mufrad) or Composite (murakkab)*
In his encyclopedia, Avicenna introduces categories by means of single *ma'ānī*:

> [Text 3.] All the single *ma'ānī* (*al-ma'ānī al-mufrada*) which may appropriately be signified by single expressions (*al-alfaẓ al-mufrada*) are not but one of the following ten: they may signify a substance, like our utterance (*qawlunā*): human or tree; or they may signify a quantity, like our utterance: two cubits (*ḏū ḏarā'ayn*); or they may signify a quality, like our utterance: white […].[24]

To unpack Text 3, I will, first, introduce single and composite expressions; second, discuss the relation between single expressions and single *ma'ānī*; and third, explain Avicenna's examples.

The division of expressions into single and composite is based on the semantic properties of their compositional structures:

> [Text 4.] A single expression is one by the part of which, insofar as it is a part, one does not intend {(*yurādu*)} any signification at all.[25]

An example is *'abdullāh* ('The Servant of God') which depending on what one intends may or may not be a single expression. As a proper name, Avicenna explains, the significations of the parts of the expression do not contribute to the signification of the whole, and thus the expression is single. However, as a definite description, used to describe someone as *being the servant of God*, namely the *'abd* of *allāh*, the significations of the parts of the expression

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24   Ibn Sīnā, *Aš-Šifā', al-Manṭiq, al-Maqūlāt* [*The Healing, The Logic, The Categories*], ed. I. Madkur (Cairo: al-Hay'a al-'āmma li-šu'ūn al-maṭābi' al-amīriyya, 1378/1959), 57.

25   Ibn Sīnā, *al-Ishārāt wa-l-tanbīhāt* (*al-Manṭiq*), trans. S. Inati, in *Ibn Sīnā: Remarks and Admonitions, Part One: Logic* (Wetteren: Universa Press, 1984), 51.

do contribute to the signification of the whole, and thus the expression is composite.

Text 3 may be read as emphasising the conceptual priority of a single *maʿnā* over the corresponding single expression. In Text 3, Avicenna introduces the ten categories as single *maʿānī* which may appropriately be signified by single expressions. Assuming that *maʿānī* are not individuated by expressions that signify them, it follows that Avicennian categories are not individuated syntactically.

To illustrate the categories, Avicenna exemplifies the first category with *human*, the second category with *two cubits*, and the third one with *white*. These examples raise two questions in the context of Text 3. First, if by *human* Avicenna means every instance of human, by *two cubits* every instance of two cubits, by *white* every instance of white, and so forth, then what is the role of *maʿānī* in Text 3? Otherwise put, if by categories Avicenna means everything that falls under the ten highest genera, why does he use the language of *maʿānī* to introduce them? An easy answer might be that single *maʿānī* are just the instances or referents of the expressions for the categories. This answer, however, faces two problems.

First, how can the ability of *maʿānī* to be imprinted in the soul be explained? For example, how can Aristotle, as an instance of *human*, himself be imprinted in the soul? Moreover, and as a follow-up to this problem, what is the *maʿnā* of a single expression that actually or presently has no instance or referent? I will return to the first problem in 2.6 and discuss the follow-up question elsewhere.[26]

Second, if categories are single *maʿānī*, are *human* or *two cubits* genuinely single? Let me explain. Consider *human* first. The example works only if the *maʿnā* of "human" is single and it can appropriately be signified by a single expression. However, "human" is genuinely defined as "rational animal," which is a composite expression, because the significations of the parts of "rational animal" contribute to the signification of the whole expression. It seems to follow that "human" is not semantically single, violating the assumption that the *maʿnā* of "human" is single. Next, consider two cubits. The example works only if the *maʿnā* of "two cubits" is single and it can appropriately be signified by a single expression. However, the expression "two cubits" seems to be composite. It seems to follow that "two cubits" is semantically composite, violating the assumption that the *maʿnā* of "two cubits" is single.[27]

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26   See my *On the Letter on the Unreal Forms* (manuscript).

27   For a discussion of this second problem, please also see my *On the Letter on the Unreal Forms* (manuscript).

It appears that the notion of 'single', as applied to *ma'ānī*, calls for explication. To address this concern, we need to examine Avicenna's analysis of a genuine definition and the relationship between the *ma'nā* of a name, on the one hand, and the *ma'nā* of its genuine definition, on the other hand.

2.3   *Name, ma'nā and (Genuine) Definition (ḥadd)*
The relationship between a name, its *ma'nā*, its definition and the *ma'nā* of its definition is discussed in Avicenna's *Posterior Analytics* of *The Healing*:

> [Text 5.] In one sense, '(genuine) definition' (*ḥadd*) is said of a statement (*qawlun*) that explicates (*yašraḥu*) the name and conveys (*yufahhimu*) the *ma'nā* essentially intended (*al-maqṣūd biḏ-ḏāt*), not accidentally, by that name (*fī ḏalik al-ism*) and does not signify (*la yadullu 'alā*) the existence nor the cause of existence unless it happens that the *ma'nā* of the name (*ma'nā al-ismi*) be an existent that is well-known to be existing, in this case, it accidentally has some signification about (*dalālatu m-mā bil-'araḍ*) the cause of the existence [of the *ma'nā*]. And this is because it [i.e., the (genuine) definition] so far as (*min jihati*) it is an explication of the name (*šarḥ ul-ism*) is not a (genuine) definition of the essence (*laysa ḥadd uḏ-ḏāt*), even if the (genuine) definition of the essence is nothing but the very explication of the name.[28]

To illustrate Text 5, let me distinguish between four items: (1) a single name "N"; (2) the *ma'nā* M, essentially or primarily intended by a proper use of "N"; (3) the essence (*ḏāt*) of N,[29] if it has one (my latter use of "N" is disquoted, assuming that the essence, in this use, does not apply to the expression/name "N" but to the object itself); and (4) the (genuine) definition of "N." More particularly, let "N" be "human." The definition of "human," namely "rational animal," is a complete composite expression that conveys (*yufahhimu*) the *ma'nā* of "human" and thus explicates (*yašraḥu*) the name "human." Moreover, the definition of "human," namely "rational animal," does not signify the existence of human (in the external world), nor the cause of the existence of human. The definition of "human," at this stage, is not the definition of the essence of human, "even if the (genuine) definition of the essence [of human] is nothing

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28   Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-Burhān* [*The Healing, The Logic, The Demonstration*], ed. A. ʿAfīfī (Cairo: al-Maṭbaʿa al-amīriyya, 1956), vol. 3, 4.4, 288–89.

29   I use "essence" in a broad sense to cover *individual essence* as well.

but the very explication of the name," namely "rational animal" itself.[30] I read this sentence as implying that being the (genuine) definition of the essence of human is not simply a matter of what the definition of "human," namely "rational animal," *expresses*; rather, being the genuine definition of the essence of human partly hinges on what exists in reality. In other words, the (genuine) definition of the essence depends on some metaphysical conditions such as the existence of (at least one) human (at some time). This is consistent with what Avicenna says elsewhere on the *maʿānī* of the expressions for the impossibilia with *no* essences:

> [Text 6.] Something is questionable here: regarding the nonexistent with respect to essence, [whose] existence is [rationally] impossible/ absurd (*al-maʿdūm uḏ-ḏāt al-mūḥāl ul-wūjūd*), how is it conceptualised/ conceived (*yutaṣawwar*) [first] when it is asked "what is it?", in order to inquire, afterwards, about "whether it [exists]." Because if no *maʿnā* of it is ever acquired (*lam yaḥṣul*) in the soul, how can it be judged if it occurs or does not occur [among 'concrete' particulars]? The [rationally] impossible has no form in existence (*la ṣurata lahu fil-wūjūd*), thus how is a form taken from it [i.e. from the impossible] in the mind, such that that conceptualised/conceived [form] (*ḏālik al-mutaṣawwar*) be its *maʿnā*?[31]

In Text 6, Avicenna raises a question that only makes sense if it is possible for an expression to signify some *maʿnā* when there is no corresponding essence: one of his examples for the "nonexistent with respect to essence [whose] existence is [rationally] impossible/absurd" is *the void*.[32] For him, the void does not exist, it has no essence, and it is (rationally) impossible for it to exist. In fact, according to Avicenna, there is a proof that the void is impossible. His question is: "How does the expression for the 'void' have *maʿnā*?" There is no void and there is no form of the void to be conceptualised/conceived. But any proof for the impossibility of the void requires the corresponding expression, i.e., the "void," to be significant.[33]

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30   I oversimplify my discussion by assuming that the "nominal" definition/description of "N" is the same as the expression that signifies the essence of N, or in Avicenna's language, by assuming that "the (genuine) definition of the essence is nothing but the very explication of the name." This, however, is not generally true. The nominal definition of "human," for example, may be "featherless biped" which is distinct from "rational animal."

31   Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-Burhān* [*The Demonstration*], vol. 3, 1.6, 72.

32   Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-Burhān* [*The Demonstration*], vol. 3, 1.6, 72.

33   I have discussed Avicenna's solution to this problem in *On the Letter on the Unreal Forms* (manuscript).

Putting Text 4 and Text 6 together, one may conclude that a name "N" signifies the *ma'nā* M essentially intended by a proper use of "N," and the definition of "N" *explicates* the name "N" by *conveying* M. What the definition of "N," as a composite expression, signifies may itself be a composite *ma'nā*; however, this does not imply that the *ma'nā* M essentially intended by a proper use of "N" is not single. Moreover, from Text 6, an expression "N" may signify its *ma'nā* even if there is no corresponding essence. Hence, the *ma'nā* of "N" is not necessarily the essence of N. However, as I will try to show below, if there is an essence of N, the *ma'nā* of "N" is nothing but the essence of N as intended by the mind, through appropriate semantic means. At least, I submit, this is consistent with Avicenna's view. This "as-intended-by-the-mind" feature is what gives a relational character to the *ma'nā*, as being the *significandum*, and relates Avicenna's metaphysics to his philosophy of language.

So far I have overlooked Avicenna's point in Text 5 that the definition of "N" "does not signify (*lā yadullu 'alā*) the existence nor the cause of existence unless it happens that the *ma'nā* of the name (*ma'nā al-ismi*) be an existent that is well-known to be existing." The metaphysical point seems to be that the *ma'nā* may exist, or in a more technical term "occur" (*waqa'a*), in the external world and be well-known. (Admittedly, "occur" may not be more technical than "exist." To signal that I am using it in a technical sense, I will put the original Arabic in a pair of parentheses after that.) I speculate that this may be explained by the hypothesis that a *ma'nā*, ontologically speaking, is not necessarily mental, though it can be imprinted in the mind. The semantic point is that, even in this case, *ma'nā* accidentally signifies the cause of existence and, I assume, the existence itself. It follows that a *ma'nā*, though itself a *significandum*, may perform the role of a signifier with respect to another *ma'nā* and this network of "signification" relations is not restricted to the human mind. Aboutness, for Avicenna, is, or can be, part of the world.

To recap, let me summarise some of these points in the following figure (the relations of 'constitution' and 'containment' are analysed in detail in sections 2.4 and 2.7 below):[34]

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34   The relationship between Figure 3.1 and the classic semantic triangle would be worth considering. Space limitation does not allow me to do so here. However, I should emphasise that Figure 3.1 is oversimplified in three respects: first, to repeat, I have assumed that the nominal definition of "N" is the same as the genuine definition of N. To generalise Figure 3.1, one may add a series of similar triangles (for example, their mirror images with respect to the horizontal line) for the other definition. Second, the individual, say Zayd, is missing from Figure 3.1; what is there is the *essence* of Zayd. A more detailed figure should include the relationship between an individual and its essence. Third, the understood content of/what is conceived from "Zayd" and the *ma'nā* of "Zayd" should be
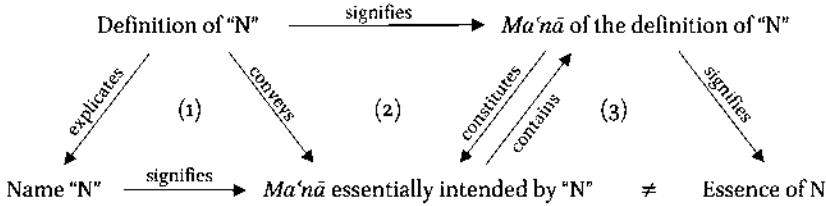
FIGURE 3.1   Name, definition, and their *maʿānī*

Figure 3.1 has three triangles: (1), (2), and (3). Triangle (1) represents the relationship between the name "N," its *maʿnā*, and the definition of "N." Avicenna uses different terms to talk about the relationships between these three items: the name "N" signifies its *maʿnā*. The definition of "N" conveys that *maʿnā* and, "in virtue of that," explicates "N" itself. Note that the *maʿnā* of "N" is the *maʿnā* essentially intended by a proper use of "N," even though it may have other *maʿānī* as well, not essentially intended by its use. Triangle (2) represents the relationship between the definition of "N," the *maʿnā* of the definition of "N" and the *maʿnā* of "N." The definition of "N" signifies its own *maʿnā*. The relationship between the *maʿnā* of the definition of "N" and the *maʿnā* of "N" is rather complicated and needs to be discussed separately (see the next subsection). Triangle (3) represents the relationship between the latter two *maʿānī* and the essence of N. The last arrow between the *maʿnā* of the definition of "N" and the essence of N, is called "signification" elsewhere. For example:

> [Text 7.] For definition is that which signifies (*dalla*) quiddity – this you have known. If it were the case that every statement beside which a name can be imposed is a definition, then all the books of *al-Jaḥiẓ* would be definitions.[35]

Assuming that if something has quiddity, its quiddity is its essence,[36] it follows that (genuine) definition signifies the essence. Finally, by the non-identity in Triangle (3), I mean that the *maʿnā* of (or essentially intended by) "N" is not necessarily the essence of N (as intended by the mind). I have tried to justify this claim elsewhere; the basic idea is that, for example, the "void" has a

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distinguished. Hence, the base of triangle (1) requires elaboration. This has been done in Figure 3.5 below.

35   Ibn Sīnā, *Aš-Šifāʾ, al-Ilāhiyyāt*, ed. and trans. M. E. Marmura, in Avicenna, *The Metaphysics of the Healing* (Provo: Brigham Young University Press, 2005), 187 (slightly revised).

36   Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-Madkhal* [*The Healing, The Logic, The Isagoge*], ed. Ǧ. Š. Qanawātī, M. al-Khuḍayrī, and A. F. al-Ahwānī (Cairo: al-Maṭbaʿa al-amīriyya, 1952), 28.

maʿnā through a comparison with some existing things even though it has no essence. In such a case, the "void" has no genuine definition. Let's at this stage look into the relationship between the *maʿnā* of "N" and the *maʿnā* of the definition of "N" more closely.

2.4   *The maʿnā of the Name and the maʿnā of Its (Genuine)*
Definition (ḥadd)

The *maʿnā* of "human," as a single *maʿnā*, is determined/definite in the sense that the *maʿnā* is the determinate/definite (opaque) object of a mental act of attending ("opaque" is my term, shortly I will explain the concept in Avicenna's language). More particularly, this act of attending does not pass through the "constituents" or concomitants of the *maʿnā* of "human." This is not the case with the *maʿnā* of "rational animal," namely attending to it does pass through its "constituents," namely the *maʿnā* of "rational" and the *maʿnā* of "animal" (I will try to explicate the meaning of "constituency" below):

> [Text 8.] And the single *maʿnā* is determined/definite (*muʿayyan*) in the sense (*min ḥayṯu*) that the mind (*aḏ-ḏihn*) attends to it (*yaltafitu ilayhi*) as it is (*kamā huwa*) and does not attend to something from which it is constituted (*shayʿun minhu yataqawwamu*) or [to something] acquired by/with it (*maʿahu yaḥṣulu*), even though the mind can attend, in another time, to other *maʿānī* in it or by/with it, or [the mind] cannot [attend to those other *maʿānī* in it or by/with it].[37]

According to Text 8, a single *maʿnā* is determined/definite in the sense that the human intellect, particularly the human mind, can consider it or attend to it[38] *as it is* without attending to its "constituents" or concomitants. Below, in 2.7, I will show that the way that "human" signifies the *maʿnā* of "human," i.e., HUMAN, is different from the way that the same expression, i.e., "human," signifies the *maʿnā* of "rational," i.e., RATIONAL, or the *maʿnā* of "animal," i.e., ANIMAL. In Text 15 below, Avicenna explains that RATIONAL and ANIMAL are "parts of" HUMAN, and HUMAN "contains" those *maʿānī*. I take "constituency" in Text 8 to be the same as "being part of" in Text 15, a part-whole relation

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37   Ibn Sīnā, *Manṭiq al-Mašriqiyyīn* [*The Logic of the Easterners*], ed. M. al-Khāṭīb and ʿA. al-Qatlā (Cairo: al-Maktaba as-salafiyya, 1910), 11.

38   By attending to a *maʿnā*, one enters into an epistemological relation with it, and forms a conception (*taṣawwur*) of it. Hence, one becomes cognizant/aware of the *maʿnā*. The understood content, which ontologically speaking is the *maʿnā* imprinted in the mind, as a relatum of the epistemological relation of 'being attended to' is the *conception* of the *maʿnā*.

that holds between *maʿānī*. If my working hypothesis, namely that *maʿānī* do not occupy a fixed ontological 'category,' holds, then this part-whole relation is rather different from the part-whole relation that holds between entities that fall under a fixed ontological 'category.' For instance, elsewhere I have shown that for Avicenna, "animality" (or in my notation ANIMAL) in its generic sense (*maʿnā jinsī*), namely as a genus, only exists in the soul, and "what exist among concrete particulars (*al-aʿyān*) are [different] species of it."[39] However, HUMAN, in its specific sense, namely as a species, exists among concrete particulars. Given my interpretation that ANIMAL is a constituent or part of HUMAN, it seems to follow that something, namely HUMAN, exists among concrete particulars but a constituent or part of it, namely ANIMAL, does not. I am committed to this conclusion. The 'constituency' or 'part-whole' relation, in this use, holds between *maʿānī*. It may be said that *maʿānī* have different modes of existence and in each mode they have different ontological attributes. To invent a piece of terminology, RATIONAL and ANIMAL are "intensional," not ontological, constituents or parts of HUMAN. Thus, a *maʿnā* may exist among concert particulars whereas some of its intensional constituents or parts do not. This (intensional) constituency relation also explains why the *maʿnā* of the definition of "N" can *convey* the *maʿnā* of "N" and the definition of "N" can *explicate* the name "N." This may be put together like a bottom-up explanation: *maʿānī* come into intensional constituency relations, and this is the ground for the definition of "N" to "convey" the *maʿnā* of "N" on the epistemic level – and this, in turn, is the ground for the definition of "N" to "explicate" the name "N" on the linguistic level.[40]

The last sentence of Text 8 adds another level of complexity to Avicenna's semantics of *maʿnā*. After he explicates the sense in which a single *maʿnā* is determined/definite, he adds: "even though the mind can attend, in another time, to other *maʿānī* in it or by/with it or cannot." This suggests that a single determined/definite *maʿnā* may have a "modal/temporal" property in virtue of which it can be attended to by the mind, *in a different time*, via its constituents or concomitants. I put emphasis on "in a different time," assuming that

39   Seyed N. Mousavian and Seyed H. Saadat Mostafavi, "Avicenna on the Origination of the Human Soul," *Oxford Studies in Medieval Philosophy* 5 (2017): 63.

40   The above explanation is not intended to give the order of explanation between the unity of the *maʿnā* of "N," the unity of (the *maʿnā* of) the definition of "N," and the unity of the essence of N. If N has an essence, it is quite natural to assume that the unity of the essence of N can explain the unity of the *maʿnā* of "N" and also the unity of (the *maʿnā* of) the definition of "N." If N has no essence, e.g., the void, the "unity" of the *maʿnā* of "N," has a different meaning and a different explanation (see my *On the Letter on the Unreal Forms* (manuscript)).

Avicenna presupposes that the mind cannot consider a *ma'nā* by both "*not attending to something from which it is constituted*" and "attending to something from which it is constituted" at one instant of attention/reflection. If a *ma'nā* cannot be attended to as it is, which implies that at each instant of attention the mind attends to "something from which it is constituted or [to something] acquired by/with it," then that *ma'nā* is not a single determined/definite *ma'nā*. An example, I speculate, would be RATIONAL ANIMAL; the mind always attends to this *ma'nā* via its constituents.

The question of identity of HUMAN and RATIONAL ANIMAL raises thorny issues to which I cannot do justice here. For example, the problem of individuation of *ma'ānī* and the problem of transparency of *ma'ānī*. Let me briefly explain these two problems.

Assuming a version of Leibniz's principle of indiscernibility of identicals, according to which if *x* is identical to *y*, then *x* and *y* are indiscernible, namely they share *all* their properties, and given that HUMAN is a single *ma'nā* and RATIONAL ANIMAL is a composite *ma'nā*, it follows by modus tollens that HUMAN is not identical to RATIONAL ANIMAL.[41] Nonetheless, it might be objected that so far as *ma'ānī* are at stake this formulation of Leibniz's principle is naïve and properties like *being single* and *being composite* should not be permitted to figure in the identity principle for *ma'ānī*. I suppose that this objection may be resisted once one takes *ma'ānī* to be fine-grained entities that are partly individuated by the way that the mind takes them. This latter claim, in turn, may be justified, for example, by Avicenna's famous division amongst three aspects of a "quiddity," namely the quiddity inasmuch as it is that quiddity, the quiddity inasmuch as it is in external reality, and the quiddity inasmuch as it is in conception,[42] and the fact that Avicenna refers to the quiddity in itself as one *ma'nā*, distinct from the other two aspects:

> [Text 9.] Animal in itself is a meaning (*ma'nā*), regardless of whether it exits in external reality or is conceived in the soul. In itself it is neither general nor particular (*khāss*). [...] Rather, animal in itself is something conceived in the mind and in accordance with its conception as animal it is simply animal. If with this it is [also] conceived as general, particular (*khāss*) and the like, then an idea (*ma'nā*) additional to its being animal, occurring (*ya'riḍu*) accidentally to animality, is conceived with it.[43]

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41   Here I only consider the notion of "absolute identity."

42   Ibn Sīnā, *Aš-Šifāʾ, al-Ilāhiyyāt*, in *The Metaphysics of the Healing*, 10–12.

43   Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-Madkhal* [*The Isagoge*], 65 (the translation is taken from Michael E. Marmura, *Probing in Islamic Philosophy: Studies in the Philosophies of Ibn*

Below, in 3.1, I will discuss what Avicenna means by "generality" or "uniqueness" of a *ma'nā* (this is different from universality vs. particularity). In Text 9, however, Marmura interprets Avicenna as talking about universality vs. particularity, which may be a reasonable interpretation. Part of the text, which I have omitted above, is devoted to an argument for the claim that the *ma'nā animality* in itself is neither general nor particular. What matters for my purposes here is that considering the *ma'nā animality* in itself is making a new *ma'nā* with a new semantic behaviour. This suggests that *ma'ānī* are fine-grained entities that are partly individuated by the way that the mind takes them.[44]

A related issue is the problem of transparency of *ma'ānī*, which I roughly discuss below. In Text 16, Avicenna says that:

> when everybody is talked to by a name, he understands something and becomes aware/cognizant of (*waqafa 'alā*) what the name signifies if he knows the language. But no one becomes aware of the (genuine) definition but one who has well practiced the art of logic.[45]

The notion of transparency of *ma'ānī* can be formulated by the following principle, namely (TRA) (M_1 and M_2 are variables ranging over *ma'ānī*, S is an agent, and for simplicity I have dropped any reference to the "context"):

(TRA) If $M_1 = M_2$, then S is aware of M_1 iff S is aware of M_2.[46]

Sīnā, al-Ghazālī and other Major Muslim Thinkers (Binghamton, NY: Global Academic Publishing, 2005), 49; modified).

44 The problem of the identity criterion for intensional entities in contemporary philosophy of logic and language runs deep and has various alternative solutions. For a brief encyclopedic introduction, see George Bealer, "Intensional Entities," in *Routledge Encyclopedia of Philosophy* (London: Routledge, 1998), 803–7.

45 Ibn Sīnā, *aš-Šifā', al-Manṭiq, al-Burhān* [*The Healing, The Logic, The Demonstration*], ed A. 'Afīfī (Cairo: al-Maṭba'a al-amīriyya, 1956), 1.5, 69. See also note 38 above.

46 In the same vein, but in modern (analytic) philosophy, the problem of identity of Fregean senses is a hard problem (see Kevin C. Klement, "The Number of Senses," *Erkenntnis* 58 (2003): 303–23). There is a similar, but different, debate on the sameness of Fregean thoughts. At least three different criteria for the sameness of thoughts, namely logical equivalence, intensional isomorphism, and epistemic equipollence, are attributed to Frege. (Note: (TRA) also employs the idea of epistemic equipollence.) The debate on these views is ongoing: see, e.g., Susanna Schellenberg, "Sameness of Fregean Sense," *Synthese* 189 (2012): 163–75, for a defense of epistemic equipollence, and Mark Textor, "Frege's Recognition Criterion for Thoughts and Its Problems," *Synthese* 195 (2018): 2677–96, for a criticism of it.

Given (TRA), it follows that HUMAN is not identical to RATIONAL ANIMAL since one may be aware of HUMAN (as the *ma'nā* of "human") just in virtue of knowing the language and not be aware of RATIONAL ANIMAL (as the *ma'nā* of the definition of "human") due to lack of 'logical knowledge,' broadly construed.[47]

Here I cannot settle the issues with regard to the identity of *ma'ānī*. Based on my presupposition that *ma'ānī* are hyper-intensional entities, I would like to suggest, on behalf of Avicenna, that in this case the *ma'nā* of "human" and the *ma'nā* of "rational animal" are *not* identical. Nevertheless, in a scientific context, "human" and "rational animal" mean the same thing. This can be explained by the fact that "rational animal" explicates "human," and this, in turn, may be explained by means of the intensional constituency relation that holds between the *ma'nā* of "rational," namely RATIONAL, and the *ma'nā* of "animal," namely ANIMAL, on the one hand, and the *ma'nā* of "human," namely HUMAN, on the other hand. Nonetheless, in general, there is a difference between the *ma'nā* of the definition of "N" and the *ma'nā* of "N." The latter is such that the mind can attend to it without attending to its constituent *ma'ānī*. In this sense, *ma'ānī* may be opaque with regard to their constituents. For this reason, the *ma'nā* of "N" is a determined/definite single *ma'nā*. The former, namely the *ma'nā* of the definition of "N," is such that the mind cannot attend to it without attending to its constituent *ma'ānī*. For this reason, the *ma'nā* of the definition of "N" is not a determined/definite single *ma'nā*. This account, centred on the analysability of *ma'ānī*, raises the possibility of another distinction among *ma'ānī* which is crucial for Avicenna's philosophy.

2.5   *Ma'nā May Be Simple (basiṭ)*

Avicenna, on some occasions, describes some *ma'ānī* as simple (*basīṭ*). Being simple, in this sense, may easily be conflated with being single (*mufrad*). Avicenna might occasionally use "simple" and "single" interchangeably; after

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47   It might be objected that Avicenna's *ma'ānī* are not subject to (TRA). Accordingly, the objection continues, the *ma'nā* M_1 may be identical to the *ma'nā* M_2 even if, in some context, S is aware of M_1 but S is not aware of M_2. This implies that "S is aware of …" is an intensional context in which co-referential terms may behave differently. How this can be explained is a different story. One might argue that a single *ma'nā* may be taken in different ways via an awareness/cognition "relation," assuming that awareness/cognition is an epistemic relation. This approach makes *ma'ānī* multi-sided, as objects of awareness, and leads to a totally different interpretation of Avicenna. It may also be the case that *ma'ānī* come in different varieties, some may satisfy (TRA) and some may not. The question hinges partly on how *ma'ānī* are individuated and partly on how they are accessed.

all some *ma'ānī* are both single and simple. However, in general, these are different properties of *ma'ānī*. Consider:

> [Text 10.] A simple *ma'nā* is one such that it is not possible for the intellect (*al-'aql*) to consider in it (*ya'tabiru fīh*) any combination (*at-ta'alluf*) or composition (*at-tarakkub*) of some [other] *ma'ānī*. Hence, it is not possible to genuinely define it (*taḥdiduh*). And this is like the intellect (*al-'aql*) or the soul (*an-nafs*). And whatever in which that [namely, some combination or composition of some other *ma'ānī*] can be considered, it [*ma'nā*] is not simple. And this is like humanity and animality; they can be divided into different *ma'ānī* by means of genuine definition.[48]

A simple *ma'nā* is a *ma'nā* that it is not possible for the intellect to take as the object of its own act of attending, which is some form of considering, and "conceive" some combination or composition of other *ma'ānī* "in" it. This is not necessarily the case with a single *ma'nā*. A single *ma'nā* like HUMAN, which Avicenna refers to by "humanity," may be considered by the intellect as being composed of two other *ma'ānī*, namely ANIMAL and RATIONAL. This implies that the *ma'nā* of "human" is genuinely definable and thus is not simple. What makes the *ma'nā* of "human," i.e., HUMAN, single is that the mind can consider it *as it is*, namely as a whole, overlook its "intensional" constituents, and detach it from its concomitants. What makes the *ma'nā* of the "soul" simple, in contrast, is that the intellect cannot attend to it and "conceive" it as having some combination or composition of other *ma'ānī* "in" itself. This implies that the *ma'nā* of the "soul" is not genuinely definable. Moreover, it suggests that if there is a complex/composite expression that signifies the soul itself, i.e., as the soul exists in reality, via the signification of the parts of the expression, the *ma'nā* of this complex/composite expression is not "in" the *ma'nā* of the "soul." Otherwise it would be possible for the intellect to attend to the *ma'nā* of the "soul" and "conceive" some combination or composition of other *ma'ānī* in it. Avicenna's opening paragraph in *De anima* corroborates this reading:

> [Text 11.] Chapter 1. On proving the soul and its genuine definition inasmuch as (*taḥdiduhuhā min ḥayṯu*) it is the soul.
> [...] In short, whatever is a principle for the derivation of the activities that are not in one way devoid of will (*'ādimatun lil-irāda*), we call the "soul." This expression [i.e., the "soul" (*an-nafs*)] is a name for this thing

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48   Ibn Sīnā, *At-Ta'līqāt* [*The Annotations*], ed. S. H. Mousavian (Tehran: Iranian Institute of Philosophy Press, 2013), 41.

not with respect to its substance (*lā min ḥayṯu jawharihi*), but in virtue of a certain relationship [that] it has, namely, in virtue of its being the principle for these activities.[49]

Let me emphasise two points in Text 11. First, in the title, Avicenna introduces the chapter as "on the genuine definition of the soul." This might seem to contradict what he says in Text 10, where he introduces the soul as an example of something that "it is not possible" to genuinely define. Second, Avicenna's proviso on the relationship between the expression "soul" and what it signifies calls for clarification. Avicenna claims that "soul" does not signify the soul with respect to its substance; rather it is a name of its *significatum* in virtue of its *significatum*'s "being the principle for these activities," namely the activities that do not constitute the substance of the soul. Both points are consistent with how I interpret simple *maʿānī*. Let me elaborate.

The *maʿnā* of the "soul" is single and simple; it is possible for the intellect to attend to it as it is, namely as a whole, and it is not possible for the intellect to "conceive" some combination or composition of other *maʿānī* in it. Thus, the "soul" inasmuch it signifies a substance is not genuinely definable since it has no genus or differentia. For Avicenna, the soul as a substance is simple. No simple substance is genuinely definable and thus the name that primarily signifies it as a substance has a simple *maʿnā*. This simple *thing* or *ʾamr* cannot genuinely be defined, though it may be definable via a particular aspect or inasmuch as it has a property. Note that the possession of this property is not constitutive of the *maʿnā* of the "soul." For this reason Avicenna talks about the "genuine definition [of the soul] *inasmuch as* (*taḥdīduhā min ḥayṯu*) *it is the soul*" (my emphasis) in the title of Text 11. Then, in the body of Text 11, he explains how one may signify the soul by a composite expression. The *maʿnā* of the composite expression "a principle for the derivation of the activities that are not in one way devoid of will" is neither single nor simple. But this does not threaten the thesis that the *maʿnā* of the "soul" is simple and single because that composite *maʿnā* is not "in" the *maʿnā* of the "soul"; in my language, it is external to the *maʿnā* of the "soul." And because of this, Avicenna claims that: "this expression [i.e., the "soul" (*an-nafs*)] is a name for this thing *not* with respect to its substance." To explain this, I need to return to Avicenna's *Isagoge*:

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49   Ibn Sīnā, *Aš-Šifāʾ, aṭ-Ṭabīʿiyyāt, an-Nafs*, ed. and trans. F. Rahman, in *Avicenna's De Anima (Arabic Text): Being the Psychological part of Kitāb al-Shifāʾ* (London: Oxford University Press, 1959), 4; trans. T. Alpina, presented at the University of Gothenburg, 28 April 2017, slightly revised.

[Text 12.] If something is [such that] its *maʿnā* is single (*mufrad*) and not assembled (*ghayru multaʾim*) from other *maʿānī*, it is not permitted to signify its essence (*yudalla ʿalā ḏātih*) except by an expression (*lafẓ*) that only reaches for (*yatanāwalu*) that essence alone, and that would be its name and nothing else and there would be nothing more than the single expression which is its name that explicates (*yashraḥu*) its quiddity (*māhiyyatah*).[50]

I read the first sentence of Text 12 as follows. If a *maʿnā* is both single and simple, namely not assembled (*ghayru multaʾim*) from other *maʿānī*, then the only way to signify the essence *alone*, to signify the essence *and nothing else* – for instance, not signifying a concomitant of the essence – is to have a single expression (with no compositional structure), i.e., its name, that only reaches for that essence alone. Take for example the "intellect": the *maʿnā* of the "intellect" is both single and simple, the expression "intellect" is a name for the intellect inasmuch as it is a substance, namely the expression only reaches for the essence alone. With the "soul," however, the story is slightly different. The *maʿnā* of the "soul" is single and simple but the "soul" signifies the soul not as a name that "only reaches for that essence alone […] and nothing else." Recall Text 11: "soul" "is a name for this thing *not* with respect to its substance (*lā min ḥayṯu jawharihi*), but in virtue of a certain relationship that this substance has, namely, in virtue of its being the principle for these activities." It seems to follow that single and simple *maʿānī* may be signified in different ways.

2.6   *Maʿnā and Ways of Signification*
Let us return to where we left Avicenna's *Categories*:

[Text 13.] And of the examples we mentioned above, nine of them do not signify the category in the way that the name signifies the *maʿnā* (*dalālat ul-ism ʿala-l-maʿnā*); rather, they signify the way that the name signifies what possesses the *maʿnā* (*dalālat ul-ism ʿalā ḏī-l-maʿnā*) since it is better known/acquainted with (*aʿraf*), then from it we turn to the *maʿnā* and this is because our expression "white" is not a name for the quality (*kayfiyya*); rather, it is a name for the thing that possess the quality (*ḏū kayfiyya*), and this is the substance. Nevertheless, this is a reminder for the existence of the quality. Thus, the white, like *Zayd* or *karbās* [i.e., white linen cotton] is better known [via acquaintance] to the imagination than the whiteness (*bayāḍ*) which is the quality alone (*mujarrad ul-kayfiyya*) and

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50   Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-Madkhal* [*The Isagoge*], 48.

the imagination, in such cases, is closer to us than the intellect (*asbaqu ilaynā fī hāḏih il-umūr min al-ʿaql*). Hence, when the white comes to your mind (*akhtarta bi-bālika al-bayāḍ*), which is something that possesses the whiteness, this signifies the whiteness in the way that the *maʿnā* signifies the *maʿnā*, or the thing (*al-amr*) [signifies] the thing (*al-amr*). And the category is not the white, rather [it is] whiteness.[51]

As I read Text 13, Avicenna introduces three ways of signification: (1) the way that the name signifies the *maʿnā* (which I refer to as the "name-*maʿnā*," or "NM," way of signification), (2) the way that the name signifies what possesses the *maʿnā* (which I refer to as the "name-the-possessor-of-*maʿnā*," or "NP," way of signification) and (3) the way that the *maʿnā* or "thing" (*al-amr*) signifies another *maʿnā* or "thing" (which I refer to as the "*maʿnā-maʿnā*," or "MM," way of signification).[52]

As with the expressions for the categories, Avicenna's contention is that only in one case, i.e., the expression for a substance, does the expression signify the corresponding category, i.e., the substance, in the NM way of signification. Thus, the substance, signified this way, is a *maʿnā*. Recall Avicenna's example, namely "human." The name "human" signifies the *maʿnā* essentially intended by a proper use of "human," namely HUMAN (illustrated in Figure 3.1 above). Note that the *maʿnā* of "human," however, is not the same as the *maʿnā* of "substance." An interesting question is: does the expression "human," as a name, signify the *maʿnā* of "substance" in the NM way of signification? I suppose not. In the external world, there are humans and every human has an essence. In this case, the *maʿnā* of "human" is the same as the essence of human as intended by the mind (recall Text 1). The essence of one human as intended by the mind *is the same maʿnā* as the essence of another human as intended by the mind. The essence of human, in turn, is "constituted" by being a substance (recall "intensional constituency"). This constitution relation makes the expression "human" signify the *maʿnā* of "human" first and primarily and the *maʿnā* of "substance" in virtue of that. Let's schematically represent this in the following figure:

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51   Ibn Sīnā, *Aš-Šifāʾ, al-Manṭiq, al-Maqūlāt* [*The Categories*], 58.

52   For now, I assume that in the last sentence of Text 13 Avicenna uses *al-maʿnā* and *al-ʾamr*, generally translated as "thing," interchangeably, though below I will suggest that they differ in some subtle semantic features. It is noteworthy that both terms have technical and non-technical uses.

Expression "human" ———NM———▶ *Maʿnā* of "human"

= Essence of human (as intended by the mind)

= Substance that is such and so
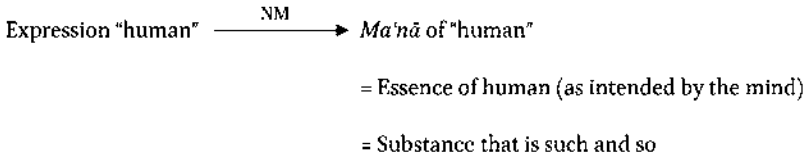
FIGURE 3.2   The name-*maʿnā* way of signification

The example for the NP way of signification is the way that "white" signi-fies *whiteness* as a category. This category, if we take Text 13 not to contain a semantic shift in the use of *maʿnā* all along, is a *maʿnā*, or more precisely the *maʿnā* essentially intended by the expression "whiteness," or in my notation WHITENESS. "White," as Avicenna explains, signifies the thing that possesses WHITENESS because the white object "is better known (via acquaintance) to the imagination," and the imagination "is closer to us than the intellect" in such cases. The latter claim may be understood as giving the imagination, as a power of the human soul, a more central role than the intellect, in the associa-tion processes involved in this way of signification (recall Text 2).

The third way of signification seems to contribute here as part of the second way: *the white thing* as a *maʿnā* or *amr* signifies *whiteness* as another *maʿnā* or *amr*, hence the MM way of signification. The way that "white" signifies *whiteness* is by signifying what possesses the *whiteness* (via the NP way of sig-nification) and then what possesses the *whiteness* signifies *whiteness* itself (via the MM way of signification).

We may put these two together in the following figure:

Whiteness (i.e. the mere/pure quality)

MM↑

Expression "white" ———NP———▶ White object/thing (e.g. Zayd)
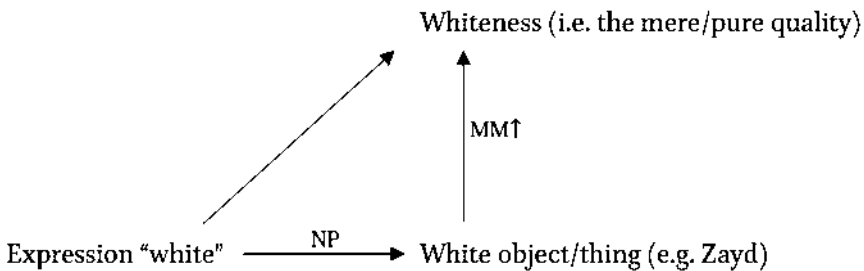
FIGURE 3.3   The name-the-possessor-of-*maʿnā* way of signification and the *maʿnā-maʿnā* way
            of signification

Returning to the first way of signification, namely NM signification, "human" signifies the *maʿnā* of "human" not because it signifies something that pos-sesses this *maʿnā*; there is no "possession" relation between the *maʿnā* of "human" and a human. A human *is* essentially a human. In contrast, "white"

does signify the *maʿnā* of "whiteness" because "white" signifies *something that possesses* the *whiteness*. The thing that is white does not need to be essentially white, nor is it *whiteness*.

Avicenna then considers a different combination of the ways of "signification," shortly after he mentions the above three ways:

> [Text 14.] Thus, the expressions that signify substances (*al-jawāhir*), signify the essence (*aḏ-ḏat*) only [and they do this] by way of signification of the name and do not signify anything (*al-amr*) that this essence may be related to, neither by way of signification of the name nor by way of signification of *maʿnā*. When you utter/express "whiteness" this utterance/expression signifies the *maʿnā* of "whiteness" for you by way of the signification of the name [namely NM] and also signifies another *maʿnā* for you. And that is because as you hear the expression "whiteness" and understand it, in most cases your mind makes the initiative to bring to your understanding another thing, which is the *white*.[53]

The expression "whiteness" signifies *whiteness* in the NM way of signification. *Whiteness*, however, does not "signify *the* possessor of *maʿnā*," or at least Avicenna does not use this language. He also makes the proviso that this relation occurs "in most cases." Finally, when he wants to refer to that which is "signified" by *whiteness*, in some sense, he does not mention any particular white object, rather he describes it as "another thing which is the *white*." The following figure may represent this case:
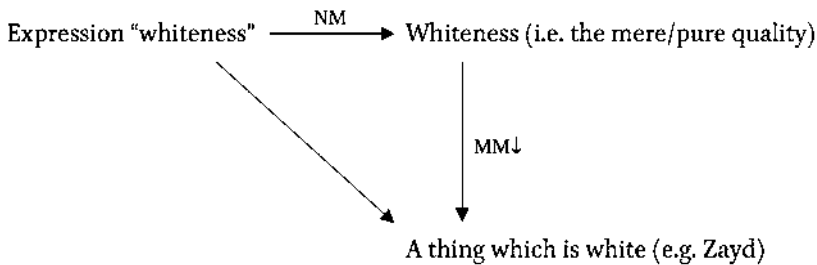
FIGURE 3.4   The name-*maʿnā* way of signification with no *maʿnā-maʿnā* way of signification.

MM↓ represents the relationship between *whiteness* and a thing which is white, for instance Zayd. Avicenna is reluctant to call this relation, "signification of the name" (i.e., NM), since *whiteness* is not a name, or "signification of the *maʿnā*" (i.e., MM). I interpret this as follows: for Avicenna, the signification

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53   Ibn Sīnā, *Aš-Šifāʾ, al-Manṭiq, al-Maqūlāt* [*The Categories*], 58 (emphases are mine).

relation between the white object, insofar as he (it) is white, and *whiteness* is not symmetric: the white object signifies *whiteness*, but *whiteness* may not bring to mind a thing that is white, for example when one merely reflects on the nature of *whiteness*. Thus, what is represented by MM↓, properly speaking, is not a way of signification on the level of the other three ways.

The above ways of signification should not be conflated with the varieties of vocal signification. The relationship between the *maʿnā* of "human" and the *maʿnā* of "rational animal" is not that the former *possesses* the latter. It is true that the *maʿnā* of "rational animal" signifies the quiddity or essence of human. However, it is not true that HUMAN possesses RATIONAL ANIMAL. HUMAN is "constituted" by, as Text 8 suggests, or "contains," as Text 15 suggests below, RATIONAL and ANIMAL. In other words, the latter two *maʿānī* "are combined" (*muʾallaf*) in the *maʿnā* of "human." I explain this in the next section.

2.7   *Maʿnā and the Varieties of Vocal Signification*
In his later works, Avicenna introduces three varieties of vocal signification, not with respect to the relata of signification, but rather with respect to the relation that holds between an expression and what it signifies:

> [Text 15.] There are three varieties of signification (*aṣnāfu ad-dalāla*) according to which an expression signifies the *maʿnā*: correspondence (*al-muṭābaqa*), containment (*taḍammun*), and implication (*iltizām*), and this is to be transferred [to another *maʿnā*] by way of the [first] *maʿnā*. Signification by correspondence is like [the signification by which] the expression "human" signifies *rational animal*. Signification by containment is like [the signification by which the expression] "human" signifies *rational* or that [it signifies] *animal* because in fact any one of them is part of (*juzʾu*) what "human" signifies by way of correspondence. And signification by implication is like [the signification by which the expression] "created" signifies *creator* and [the expression] "father" [signifies] *child* and [the expression] "roof" [signifies] *wall* and [the expression] "human" [signifies] [*capable of*] *laughter*. And this signifies first (*awwalan*), through signification by correspondence, the *maʿnā* it [i.e., the expression] signifies primarily (*awwalan*) and this *maʿnā* is such that another *maʿnā* is accompanying it, and then the mind is transferred to that second *maʿnā* which accords with the first *maʿnā* and accompanies it.[54]

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54   Ibn Sīnā, *Manṭiq al-Mašriqiyyīn* [*The Logic of the Easterners*], ed. M. al-Khāṭīb and ʿA. al-Qatlā (Cairo: al-Maktaba as-salafiyya, 1910), 14–15 (emphases are mine).

Avicenna gives as an example of the first variety of vocal signification, i.e., signification by correspondence, the "semantic" fact that "human" signifies the *ma'nā* RATIONAL ANIMAL. Recall Figure 3.1. The expression "human" signifies HUMAN, as a single *ma'nā*. The definition of "human" signifies its own *ma'nā* and explicates the expression "human" by *conveying* the *ma'nā* of "human." We have already seen that the relationship between the two *ma'ānī*, namely HUMAN and RATIONAL ANIMAL, is a form of "correspondence" with some epistemic constraints (see below). In Text 15, Avicenna adds that the expression "human" also signifies the *ma'nā* of the definition of "human," namely RATIONAL ANIMAL, by way of correspondence.

In another location, Avicenna indicates that there are epistemic constraints on the correspondence between an expression and its *ma'nā*:

> [Text 16.] It becomes necessary to know that the difference between one who is instructed in passing by a name, and the one who is instructed in detail by a (genuine) definition, is not negligible. Thus, when everybody is talked to by a name, he understands something and becomes aware of (*waqafa 'alā*) what the name signifies if he knows the language. But no one becomes aware of the (genuine) definition but one who has well practiced the art of logic (*al-murtaḍ bi ṣanā'at il-manṭiq*). Therefore, one of the two things [i.e., understanding something from the name] is acquaintance (*ma'rifa*) and the second [i.e., understanding the genuine definition] is knowledge (*'ilman*), as the sense [i.e., sensation] (*al-ḥiss*) is acquaintance and the intellect [i.e., the intellection] is knowledge.[55]

Though the expression "human" signifies *both* the *ma'nā* of "human" and the *ma'nā* of the definition of "human" by way of correspondence, it does not follow that one who understands the expression "human" knows *all* the significations (by correspondence or by other varieties of vocal signification) of the expression "human." Assuming that HUMAN and RATIONAL ANIMAL are distinct *ma'ānī*, I conclude that Avicenna is a pluralist vis-à-vis what an utterance of an expression signifies by correspondence. To comprehend some signification of an expression, one may only need to know the language. To comprehend some other signification of an expression, one may need additional training.

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55   Ibn Sīnā, *aš-Šifā', al-Manṭiq, al-Burhān* [*The Demonstration*], 1.5, 69. Avicenna's use of the same term, namely acquaintance (*ma'rifa*), for both conceiving by a name and conceiving through sense-perception, suggests that for him some linguistic devices of acquaintance, i.e., names, and some epistemic means of acquaintance, i.e., senses, are similar (in significant respects).

Particularly, one needs logical training in order to comprehend a genuine definition.

Turning again to Text 15, the expression "human" signifies the parts of the definition of "human," namely RATIONAL and ANIMAL, by way of containment. The third variety of vocal signification comprises a signification by correspondence and a relationship between the *maʿnā* signified in this way and another *maʿnā* that *accompanies* the first one. The accompanying relation is a 'necessary' relation, understood as implication. Thus, the name of this type of signification: "by implication." Avicenna introduces the implication relation as a relation that holds between the following pairs of *maʿānī*, for example: CREATED and CREATOR, FATHER and CHILD, ROOF and WALL.[56] As a result, the expression that signifies, by way of correspondence, the first *maʿnā* in each pair signifies, by way of implication, the second *maʿnā*. Thus, the notion of "vocal signification by implication" is as rich as the notion of "implication." The latter is best studied in relation to Avicenna's logic and I will not try to explore it here.[57]

3　　Semantics of *maʿnā* in Context

Before returning to the contemporary debate on the interpretation of *maʿnā*, we need to widen the scope of this study by examining a few features of *maʿnā* in some theoretically significant contexts. Particularly, I would like to study some aspects of Avicenna's semantics of *maʿnā* in relation to his logic and epistemology.

3.1　*The Semantics of maʿnā in Relation to Logic*
Maʿānī play significant roles in Avicenna's logic; I propose to consider them as "logical objects."[58] This proposal should be assessed elsewhere. Here, I would like to focus on two aspects of *maʿānī*: particularity vs. universality and

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56　Roof and wall may not be good examples in contemporary English; cars and pavilions have roofs but no walls. Here, one may put such counterexamples aside.

57　For a recent study of these varieties of vocal signification in the context of Avicenna's logic see Riccardo Strobino, "Per Se, Inseparability, Containment and Implication: Bridging the Gap between Avicenna's Theory of Demonstration and Logic of the Predicables," *Oriens* 44 (2016): 181–266.

58　I am not claiming credit for this proposal. Abdelhamid I. Sabra has long ago suggested that "This means that the secondary concepts, the proper object of logic, not only are reflected in language but are generated by it" (A. I. Sabra, "Avicenna on the Subject Matter of Logic," *The Journal of Philosophy* 77:11 (1980), 763). Having said that, I am not sure to what extent my analysis of Avicenna's *maʿānī* accords with Sabra's. For one thing, I am

uniqueness vs. generality. I have chosen these aspects because, first, they are intimately connected to the semantics of *ma'ānī* and, second, they are fundamental for explaining other logical roles of *ma'ānī*. More specifically, I will attempt to explain how particularity and universality as well as uniqueness and generality are logical properties of *ma'ānī* and can be interpreted in the framework I introduced above.

Let us consider particularity vs. universality first. A *ma'nā* may be particular in the following sense:

> [Text 17.] [The particular simple utterance] is that whose unique {*ma'nā*} cannot possibly be {for} anything more than a unique thing – either with respect to existence or in accordance with the imagination. Rather, its very {understood content} (*mafhūmihī*) precludes this. [An example is] our utterance "Zayd" {used for him being pointed at}; for the {*ma'nā*} of "Zayd" – if taken as a unique {*ma'nā*} – is the unique essence (*dāt*) of Zayd. It is neither possible in existence nor in the imagination for it to be for anything other than the unique essence of Zayd since the {pointing} precludes this. So if you say, "This sun" or "This man," nothing other than [this very man and this very sun] is allowed to participate in it.[59]

An expression is particular because its *ma'nā* is particular. A *ma'nā* is particular only if it is such that it cannot possibly be for more than one thing (or occur (*waqa'a*) more than once).[60] What is understood from a particular expression,

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reluctant to refer to *ma'ānī* as "concepts," though 'understood contents' (*mafāhīm*) and 'conceptions' (*taṣawwurāt*) can be construed in terms of *ma'ānī* (see note 38 above).

59   Ibn Sīnā, *An-Najāt* (*al-Manṭiq*), trans. A. Q. Ahmed, in *The Deliverance: Logic* (Karachi: Oxford University Press, 2011), 6. I have revised Ahmed's translation. In his translation, the way that the proper name "Zayd" is used for Zayd, namely "used for him, being pointed at/denoted," has not been translated (cf. Ibn Sīnā, *An-Najāt* [*The Salvation*], ed. M. T. Dānešpajūh (Tehran: Entešārāt-e Dānešgāh-e Tehran, 1364Š/1985), 10). As a result, his translation of another phrase as "the denotation precludes this" does not properly connect to the way that the name is introduced. Here, Avicenna uses two terms derived from the same root, namely *mušār* and *išāra*, meaning "pointed" and "pointing." Elsewhere (Ibn Sīnā, *Aš-Šifā', al-Ilāhiyyāt*, in *The Metaphysics of the Healing*, 25), he relates the semantics of pronouns to that of demonstratives. The word *išāra* also appears in the last sentence of Text 17. To represent these semantic interconnections in English, I have inserted "used for him, being pointed at" into the text, used "pointing" instead of "denotation" consistently and added a translation of *išāra*, interpreted in the passive sense as "pointed," to the last sentence. Finally, I use *ma'nā* itself and translate "*mafhūm*" as "understood content."

60   The modal characterisation of 'particularity,' covering both external existence and existence in imagination, might be compared to a conception of 'rigidity' in Kripke (contra superficial appearances, 'particularity' may resemble the *de jure* conception of 'rigidity,'

the understood content (or the "*maʿnā* as conceived" or "imprinted in the soul") precludes the possibility of signifying multiple objects. The *maʿnā* of the expression "Zayd," or what "Zayd" signifies, is the *unique essence (ḏāt) of Zayd.* Recall Figure 3.1. If N has an essence, as in the case of Zayd, then, as Text 17 explains, the *maʿnā* of "Zayd" is the (unique) essence (*ḏāt*) of Zayd "as intended by the mind" or "signified." Thus, the *maʿnā* of "Zayd" cannot possibly be for anyone else. In this sense, the expression "Zayd" is particular.

The same story goes for the expression "This sun" and "This man." Avicenna here talks about proper uses of these complex demonstrative expressions which are accompanied by proper acts of demonstration or pointing (*al-išāra*), with the intention to signify one and only one object. This may explain why the terminology of 'pointing' is essential to Text 17. The expression "this man" is particular because the *maʿnā* of "this man" is particular. Therefore, the understood content of "this man," or its "*maʿnā* as conceived," precludes the possibility of signifying more than a unique object. The same theme, with the very same example, is repeated elsewhere.[61]

A *maʿnā* may be universal:

> [Text 18.] [The universal simple utterance] signifies the many by way of one coinciding *maʿnā* {(*bi maʿnā waḥid muttafiq*)}. [These may be] either many with respect to existence (such as man) or many with respect to what the {estimation} (*tawahhūm*) allows (such as the sun). In sum, the universal is an utterance whose very {understood content} (*mafhūm*) does not preclude that its {*maʿnā*} be shared by many. If anything precludes [it – i.e. the utterance from being shared by many –] from this, it is something other than the very {understood content} of [the utterance].[62]

What has been added in curly brackets is crucial for my reading: "The universal simple expression signifies the many by way of one coinciding *maʿnā*." The relational character of a *maʿnā*, if we can talk this way, is toward-the-object. The relational character of a *mafhūm*, or an understood content (translated by Ahmed as 'sense'), is toward-the-mind. Thus, a universal simple expression is

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see Text 19 below). The anachronistic nature of this comparison, however, should not be neglected; for one thing, the existence conditions of *maʿānī* are not necessarily identical to that of 'referents,' in Kripke's language, and, for another thing, the modal space of possible worlds is not necessarily included in the space of estimation/imagination.

61   See, for example, Ibn Sīnā, *Dānešnāme-ye ʿAlāʾī* (*al-Manṭiq*) [*Encyclopedia for ʿAlāʾ-ud-Dawla* (*The Logic*)], ed. M. Meškāt and M. Moʿīn (Hamedān: Bū-Alī Sīnā University Publication, 1383Š/2004), 12–13.

62   Ibn Sīnā, *The Deliverance: Logic*, 6, slightly revised.

such that what is conceived from it, i.e., its "understood content" in my usage, does not preclude that what-it-signifies, i.e., its *ma'nā*, be shared by many. Otherwise put, the *ma'nā* as imprinted in the mind, namely what is conceived from it, does not preclude that the *ma'nā* itself be shared by many. According to this reading, the *ma'nā* or the *significandum* is that which can be shared by many. Ontologically speaking, these 'many' may exist in the extramental world (such as a plurality of men), or they may exist in 'estimation' (*tawahhūm*), which is a power of the human soul, such as a plurality of suns. Otherwise put, the instances that share the universal *ma'nā* (assuming that a universal expression has a universal *ma'nā*), may be extramental or mental. Again, the mental instances may themselves be conceived and thus have 'understood content' and they may be signified by expressions, and thus the corresponding expressions come to have *ma'nā*. However, the role that such instances play here with regard to the original expression is that they share that *ma'nā*. This reinforces that a *ma'nā* may occur in the external world, to be shared by objects that exist in the external world, and may occur in the mind, to be shared by objects that exist in the estimation/imagination. Avicenna's example, then, may be reconstrued as follows: The expression "sun" is universal even though it "signifies" one and only one object, i.e., the sun, in the external world. In fact, as Avicenna explains elsewhere, the expression "sun" signifies one and only one object in the external world and it is impossible to have more suns in reality:

> [Text 19.] The Universal is spoken of in three ways: [1] "Universal" is said of the {*ma'nā*} by way of its being actually predicated of many – as, for example, the human being. [2] "Universal" is [also] predicated of a {*ma'nā*} if it is permissible for it to be predicated of many, even if it is not a condition that these should exist in actuality – as, for example, the {*ma'nā* of} "heptagonal house." For it is a universal inasmuch as it is in its nature to be predicable of many. But it does not follow necessarily that these many must exist – nay, not even one of them. [3] "Universal" is [also] said of the {*ma'nā*} whose very conception {(*taṣawwūr*)} does not prevent its being predicated of many. It is only prevented if some cause prevents it and proof indicates [such prevention]. An example of this is [the case of] the sun and the earth. For, inasmuch as these are intellectually apprehended as sun and earth, there is nothing to prevent the mind from allowing their {*ma'nā*} to exist in many, unless a proof or an argument makes it known that this is impossible. This, then, would be impossible because of an external cause, not by reason of its very conception.[63]

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63   Ibn Sīnā, *Aš-Šifāʾ, al-Ilāhiyyāt*, in *The Metaphysics of the Healing*, 148–49, slightly revised.

Text 19 allows a three-fold distinction among universal expressions with regard to the modal profile of what they are or may be predicated of, call them "instances" of the universal: (1) a universal with actually many instances, (2) a universal with "metaphysically possible" many instances, and (3) a universal with metaphysically impossible but estimatively possible many instances. Accordingly, the expression "sun" belongs to the third category. It is universal because what is conceived from it, i.e., its 'understood content,' does not preclude that its *maʿnā* be shared by some objects in estimation, namely the suns that one may estimate in his or her mind. The existence of these suns in estimation (which are not suns, properly speaking) is necessarily impossible because of the metaphysics of the actual external world; however, they are estimatively possible, so to speak, because the power of estimation, by dint of the semantics of *maʿnā*, can "conceive" them.[64]

There is another distinction among *maʿānī* which is related to their logical profile, crucial for Avicenna's philosophy, that is sometimes conflated with the previous distinction and sometimes ignored in the literature. *Maʿānī*, from a logical point of view, are divided into unique and general:

> [Text 20.] On the difference between unique (*wāḥid*) and general (*ʿāmm*) *maʿnā*.
>
> The unique *maʿnā*, whatever *maʿnā* be, is not essentially plural/many (*lā yatakaṯṯaru bi-ḏātihī*), otherwise [namely, if it were essentially plural], no unit (*wāḥid*) of it will exist [or be found], because its unit would be of the nature of that plural (*mutakaṯṯir*), and thus it would essentially be plural and requires (*yaqtaḍi*) plurality/multiplicity (*takaṯṯur*) essentially and that participates in (*mušārik*) the *maʿnā* [and it is] also in its nature, rather it is that *maʿnā*. For example, [consider] whiteness: if it were essentially plural, then each and every exemplification instance (*šakhṣ*) of its exemplification instances (*aškhāṣ*) requires plurality [...]. Thus, if we assume that a unique *maʿnā* is essentially plural, we have nullified the plurality (*kaṯra*), because it is a unit (*wāḥid*) of that and the plurality is composed of the unit.[65]

Here is my explanation of Text 20: the unique *maʿnā* is not essentially plural; if the unique *maʿnā* has one (or more) unit, the unit, which "is that *maʿnā*," does *not* essentially, namely in virtue of its essence, require the unit (or the *maʿnā*) to be more than one. A unique *maʿnā* has exemplification instances (*aškhāṣ*)

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64   Thus, I am attributing to Avicenna the view that estimation, broadly construed, may go beyond the realm of metaphysical possibility.

65   Ibn Sīnā, *At-Taʿlīqāt* [*The Annotations*], 554–55.

in the sense that each such instance is a unit of that *ma'nā*. In other words, the *ma'nā* is fully present in each exemplification instance, and that instance by its very nature does not require multiplicity. Again, the *ma'nā*, if it is unique, excludes being essentially plural. A general *ma'nā*, in contrast, has this latter property:

> [Text 21.] A general *ma'nā* requires plurality essentially, inasmuch as it is general. And a unique *ma'nā* requires *being unified* (*at-ta'aḥḥud*) essentially, and its plurality is due to a means/cause (*sabab*).[66]

A general *ma'nā* is one that is essentially plural. It implies that a general *ma'nā* has no unit as its exemplification instance because if its exemplification instance has the same essence as the *ma'nā* (recall that the *ma'nā* is the essence as intended by the mind and signified accordingly), then the exemplification instance is necessarily plural, violating the assumption that it is a unit.

Assuming that the existence of anything that exists extramentally requires unity or being unified extramentally or among concrete particulars, it follows that a general *ma'nā* does not exist extramentally or among concrete particulars:

> [Text 22.] A general *ma'nā* has no existence among concrete particulars (*al-a'yān*); rather its existence is in the mind, like *animal* [which is a generic *ma'nā* (*ma'nā al-jinsī*)]. Thus, when its existence finds specification (*takhaṣṣaṣa*) it is either human or another [specific] animal or one of its [alternative] divisions [i.e., species], and its specification (*takhaṣṣuṣuhū*) is due to a cause (*bi 'illatin*), not by its essence.[67]

The significance of the thesis that there are general *ma'ānī*, and in particular that the *ma'nā* of "vegetative soul" and that of "animal soul" as attributed to humans do not exist among concrete particulars (*al-a'yān*) in Avicenna's ontology of the human soul, has been explained elsewhere.[68] The result is that no vegetative soul or animal soul exists in humans in the sense that they exist in plants or animals.

A *ma'nā*, as a *significandum* with specific semantic roles, may be particular or universal (or neither, if not taken with respect to the domain of its "possible" instances), general or unique (depending on whether it is essentially plural or

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66   Ibn Sīnā, *At-Ta'līqāt* [*The Annotations*], 555 (emphasis is mine).
67   Ibn Sīnā, *At-Ta'līqāt* [*The Annotations*], 551 (emphasis is mine).
68   Mousavian and Mostafavi, "Avicenna on the Origination of the Human Soul," 41–86.

not). Likewise, a *maʿnā* has an epistemological profile; it may be intelligible, imaginable (through the estimation/imagination), or sensible. I will discuss this latter feature in the next section.

3.2   *The Semantics of maʿnā in Relation to Epistemology*

On many occasions, Avicenna describes some *maʿānī* as intelligible ("*al-maʿnā al-maʿqūl*").[69] These intelligible *maʿānī* may be identified with intelligible forms (*ṣuwar ul-mʿaqūla*) when these forms serve certain semantic functions. Regarding the things that exist in the external world, the intelligible forms may be "derived," "taken" (*yuʾkhaḏ*), or, in a more technical sense, "abstracted" from some existing things or may not.[70] In the latter case they have mental existence first and then achieve extra-mental existence:

> [Text 23.] Know that the intelligible {*maʿnā*} may be {taken} (*yuʾkhaḏ*) from the existing thing, as happens when, by astronomical observation and sensation, we ourselves {take} (*akhaḏna*), from the celestial sphere, its intelligible form (*ṣuratah ul-maʿqūla*).[71] The intelligible form, however, may not be taken from the existent, but conversely – as, for example, [when] we intellectually apprehend (*naʿqilu*) the form of a building which we invent, and this intelligible form moves our organs until we bring about its existence. Thus, it would not have [first] existed and then we intellectually apprehend it, but [first] we intellectually apprehend it and then it exists.[72]

The intelligibility of some *maʿānī* is reinforced by Avicenna's characterisation of them as "universal *maʿānī*."[73] Again note that not all universal *maʿānī* have

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69   See, e.g. Ibn Sīnā, *Aš-Šifāʾ, aṭ-Ṭabīʿiyyāt, an-Nafs* [*Avicenna's De Anima*], 215; Ibn Sīnā, *An-Najāt, aṭ-Ṭabīʿiyyāt, an-Nafs*, ed. and trans. F. Rahman, in *Avicenna's Psychology: An English Translation of Kitāb an-Najāt* (London: Oxford University Press, 1952), 48–49; Ibn Sīnā, *Aš-Šifāʾ, al-Ilāhiyyāt* in *The Metaphysics of the Healing*, 291; Ibn Sīnā, *al-Mubāḥaṯāt* [*The Discussions*], ed. M. Bīdārfar (Qum: Entešārāt-e Bīdār, 1371Š/1992), 372.

70   I cannot deal with the problems associated with Avicenna's view on abstraction here. I am developing my own interpretation elsewhere, *Avicennan Abstraction* (manuscript).

71   I suppose that, for Avicenna, an intelligible form may only be apprehended (*yudrak*) by the intellect, independently of wherefrom the intelligible form is taken or how it is acquired, though this supposition is not crucial for my argument here. If so, "taking/ deriving" the intelligible *maʿnā* from the existing thing "by astronomical observation and sensation" is not meant to imply that the intelligible form of the celestial sphere is perceived by the (external) senses. See my *Avicennan Abstraction* (manuscript).

72   Ibn Sīnā, *Aš-Šifāʾ, al-Ilāhiyyāt*, in *The Metaphysics of the Healing*, 291, slightly revised.

73   See, for example, Ibn Sīnā, *al-Mubāḥaṯāt*, 116n282.

actually existing "instances"; a general *maʿnā*, e.g., the *maʿnā* of "animal" in its generic sense, does not and cannot exist among concrete particulars since it is essentially plural. Finally, the intelligible *maʿānī* contribute to Avicenna's explanation of mental causation, as intelligible *maʿānī* seem to be involved in the explanation of the movement of "our organs," as in the case where we construct a building in accordance with our intelligible *maʿnā* of it (the second part of Text 23). This theme recurs in his later works as well.[74] The way that Avicenna talks about the "existence" of the intelligible form of the building when it is constructed suggests that the intelligible *maʿnā* exists, in some sense, through the existence of the building. This leads to the question of the modes of existence of *maʿānī* that I will not be discussing in this paper. However, the basic idea seems to be that the intelligible form of the building may exist in the mind with one mode of existence and may exist in the external world with another mode of existence (see my hypothesis in section one; *maʿānī* do not occupy a fixed ontological category).

In some other contexts, however, Avicenna introduces other *maʿānī* as sensible, in contrast with intelligible forms. Consider, for example, the following passage:

> [Text 24.] Concerning the sensible and intellectual volitions.
>
> The sensible volition is directed toward that which is like the sensible {*maʿnā*} and the intellectual volition is directed toward that which is like the intelligible {*maʿnā*}. Any *maʿnā* predicated of a non-restricted many is intelligible, regardless of being valid for one individual, as in your utterance *son of Adam*, or not, as in your utterance *human*.[75]

Here one finds a correlation between two kinds of volition (*al-irāda*) and two kinds of *maʿnā*.[76] In general, every volition is directed at some *maʿna*: a

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74 Ibn Sīnā, *al-Ishārāt wa-l-tanbīhāt* (*aṭ-Ṭabīʿiyyāt* and *al-Ilāhiyyāt*), in *Ibn Sīnā's Remarks and Admonitions: Physics and Metaphysics*, trans. S. Inati (New York: Columbia University Press, 2014), 113.

75 Ibn Sīnā, *Ibn Sīnā's Remarks and Admonitions: Physics and Metaphysics*, 113, revised. Inati's translation of the first part of the second sentence, that is "any idea predicable of many and non-restricted is intelligible," is at best misleading. According to my reading, the adjective "unrestricted" modifies the "many," not "*maʿnā*." As Ṭūsī elucidates, in his commentary (Ibn Sīnā, *al-Išārāt wa-l-tanbīhāt maʿa šarḥ Naṣīr al-Dīn al-Ṭūsī* [Remarks and Reminders with *Ṭūsī*'s commentary], ed. S. Dunyā (Cairo: Dār al-Maʿārif, 1970), 2:439), if one quantifies over a restricted many, e.g., "everyone of *those* people," accompanied by an act of pointing that specifies the people in question, the resulting *maʿnā* is not universal.

76 I follow the commentary tradition in which "that which is like the sensible *maʿnā*" is interpreted as 'sensible *maʿnā*' and "that which is like the intellectual *maʿnā*" is interpreted as

sensible volition is directed toward a sensible *maʿnā* and an intellectual volition is directed toward an intelligible *maʿnā*. *Maʿānī* are that toward which we have volition. This puts a "practical" gloss on the sensible vs. intelligible distinction among *maʿānī*.

In some other contexts, Avicenna describes some *maʿānī* as sensible and corruptible, and some as intelligible and separable:

> [Text 25.] It was known that Plato and his teacher, Socrates, went into excess in upholding this view, saying that there belongs to humanity one existing {*maʿnā*} in which individuals participate and which continues to exist with their ceasing to exist. This [they held] is not the sensible, multiple, and corruptible {*maʿnā*} and is therefore the intelligible, separable {*maʿnā*}.[77]

Text 25 is part of Avicenna's argument against Platonism about universals. In the context of this argument, he talks about the non-identity of the *maʿnā* of "humanity" (in which all and only humans participate, and which is the *maʿnā* that continues to exist even when all humans cease to exist) and the sensible, multiple, and corruptible *maʿānī* of humanity. The structure of the argument is not important for my purposes. However, Avicenna's reference to the sensible, multiple, and corruptible *maʿānī* of humanity implies that not all *maʿānī* are intelligible and separable.[78]

Along the same lines, when he is trying to argue for the "finitude of the efficient and the receptive causes," Avicenna appeals to the semantics of 'causal statements' and then describes some *maʿānī* as corruptible:

> [Text 26.] [This is] because 'boy' is a name for [the boy] by way of his being incomplete and because he becomes complete only through transformations [that take place] also on the way of development. It is as though, when {he was named, he had a *maʿnā*, and the name signifies that *maʿnā*, which} will cease [to apply to] him once he becomes actualised [as a man]. It is as though, {whatever there is in which the *ceasing of something* is not estimated (*lam yutawahham*), in virtue of which it

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'intellectual *maʿnā*.' See Ibn Sīnā, *al-Išārāt wa-l-tanbīhāt maʿa šarḥ Naṣīr al-Dīn al-Ṭūsī*, 2:438–39.

77   Ibn Sīnā, *Aš-Šifāʾ, al-Ilāhiyyāt*, in *The Metaphysics of the Healing*, 244, slightly revised.

78   Recall that, for Avicenna, some abstract objects, e.g., human souls, share some properties with material objects, such as having temporal origin. If Avicenna's view on universals is more akin to a form of trope theory, it also makes perfect sense to allow some intelligible *maʿānī* to come into existence and disappear later on.

deserves the name [e.g., 'boy'], it will not be said that from *that* some-
thing is generated.} [...] [This is] because the boy inasmuch as he is a boy
cannot become man such that he would be [both] boy and man. Rather,
the {*maʿnā*} understood by the term 'boy' is corrupted so that he becomes
'man'. Thus, in the last analysis, "generation 'from' the boy" comes to have
the *maʿnā* of "{generation} 'after'/'following' {the boy}" [...].[79]

Three points are worth noting. First, *maʿnā* is used as being associated with
some expression, i.e., the utterance of some linguistic sign. In particular, the
maʿnā of the name "boy" is under discussion via its association with the cor-
responding expression. Second, the corruption of the *maʿnā* is explained by
ceasing of something in the boy himself. In fact, the estimation of this *ceas-
ing* is the exact thing in virtue of which the individual named "boy" deserves
to be named as such. Third, as the last two sentences witness, this corrupt-
ible *maʿnā* associated with the name "boy" is what is "understood" (*yufham*)
from the utterance of the name. Putting these three points together: the *maʿnā*
of the "boy" is accessible via language, the object of our epistemic act of under-
standing, true of the boy (but not true of the man), and corruptible.

The above considerations strongly suggest that *maʿānī* for Avicenna are not
necessarily intelligible, separable, or abstract. *Maʿānī* have different episte-
mological profiles; some are intelligible, some are imaginable, and some are
sensible. They all, however, perform the semantic roles associated with *maʿānī*,
namely being signified by expressions, intended by the mind, and true or false
of things. The means of intention, however, may vary. The epistemological pro-
file of *maʿānī* may vary as well. Some of these intended objects, namely *maʿānī*,

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79   Ibn Sīnā, *Aš-Šifāʾ, al-Ilāhiyyāt*, in *The Metaphysics of the Healing*, 264. Marmura's transla-
      tion is revised. Let me mention two points. (1) Marmura's translation: "It is as though,
      when named [it] has a meaning indicating a name that will cease [to apply to] him
      once he becomes actualised [as a man]." My translation: "It is as though, when he was
      named, he has a *maʿnā*, and the name signifies that [*maʿnā*], which will cease [to apply
      to] him once he becomes actualised [as a man]." I depart from Marmura on how to read
      the middle clause in Arabic. As I read it, the subject is the '*maʿnā*.' As Marmura reads it,
      the subject is the 'name,' or so it seems. (2) Marmura's translation: "It is as though, as
      long as one does not imagine the ceasing to exist of something in it by virtue of which it
      deserves the name, one does not say that something is generated from it." My translation:
      "It is as though, whatever there is in which the *ceasing of something* is not estimated (*lam
      yutawahham*), in virtue of which it deserves the name [e.g., 'boy'], it will not be said that
      from *that* something is generated." Finally, in the last sentence in the body of the text, I
      have put "from" and "after"/"following" in quotation marks because these are parts of the
      subject-matter.

can be comprehended by the intellect and thus are intelligible. Some can be imagined or estimated and thus are imaginable. And some can be sensed and thus are sensible.

Before I end this subsection, I shall touch on a narrower sense of "*maʿnā*" in Avicenna's epistemology. It is well known that he distinguishes between *maʿānī* and sensible forms (*aṣ-ṣuwar al-maḥsusa*) as objects of two different cognitive powers, or internal senses:

> [Text 27.] The distinction between the perception of the form and that of the intention (*maʿnā*) is that the form is what is perceived both by the inner soul and the external sense; but the external sense perceives it first and then transmits it to the soul, as for example, when the sheep perceives the form of the wolf, i.e. its shape, form, and color. This form is certainly perceived by the inner soul of the sheep, but it is first perceived by its external sense. As for the intention, it is a thing which the soul perceives from the sensed object without its previously having been perceived by the external sense, just as the sheep perceives the intention of harm in the wolf, which causes it to fear the wolf and to flee from it, without harm having been perceived at all by the external sense. Now what is first perceived by the sense and then by the internal faculties is the form, while what only the internal faculties perceive without the external sense is the intention.[80]

At the end of his *Posterior Analytics*, Avicenna refers to the "antipathy of the wolf" (*munāfāt uḏ-ḏiʾb*) and the "suitability of the ameliorator" (*muwāfaqat ul-muḥsin*) as "sensible *maʿānī*."[81] Elsewhere, he describes the very same *maʿānī*, with the exact same examples, as "*al-maʿānī* [which are] not sensible [but] existent in the sensible things" and calls the faculty that perceives them "estimation" (*al-wahm*).[82] This narrower sense of "*maʿnā*" has been studied in the context of Avicenna's theory of internal senses, particularly with regard to the faculty of "estimation," and is not at the centre of my attention here.[83]

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80   Ibn Sīnā, *An-Najāt, aṭ-Ṭabīʿiyyāt, an-Nafs*, ed. and trans. F. Rahman, in *Avicenna's Psychology*, 30. See also Ibn Sīnā, *An-Najāt*, 327.

81   Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-Burhān* [*The Demonstration*], 4.10, 331.

82   Ibn Sīnā, *Al-Mabdaʾ wa-l-maʿād* [*The Provenance and Destination*], ed. A. Nūrānī (Tehran: The Institute of Islamic Studies, 1363Š/1984), 94.

83   For example, see Deborah Black, "Estimation (*wahm*) in Avicenna: The Logical and Psychological Dimensions," *Dialogue* 32 (1993): 219–58.

4   Back to the Contemporary Debate

Let us return to the contemporary debate on *ma'nā*. Gutas' philological claim that the "word [*ma'nā*] does not mean 'intention'" may be acceptable, though his philosophical claim that *ma'nā* "has nothing to do with intentionality in any of its philosophical senses" is at best misleading. Let me explain. Recall (ARG 1):

> (1.1)   In the context of *De interpretatione*, 16a7, Avicenna uses *ma'nā* as standing for "the actual 'things' to which the affections or likeness in the soul refer."
>
> (1.2)   "The actual 'things' to which the affections or likeness in the soul refer" are "referents."
>
> (1.3)   Referents are not intentions.
> Therefore,
> (1.4)   In the context of *De interpretatione*, 16a7, Avicenna does not use *ma'nā* as intention.

(1.1) uses a language that is partly alien to Avicenna's. He does not use the expression "the actual things" or the expression "actual" (*bil-fi'l*) or even "thing" (*shay'*) explicitly in Text 1. He uses *al-umūr*, which does not necessarily have ontological connotation. For example, an *amr*, the singular of *umūr*, may be described as impossible (*mumtani'*).[84] (1.2) keeps using this partially alien language by adding "likenesses," which is a reminiscent of Aristotle's vocabulary, to the interpretation of Text 1. Gutas' reasoning relies heavily on his use of "refer" and "referents" in the translation/interpretation of *dalla* and *al-madlūl*, which can also be translated as "signifies" and "significatum" correspondingly. Note that "referent" has a clear semantic connotation that "thing" lacks. Again, in Text 1, there is no reference to "referent" at all, though shortly after that Avicenna uses this language of "significatum" in a different way.[85] Avicenna uses "significatum" in the sense of "intended *umūr*." If we agree that he uses *ma'nā* as "intended *umūr*," keeping in mind that *amr* has a wider and different use than *shay'* or "thing," it naturally follows that *ma'nā* has something to do with intentionality in one of its philosophical senses, since an *amr* must be *intended* (in a non-ordinary sense of the term) by the mind in order to be eligible to be called a "*ma'nā*." Thus, Gutas' account, at best, does not represent an essential aspect of Avicenna's *ma'ānī*.

84   Ibn Sīnā, *aš-Šifā', al-Manṭiq, al-'Ibāra* [*The Interpretation*], 70.
85   Ibn Sīnā, *aš-Šifā', al-Manṭiq, al-'Ibāra* [*The Interpretation*], 5.

Black's account, also, oversimplifies *maʿānī*. She summarises her reading as follows: "The fundamental point here, then, is that we can label as an 'intention' anything that functions as a *significandum* relative to either a mental or a linguistic sign."[86] However, this in itself is an incomplete characterisation of *maʿnā* unless we explain the signification relation(s) involved. Avicenna uses "signification" to cover different semantic relations. Black, being well aware of this point, immediately modifies her claim in a footnote as follows: "There is an important exception to this rule, however, in that Avicenna does not extend it to cover the relation between written and spoken impressions – although writing is said to *signify* expressions, written signs are not intentions."[87] First, note that if a written sign is to signify a spoken expression, the significandum is the spoken expression. Given that *maʿnā* is *significandum*, it is the spoken expression, not the written sign, that should be called a "*maʿnā*." Something is not quite right here. Taking this as a slip of the pen, we reach the real point:

> Note that Avicenna uses 'signify' (*dalla*) for all these relations, including that between things and their psychological traces; Later Avicenna stipulates that the traces are natural signs rather than conventional ones (*Interpretation*, 5). Farabi, by contrast, confines the signification relation to language, picking up on Aristotle's claim that impressions are *likenesses* (= *homoimata*/*mathālāt*) of the things (*Sharḥ al-ʿIbārah*, 24–25).[88]

The point that a spoken expression as a *significandum* of the corresponding written word is not a *maʿnā* is true. Black, however, takes this as an exception, does not justify it, and uses a reference (*Interpretation*, 5) that, in my view, is incorrectly edited by Mahmoud al-Khuḍayrī. Let's consider her reference first:

> [Text 28.] But the signification of what is in the soul vis-à-vis the *umur* is a natural signification in which neither the signifier nor the significandum differs, *it is not like* the signification between the utterance (*lafẓ*) and the impression in the soul, [in which] though what is signified is not different, the signifier is different, and it is not like the signification between the utterance and the written [expression], [in which] the signifier and significandum both may differ.[89]

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86   Black, "Intentionality," 69.
87   Black, "Intentionality," 69n14.
88   Black, "Intentionality," 69n13.
89   Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-ʿIbāra* [*The Interpretation*], 5.6–9.

In the Arabic text, the first occurrence of "it is not like" (italicised in Text 28), is edited as "it is like." "It is not like" is recorded in two other manuscripts, as al-Khuḍayrī reports in a footnote to the original Arabic text, though these are, to my view incorrectly, dismissed. I read Text 28 as follows: the signification relation between what is in the soul (not in the imagination), on the one hand, and the corresponding *umur*, on the other hand, is "natural" signification in which neither the signifier nor the signified differ. (Interpreting "differ" needs a bit more work; that will be done shortly.) An example would be the signification relation that holds between the impression in the *soul* following one's hearing an utterance of "human," on the one hand, and the "amr" *humanity*. Recall from Text 1: "What is emitted vocally signifies what is in the soul, and these are what are called 'impressions' (*āthāran*), whereas what is in the soul signifies things (*al-umūr*), and these are what are called 'meanings' (*ma‘ānī*), that is, the things intended by the soul (*maqāṣada li-nafs*)." If *ma‘nā* is a technical term here, *amr* is so too. *Umur* are entitled to be called "*ma‘ānī*" if they are "intended by the soul" properly. If *ma‘ānī* do not fall under a fixed ontological 'category,' neither do *umur*. According to Text 28, the *natural* signification relation holds between the impression in the *soul*, which is the "*ma‘nā* as imprinted in the soul," or what is conceived from it, and the corresponding *amr*.

In fact, the picture is a bit more complicated. Recall from Text 2, that Avicenna distinguishes between what is imprinted in the imagination (*al-khayāl*) upon hearing an utterance of an expression and what occurs in the soul, which is the *ma‘nā* as imprinted in the soul:

> The *ma‘nā* of the signification (*dalāla*) of a vocal expression (*lafẓ*) is this: when what is heard from the name (*masmū‘u ismin*) is imprinted (*irtasama*) in the imagination (*al-khayāl*), then the *ma‘nā* is imprinted in the soul (*an-nafs*) and the soul recognises/realises (*ta‘arrafu*) that this heard [expression] belongs to this understood [content] (*al-mafhūm*).[90]

Here Avicenna explains the nature of the signification relation between the vocal expression and its *ma‘nā* in terms of the relationship between the following impression in the imagination and the *ma‘nā* as imprinted (*irtasama*) in the soul. The latter relation is an epistemic one constituted by recognising/realising that the impression in the imagination belongs to what is understood by/from the *ma‘nā*. The following figure represents this:

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90   See Text 2 above.

FIGURE 3.5   The vocal expression, the *maʿnā* as imprinted in the soul, and *amr*/thing
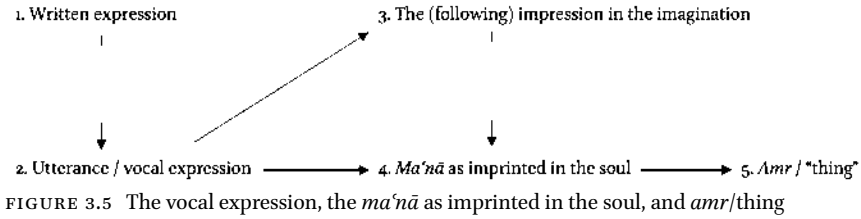
In previous sections, I only represented the two bold-faced arrows and did not mention anything about the written expression or the corresponding impression in the imagination. In Text 28, Avicenna explains that the signification relation between the *maʿnā* as imprinted in the soul (item 4 in Figure 3.5), which from Text 2 I take to be the understood content of the *maʿnā*, on the one hand, and the *amr*/"thing" (item 5 in Figure 3.5), which from Text 1 I assume to be the *maʿnā* or the *amr*/"thing" as intended by the mind, on the other hand, is a *natural* signification. The signification relation between item 2 in Figure 3.5, namely the utterance or vocal expression, and item 4, namely the *maʿnā* as imprinted in the soul or what is understood by/from it, is not a natural signification because "though what is signified is not different, the signifier is different" (Text 28). The signifier is the utterance and *different* utterances may signify the same *maʿnā* as imprinted in the soul or the same 'understood content.' Likewise, the signification relation between item 1, namely the written expression, and item 2, namely the utterance, is not natural signification because "the signifier and what is signified both may differ" (Text 28), namely an utterance may have two (or more) written forms and a written expression may have two (or more) pronunciations or vocal forms.

According to Black, "Avicenna stipulates that the traces are natural signs rather than conventional ones." This is an incomplete characterisation of what Avicenna is doing. First, a "trace" or "impression in the soul" is nothing but *maʿnā* as imprinted in the soul or what is understood by/from it. Second, and more importantly, a "trace" is a natural sign of *amr* as intended by the mind. As with Black's proviso, namely "Avicenna does not extend it to cover the relation between written and spoken impressions – although writing is said to *signify* expressions, written signs are not intentions," I suspect that Avicenna's reason for not considering spoken expressions as *maʿānī*, though they are signified by written expressions, will also explain why characterising *maʿnā* as "anything that functions as a *significandum* relative to either a mental or a linguistic sign" falls short of a complete analysis of *maʿnā*.[91]

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91   Black, "Intentionality," 69.

Recall from Text 5, that the *ma'nā* of an utterance is "essentially intended (*al-maqṣūd biḏ-ḏāt*), not accidentally, by that name (*fī ḏālik al-ism*)." This may further be explained by Text 2, in which a condition of "signification" of the name is that:

> the soul recognises/realises (*ta'arrafu*) that this heard [expression] belongs to this 'understood [content]' (*al-mafhūm*). Then, whenever the sense brings it [what is heard from the name] to the soul, then it [i.e., the soul] turns/attends (*iltafatat ilā*) to its *ma'nā*.[92]

If we plug this into Figure 3.5, it follows that the signification relation between item 2, i.e., the utterance, and item 4, i.e., the *ma'nā* as imprinted in the soul, is "essentially intended," though this is not a natural signification. Thus, the utterance needs two signification relations, namely the relation that holds between item 2 and item 4 and the relation that holds between item 4 and item 5, to complete its semantic function. These two relations are very special signification relations: the relation between items 2 and 4 is such that the mind *essentially intends* item 4, i.e., the *ma'nā* as imprinted in the soul, by item 2, namely the spoken expression. The item 4–item 5 relation is an instance of a *natural signification* in which the *ma'nā* in the mind signifies the *ma'nā* itself. *Ma'nā* is "anything that functions as a *significandum*" only if the signification relation is proper, and in this case only if it is one of these two relations or a combination of them. This, I suggest, is a more fine-tuned interpretive hypothesis with which to interpret Avicenna's *ma'ānī*.

The above hypothesis also better explains why a spoken expression is not the *ma'nā* of the corresponding written expression, though the latter signifies the former. The reason is that the utterance or spoken expression is neither "essentially intended" by the written expression (because language users typically employ written expressions to talk about their *ma'ānī*, not about the vocal forms) nor "naturally signified" by the written expression (because natural signification is like the *ma'nā* in the mind signifying the *ma'nā* itself). Therefore, *ma'nā* is not "anything that functions as a significandum relative to either a mental or a linguistic sign." The signification relation should be of a specific kind: it should involve relations such as essentially intending and/or natural signification. So, there is no "important exception" to Avicenna's use of "*ma'nā*," as Black describes; his account may only be more complicated than so far envisaged.

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92   See Text 2 above.

5   Concluding Remarks

As Gutas has rightly pointed out, "*maʿnā* is an evocatively polysemic word in Arabic intellectual history and extreme care should be taken in interpreting it in its context."[93] Gutas is also right that "the word [*maʿnā*] does not mean 'intention,' at least in a dominant sense of 'intention'."[94] However, the word has a technical use in which it is related to intentionality; the *maʿnā* as imprinted in the soul is essentially intended by a proper use of its name and naturally signifies the corresponding *amr* or "object," broadly construed. As a result, I withhold from Gutas' conclusion that: "The fact that this *maʿnā* was translated as *intentio* in medieval Latin, the starting point of many a misled scholar, does not mean by itself that the term means 'intention' in any sense."[95]

The internal intentional structure of the network of relations that *maʿānī* come into is rather complex. I take *maʿānī* to exist in different modes, as both residents of the mind and aspects of reality, while keeping their intentional features. This may resonate with the general picture that Gyula Klima provides of the medieval philosophers' take on what he calls the "first myth of intentionality":

> Although medieval philosophers would perhaps agree with the characterization that intentionality is "aboutness," they would nevertheless deny that this property is exhibited only by mental phenomena [...]. To cut a long story short, for Aquinas, intentionality or aboutness is the property of any form of information carried by anything.[96]

If I am right, the concept of intentionality in work in Latin medieval philosophy may be linked to Avicenna's *maʿnā* in fundamental and systematic ways. These ways have not yet been investigated because, among other things, the technical use of *maʿnā* in Avicenna's philosophy has not yet been properly identified and closely studied. The present paper is immensely incomplete; it overlooks the roles that *maʿānī* play in Avicenna's philosophy in general. However, I hope my work raises some interest in future research on *maʿnā* in Avicenna and post-Avicennan philosophy, as well as in exploring the possible links to the contemporary philosophy of mind, language, and logic.

93   Gutas, "The Empiricism of Avicenna," 430.
94   Gutas, "The Empiricism of Avicenna," 430.
95   Gutas, "The Empiricism of Avicenna," 430.
96   Gyula Klima, "Three Myths of Intentionality vs. Some Medieval Philosophers," *International Journal of Philosophical Studies* 21 (2013): 359–60.

Acknowledgements

Avicenna on Talking about Nothing

Seyed N. Mousavian

1 Introduction

In the introduction to this volume, after introducing 'abstraction' as the first "hot topic in the Aristotelian tradition," Ebbesen and Gregoric rightly mention the following interrelated problems, namely "Do words signify things or concepts?" and "What are concepts concepts of?", as the next two controversial topics in the medieval Aristotelian traditions.[1] Cases of *apparent* refence-failure, including expressions originated in false scientific views, mythical, and fictional narrations, as well as discourse on past and future objects and events that do not exist *now*, may be considered as sub-problems of "What are concepts concepts of?"

In early Kalam tradition, the topic of "absurdities" occupied Muslim theologians from semantic, epistemic, ontological, theological, and literary aspects. Long before Avicenna, al-Jāḥiz's (d. 868) influential view was based on the idea that "the expression is a body for the *maʿnā*, and the *maʿnā* is a soul to the expression [...] a *maʿnā* can exist without having a name, but there is no name without a *maʿnā*."[2] The latter claim, that is "there is no name without a *maʿnā*," immediately raises the question: What are *maʿānī*? I tried to reconstruct, at least partly, Avicenna's reply to the question in previous chapter. Here, I will attempt to extend and apply that picture to some, but not all, cases of "talking about nothing."

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1 Sten Ebbesen and Pavel Gregoric, "Cognition and Conceptualisation in the Aristotelian Tradition," 19–25 above.

2 Al-Jāḥiz, "Epistle on Jest and Earnest," in his collected *Rasāʾil*, ed. A. M. Hārūn (Cairo: Maktabat al-Khānjī, 1965–79), 1:262; trans. Jeannie Miller, "Man is Not the Only Speaking Animal: Thresholds and Idiom in al-Jāḥiz," *Arabic Humanities, Islamic Thought*, ed. J. E. Lowry and S. M. Toorawa (Leiden: Brill, 2017), 103. I have taken this quote from David Bennett, "Introducing the *Maʿānī*," 82 above; for further discussion on this point see ibid., 79–82.

2   The Problems

Consider a false affirmative existential sentence/statement[3] and its true nega-
tive counterpart:[4]

   (1)   Homer exists.
   (2)   Homer does not exist.

Avicenna holds the following principle:

   (3)   (The Predication Principle) "Nothing can be predicated of a
          nonexistent."[5]

Here is the first problem (P_1) for (1):[6] the "problem of no proposition expressed."
(1) seems to be a meaningful (atomic simple) predicative sentence. Given
Propositionalism, according to which if a sentence like (1) is meaningful, it

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3   I use "sentence" and "statement" interchangeably for sentences or statements of a natural
    language, e.g., English. I suppose that (1) is in fact false and (2) is in fact true. If one does not
    find these examples appropriate, one may substitute them with his/her favourite examples.
4   Historically, the context of the problem is Aristotle's *De interpretatione*: "Homer is something
    (say, a poet). Does it follow that he is? No, for the 'is' is predicated accidentally of Homer;
    for it is because he is a poet, not in its own right, that the 'is' is predicated of Homer. Thus,
    where predicates both contain no contrariety if definitions are put instead of names and are
    predicated in their own right and not accidentally, in these cases it will be true to speak of
    the particular thing even without qualification. It is not true to say that what is not, since it
    is thought about, is something that is; for what is thought about it is not that it is, but that
    it is not." (*De interpretatione* 11, 21a25–34, trans. J. L. Ackrill, in Aristotle, *The Complete Works
    of Aristotle: The Revised Oxford Translation*, ed. J. Barnes (Princeton; New Jersey: Princeton
    University Press, 2014), 90.) Also, part of what follows, e.g., the Affirmative Principle (4),
    belongs to a standard reading of Aristotle's view on empty terms and their semantics.
    For a discussion of Aristotle's view see Scott Carson, "Aristotle on Existential Import and
    Nonreferring Subjects," *Synthese* 124:3 (2000): 343–60. For a reading of Aristotle according
    to which empty terms are permitted to figure in Aristotelian syllogisms, see Stephen Read,
    "Aristotle and Łukasiewicz on Existential Import," *Journal of the American Philosophical
    Association* (2015): 535–44. Here, I am primarily concerned with the philosophical/logical
    side of the issue for Avicenna. I hope that this paper, at the end, can provide a case for the
    view that Avicenna goes well beyond what Aristotle does here.
5   "Anna al-maʿdūm lā yuḥmal ʿalayhi šayʾ" (Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-ʿIbāra* [*The Healing,
    The Logic, The Interpretation*], ed. M. al-Khuḍayrī (Cairo: al-Hayʾa al-miṣrīyya al-ʿāmma
    li-t-taʿlīf wa-n-našr, 1970), 109).
6   This formulation of the problems is influenced by David Braun, "Empty Names, Fictional
    Names, Mythical Names," *Noûs* 39:4 (2005): 596–631, though he is concerned with a different
    view, in a different context.

expresses a proposition, it follows that (1) expresses a proposition. However, if there is no Homer, by (3), "exists" cannot be predicated of Homer. In other words, if there is nothing to be (or function as) the subject of a predication, then there is no predication. If so, whatever (1) expresses is not a(n atomic simple) *predicative* proposition. Given that if (1) expresses a proposition, it expresses a(n atomic simple) predicative proposition, it follows that (1) does not express any proposition.[7]

Here is the second problem (P_2) for (1): the "problem of no truth value." If (1) does not express any proposition, given that a statement is truth-evaluable only if the proposition that it expresses is truth-evaluable, it follows that (1) is not truth-evaluable. If so, then (1) is neither true nor false. However, by assumption, (1) is false. Or, alternatively, assuming that (1) and (2) are contradictory and that (2) is true, again it follows that (1) is false.

Similar problems can be formulated for (2). Here is the first problem (P_1) for (2). If (whatever) "not" (expresses) in (2) works as a proposition-negation operator, in the sense that it has the allegedly affirmative proposition expressed by (1) as its argument and a negative proposition as its value, then (2) expresses a negative proposition only if (1) expresses an affirmative proposition. However, given (P_1) for (1), (1) does not express any affirmative proposition because it contains no predication. Therefore, the proposition-negation operator in (2) has no argument. If a proposition-negation operator with no argument has no value, then (2) does not express any proposition either.

Next, consider (P_2) for (2). If (2) does not express any proposition, assuming that a statement is truth-evaluable only if the proposition that it expresses is truth-evaluable, it follows that (2) is not truth-evaluable. If so, then (2) is neither true nor false. However, by assumption, (2) is true. Or, alternatively, assuming that (1) and (2) are contradictory and that (1) is false, again it follows that (2) is true.

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7 Let us suppose, though this is doubtful, that Homer was a real historical person. (1)/(2) are uttered and evaluated long after his death and there is no soul or other entity that overlives Homer's body. Simply, at the time of the utterance and evaluation of (1)/(2), Homer does not exist, in any sense, though he did exist earlier. One might be tempted to solve the problem by denying the veridicality of the "seeming falsehood" of (1) or the "seeming truth" of (2). I do not discuss this line of reasoning here since I do not have any textual evidence that Avicenna ever took this strategy seriously. Note that as long as one allows one true (simple predicative) negative existential, the problems are there (by "simple" I mean an existential statement with no modal, epistemic, or intentional operator or predicate).

3 The Standard Reading

There is a consensus amongst Avicenna scholars that Avicenna can face both problems successfully. The sketch of the solution attributed to him goes like this. (3) should be interpreted as:

(4) (Affirmative Principle) "In every true affirmative predicative sentence the subject term is satisfied (i.e., non-empty)."[8]

The subject term in (1) is not satisfied, because Homer does not exist. By (4) and modus tollens, it follows that (1) is not a true affirmative predicative sentence. Therefore, given bivalence, (1) is a false affirmative predicative sentence. This solves (P$_2$), that is, the problem of lack of truth value, for (1). Solving (P$_1$), namely the "problem of no proposition expressed," for (1) may take more work. It is claimed that one needs to generalise (4) such that "existence" includes both "existence *in re*" (*wujūd fi-la'yān*) (or existence among particulars/extra-mental existence) and "existence in the mind" (or existence *in intellectu*/mental existence). If one plugs this conception of "existence" into (4), the result is:

(5) (Affirmative Principle Generalised) "So every subject of a [true] affirmative proposition is satisfied – either in the world or in the mind."[9]

Homer does not exist *in re*. Therefore, there is no predication that has Homer *in re* as its subject. However, there is some idea of Homer, a phantasm for instance. Hence, Homer exists *in intellectu*. Homer in the mind has mental existence. Therefore, there is something that can play the role of the subject in what (1) expresses. This can solve (P$_1$) for (1).

If (P$_1$) for (1) is solved, there would be no such problem for (2); if (1) expresses an affirmative predicative proposition, its negation, i.e., (2), expresses a negative proposition.

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8   Wilfrid Hodges, "Affirmative and Negative in Ibn Sīnā," in *Insolubles and Consequences: Essays in Honour of Stephen Read*, ed. C. Dutilh Novaes and O. Thomassen Hjortland (London: College Publications, 2012), 120. For now, I use Wilfrid Hodges' paraphrases, though below I will try to explain and explicate them. For the original Arabic, see Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-ʿIbāra* [*The Interpretation*], 79.

9   Hodges, "Affirmative," 132. See also Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-ʿIbāra* [*The Interpretation*], 79.

Furthermore, there is a consensus that Avicenna holds:

(6) (Negative Principle) A negative predicative sentence is true when
      its subject term is not satisfied.[10]

(6) guarantees that (2) is true because the subject term is not satisfied. Hence,
(P$_2$) would be solved for (2) as well.

Allan Bäck develops a similar interpretation and summarises it as follows:

Ibn Sina is thus able to admit true statements about things that are not
real at present because he recognizes two kinds of existence, *in re* and
in intellectu. [...] So, for Ibn Sina, every categorical proposition makes an
existence claim for its subject, unless the copula is negated. The claim
is that the subject term is instantiated, or more precisely, that the quid-
dity of the subject has existence at present. Normally in our discourse
that existence is presupposed to be real existence. But sometimes that
existence will concern a quiddity existing in the mind, and be based on
a phantasm. But that phantasm too must be thought of at present, and
must be based on the real existence of things in the past, or perhaps, in
the future.[11]

I call this the "standard reading." The standard reading, I submit, is problematic
or incomplete. If so, its attribution to Avicenna needs to be reconsidered or
clarified.

4   Against the Standard Reading

The above apparently promising solution leads to two issues. First, the issue of
the "change of subject-matter" (I$_1$).[12] If the predication is possible because the
nonexistent, as the subject of predication, exists in the mind, then the subject
of predication exists in the mind. Given that the subject of predication is the
subject-matter of the statement, then the subject-matter of the statement is
what exists in the mind. If so, the subject-matter of a statement of (1) is Homer

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10   Hodges, "Affirmative," 120.
11   Allan Bäck, "Avicenna on Existence," *Journal of the History of Philosophy* 25:3 (1987): 360.
12   Willard Van Orman Quine, "On What There Is," *Review of Metaphysics* 2 (1948): 21–38.
      Reprinted in Jaegwon Kim et al., eds., *Metaphysics: An Anthology* (Malden, MA: Wiley-
      Blackwell, 2012), 7–15.

as Homer exists in the mind. Intuitively, however, the subject-matter of a state-ment of (1) is either Homer or nothing, since there is no Homer. Intuitively, one who sincerely assents to (1) does not mean to assent to the existence of a mental entity and one who sincerely dissents from (1) does not mean to dissent from the existence of a mental entity.

Second, if one bites the bullet and accepts the "change of subject-matter," then the subject-matter of a statement of (1) exists in some sense: it exists in the mind. If so, then it is true that Homer exists since the mental existence of Homer is some kind of existence. This raises the "issue of change of truth-value" (I_2). Accordingly, (1) should be true. This result backfires and implies that (2) expresses something false, given that (2) is the negation of (1).

Interestingly, Avicenna does discuss some aspects of (I_2) incidentally when he tries to address an objection to (3), the Predication Principle ("Nothing can be predicated of a nonexistent"). Though he does not explicitly formu-late the issue, we may reconstruct it as follows: the simurg (sometimes called the "phoenix") is nonexistent.[13] Thus, by (3), nothing can be predicated of it. However, we can imagine the simurg, and therefore the simurg is existent in the imagination. Hence, something, namely 'existence in the imagination,' can be predicated of the simurg. This, however, seems to violate (3). Avicenna's response goes like this:

> [Text 1] This example, namely "the simurg [or phoenix] is existent in the estimation/imagination" is also fallacious. This is because the expression "existent" in our statement "is existent in the estimation/imagination"

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13   I have explained elsewhere why I do not translate *'anqā'* as "griffon" or "phoenix," as is usually done (Seyed N. Mousavian, "On the Letter on the Unreal Forms" (manuscript)). I use the *simurg* as an English name: "(in Persian mythology) a large mythical bird of great age, believed to have the power of reasoning and speech" (Oxford Dictionary of English, s.v. "simurg," https://en.oxforddictionaries.com/definition/us/simurg). For one thing, for Avicenna, the simurg does not exist and is impossible (or absurd); the phoe-nix, though nonexistent, is not impossible because Avicenna associates "phoenix" with a different description. In explaining different meanings of "universal," he writes: "It is said [to be] 'universal' by way of being possible/probable to be said of many in existence (*muḥtamalatun li-an tuqāl fil-wujūdi 'alā kaṯīrīn*), though it may happen to be presently said of one, e.g., the heptagonal house, or as reported about a bird called 'phoenix' (*quqnūs*) that it is one in the world, so it is said, and when it ceases [to be] (*baṭala*), from its corpse or the ashes of its corpse another similar one [i.e., a phoenix] rises" (Ibn Sīnā, *aš-Šifā', al-Manṭiq, al-Burhān* [*The Healing, The Logic, The Demonstration*], ed. A. ʿAfīfī (Cairo: al-Maṭbaʿa al-amīriyya, 1956), vol. 3, book 2, ch. 4, 145). The name *simurg* is a com-mon name (but not necessarily a universal like *phoenix*), and it is not clear if, at any given time, one and only one instance of the species is supposed to exist.

either signifies or does not signify. If, as one single [expression], it does not signify and now [when it is embedded in the expression "is existent in the estimation/imagination"] [it] signifies, then what is taken as a single [expression] is not what is taken in the composite [expression]. And if it [i.e., "existent" as one single expression] signifies, either it signifies a general meaning (*ma'nā 'āmm*) that is more general than existent in estimation/imagination and existent in the external [world] inasmuch as it exists, or it does not signify [such a general meaning]. Then, if it signifies a general meaning that is more general than existent in the estimation/imagination and existent in the external [world], then if [it] is taken singularly [or as a single expression], it must be taken in this meaning [throughout the analysis]. Thus, it is true that the simurg is existent in accordance with some kind of existence, in fact estimation has some kind of existence. And it is false, if taken as "the simurg is existent *in re*/ external concrete particulars (*mawjūdan fi-la'yān il-khārija*)" because this [meaning] is something more and above "existent," taken in that [above-mentioned general] meaning. […] And if "the existent which is in the estimation/imagination" and "the existent *in re*" do not share any *ma'nā* (meaning) amongst meanings (*bi ma'nā min al-ma'ānī*), then taking "existent" individually [as a single expression] as "existent *in re*" is taking a *ma'nā* (meaning) that is not at all mentioned in the composite [expression,] except nominally [as the intended *ma'nā* (meaning)].[14]

In Text 1 Avicenna tries to defuse a "possible" counterexample to the Predication Principle, namely "Nothing can be predicated of a nonexistent." The counter-example suggests that both of the following claims are true:

(7)   The simurg is not existent.
(8)   The simurg is existent in the estimation/imagination.

Avicenna tries to show that (7) and (8) cannot be both true. Here is my proposed reading of Text 1: The expression "existent," taken as a single expression, either does not signify anything or does signify something. If it does not signify anything, then it does not signify anything when it is a part of the composite expression "is existent in the estimation/imagination." Hence, "the simurg is existent in the estimation/imagination" is not a counterexample to the Predication Principle, since by a proper principle of compositionality, which I ascribe to Avicenna, neither (7) nor (8) signify anything.

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14   Ibn Sīnā, *aš-Šifā', al-Manṭiq, al-'Ibāra* [*The Interpretation*], 110.

If "existent" signifies something, then it either signifies a *ma'nā* (significandum/meaning) that shares something with the *ma'nā* of existent *in re*, or it signifies a totally different *ma'nā*. If "existent" signifies a *ma'nā* that shares something with the *ma'nā* of existent *in re*, then either it signifies a general *ma'nā* as "existent *in re* or existent in the mind" or it signifies a "specific" meaning, namely *existent in re* itself.

If "existent" signifies the general meaning *existent in re or existent in the mind*, then (7) is false, since "existent" is taken therein as a single expression, and its *ma'nā* covers both existent *in re* and existent in the mind. Thus, there is nothing strange about the predication of "existent in the imagination" of the simurg. In this case,

(9)   The simurg is existent *in re*

is false because the predicate says something more and above what "existent" expresses, in the sense that it puts an extra condition on the general meaning of "existent." The simurg lacks this kind of existence, namely existence *in re*. A few lines below, Avicenna gives this example: "human is animal" is true but "human is speechless animal" is not true, because the predicate "speechless animal" says something more and above what "animal" expresses in the sense that it puts an extra condition on it, and thus can be false, and in fact is false. The upshot is that this case is not a counterexample to the Predication Principle.

And if "existent" signifies a "specific" meaning, namely existent *in re*, then (7), namely "The simurg is not existent," is true but it is not clear whether (8) is true. Avicenna does not clearly discuss this case. Thus, I am trying to fill the gap here. If "existent," taken individually, means *existent in re*, given a proper principle of substitution, (8) would express what (10) expresses:

(10)   The simurg is existent *in re* in the estimation/imagination.

The predicate of (10) contains double indexing. Avicenna's claim, I submit, may be that (10) is false. Note that even if one accepts that the simurg exists in the estimation/imagination, perhaps as the phantasm of the simurg, it does not follow that the simurg is existent *in re* in the estimation/imagination because the phantasm of the simurg does not exist *in re* in the estimation/imagination. (I will return to how Avicenna may deny the truth of (10) in section 14 below.)

Finally, if "existent in the estimation/imagination" signifies something but, semantically, shares nothing with "existent *in re*," then taking "existent" in (7) as "existent *in re*" in order to give a true reading of (7) is a form of "equivocation" since "existent" is only nominally common between (7) and (8).

It seems that Avicenna is aware that if one broadens the signification (or meaning) of "existent" to be "existent *in re* or existent *in intellectu*," in order to account for the possibility of predicating something of the simurg (as a subject that does not exist *in re*), then there is no way to save the intuition that "the simurg is not existent" or ("the simurg does not exist") is true. In other words, solving (P_1), the problem of "no proposition expressed," by broadening the signification (or meaning) of "existent," directly leads to (I_2), the issue of "change of truth value."

Some pages earlier Avicenna emphasises that though he has a theory of mental existence, in affirmative judgements, normally, the judgement is not formed with respect to (*min ḥaytu*) the *mental existence* of the subject. This may remind one of (I_1), the issue of "change of subject matter":

> [Text 2] But the mind affirmatively judges about objects (*yaḥkum ʿal al-asyāʾ*) [either] in [the sense] that they in themselves and in their existence [are such that] the predicate exists for[15] them or in [the sense] that they are thought/intellectually apprehended (*tuʿqal*) in the mind [and] the predicate exists for them, not inasmuch as [they] are only in the mind; rather, in [the sense] that, if they existed, then this predicate would exist for them.[16]

Text 2 may be interpreted as explaining the meaning of an affirmative judgement about an object by explicating the "ontology" of the affirmation as well as the "logical form" of what is said. I will return to this text below; however, I would like to emphasise two points here. First, in some cases, in particular when the affirmative judgement is about an object that only exists in the mind and the judgement is true, the truth is not "grounded," so to speak, on the mental existence of the object. Otherwise put, the judgement is not true about the object inasmuch as the object exists in the mind. Second, in some cases, the judgement is true in the sense that if the object existed, the predicate would exist for it. I will try to explain this by giving priority to the semantics of the "counterfactual/temporal operators" in the truth conditions of the corresponding statement (see sections 13, 14, and 15 below).

The abovementioned two issues, namely (I_1) and (I_2), provide prima facie evidence that the standard reading of Avicenna is either problematic or incomplete. Texts 1 and 2 show that Avicenna is, at least partially, aware of some

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15   This looks like Aristotle's idiom "B exists for A" meaning that "B inheres in A." I will not discuss the reception of this term and concept from Aristotle in this context.

16   Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-ʿIbāra* [*The Interpretation*], 80.

aspects of (I_1) and (I_2). This suggests that his solution to (P_1) and (P_2) may be more complicated than what the standard reading has to offer. In what follows, I will try to give a more detailed reading of Avicenna's solution by reviewing some central themes of his philosophy of logic, in particular, his view on the nature of propositions and the role that *ma'ānī* play in this regard.

5   The Nature of Propositions

The question of the nature of propositions for Avicenna should be studied elsewhere independently. However, I need to briefly introduce my interpretation here. Let us consider Avicenna's note on the nature of primary propositions first:

> [Text 3] Chapter: On primaries. Primaries are propositions (*qaḍāya*) or premises (*muqaddamāt*) originating in the human due to his faculty/power of intellect, with no cause necessitating/compelling the assent to them except their natures/essences (*dawātuhā*) and what (*al-ma'nā*) makes them propositions, i.e., the thinking power that is the integrator of the simples [i.e., simple *ma'ānī*] by way of affirmation (*ijāb*) or negation (*salb*). Thus, when the simples amongst the *ma'ānī* (*al-basā'itu min al-ma'ānī*) are originated in the human by assistance of (*bi ma'ūnati*) the sense and imagination or some other thing, the thinking [power], the integrator, synthesises [them], and then it is necessary/compulsory that the mind (*ad-dihn*) initially assents to them with no other cause and without being aware that this is something gained presently [...].[17]

Here, I would like to elaborate on some features of the primary propositions *as propositions*.[18] Text 3 suggests that primary propositions are synthesised (*mu'allaf*) objects made out of some *ma'ānī*. Without going into details (which I have studied in chapter 3.2 above[19]), the basic ideas are that the *ma'nā* of an expression as imprinted in the soul is what the expression primarily signifies

17   Ibn Sīnā, *an-Najāt* [*The Salvation*], ed. M. T. Dānešpajūh (Tehran: Entešārāt-e Dānešgāh-e Tehran, 1364Š/1985), 121–22. Text 3 is partly translated in Dimitri Gutas, "The Empiricism of Avicenna," *Oriens* 40 (2012): 406, but I have slightly modified the translation.

18   Avicenna's view on the primary propositions, particularly their origination and relation to the different stages of the human intellect, has been examined in Seyed N. Mousavian and Mohammad Ardeshir, "Avicenna on Primary Propositions," *History and Philosophy of Logic* 29:3 (2018): 201–31.

19   Seyed N. Mousavian, "Avicenna on the Semantics of Ma'nā," 129–34.

and that the *maʿnā* as imprinted in the soul naturally signifies the *maʿnā* itself. For example, a proper name like "Zayd" primarily signifies the *maʿnā* of "Zayd" as imprinted in the soul, and the *maʿnā* of "Zayd" as imprinted in the soul naturally signifies the *maʿnā* of "Zayd" itself. As a result of these two relations of signification, the name "Zayd" signifies the *maʿnā* of "Zayd," which Avicenna identifies with the essence of Zayd, properly intended.[20] More generally, if something has an essence and it is signified by a single expression (namely an expression the signification of which is not the result of the signification of its parts), the *maʿnā* of the expression is the essence of the thing as properly signified. Otherwise put, the *maʿnā* is the *significandum/significatum*. This *maʿnā* may exist in the mind, and in this case what is understood/conceived from the *maʿnā* is called the "understood content" (*al-mafhum*). Thus, "understood content," as I use the term here, is not necessarily an abstract entity. Understood contents are means of accessing *maʿānī*. (Note that an understood content is not necessarily a "conception" (*tasawwur*), used as a name, either; for one thing, a conception requires awareness of an understood content).

In a primary proposition, simple *maʿānī* (namely, the *maʿānī* that cannot be defined by other *maʿānī*) are integrated by a power of the human soul, namely "thinking." A proposition has some *maʿānī* as its "parts." I use the term "part" in a broad sense. The unity of a proposition is the result of a unificatory mental act, namely "synthesis" (*taʾlīf*). This mental act is performed by the power of "thinking," which, in humans, is a power of the rational soul. This mental act is performed in two ways: the way of affirming and the way of negating. A proposition is true or false since the act of affirming or the act of negating may or may not hold true.

In *The Book of Logic* in *The Deliverance*, Avicenna has a somewhat different formulation of the nature of propositions:

> [Text 4] On proposition (*qaḍīyya*): A proposition and a report (*khabar*) is every statement in which there is a relationship between two things such that the judgment 'true' or 'false' follows from it.[21]

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20 I will use different means to refer to *maʿānī*: I use a description like *the maʿnā of "Zayd,"* small-caps, e.g., ZAYD (see also propositions (21p) and (22p) below), boldfaced small-caps (when I want to refer to a *maʿnā* as imprinted in the mind), e.g., **ZAYD** (also see propositions (22p-mind) and (23p-mind) below), or just italics (when I use natural language sentences as interpreted by Avicenna, according to my reading), e.g., *Zayd* (see also sentences (11) and (12) below). I hope that the context clarifies how each means is employed.

21 Ibn Sīnā, *an-Najāt* (*al-Manṭiq*), trans. A. Q. Ahmed in *The Deliverance: Logic* (Karachi: Oxford University Press, 2011), 14. Double brackets, throughout the paper, are always mine.

I think that the conception of 'proposition' introduced in Text 4 can be mapped onto the conception of 'proposition' introduced in Text 3. Here are two preliminary points. First, *khabar*, which Avicenna juxtaposes with proposition (*qaḍīyya*), is a technical term (we shall find further evidence for this claim below). Asad Q. Ahmed translates *khabar* as "report" but it may also be translated as "(a piece of) information." "Reporting" may have the connotation of reporting something that one, most likely someone else, has "observed, heard, done," or "said." But "informing," here, is what one does with a statement or, roughly speaking, what a statement does. "Information" is a statement in action. Statements inform, I assume, partly because expressions, their parts, inform. Expressions inform in different ways. In section 13 below, I will introduce two ways of informing, as associated with expressions. This distinction coheres with the distinction between the nature of the proposition expressed by a statement containing an expression and the truth conditions of this proposition. One way of informing, i.e., primarily informing, relates to the nature of the proposition expressed, and the other way of informing, namely secondarily informing, relates to the truth conditions of the proposition. We will return to this point about informing in section 13 and section 16.

Second, in Text 4, Avicenna introduces a proposition as a statement (*qawl*). Given that a statement is a "compound utterance" (*lafẓ murakkab*)[22] or "composite expression" (in my translation) and that an utterance is a (partially) linguistic entity, it follows that a proposition is a (partially) linguistic entity. In Text 3, however, a proposition is introduced as a synthesised object having *ma'ānī* as its parts. One might try to reconcile these two texts by devaluating one of them: it might be said that Avicenna is sloppy in Text 3, and that propositions are specific linguistic entities and nothing more. Alternatively, it might be said that Avicenna is sloppy in Text 4: propositions are not linguistic entities at all. Or, one might assume that Avicenna does not have a clear distinction between linguistic entities and what they signify (*dalla*), namely the *ma'ānī*, and thus he freely moves from one picture to another. I hold that all these options are untenable for two simple reasons: first, Avicenna has a clear distinction between linguistic entities and what they signify (namely *ma'ānī*); and second, Avicenna takes *ma'ānī* as what one talks about or thinks about in many other places as well.[23] I propose to take Avicenna's propositions not merely as linguistic entities: a statement or compound utterance, *properly interpreted*, namely as signifying the *ma'ānī* of the corresponding expressions, is a proposition. In other words, a proposition is an "interpreted statement."

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22   Ibn Sīnā, *an-Najāt* (*al-Manṭiq*), in *The Deliverance: Logic*, 14.

23   For both of these points, see Mousavian, "Avicenna on the Semantics of Maʿnā," 128–33.

Avicenna does not have the term "interpreted," but he has the term "information" (*khabar*). A proposition, as a synthesised object having two (or more) *maʿānī* as its parts, is a piece of information. The act of informing is done in a language by a statement "in which there is a relationship between two things such that the judgement 'true' or 'false' follows from it." In Text 4, a proposition is identified with "information," and with its linguistic incarnation, namely as an "interpreted statement." This interpreted statement contains a relationship between two (or more) things; this relationship is *in* the proposition, such that the whole, i.e., the synthesised object introduced in Text 3, may be judged as 'true' or 'false.'

Truth-evaluability is the main characteristic of a proposition and is grounded on the relationship between the two things in the proposition. This relation is closely linked but not identical to the mental acts of affirmation and negation introduced in Text 3. To explain this, I need to bring in Avicenna's conception of the "simplest" propositions, namely 'simple predicative propositions.'

6   Simple Predicative Propositions

The key text for understanding Avicenna's view on predicative propositions goes as follows in Ahmed's translation:

> [Text 5] On the attributive [proposition] (*ḥamlīyya*): The attributive proposition generates the [above-mentioned] relationship between two things. This relationship exists with respect to these two only in so far as it is possible to indicate each of them by means of a simple utterance. [An example is] our statement, "man is animal."[24]

My reading of Text 5 is different from Ahmed's. First, I do not translate *ḥamlīyya* as "attributive" (as Ahmed does) but as "predicative" because one may attribute something to another without necessarily producing a predication, namely without necessarily predicating the former of the latter in the sense that a "judgement 'true' or 'false' follows from it." Note that the terms *ḥaml*, *maḥmūl* and *ḥamlīyya* are all derived from the same root in Arabic. Thus, I suggest uniformly translating them as *predicating*, *predicate*, and *predicative*, correspondingly.

Second, I see a different structure in the first two sentences of Text 5. Here Avicenna introduces the distinction between two main kinds of proposition:

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24   Ibn Sīnā, *an-Najāt* (*al-Manṭiq*), in *The Deliverance: Logic*, 14–15.

predicative and "hypothetical" (the latter, in his language, includes "disjunctive," conjunctive, and material conditional, in our language). A predicative proposition is one in which two things are related to one another via the relationship mentioned in Text 4, such that one is the subject and the other is the predicate. Neither the subject nor the predicate in itself is truth-evaluable; only the whole proposition that has the subject and the predicate properly integrated is truth-evaluable. According to this reading, the clause "only in so far as it is possible to indicate each of them by means of a simple utterance" is not a separate sentence; rather, it qualifies the claim that the "two things," namely the subject and the predicate, "themselves lack this relationship."

Thirdly, I read '*tūqaʿu*' in a passive sense, translate it as "is placed" and take it as a technical term. A predicative proposition is that in which this relationship (that will be explicated below) "is placed" between two things, namely two *maʿānī*, such that the judgement 'true' or 'false' follows from it. So, if this relationship is not "placed," and is subject to a different operation, no judgement of 'true' or 'false' may follow. In fact, as we will see below, there are two operations on this level, namely *placing* (*ʾīqāʿ*) and *removing* (*rafʿ*), that may work on this relationship and lead to a 'true' or 'false' judgement.

Thus, here is my translation of the same passage:

> [Text 5*] The predicative proposition is that in which the [above-mentioned] relationship is placed (*tūqaʿu*) between two things such that this relationship is in none of them, except in so far as it is possible to signify each of them by means of a single expression (*bi lafẓin mufrad*). [An example is] our statement, "man is animal."[25]

What makes a proposition a (simple) predicative one is that the two things related to each other in the proposition each in itself lacks the placement of the relationship in virtue of which "the judgement 'true' or 'false' follows" from the proposition as a whole. In other words, neither the subject nor the predicate, as the two parts of the predicative proposition, in itself contains an affirmation or negation. In our modern language, this means that no proper part of a predicative proposition, as a part thereof, is truth-evaluable.

For example, *man* and *animal*, in an (atomic) predicative proposition, like that signified by "man is animal," do not contain any predication. Neither *man* nor *animal* is truth-evaluable; they are predicatively simple. However, Avicenna modifies his claim so that the subject or predicate in themselves may be conceived in such a way that the above-mentioned relationship is placed

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25   Ibn Sīnā, [*an-Najāt* (*al-Manṭiq*)] *The Deliverance: Logic*, 14–15. *Cf.* Ibn Sīnā, *an-Najāt* [*The Salvation*], 19.

between them and something else. This can be the sense in which the subject or predicate is signified by a corresponding single expression:

> (11)   Man is signified by the expression "man."
> (12)   Animal is signified by the expression "animal."

(11) and (12) contain predication. Therefore, they are truth-evaluable. They express semantic facts that fix the *ma'nā* of "man" and that of "animal" correspondingly. The subject or predicate of "man is animal," in itself, does not contain the placement of the relationship that makes "man is animal" truth-evaluable. However, in meta-semantics, *man* or *animal* come into the above-mentioned relationship. This relationship is placed, in (11), between *man* and *signified by the expression "man"* and, in (12), between *animal* and *signified by the expression "animal."* Now consider Text 5* again: "The predicative proposition is that in which the relationship [that grounds the truth-evaluability of the proposition] is placed between two things such that this relationship is in none of them, except in so far as it is possible to signify each of them by means of a single expression." To further elaborate on this, I will study two pairs of concepts separately: subject and predicate, on the one hand, and affirmation and negation, on the other hand.

7   Subject and Predicate

A predicative proposition has two parts and a "relation," in some sense, that is linked to the act of affirmation or that of negation. Consider the following passage:

> [Text 6] On the predicate (*maḥmūl*): The predicate is that which is judged (*maḥkūmu bih*) to exist or not to exist for another thing.
>   On the subject (*mawḍū'*): The subject is that about which it is judged whether some other thing exists or does not exist for it.[26]

In Text 6, the concept of "predicate" is not defined by the concept of "predication" explicitly; rather, it is introduced in terms of the mental act, i.e., judgement, performed by means of the relation "exists for" or "does not exist for." The predicate is "that which is judged" or the "object of the judgement" that "exists (or does not exist) for another thing," namely for the subject. I take "things" here to be *ma'ānī*. One may reformulate this in terms of a judgement

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26   Ibn Sīnā, *an-Najāt (al-Manṭiq)*, in *The Deliverance: Logic*, 16.

about a relationship between two *relata*: "that which," i.e., the first relatum or the predicate, is judged "to exist (or not to exist) for another thing," i.e., the second relatum or the subject. This relationship, namely "*x* exists (or does not exist) for *y*," is the relationship mentioned in Text 4 and Text 5*, or so I assume. This is a rather peculiar relationship; "exists" is sometimes taken as a first-order predicate (e.g., in some recent Millian views about proper names, such as Nathan Salmon's).[27] The general idea is that "exists" is a first-order property of a particular object or an individual. This view can be spelled out in different ways. In contrast, sometimes "exists" is considered as a second-order predicate, e.g., in the Russellian/Fregean approach according to which, roughly speaking, "exists" is a property of "concepts." According to this approach, "exists" works like "is instantiated."

Avicenna, however, uses "exists for" as a relational predicate. This use of "exists" is different from the standard monadic use of the term and plays a key role in Avicenna's characterisation of the predicate (and predication). The same story goes for the concept of the "subject"; "it is the first relatum, 'that about which' it is judged 'whether some other thing,' namely the predicate (the second relatum) exists or does not exist for it." This relational predicate, i.e., "exists (or does not exist) for *y*," also explains the nature of affirmation and negation. I will explain.

8   Affirmation and Negation

For Avicenna, affirmation and negation, in general, are different forms of 'judgement,' and thus they are "mental acts" in our language. 'Predicative propositions' are mental acts that involve two things or *maʿānī* that in themselves are not truth-evaluable, that is, they do not contain this relational notion of 'exists for' such that the judgement 'true' or 'false' follows from it:

> [Text 7] On affirmation (*ījāb*): Affirmation, in an absolute sense, is the {placement} and production of this relationship with regard to existence. In the {predicative} [proposition], it is the judgment that the predicate exists for the subject.
>
> On negation: Negation, in an absolute sense, is the removal of the relationship between two things with regard to existence. In the {predicative} [proposition], it is the judgment that the predicate is nonexistent for the subject.[28]

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27   Nathan Salmon, "Nonexistence," *Noûs* 32 (1998): 277–319.

28   Ibn Sīnā, *an-Najāt* (*al-Manṭiq*), in *The Deliverance: Logic*, 16, slightly modified.

According to Text 7, there are two logical/ontological acts: first, there is the act of placing or producing the above-mentioned relationship, namely 'exists for,' between two things or *maʿānī*. This act results in, or is mentally presented as, the judgement that the predicate exists for the subject. This act is called an "affirmation" (*ījāb*). Second, there is the act of removing the above-mentioned relationship between two things. This act results in, or is mentally presented as, the judgement that the predicate does not exist for the subject. This act is called "negation."

Though I disagree with Allan Bäck's interpretation of Avicenna's solution to the problems associated with existential statements about nonexistents, my construal of affirmation can be made consistent with Bäck's interpretation of Avicenna's view of 'predication':

> In brief, it claims that the structure of a simple categorical proposition, 'S is P' or 'S P's', is: 'S is (existent as) a P'. To a certain point, this view is clearly Aristotle's: sentences like 'Socrates walks' or 'Socrates is walking' are composed of a subject term, a predicate term, and a copula, be it explicit or implicit. One perhaps novel feature is how syntax of such a proposition is to be structured: with the usual subject term ('S'), the copula ('is') is taken as the verb, and the predicate ('P') is taken as a determination of the copula, in an accusative of respect or in some other grammatical construction; S is, in respect of being P. [...] On this view, then, 'S is P', as it means 'S is existent as P', implies 'S is', that is, 'S exists.' The predicate, if used, gives a determination of the respect in which the subject is: S is existent – How? – as a P.[29]

As far I can see, the proposition expressed by "S is P" is identified with the placement of the relationship of *exists for* between what "P" signifies, that is, the *maʿnā* of "P," and what "S" signifies, or the *maʿnā* of "S." This is the judgement that P exists for S. If 'exists as' is the reverse relation of 'exists for,' and if by "S" and "P" in the proposition that S is P, one means what the expression "S" signifies and what the expression "P" signifies, then the proposition expressed by "S is P" can also be identified with the judgement that S exists as P. This, then, would be very close to Bäck's interpretation of Avicenna's view on (affirmative) 'predication.'

However, *maʿānī* do not seem to play a significant role in Bäck's reading. According to my reading, however, *maʿānī* are the "constituents" or "parts" of propositions. The nature of propositions is different from their truth conditions. The truth conditions of a proposition depend, among other things, on

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29   Bäck, "Avicenna on Existence," 352.

its internal structure, the "understood content" of the subject and the predicate, and the ways that *maʿānī* exist. *Maʿānī* exist in different ways and are not necessarily identical with the existing individuals. For example, the *maʿnā* of Zayd may exist by means of the existence of Zayd himself. "Zayd," the name, is not directly and primarily about Zayd himself; rather, "Zayd" is primarily about the *essence* of Zayd as properly signified, which is the *maʿnā* of "Zayd." Thus, I would like to depart from Bäck (and others) in my interpretation of "On this view, then, 'S is P,' as it means 'S is existent as P,' implies 'S is,' that is, 'S exists.'" The ontological commitment of "S is P," for Avicenna, is neither exhausted by the singular expression involved in "S is P" nor by an existential quantifier as a part of the "understood content" of "S." As I read Avicenna, a singular term, or in his language a "particular" expression, expresses a particular *maʿnā* and that is the contribution of the expression to the proposition that the statement containing the expression expresses. Similarly, the existence of the subject in a true affirmative predicative proposition is not based on the "mental existence of the *maʿnā* of the subject in the mind." In what follows, I will try to explain how this picture allows a different reading of Avicenna's view on 'negative propositions.'

9   Simple Negative Predicative Propositions

By "a negative existential" I mean a simple negative existential proposition like (2), not a proposition with a deflected (or metathetic) predicate (see section 10). Avicenna discusses negation and negative propositions in different places.[30] A significant discussion occurs in *The Interpretation*:

> [Text 8] Affirmation (*al-ījāb*) cannot exist/be found (*yūjad*) with negation (*as-salb*); rather, something exists in the [genuine] definition (*al-hadd*) of negation that, if it [that something] were alone, would be affirmation. This is like the case where one says that vision exists in the [genuine] definition of blindness; it does not mean that vision exists in blindness; rather, it means that blindness cannot [genuinely] be defined unless by mentioning (*yuḏkaru*) that it is the nonexistence/lack (*ʿadam*) of vision. Hence the "nonexistence/lack" is put before "vision" and "vision" becomes one of the two parts of the explication (*al-bayān*) [of blindness], even though it is not part (*juzʾan*) of blindness itself (*nafs al-ʿamy*). Likewise,

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30   For some references, see, for instance: Hodges, "Affirmative," 119–34; Jari Kaukua, "Avicenna on Negative Judgement," *Topoi* 39 (2020): 657–66.

> the relation of affirmation is mentioned in the relation of negation in the
> sense that it is removed, not in the sense that it is part of negation nor
> in the sense that it gets existentially entered/inserted (*dākhilun fis-salbi
> wujūdan*) into negation, rather it gets entered/inserted into the [genuine]
> definition of negation.[31]

According to Text 8, it is impossible for affirmation to co-exist with negation.
I relate the first sentence of Text 8 to its last sentence and explain them as fol-
lows: given a specific subject S and a specific predicate P, the affirmation that
S is P is the placement (or production) of the relationship that P *exists for* S,
which under proper conditions is or at least results in the judgement that P
exists for S. The simple negation that S is not P is the removal of that relation-
ship, which under proper conditions, is or at least results in the judgement
that P does not exist for S. The negative judgement, namely the "judgement
that P does not exist for S," does not contain the former judgement, namely
the "judgement that P exists for S." If it did, namely if negation contained
an affirmation, then it would contain another judgement and thus negation
would be a judgement with an embedded judgement. This, however, is not the
case, as Avicenna explains. Negation is not a double judgement. Nonetheless,
counterfactually speaking, if the "particle" of negation (*adāt salb*), i.e., "not,"
were missing in the negative statement, the remaining construction *would be*
an affirmation, but actually it is not. In other words, negation contains some-
thing, that would have been an affirmation, were some other conditions
different, though in fact it is not. Therefore, the mental act of negation does
not contain the mental act of affirmation; one does not need to perform any
act of affirmation to be able to perform an act of negation. For Avicenna,
both affirmation and negation are simple judgements in the sense that they
do not contain any other act of the same kind. This explains why he catego-
rises a simple negative proposition, e.g., the statement "Homer is not seeing"
properly interpreted, as a *ḥamlīyya*, namely as a "predicative" ("attributive" in
Ahmed's translation) proposition.[32] (This may show why an analysis of "a sim-
ple negative proposition" does not *require* an analysis of the "corresponding"
affirmative proposition.) 'Predication,' for Avicenna, includes affirmation and
negation on the same level. In both cases, a judgement is brought about: either
the judgement that predicate *exists for* the subject or the judgement that the
predicate does not *exist for* the subject. This may also explain why Avicenna
(like many other Aristotelians in the commentary tradition on Aristotle's

31   Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-ʿIbāra* [*The Interpretation*], 34.
32   Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-ʿIbāra* [*The Interpretation*], 34.

De interpretatione, e.g., Ammonius) distinguishes between a simple negative proposition and its corresponding "affirmative" one with a negated predicate, or a metathetic term.

10   Simple Negation vs. Metathetic "Negation"

In order to further clarify this distinction, let us consider the following passage:

> [Text 9] [...] the negation is correct[ly applied to] a non-existent subject, but the affirmation, in the case of ambiguous or positive [types of propositions], is correctly applied only to an existent. For it is correct for you to say, "The griffon is not seeing,"[33] but not correct to say, "The griffon is non-seeing."[34]

Here Avicenna is distinguishing between two kinds of negation: simple negative, e.g., "Adam is not seeing," in which negation is working on the copula, namely "is," and deflected affirmative (or affirmative with a deflected predicate, or with a metathetic term), e.g., "Adam is non-seeing," in which negation is part of the predicate and the negated predicate is predicated affirmatively of the subject.[35] Avicenna takes affirmative predication with a deflected predicate to be a kind of affirmative predication. Therefore, by (3)/(4)/(5), it requires the existence of the subject in some sense. Hence, for Avicenna, the statement:

(13)   The griffon is non-seeing.

is now false, since (13) is an affirmative with a deflected predicate and hence requires the existence of the subject. However, in the same sentence Avicenna adds that a statement of:

(14)   The griffon is not seeing.

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33   See note 11 above.

34   Ibn Sīnā, *an-Najāt* (*al-Manṭiq*), in *The Deliverance: Logic*, 22. Ahmed translates "*al-mūjabat al-maʿdūla*" as "affirmative ambiguous" (or "ambiguous" for short). I translate it as "deflected affirmative" or "affirmative with a deflected [predicate]," following a suggestion by Hodges, "Affirmative," 119–20.

35   A negated predicate, e.g., 'non-seeing,' may be construed more generally as a 'deflected predicate' since deflection is not restricted to explicit negation by 'non-'/'not-.'

is now true, given that there is no griffon. This suggests that the truth conditions of a (simple) negative predicative proposition are satisfied when the subject does not exist. Let me explain.

11 The Truth-Conditions of a Negative Proposition

Avicenna distinguishes between the *truth conditions* of a (simple) negative predicative proposition, e.g., "Zayd is not just," and its corresponding metathetic predicative proposition, e.g., "Zayd is unjust," as follows:

> [Text 10] One thing that is bound to cause confusion is that the requirement that the subject of an affirmative metathetic proposition has to be satisfied is not because the expression 'unjust' itself requires this, but because the truth of the {affirmation}requires it [...]. One should know that the distinction between the sentence
>
> (15) X is a non-Y
>
> and the sentence
>
> (16) X is not a Y
>
> is that the simple negative proposition [(16)] is broader than the metathetic affirmative proposition [(15)], in that it is true if [the subject] is [and it is not a Y] and [also if the subject] is taken to be unsatisfied, whereas the affirmative metathetic proposition is not true in this case.[36]

Let us work backwards. The truth conditions of (15), the schema of a (simple) affirmative metathetic proposition, can be formulated as follows:

> (15TC) "X is a non-Y" is true iff (X exists) *and* (X is a non-Y).

Likewise, the truth conditions of (16), the schema of a (simple) negative predicative proposition, can be formulated as follows:

> (16TC) "X is not a Y" is true iff *either* (X does not exist) *or* ((X exists) and (X is not a Y)).

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36 Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-ʿIbāra* [*The Interpretation*], 82. See also Hodges, "Affirmative," 134. Hodges's translation is slightly modified. I have adjusted the sentence numbers in accordance with my list of sentences.

Avicenna explicates the second clause on the right-hand side of (15TC), and that of (16TC), namely (X is a non-Y) and (X is not a Y), by going through the varieties of "opposition." For my purposes, I can overlook this part of Avicenna's analysis, which is not presented in Text 10 either. Let me emphasise two points vis-à-vis (15TC) and (16TC). First, they are not intended to define the *nature* of metathetic or negative propositions; rather, they provide the truth conditions of such propositions in our language. Second, there is no evidence in Text 10 or in its broader context that by "existent" Avicenna intends to cover "mental existence." Thus, in my reconstruction, namely in (15TC) and (16TC), I do not take "exist" to include "mental existence," at least when one does not intend to talk about mental entities by using instances of (15) or (16).

In the first part of Text 10, Avicenna says that "the requirement that the subject of an affirmative metathetic proposition has to be satisfied," namely that it should exist, "is not because the expression 'unjust'," that is, the predicate, "itself requires this." Hence, the existence requirement is not because the predicate is "existence-entailing." On certain metaphysical assumptions, predicates may be divided into "existence-entailing," e.g., "is materially concrete," and "not existence-entailing," e.g., "is merely possible" (given *actualism*, according to which merely possible things do not exist). If the "existence requirement" were due to the existence-entailing nature of the predicate, then the truth conditions of the following statements, and in fact their truth values, would be different:

(17)   The griffin is materially concrete.
(18)   The griffin is merely possible.

However, as I read Avicenna, both (17) and (18) are false. In Text 10, he explains the "existence requirement" by reference to the "truth of the affirmation": "because the affirmation requires that to be true" (my translation). Note that in a true affirmative predicative proposition, the mental existence of what the subject signifies does not normally contribute to the truth conditions of the proposition. The truth of:

(19)   The sun is materially concrete.

does not require the mental existence of what "the sun" signifies. One might take this to suggest that the "existence" in "X exists" in (15TC) and in "X does not exist" in (16TC), exclusively means "existence *in re*," or existence in the external world. This is not my interpretation either (see below). I take Avicenna to distinguish between the truth conditions of a proposition and its nature. The

"existence requirement" that appears in the truth conditions of an affirmative proposition is based on the *truth requirement* of the *affirmative form* of the proposition but is not constitutive of the nature of the proposition.

12   The Nature of a Negative Proposition

If what I have said so far is on the right track, we may represent the propositions expressed by:

(1)   Homer exists.
(2)   Homer does not exist.

as synthesised objects containing some *maʿānī*. Thus, the proposition expressed by (1) has the *maʿnā* HOMER signified by "Homer" (which can, metaphysically speaking, exist by the existence of a phantasm/imagination) and the *maʿnā* EXISTENCE signified by "exists," as its parts and is unified by the mental act of affirmation. Let us represent this proposition by:

(1p)   -affirming-<HOMER, EXISTENCE>.

Likewise, the proposition expressed by (2) has the *maʿnā* HOMER and the *maʿnā* EXISTENCE as its parts and is unified by the mental act of negation. Let us represent this proposition by:

(2p)   -negating-<HOMER, EXISTENCE>.

Recall that negation is a judgement that does not contain an affirmation. (1p) and (2p) have the same parts, namely the *maʿnā* HOMER and the *maʿnā* EXISTENCE, with different integrating relations, namely *affirming* and *negating*.

These *maʿānī* may be accessed by being imprinted in the mind. I will use boldfaced small-caps to refer to *maʿānī* as imprinted in the mind. Hence the *maʿnā* of "Homer" as imprinted in the mind, namely **HOMER**, *naturally* signifies the *maʿnā* of "Homer" itself, namely HOMER. The latter is the *essence* of Homer, the person, as properly signified by the mind. HOMER, i.e., the *maʿnā* of "Homer," is the *significandum/significatum* of "Homer," the name. The propositions represented by (1p) and (2p) may be conceived by the mind. In this case, their parts are the corresponding *maʿānī* as imprinted in the mind. These conceived propositions may be represented, correspondingly, by:

(1p–mind)   -affirming–<**HOMER, EXISTENCE**>.
(2p–mind)   -negating–<**HOMER, EXISTENCE**>.

Avicenna's explanation of the nature of propositions expressed by (1) and (2) may raise the issues of "change of subject-matter" (I_1) and the issue of "change of truth-value" (I_2). Recall (I_1): if the subject of (1) is the *ma'nā* HOMER, and the subject of predication is the subject-matter of the statement, then the subject-matter of the statement is what exists in the mind. (One, however, may note that the *ma'nā* of "Homer" is not absolutely identical with the *ma'nā* of "Homer" as imprinted in the mind.) Recall (I_2): if the subject of (1) is the *ma'nā* HOMER and this *ma'nā* exists in some sense, in fact if it exists in the mind, then it is true that Homer exists. However, intuitively, a statement of (1) is false. I will return to these issues in section 16 below.

13   Future, Past, and Ways of Informing

Avicenna has a distinction between two ways/modes of informing (*ikhbār*): "in truth" or "primarily" vs. "accidentally" or "secondarily":

> [Text 11] The [people] have fallen into [the error] that they have because of their ignorance [of the fact] that giving information {(*al-ikhbār*)} is about {*ma'ānin*} that have an existence in the soul – even if these are non-existent in external things {(*al-a'yān*)} – where the meaning {(*ma'nā*)} of giving information about {*ma'ānī*} is that they have some relation to external things. Thus, for example, if you said, "The resurrection will be," you would have understood "resurrection" and would have understood "will be." You would have predicated "will be," which is in the soul, of "resurrection," which is in the soul, in [the sense] that it would be correct for this {*ma'nā*}, with respect to another {*ma'nā*} also intellectually apprehended {namely, *in a future time*, intellectually apprehended} to be characterised by a third {*ma'nā*}, {namely, *existence*, intellectually apprehended}. This [pattern of reasoning] applies correspondingly to matters relating to the past. It is thus clear that that about which information is given {(*al-mukhbaru 'anh*)} must have some sort of existence in the soul. Information, in truth, is about what exists in the soul and [only] accidentally about what exists externally.[37]

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37   Ibn Sīnā, *Aš-Šifā', al-Ilāhiyyāt*, ed. and trans. M. E. Marmura, in *The Metaphysics of the Healing* (Provo, UT: Brigham Young University Press, 2005), 26–27, slightly revised. All emphases are mine.

Consider:

(20) The resurrection will be.[38]

In Text 11, Avicenna attempts to argue that (20) has a true reading. One may reconstruct the argument as follows: (20) is a shorthand for

(21) The resurrection will be existent.

The nature of the proposition expressed by (21) can be represented by:

(21p) -affirming-<RESURRECTION, IN A FUTURE TIME, EXISTENCE>.[39]

All the three *ma'ānī* that are parts of (21p) are intelligible (note that *ma'ānī* have different epistemological profiles: some are intelligible, some are imaginable, and some are sensible).[40] Each can be conceived or understood by the human soul and thus be imprinted therein. Let us represent the proposition expressed by (21) as conceived by the mind by:

(21p–mind) -affirming-<RESURRECTION, IN A FUTURE TIME, EXISTENCE>.

(RESURRECTION, IN A FUTURE TIME, EXISTENCE represent the *ma'ānī* of the corresponding expressions as imprinted in the mind.) All parts of (21p-mind) are proper "objects" of the intellect. But this may not necessarily be so; there may be propositions whose parts, when conceived, are "imaginable" *ma'ānī* (for instance, see below). The truth conditions of (21), then, may be represented by:

(21/TC) "The resurrection will be existent" is true iff there is a time *t* in the future such that in *t*, "The resurrection exists" is true.

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38   Why Avicenna chooses this example is not clear. One possibility is that he is trying to avoid the problems associated with Aristotle's "sea battle." Hence, he uses an example, the truth of which is (supposed to be) known. In the Latin tradition, such an example can be "The antichrist will be," though the same resurrection-example would work as well. It should be noted, however, that it is not clear if "the resurrection" is a particular *ma'nā* for Avicenna because its individuation in the future is not well explained.

39   In my construal, "affirming" or "negating" may take more than two *ma'nā*.

40   Mousavian, "Avicenna on the Semantics of Ma'nā," 131–33.

(21/TC) provides the truth conditions of (21) in two steps: first, it extracts the temporal operator from "will be" and gives it the widest scope on the right-hand side of (21/TC); and second, it supplies the truth conditions of the tense-less version of (21), namely "The resurrection exists," within the scope of the future temporal operator. In Text 11, Avicenna analyses (20) as follows: "You would have predicated *will be*, which is in the soul, of *resurrection*, which is in the soul." He then explains this sense of predication as "it would be correct for this {*ma'nā*}," namely RESURRECTION, "*with respect to* another {*ma'nā*}" or more literally, "in another *ma'nā*," namely IN A FUTURE TIME, "to be characterised by a third {*ma'nā*}," namely EXISTENCE.[41] I read "with respect to" as follows: with respect to the *ma'nā* IN A FUTURE TIME, it would be correct for the *ma'nā* RESURRECTION to be characterised by the *ma'nā* EXISTENCE. In other words, I take the *ma'nā* IN A FUTURE TIME to have the widest scope.[42] Avicenna accesses *ma'ānī* through their existence in the mind, namely through the corresponding 'understood contents.' This is perfectly fine as long as one does not identify the *ma'nā* as imprinted in the mind with the *ma'nā* itself. *Ma'ānī* are theoretical entities that need to be accessed via some means. They may be accessed via 'understood contents,' through mind, in the sense that I introduced above: the understood content HOMER naturally signifies the *ma'nā* HOMER. They may be accessed via 'expressions,' through language: the expression "Homer" signifies the *ma'nā* HOMER. And they may be accessed via 'objects,' or 'individuals,' through existence: Homer, the individual, is the one by means of which the *ma'nā* HOMER exists *in re*. Hence, pointing to Homer, provides a means of accessing the *ma'nā* HOMER.

Avicenna explains the truth conditions of (21) by appealing to what it expresses, namely (21p), and explains the truth conditions of (21p) by using its proxy in the mind, namely (21p-mind). The result may be represented by:

(21p–mind/TC) -affirming-<RESURRECTION, IN A FUTURE TIME, EXISTENCE> is true iff with respect to the *ma'nā* IN A FUTURE TIME (as imprinted in the mind), the *ma'nā* EXISTENCE (as imprinted in the mind), is true of the *ma'nā* RESURRECTION (as imprinted in the mind).

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41   My reading of this part of the text is perhaps significantly different from Marmura's; particularly, it is not clear to me if Marmura took "in a future time" as an intelligible *ma'nā* in which it is true that resurrection exists.

42   I should add that this interpretation is not the only one that is consistent with Text 11.

(21p-mind/TC) can be taken as the ground for the truth conditions of the statement itself, namely (21/TC). Admittedly, without clarifying Avicenna's temporal logic, his notion of "scope," if he has one, and the relationship between the notion of "is true" as applied to statements and "is true of" as a relation between *ma'ānī*, the above interpretation cannot be substantiated. I leave these for another occasion as some open problems that my interpretation faces.

Immediately Avicenna adds that "This [pattern of reasoning] applies correspondingly to matters relating to the past." We may find further witness here:

> [Text 12] And after all this, we have certainly learned from them that nothing is predicated of the nonexistent. And we know that when we say that Homer was a poet, it is not right in the sense that Homer *is* something described as "was a poet"; rather [it is right in the sense that] the phantasm/imagination (*al-khayāl*) which is from/of Homer with the attribution/description that it is a phantasm imagined of Homer can be truly connected to the *ma'nā was a poet*, namely, it [i.e., the phantasm of Homer] is an existent phantasm with an attribution such that when it is connected to/juxtaposed with (*qarina*) the phantasm *in a past time* and it is connected to the *ma'nā a poet*, then it is true of it.[43]

Text 12 is a complex and difficult passage. Consider these two sentences:

(22) Homer is a poet.
(23) Homer was a poet.

According to Avicenna, when Homer no longer exists, (22) has no true reading in normal contexts. Nonetheless, (23) has a true reading. The proposition expressed by (22) may be represented by:

(22p) -affirming-<HOMER, A POET>.

(22p) may be conceived by the mind and be represented by:

(22p–mind) -affirming-<HOMER, A POET>.

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43   Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-ʿIbāra* [*The Interpretation*], 109. In the last sentence of Text 12, I use "the *ma'nā a poet*" for *ma'nā aš-šāʿir*. "In a past time," may more literally be translated as "in the past time." I suppose that both expressions imply the existence of at least some time in the past.

And the truth conditions of (22) may be given by:

(22/TC)   "Homer is a poet" is true iff (Homer exists) *and* (Homer is a
           poet).

(22) is false, since "exists" in the righthand side of (22/TC) means "exist *in re*"
and Homer does not exist *in re*, or assume so.

The proposition expressed by (23) may be represented by:

(23p)   -affirming-<HOMER, IN A PAST TIME, A POET>.

And this proposition as conceived by the mind may be represented by:

(23p–mind)   -affirming-<**HOMER, IN A PAST TIME, A POET**>.

The proposition as conceived by the mind can be explained as a synthesised
object made of two phantasms, i.e., the phantasm of "Homer," and the phan-
tasm of "in a past time,"[44] and one intelligible *ma'nā*, the *ma'nā* of "a poet" as
imprinted in the mind, all unified by an act of affirmation.

Thus, the truth conditions of (23) may be given by:

(23/TC)   "Homer was a poet" is true iff there is a time *t* in the past such
           that in *t*, "Homer is a poet" is true.

Avicenna reconstructs the truth conditions of (23), in parallel with that of (21),
by appealing to what it expresses, namely (23p), and explains the truth condi-
tions of (23p) by using its proxy in the mind, namely (23p-mind). The result
may be represented by:

(23p-mind/TC)   -affirming-<**HOMER, IN A PAST TIME, A POET**> is
                 true iff with respect to the *ma'nā* **IN A PAST TIME**
                 (as imprinted in the mind), the *ma'nā* **A POET** (as
                 imprinted in the mind) is true of the *ma'nā* **HOMER** (as
                 imprinted in the mind).

The distinction between the nature of a proposition and its truth conditions
may further be supported by what Avicenna says at the end of Text 11: "It is

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44   Here I assume that expressions can be associated with phantasms just as they can be
      associated with intelligible *ma'ānī*.

thus clear that that about which information is given {(*al-mukhbaru ʿanh*)} must have some sort of existence in the soul. Information, in truth, is about what exists in the soul and [only] accidentally about what exists externally." I construe this as follows: a statement of the form "S is a P" primarily, or "in truth," informs one about the *maʿnā* of S and the *maʿnā* of P as imprinted in the soul. These *maʿānī* as understood are parts of the proposition as conceived. The statement accidentally or secondarily informs one about that by means of which each of these *maʿānī* exists, namely the existing objects or individuals. Thus, for example, the statement of (21):

(21)   The resurrection will be existent

primarily informs one about the *maʿnā* of "resurrection" as it exists in the mind, namely RESURRECTION, which is a part of (21p-mind), and accidentally informs (one) about the resurrection itself as an event that will exist in the external world. The resurrection itself is that in virtue of which the *maʿnā* RESURRECTION will exist *in re*. Thus, what a statement accidentally informs one about does not directly figure in the nature of the proposition expressed by the statement. Let me summarise the distinction between these two ways of informing as follows:

Primarily informing:

What-the-expression-primarily-informs-one-about = the *maʿnā* as imprinted in the mind = what contributes to the nature of the proposition as conceived.

Accidentally informing:

What-the-expression-accidentally-informs-one-about = the object/ individual as existing in the external world[45] = what contributes to the truth-conditions of the proposition.[46]

Before I return to the original problems and issues I started with, let me quickly explain where I depart from Bäck's interpretation.

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45   The object/individual is what in virtue of which the corresponding *maʿnā* exists *in re*.
46   Given that the statement is *intended* to be about the object/individual.

14   On Bäck (1987)

Though I have sympathy with Bäck's interpretation of Avicenna's view on predication, I disagree with him on his analysis of a sentence like (22) or (23). Commenting on Text 12, Bäck writes:

> 'Homer is a poet' is false, since Homer is not a thing, i.e., since the individual, Homer, does not exist *in re*. However, Ibn Sina says, there is a way to understand 'Homer is a poet' to be true. On this reading, the subject term, 'Homer,' refers to an existent phantasm […]. Note that the phantasm itself exists now, in the mind, and so there is a way to talk of Homer at present and still satisfy Ibn Sina's existence condition. Further, the phantasm Homer has certain properties, such as being a poet; more precisely, it has the property of having been a poet. Ibn Sina notes this more precise sense when he says that the phantasm of past time is connected to Homer.[47]

This formulation of what Text 12 says or implies is, at best, misleading. In all normal contexts, that is not within the context of story-telling, reductio argument, belief report, or the like, and as far as what (22), i.e., "Homer is a poet," expresses is at stake, (22) is false for Avicenna. Avicenna does not say, in Text 12, that there is a way to understand "Homer is a poet" as true. Rather, he says that (23), i.e., "Homer was a poet," is true (and it is not the case that (23) has a false reading).[48] Nor is it the case that the mental existence of the phantasm of Homer satisfies Avicenna's existence condition. Neither in (22p) nor in (23p) does the mental existence of the phantasm of Homer satisfy the existence requirement for the truth conditions of those propositions. The phantasm of Homer, which exists in the mind, explains the nature of the propositions expressed by (22) or by (23) and inasmuch as it exists in the mind it does not contribute to the truth conditions of (22) or (23). Recall that what "Homer" primarily informs one about is part of the proposition conceived from the utterance of the sentence that contains "Homer," and does not contribute to the truth conditions of that proposition. The existence requirement is not satisfied for (22) and thus it is not true. As with (23), what explains its truth is its tense, represented by "was," namely the *maʿnā* IN A PAST TIME (as imprinted in the mind) and the interaction of that *maʿnā* with the phantasm/imagination of Homer, namely HOMER, and the *maʿnā* A POET (as imprinted in the mind). According to Avicenna, the phantasm/imagination of Homer, not with

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47   Bäck, "Avicenna on Existence," 359.
48   Again, it is presupposed that Homer was a real historical person.

the attribution/description that it exists in the mind or has mental existence but rather with the attribution/description that it is a phantasm imagined *of* Homer, contributes to the explanation of the truth of (23). This being of Homer gives the *ma'nā* HOMER the primary role in explaining the aboutness of (23). The phantasm/imagination **HOMER**, which is the same *ma'nā* as HOMER the *significandum*, and thus is *of* Homer the individual, in the imagination, more specifically in the *ma'nā* IN A PAST TIME in the imagination (which can logically be interpreted as being in the scope of in-a-past-time operator), was a poet. Therefore, I do not take Avicenna as saying that "the phantasm Homer has certain properties, such as being a poet; more precisely, it has the property of having been a poet."[49] The phantasm of Homer does not have the property of "being a poet" or "having been a poet." In fact, according to Avicenna, no phantasm is a poet or has been a poet.

Let us return to Text 1 and Avicenna's claim that "the simurg is existent in the estimation/imagination" is not a counterexample to the Predication Principle, namely that nothing can be predicated of a nonexistent. I suggested that Avicenna denies the truth of:

(10) The simurg is existent *in re* in the estimation/imagination.

Now, this can be explained as follows: The simurg is nothing and thus is not described as "existent *in re* in the estimation/imagination." That we can imagine the simurg, should rather be reported as:

(24) The simurg in the estimation/imagination exists.

(24) expresses a proposition that can be represented by:

(24p) -affirming-<SIMURG, IN THE IMAGINATION, EXISTENCE>.[50]

(24p) as conceived by the mind can be represented by:

(24p-mind) -affirming-<**SIMURG, IN THE IMAGINATION, EXISTENCE**>.

(24p-mind) can be explicated as follows: the phantasm of the simurg is such that in the *ma'nā* of "imagination," it is true to describe it as existent. The truth conditions of (24p-mind) can be formulated as follows:

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49   Bäck, "Avicenna on Existence," 359.
50   I drop the article "the" in representing the *ma'nā* SIMURG for simplicity.

(24p-mind/TC)   -affirming-<SIMURG, IN THE IMAGINATION, EXIS-
                 TENCE> is true iff with respect to the *ma'nā* IN THE
                 IMAGINATION (as imprinted in the mind), the *ma'nā*
                 EXISTENCE (as imprinted in the mind) is true of the
                 ma'nā SIMURG (as imprinted in the mind).

Accordingly, the truth conditions of (24) can be formulated as follows:

(24/TC)   "The simurg in the estimation/imagination exists" is true iff
           there is an imagination *I* such that in *I*, "The simurg exists" is
           true.

Note that there is a subtle difference between the *ma'nā* SIMURG (as imprinted
in the mind) and the *ma'nā* HOMER (as imprinted in the mind). Homer has
an essence and his *ma'nā* is its essence taken as performing specific semantic
roles. However, for Avicenna, the simurg, has no essence and its existence is
impossible. Thus, the *ma'nā* SIMURG, cannot be explained by the essence of
the simurg. Nor is it unified/united in the way that the *ma'nā* HOMER is; the
ma'nā SIMURG is not even a single *ma'nā*, properly speaking. So, I need to
use a different notation to talk about it, though for simplicity I will overlook
this subtlety here.[51] The basic idea behind Avicenna's argument, however, is
that there is no well-defined predicate such as "existent *in re* in the estimation/
imagination" that the simurg has. What Avicenna does here with a phantasm
in the imagination to explain the truth of some past tense statements, in prin-
ciple, is the same as what he does to explain the truth of some statements in
the context of a *reductio*.

15   The Context of a *reductio*

Consider:

(25)   The void has dimensions.

According to Avicenna's metaphysics, the void does not exist and necessarily
so. In fact, Avicenna on various occasions provides *reductio ad absurdum* argu-
ments for the impossibility of the void. In the context of such an argument,
beginning from the to-be-refuted assumption that the void exists, Avicenna

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51   See Mousavian, "On the Letter on the Unreal Forms" (manuscript).

needs to grant a premise like (25) for the sake of argument. The immediate question is how to explain what (25) expresses and the assumption of its "truth" in the context of a *reductio*. Here is Avicenna's reply:

> [Text 13] However, [concerning] the things that have no existence in any sense/way, the meaning of the proof sometimes used with regard to them, when it is the case that the mind makes a judgement about them such that they are such and such, is that if they were existent, their existence in the mind (*wujūduhā fī ḏ-ḏihn*) would be such and such, as [when] one says: "the void has dimensions."[52]

The proposition that (25) expresses is a synthesised object that can have a phantasm/imagination of "the void" and the *maʿnā* of "dimensions" as its parts.[53] Let us suppose that there is some form of *maʿnā*, a phantasm perhaps, that the "void" primarily informs one about and is a part of the proposition that (25) expresses. In the context of a reductio, however, if (25) is true, it is true in a *counterfactual* sense: if there were a void, its existence, in the mind, which I take to mean "in the imagination," would be such and such, namely it would have "dimensions."[54]

16   Back to the Problems

Now let me explain how my interpretation may handle the problems and issues that the standard reading faces. Recall:

(1)   Homer exists.
(2)   Homer does not exist.

The first problem (P1), in a nutshell, was this: if there is no Homer, there is no predication and thus (1)/(2) expresses no proposition. The standard reading of Avicenna tries to solve this problem by appeal to the mental existence of Homer. According to my reading, however, both (1) and (2) express propositions

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52   Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-ʿIbāra* [*The Interpretation*], 80–81.
53   Avicenna says elsewhere that the expression "void" in itself has no signification and it is only "relationally" conceivable (Ibn Sīnā, *aš-Šifāʾ, al-Manṭiq, al-Burhān* [*The Demonstration*], 72). In "On the Letter on the Unreal Forms" I have tried to explain this point.
54   For the logical aspects of Avicenna's treatment of reductio ad absurdum, see Wilfrid Hodges, "Ibn Sīnā on Reductio ad absurdum," *The Review of Symbolic Logic* 10:3 (2017): 583–602.

that have the *ma'nā* of "Homer" and that of "existence" as their parts. These propositions can respectively be represented by:

(1p)   -affirming-<HOMER, EXISTENCE>.
(2p)   -negating-<HOMER, EXISTENCE>.

Note that the *ma'nā* of "Homer" is not necessarily a mental entity; rather, it is a semantic entity, the *significatum* of "Homer," which can be explained in terms of the *essence* of Homer the individual, brought into a network of proper signification relations. The essence of Homer is an *individual* essence, it comes into existence with the existence of Homer the individual, but it does not necessarily cease to exist, as a semantic entity, by the death of Homer. The above propositions can be conceived and, thus, represented by:

(1p-mind)   -affirming-<**HOMER, EXISTENCE**>.
(2p-mind)   -negating-<**HOMER, EXISTENCE**>.

Thus, there is no problem as (P1) for my proposed reading.

The standard reading leads to the issue of the change of subject-matter (I_1). The issue was this: if the subject of predication in (1)/(2) is a mental entity, then one who sincerely assents to (1) should mean to assent to the existence of a mental entity. But, intuitively, this is not the case. According to my reading, in contrast, there is no change of subject-matter. The subject-matter of both propositions is the *ma'nā* of "Homer", i.e., HOMER. The mental aspect enters the picture when one wants to explain the *conceivability* of these propositions. This may further be explained by appeal to different ways of informing. What "Homer" primarily informs one about and contributes to the nature of the proposition expressed by (1) or (2) *as conceived*, in normal contexts, is the *ma'nā* of "Homer" as imprinted in the mind, i.e., **HOMER**, but not with the attribution that it is imprinted in the mind. **HOMER** is the mental means to access the *ma'nā* of "Homer," namely HOMER. Therefore, in both cases, namely (1) and (2), the subject-matter is the *ma'nā* HOMER. Homer the individual does not figure in the nature of proposition (1p) or (2p).

The second problem (P2), in a nutshell, was this: if (1)/(2) expresses no proposition, then, given that propositions are truth-value bearers, (1)/(2) has no truth-value. The standard reading tries to solve this problem by reinterpreting the Predication Principle, namely (3), as the Affirmation Principle, namely (4). My reading, however, systematically distinguishes between the nature of propositions and their truth conditions. Accordingly, both (1) and (2) express

propositions and both have truth conditions. Therefore, there are truth-value bearers in both cases, and each proposition finds its appropriate truth-value based on its associated truth-conditions.

Finally, the standard reading faces the change of truth-value issue (I_2). The issue, in a nutshell, was this: if the subject-matter of a statement of (1) exists in some sense, that is by having mental existence, and this suffices to satisfy the existence requirement for the Predication Principle, then (1) should be true. But, intuitively, this is not the case. According to my reading, in contrast, there is a distinction between what "Homer" contributes to the nature of a proposition expressed by a sentence containing it and what "Homer" contributes to the truth-conditions of such a proposition. In normal contexts, what "Homer" accidentally informs one about or what in virtue of which the *ma'nā* HOMER exists *in re* is nothing because there is no Homer. Therefore, what "Homer" contributes to the *truth conditions* of the proposition expressed by (1) or (2), namely (1p) or (2p), is nothing. For this reason, (1) is false, and (2) is true (see section 11 above, on truth conditions). The *ma'nā* of "Homer," as it exists in the mind in (1p-mind) and in (2p-mind) plays no role in the truth conditions of (1) or (2).

17 Open Questions

My interpretation is surrounded by many questions. Some questions pertain to the nature of *ma'ānī* and their functions. How are *ma'ānī* individuated? Are they mind-independent entities? How do they relate to the corresponding individuals? Some other questions pertain to propositions. How may one explain the relationship between propositions and their truth conditions? Why are individuals so loosely connected to the propositions about them? How can propositions be so simply and "directly" conceived?

First, I should mention that I am not trying to give a "true" Avicennan account of the semantics of so-called "empty names" and sentences containing them here; rather, I attempted to tell a charitable, consistent, and detailed story about some aspects of Avicenna's view on this matter. My story is an incomplete reconstruction; nonetheless, I attempted to make it clear how my interpretation relates to Avicenna's texts. Second, I have some suggestions on how to approach the above questions; but I cannot answer them now.

If something has an essence, its *ma'nā* is individuated by its essence performing a set of semantic and epistemic roles. And if there is no essence for something, either there is no *ma'nā* for it or its *ma'nā* is individuated by a

combination of other *maʿānī* performing a set of semantic and epistemic roles. Some *maʿānī* are mind-independent and some are not; *maʿānī* are first and foremost identified by their semantic and epistemic roles, not their ontological profile. If an individual exists, its *maʿnā* exists by means of the existence of that individual. However, if the individual ceases to exist, its *maʿnā* yet may continue to exist through a different medium, as it were. Nonetheless, *maʿānī* are not necessarily eternal entities. Some *maʿānī*, e.g., sensible *maʿānī*, can perish. Propositions as conceived are related to their truth conditions through *maʿānī*. Individuals are, in a sense, "loosely" connected to the propositions about them because the individuals do not get into the nature of the propositions about them. Nonetheless, the propositions are closely enough connected to the individuals because the *maʿnā* of an individual, which is part of the proposition about it, is "particular" in the sense that it is not possible for the *maʿnā* to pick out any other individual. Moreover, for Avicenna as an Aristotelian, "singular propositions" (in our language) do not occupy a central stage in "logic" (as he conceived of it) because they are peripheral in scientific inquiry. A singular proposition is scientifically important only if it is conceived in a *universal* way. For Avicenna's conception of "knowledge," the essences matter and normally they are semantically accessible via *maʿānī*. That most propositions can simply and "directly" be conceived may be explained in different ways. One proposal may be that a form of epistemic optimism prevails in Avicenna's epistemology. Accordingly, essences are easily epistemically accessible as well. Another proposal, in a different direction, may be that semantic accessibility does not guarantee epistemic accessibility. Accordingly, conceiving a proposition may not imply conceiving the metaphysical essences of the parts of the proposition, as conceived.

The above suggestions may fail and my reading may remain surrounded by the above open questions, among others. However, I hope this study raises some interest in doing more thorough studies of Avicenna's view on *maʿnā* that can shed new light on Avicenna's philosophy of language, logic, and mind, which, to my eyes, have not yet received the attention, care, and effort they deserve.

Acknowledgements

Abstraction and Intellection of Essences in the Latin Tradition

Ana María Mora-Márquez

1 Introduction: The Medieval Integration Challenge for Intellection

The aim of this chapter is to present three medieval accounts of concept formation that emerge in the context of commentaries on the relevant passages in Aristotle's corpus.[1] The chapter focuses especially on two distinct operations that are crucial to concept formation in the post-Alexandrian Aristotelian tradition, namely, abstraction and intellection.[2] I will also use a slightly modified version of a recent philosophical test – the integration challenge – as a tool to reveal the complex interaction of metaphysics of the mind and cognitive psychology in the medieval accounts under discussion.

Many medieval authors[3] included a causal link between material things and sensory organs in their explanation of perception.[4] Take, for instance, the case of vision. The standard account would go like this: under the action of light, a thing's colour produces a species of itself in a medium, the transparent; the species reproduces itself until it reaches the organ of vision, the eye, where it causes the vision of the colour.[5] Regarding the cognition of essences, however, there is not an all-encompassing or standard medieval account, for even within the same tradition (for instance, the tradition of thirteenth-century Parisian commentaries on Aristotle's *De anima*) there are substantial differences from

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1 For the continuation of this medieval tradition in the 14th century, see chapter six below. For the relevant passages in Aristotle, see the introduction to this volume, sections one and two.

2 For details of the Aristotelian tradition in late antiquity, see chapter one.

3 I here discuss medieval authors working at an already-established medieval university in the thirteenth century. Scotism, Ockhamism, and Buridanism dramatically change the medieval landscape, but I will not consider that part of the medieval tradition in this chapter.

4 Some exceptions are Robert Kilwardby and Peter John Olivi; for their views, see José Filipe Silva, *Robert Kilwardby on the Human Soul: Plurality of Forms and Censorship in the 13th Century* (Leiden: Brill, 2012); and Juhana Toivanen, *Perception and the Internal Senses: Peter John Olivi on the Cognitive Functions of the Sensitive Soul* (Leiden: Brill, 2013).

5 See, e.g., the account in Albert the Great, *De anima*, ed. C. Stroick (Münster: Aschendorff, 1968), l. 2, tr. 3, cap. 8, 108–10.

one author to another. In fact, in the cognition of essences the reliance on a causal link is problematic because external things are material and the intellect and its acts are immaterial, and most authors from the period would argue that the material cannot act on the immaterial. I submit that the metaphysical incompatibility between the immaterial intellect and the material world brings about a medieval case of today's 'Integration Challenge.'[6]

The Integration Challenge is the challenge that some contemporary epistemologies face because they are either incompatible with the metaphysics that underpin them or non-explanatory altogether in that they contain an explanatory gap. For instance, they may posit a cognitive mechanism, say, intuition of abstract facts, but fail to provide a plausible link between intuition and abstract facts.[7] The typical example of an integration challenge is the dilemma put forward by Paul Benacerraf regarding an epistemology of mathematical facts based on causal cognition and mathematical Platonism. There is, according to Benacerraf, a plain and significant inconsistency between a metaphysics of mind-independent, causally inert, and abstract mathematical facts and an epistemology based on causation.[8] The Integration Challenge was later generalised by Christopher Peacocke, who describes it as: "[…] the general task of providing, for a given area, a simultaneously acceptable metaphysics and epistemology, and showing them to be so."[9] So, not only the epistemology and the metaphysics must be compatible, but one must also show *that* they are compatible by means of a plausible and positive link. A particular case today is the epistemology of essences, which some scholars place under the area of modal epistemology.[10]

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6   The challenge started to gain notoriety since it was formulated in Christopher Peacocke, *Being Known* (Oxford: Clarendon Press, 1999).

7   For an account of intuition of abstracta that attempts to meet the integration challenge, see John Bengson, "Grasping the Third Realm," *Oxford Studies in Epistemology* 5 (2015): 12–38.

8   Paul Benacerraf, "Mathematical Truth," *Journal of Philosophy* 70 (1973): 661–79.

9   Peacocke, *Being Known*, 1. See also Sonia Roca-Royes, "Modal Epistemology, Modal Concepts and the Integration Challenge," *Dialectica* 64 (2010): 335–61; and Ylwa Sjölin Wirling, *Modal Empiricism Made Difficult: An Essay in the Meta-Epistemology of Modality* (Gothenburg: Acta universitatis Gothoburgensis, 2019), 27–66.

10   Followers of the Kripke-Putnam tradition take the epistemology of essences to be a special case of modal epistemology, but not everybody does. Fine and Lowe, for instance, take an opposing view. See Tuomas Tahko, "The Epistemology of Essence," in *Ontology, Modality, Mind: Themes from the Metaphysics of E. J. Lowe*, ed. A. Carruth, S. C. Gibb, and J. Heil (Oxford: Oxford University Press, 2018), 93–110. For the integration challenge in modal epistemology, see Roca-Royes, "Modal Epistemology," 335–61.

Essences are, in fact, at the centre of the medieval discussions with which this chapter is concerned. The medieval epistemology of essences is fundamentally based on what medieval scholars called the first act of the intellect, that is, the intellectual apprehension of essences, or 'intellection.' I propose we understand the various accounts of intellection found in some medieval commentaries on Aristotle's *De anima* as different ways to go about solving 'The Medieval Integration Challenge for Intellection.' Medieval accounts of intellection are mostly concerned with the intellectual apprehension of the essence *human*, which among the followers of the Aristotelian tradition is normally understood as the unitary form that makes some concrete thing be a human. In other words, a material essence is not just a bundle of essential properties, but rather the mind-independent formal unity x that makes some material thing be an instantiation of x. The medieval challenge consists in accounting for intellection in terms that are positively explanatory and compatible with a given metaphysics of essences so as to make intellection a good basis for knowledge about them. For instance, a suitable account of intellection will make the intellection of the human essence a good basis for the truth of, say, the thought that humans are animals in that it will provide a criterion to demarcate knowledge of this truth from cases of epistemic luck.

I take it as uncontroversial that the medieval authors here considered take essences to be mind-independent (they are all realists about essences) and immaterial (essences are forms as opposed to matter). While I will refer to 'material' essences, I do not mean that the essences themselves are material but rather that they are forms of material things. For the authors considered in this chapter, material essences are causally inert as regards intellection. There is a minimal sense in which material essences have causal power though: they are forms, and hence are also formal causes. However, they cannot by themselves act efficiently *upon the intellect* – they cannot by themselves be what sets intellection in motion. Moreover, for the Aristotelian scholars here considered, intellection is understood as a sort of affection. A conundrum clearly emerges: How is the causally inefficacious material essence related to passive intellection so as to make the latter a good basis for non-accidental knowledge about that essence? The Medieval Integration Challenge for Intellection (henceforth MICI) can, then, be formulated as follows:

> MICI: The challenge of accounting for intellection by means of a (a) non-cognitive/non-epistemic, (b) plausible, and (c) positive link between intellection and essence, which (d) makes intellection a good basis for non-accidental knowledge about essences.

The link needs to meet the conditions (a) to (d) for the account to be explanatory as regards an epistemology of essences, that is, as regards the possibility of accounting for knowledge about essences. The link must be (a) non-cognitive/non-epistemic so that the challenge is not pushed to another cognitive/epistemic relation for which one would need to solve the challenge again. It must be (b) plausible, that is, able to obtain between essences and intellection (for instance, causation is an implausible link if one takes essences not to act causally upon the intellect). It must be (c) positive,[11] that is, it is not enough to show that essences and the intellect are not incompatible, as this would still leave an explanatory gap in the account as regards (d). Finally, (d) it must make intellection a good basis for non-accidental knowledge in that it must provide a criterion, based on the intellection of an essence *x*, for demarcating accidental knowledge that *x* is *p* from non-accidental knowledge that *x* is *p*.

For the sake of brevity, I will analyse the accounts of intellection in commentaries on Aristotle's *De anima* by thirteenth-century scholars. I will focus here on three scholars, belonging to the Parisian tradition of commentaries on the *De anima*, who are representative of three notoriously different accounts of intellection: Albert the Great, Siger of Brabant, and Radulphus Brito.[12] I will try to determine how each scholar deals with MICI. My aim is not so much to assess the philosophical quality of their accounts of intellection, but rather to make the subtle but significant differences between them stand out. Before I turn to the accounts in question, I will provide some background information about the relevant passages from Aristotle's *De anima* and some psychological tenets these authors all accept.

2 Aristotle's *De anima*

Aristotle begins *De anima* 3.4[13] by outlining his agenda for the following parts (chapters 4–8) of his enquiry on the soul, where he raises the question concerning the intellectual part of the soul (*ho noûs*) and its operation, intellection (*tò*

11　For 'positive,' see Sjölin Wirling, *Modal Empiricism*, 36–50.

12　These three authors can be considered medieval proponents of the concept empiricism studied in chapter seven below, although it is questionable whether Albert the Great's commitment to innate first principles threatens his consideration of as a concept empiricist.

13　I will explain Aristotle's account only briefly; a more detailed description can be found in the introduction to this volume, section one.

noeîn).[14] He goes on to introduce a set of features that this part of the soul must have in order for intellection to come about. First, the intellect must be unaffected (*apathés*) yet susceptible of forms (*dektikòn toû eídous*). Second, it must be unmixed (*amigḗs*). Third, since its cognitive capacity is universal – it can understand all that is – the intellect must be undetermined, having no other nature than to be potential (*mēď autoû eînai phýsin mēdemían all'ḗ taútēn, hóti dynatón*). Finally, it must be disconnected from the body, that is, it must be separate (*chōristós*).[15]

At the end of chapter 4, Aristotle returns to the first feature, unaffectedness, and anticipates an objection to the paradoxical character of the intellect as both unaffected and susceptible of forms: how can intellection be a sort of affection if at the same time the intellect is unaffected?[16] Moreover, how can the intellect be affected if it has no formal determination at all? In fact, as Aristotle himself points out, the explanatory model of action/affection demands that the agent and the patient be of some common nature, that is, the agent and the patient must be of the same genus.[17] The intellect, however, has no determination at all, hence no possibility to be affected by an external agent.

In order to explain how the action/affection model applies to intellection, Aristotle recalls in *De anima* 3.5 that every natural entity involves something material and something productive. He goes on to tell us that something analogous must occur in the case of the soul.[18] Accordingly, he introduces a division of the intellect into "the one that becomes all things" and "the one that produces all things,"[19] without being explicit about the sort of division he has in mind. Aristotle also seemingly suggests that it is the latter (*hoûtos ho noûs*) which is separate, unmixed and unaffected,[20] and closes the chapter by claiming that only the productive intellect is imperishable and eternal, in opposition to the material intellect, which is perishable.[21]

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14   *De An.* 3.4, 429a10–13. Some lines below Aristotle describes the intellect as that whereby the soul thinks and understands; see *de An.* 3.4, 429a23. For a detailed analysis of *de An.* 3.4, see Pavel Gregoric and Christian Pfeiffer, "Grasping Aristotle's Intellect," *Documenti e studi sulla tradizione filosofica medievale* 26 (2015): 13–31.

15   *De An.* 3.4, 429a15–b5.

16   *De An.* 3.4, 429b22–25.

17   *GC* 1.7, 323b29–324a24.

18   *De An.* 3.5, 430a10–12.

19   *De An.* 3.5, 430a14–15.

20   *De An.* 3.5, 430a17–18.

21   *De An.* 3.5, 430a22–25. For recent interpretations of Aristotle's *De anima* 3.5, see Victor Caston, "Aristotle's Two Intellects: A Modest Proposal," *Phronesis* 44:3 (1999): 199–227; Eli Diamond, "Aristotle's Appropriation of Plato's Sun Analogy in *De anima*," *Apeiron* 47:3

Confronted with this chain of perplexing claims about the intellect and intellection, any commentator on the *De anima* feels compelled to solve the puzzles raised by Aristotle's qualification of the intellect as unaffected and yet susceptible of forms, as well as those raised by its further division into a material part and a productive part.

3 General Features of Medieval (Aristotelian) Theories of the Soul

Following in Aristotle's footsteps, the authors here considered viewed the human soul as what makes some properly organised material body be an actual human being. The human soul has three faculties, vegetative, sensitive, and intellectual. The last two of these are cognitive and apprehensive; this is to say that the proper function of the sensitive and the intellectual faculties is the cognitive apprehension of an object. Further, two of these faculties, the vegetative and the sensitive, use bodily organs in order to perform their operations. The vegetative faculty includes the powers that account for physiological functions of the human body such as nutrition, growth, and reproduction. The sensitive faculty, in turn, accounts for the cognitive powers related to the apprehension of particular material things. It includes powers of apprehending things that are present and no longer present, the external and internal senses.[22]

The intellectual faculty provides us with the best evidence of our special place in the hierarchy of natural beings, for its operations are performed without the immediate use of bodily organs.[23] Following in the footsteps of the Arabic tradition, some authors (e.g., Albert the Great) divide the intellectual faculty into four intellects: the possible intellect (*intellectus possibilis*), the agent intellect (*intellectus agens*), the theoretical intellect (*intellectus*

(2014): 356–89; and Michael White, "The Problem of Aristotle's 'Nous Poiêtikos'," *The Review of Metaphysics* 57:4 (2004): 725–39. See also chapter one in this volume.

22   See, e.g.: "Potentiae igitur apprehensivae generaliter potentiae sunt passivae nec habent principia agendi nisi per formam, quam per apprehensionem acquirunt; propter quod etiam apprehensivae dicuntur […]. Et earum quaedam sunt apprehensivae, deforis existentibus suis agentibus, quaedam autem sunt apprehensivae ita, quod sua agentia proxima sunt intus. Et illae quae habent sua agentia deforis sunt sensus […] de his autem quae sunt apprehensivae deintus, nunc determinabimus." (Albert the Great, *De anima* 3.1.1, 166.)

23   See, e.g.: "[…] ex maxima sua potestate separata est et nullo modo iuncta et umbrata per materiam corporis. Licet autem sic dicamus intellectum esse separatum, tamen anima est coniuncta per alias virtutes suas, quae sunt naturales sibi, inquantum est perfectio corporis […]." (Albert the Great, *De anima* 3.2.12, 193.)

speculativus), and the acquired intellect (*intellectus adeptus*). Despite the misleading substantivisation that these expressions involve, they all refer to either powers (the possible and the agent intellects) or cognitive states (the theoretical and the acquired intellects) of the intellectual soul: the possible intellect is an apprehending passive power and the agent intellect is a productive active power. The theoretical intellect is the intellect as actually apprehending. Finally, the acquired intellect is the intellect that has reached its greatest level of perfection.

4   Albert the Great

Albert the Great was undoubtedly one of the most influential and prolific scholars of the thirteenth-century.[24] His historical importance notwithstanding, many aspects of his work are still not sufficiently studied. In particular, his account of intellection has been somewhat neglected.[25] My aim here is to show that, in his interpretation of *De anima* 3.4–5, Albert puts forward a hybrid epistemology that seeks to meet MICI on the basis of a relation of determination. He presents this relation somewhat vaguely, but I will attempt to characterise it more precisely.

For Albert, the human intellect does not have a determined form: it is not something that, like a molecule of water or a cactus, is determined by a form whereby it belongs to a certain kind. This is because the intellect could not understand all that is (for instance, apprehend the form of a cactus and a cedar, of water and fire, and so forth) if it had a determined form:

> If it were indeed informed by some form so as to be something determined [...] this would prevent the cognition of everything [...] because it could not receive what is contrary and what is different because of that form, because the diverse and the contrary cannot be in the same thing

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24   For Albert's life and works, see James Weisheipl, "Life and Work of St Albert the Great," in *Albertus Magnus and the Sciences: Commemorative Essays*, ed. J. Weisheipl (Toronto: Pontifical Institute of Mediaeval Studies, 1980), 13–51. For Albert's metaphysics and anthropology, see the articles in Irven M. Resnick, ed., *A Companion to Albert the Great: Theology, Philosophy and the Sciences* (Leiden: Brill, 2013), part 2; and Alain de Libera, *Métaphysique et noétique: Albert le Grand* (Paris: Vrin, 2005).

25   The most exhaustive analyses are found in Alain de Libera, *Albert le Grand et la philosophie* (Paris: Vrin, 1990), esp. 215–66; de Libera, *Métaphysique et noétique*, 265–328.

> [...] hence if it were some mixed form it would be prevented from poten-
> tially understanding all material things.[26]

Thus, the intellect is undetermined: "[...] the possible intellect is not a nature
made specific by a form [...] just as prime matter is not made specific by a form
[...] but its nature is to be only potential [...]."[27] And hence, it is unaffected:

> [...] the possible intellect is [...] totally unmixed, because it is none of
> the forms it receives, which are either forms of bodies or forms that,
> although not forms of a body, are organic forms in a body, and hence it
> is not passible and transmutable, because only what is mixed is passible
> and transmutable.[28]

The intellect's unaffectedness follows from its indeterminacy, because affec-
tion implies a change of form, which, in turn, implies having a form.[29]

Thereafter, Albert raises a series of problems related to these features of the
intellect, including the following problem: if we are to explain intellection as
an affection, how can the intellect remain unaffected during the intellection
of an essence? In other words, he comes upon MICI. Albert sets out to account
for intellection by means of a relation of determination in a way that preserves
the intellect's unaffectedness and the inefficacy of essences upon the intellect.

Intellection is the cognitive apprehension of an essence by the receptive
power of the intellect, in particular the possible intellect. Otherwise put, intel-
lection is the actualisation of the receptive power of the intellect in a process
that involves a material essence (the particular way in which the material
essence is involved will be discussed in a moment). The material essence, in

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26 "Si *enim* esset aliqua forma informatus ad hoc quod esset hoc aliquid, tunc hoc ipsum [...]
     impediret cognitionem omnis rei [...] quia contrarium et diversum ab illa forma recipi in
     eo non posset, eo quod nec contraria nec disparata possunt esse in eodem [...] et ideo, si
     esset aliqua forma mixta, impediretur, ne potentia intelligeret omnia materialia." (Albert
     the Great, *De anima* 3.2.2, 178–79.)

27 "[...] intellectus possibilis *non est natura* aliqua specificata per formam [...] sicut nec
     prima materia specificata est per aliquam formam, *sed ad hoc* tantum est natura eius
     posita potentialis [...]." (Albert the Great, *De anima* 3.2.2, 179.)

28 "[...] intellectus possibilis est [...] immixtus omnino, eo quod nulla est formarum, quae
     recipiuntur in ipso, quae sunt aut formae corporum aut formae, quae, licet non sint
     corporum, tamen sunt organicae in corpore. Et per hoc concluditur ulterius quod non
     est passibilis nec transmutabilis, quia nihil est passibile et transmutabile nisi mixtum."
     (Albert the Great, *De anima* 3.2.2, 179.)

29 Cf. *Ph.* 1.7, 191a6–7.

turn, is potentially abstract and hence potentially intelligible, first, in the material things where it exists as concrete, and second, with respect to intellection inasmuch as it is not yet actually intelligible:

> [...] the theoretical intellect, which is a form considered in the possible intellect, is potential in two ways: one way is in the comparison of what is apprehended to the particular in which it is only potentially, because the particular has the universal in it only potentially [...]. Another way is in the comparison [of what is apprehended] to the possible intellect, in which the universal is when actually apprehended [...].[30]

The material essence must, then, be actualised in both respects, that is, as abstract and as intelligible. For to be abstract and to be intelligible are not the same: to be abstract is a property of the essence in relation to material substrates, while to be intelligible is its property in relation to the intellect. However, the latter is grounded in the former, so that actualising the essence as abstract also actualises it as intelligible. The receptive power of the intellect is also potential in the sense that it can by itself neither bring about the actual intelligibility of the essence nor lead itself to the intellection of it.

In relation to the essence, Albert characterises intellection as a 'determination' of the receptive power, which as such is undetermined but capable of determination by something of a determined form:

> When the universal is joined to the possible intellect under the light of the agent intellect, it is not joined to it as to an organ, as in the case of sensible forms, but as what determines is joined to what is determined, because the connatural state of the possible intellect [...] is of the same nature as the intelligible object insofar as it is intelligible. But the intellectuality of the possible intellect is confused and undetermined, and it is determined just as a potency by an act and just as what is undetermined is perfected by what is determined [...].[31]

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30   "[...] intellectus speculativus, qui est forma speculata in intellectu possibili, in duplici est potentia. Quarum una est secundum comparationem eius quod intelligitur, ad particulare, in quo ipsum non est nisi in potentia, quia particulare non nisi secundum potentiam habet in se universale [...]. Alio autem modo in potentia est secundum comparationem ad intellectum possibilem, in quo est universale in actu intellectum [...]." (Albert the Great, *De anima* 3.2.12, 194.)

31   "Et quando sub luce istius intellectus unitur universale intellectui possibili, non unitur ei sicut organo, sicut fit in formis sensibilibus, sed unitur ei sicut determinans unitur determinato, quia habitus connaturalis intellectui possibili, qui est intellectualitas ipsa

Determination by the essence involves, then, an actualisation of the intellect. Now, how can the intellect be actualised and yet unaffected? Moreover, is the intellect actualised by the essence itself?

Albert's analysis of intellection as a sort of affection sheds some light on the former question. There are two kinds of passive potency: one that underpins simple reception and one that underpins reception and alteration. The passive potency of matter is of the latter kind: by being potential with respect to diverse forms and pairs of contraries, matter is subject to alteration insofar as it can become and cease to be something, or go from being one member of a pair of contraries to be the other one, for instance, from being cold to being hot.[32] Hence, matter is first a subject of alteration, in the process of receiving and/or losing forms, and then a subject of reception, when the process of alteration is fully achieved. The passive potency of the possible intellect, by contrast, is of the former kind: the intellect is not a subject of alteration but only of reception without alteration. Thus, the possible intellect is passive only equivocally: "Thus, it is perfectly evident how the possible intellect differs from prime matter and that 'affection,' 'reception,' 'potency,' and such terms are said equivocally of the possible intellect and of the other receptive potencies."[33] And the intellect's being a 'subject of reception' is said only in an improper sense, because it 'receives' forms, but not as in a subject, as matter does:

> [...] the species of things are joined to the soul as what is received is joined to what receives, even though this unity is really neither the one of subject and accident nor the one of matter and form. But with 'subject' taken broadly – that which somehow receives something else from which it does not obtain material being, but by which it is led to action with respect to a natural potency – the soul and the intentions that are in it are one subject.[34]

[...] eiusdem naturae est cum intelligibilibus, inquantum sunt intelligibilia. Sed sua intellectualitas est confusa et indeterminata, determinatur autem sicut potentia per actum et sicut perficitur indeterminatum per determinatum [...]." (Albert the Great, *De anima* 3.2.12, 194.) Cf.: "Et ideo sic subicitur eis, sicut determinatum subicitur determinanti, et ideo non efficitur unum de intellectu possibili et intelligibili, sicut sunt unum materia et forma vel sicut subiectum et accidens, sed potius sicut perfectio determinans est in determinato et perfecto." (Ibid., 3.2.7, 186.)

32   Cf. *GC* 2.1, 329a24–35.

33   "Et per istud nunc perfecte patet, qualiter distinguitur intellectus possibilis a materia prima, et quod passio et receptio et potentia et omnia talia aequivoce dicuntur de intellectu possibili et aliis potentiis receptivis." (Albert the Great, *De anima* 3.2.17, 203.)

34   "Species enim rerum uniuntur animae, sicut receptum unitur recipienti, licet haec unitas neque sit proprie subiecti et accidentis neque materiae et formae. Large tamen accepto

Such is the sense in which the intellect is unaffected: although receptive in the sense of being actualised when determined by the essence during intellection, the intellect does not suffer alteration. It is, then, evident how the intellect's unaffectedness is dependent on its indeterminacy, for if it had any formal determination it would suffer alteration during intellection.

The determination by the abstract essence in intellection does not result in qualitative alteration, substantial or accidental, for during intellection the intellect does not acquire, substantially or accidentally, the form of its object:

> [...] and hence the intelligible object does not become one with the possible intellect in the way that a subject and accident are one thing, because an accident is not a perfection of a subject; neither is there one thing as matter and form are one, because form perfects matter only as regards being and distinction and division, but the universal is non-distinct and undivided and does not perfect the intellect as regards being; rather, it is the principle of the cognition of things that exist; otherwise we should say that the intellect is a stone when it understands a stone [...].[35]

In other words, determination by the abstract essence is neither qualitative change nor formal instantiation: the intellect does not become wooden when it apprehends wood nor does it become wood. During intellection the intellect's power of apprehension becomes determined in the sense that it takes on a form – it becomes the intellection *of x*, where *x* is some essence. Just as buying an apple, bread, or a drink are different determinations of a coin's power to buy, in a similar way different essences are different determinations of intellection.

Albert does not say much about the relation of determination, but we can attempt to characterise it on the basis of his passages quoted above. Determination, as he understands it, is (1) non-causal in the sense that it does not produce something (vs. efficient causality and formal instantiation); and

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subiecto, quod subiectum dicatur id quod quocumque modo recipit aliud, a quo non habet esse materiale, sed quo perficitur ad agere secundum potentiam naturalem, quod anima et intentiones, quae sunt in ea, sunt unum subiectum." (Albert the Great, *De anima* 3.3.12, 223.)

35   "[...] et ideo intelligibile cum intellectu possibili non fit unum, sicut subiectum et accidens sunt unum, quia accidens non est perfectio subiecti; nec etiam est unum sicut materia et forma est unum, quia forma non perficit materiam nisi secundum esse et distincta et divisa, universale autem est indistinctum et indivisum et non perficit ad esse, sed potius est principium cognitionis eorum quae sunt; alioquin oporteret nos dicere, quod intellectus esset lapis, quando intelligit lapidem [...]." (Albert the Great, *De anima* 3.2.12, 194.)

(2) asymmetric (for instance, intellection is determined by the essence but not the other way around). It is also (3) ontological: being determined by x is an ontological constituent of the intellection of x, a part of what it is for the intellection of x to exist.[36]

Albert's appeal to determination is also conservative (that is, it makes use of notions dialectically acceptable in his context) if we understand determination as akin to formal causation. Take, for instance, some apple. This apple is formally caused by the essence *apple*. The reason why this apple is a formal instantiation of *apple* is that *apple* has been received *in matter*. Also, *apple* is not the efficient cause of this apple; its efficient cause would rather be the apple tree. The relation of the essence *apple* to this apple, insofar as it is its formal cause, looks otherwise very much like Albert's relation of determination: it is not an efficient cause (at least not *per se*), it is asymmetric, and it is ontological. Moreover, to be determined (*determinatum*) means precisely to have some form, as we have seen above in Albert's discussion about the intellect's indeterminacy, and to be determining (*determinans*) is, accordingly, to give a form to something. Thus, it seems to me plausible to see determination as akin to formal causation.

That determination is asymmetric and ontological ensures that intellection is non-accidentally correct. Thus, Albert tells us:

> [...] hence the intellection, which is a simple concept, concerns the essence of the thing and its substantial form, due to which something is some being [...] because everything that is something through a substantial form will be that something and has the being of the substance. And this intellection, which is intellection by itself and properly, is always true by the truth of the thing, insofar as we call true what is truly and has true entity.[37]

The essence determines intellection *as the essence is*. This ensures that there is a difference between (1) any intellection of x which is determined by x, and

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36   In this sense, determination is akin to the relation of constitution which Bengson characterises in his paper and uses to account for the intuition of abstracta (Bengson, "Grasping the Third Realm," 16–20). Bengson qualifies his account as conservative (ibid, 34) because it is based on an already widely used and accepted notion of metaphysical constitution.

37   "[...] et ideo intellectus, *qui* simplex conceptus *est eius* quod est 'quid est res' et formae substantialis, *qua aliquid erat esse* [...] quia per formam substantialem omne quod est aliquid, erit aliquid et substantialiter est. Et hic intellectus qui per se et proprie intellectus est, semper est *verus* veritate rei, secundum quod verum dicimus id quod vere est et veram habet entitatem." (Albert the Great, *De anima* 3.3.2, 210.)

(2) any intellection of *x* which is not so determined (think of some kind of intellectual hallucination of *x*). This, in turn, explains why (1) is not accidentally correct with respect to *x*, for it involves a different relation of determination than that of the intellectual hallucination. Determination, then, seems to fit the bill in terms of MICI, as it is an asymmetric and ontological relation between intellection and the essence which provides a good explanatory basis for the realist epistemology of essences to which Albert is committed.

As we have seen, the intellect is unaffected in the sense that it is not altered so as to become *x* or so as to instantiate *x*, and yet it is receptive in the sense that it cannot lead itself to intellection. We have also seen that the essence is related to intellection through a relation of determination, which is non-causal except in the formal sense. Now, what is the efficient cause of intellection? In other words, what provokes or sets in motion intellection? Albert strongly suggests that the efficient cause of intellection is the agent intellect, even though intellection is diversified by the essence:

> The theoretical intellect has double being: one in relation to the light of the agent [intellect], *by which the theoretical intellect is produced*; another in comparison with the things of which it is a species and with respect to which it is multiplied and diversified according to potency and act.[38]

If we understand abstraction in Albert as the intellectual recognition of an essence in the sensory representation,[39] we could say that abstraction is the efficient cause of intellection inasmuch as the recognition of that essence immediately provokes its apprehension. As we shall see in the following pages, according to Albert we are naturally equipped with some first principles that are instrumental to our capacity to single out the essence in the sensory representation.

In his commentary on the passage *De anima* 3.4, 429b10–22, Albert introduces a difference between (1) the act whereby we cognise, for instance, material things, which he calls reflexive intellection, and (2) the act, which we could call 'simple intellection,' whereby we cognise 'simple' things, among

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38   "Speculativus autem etiam duplex habet esse, unum quidem in lumine agentis, *quo efficitur speculativus*, alterum autem ex comparatione rerum, quarum ipse est species, et quoad hoc multiplicatur et variatur secundum potentiam et actum." (Albert the Great, *De anima* 3.2.19, 205; my italics.)

39   I assume that for all the authors analysed in the present chapter, the sensory representation accurately captures the material essence so that the epistemic connection between intellection and the material world is not threatened at the level of perception.

which we find the first principles. In the passage in question, Aristotle raises the question whether the soul discriminates (*krínei*) a thing and its essence with different faculties or with the same faculty differently disposed. His puzzling conclusion is that: "one distinguishes [them] with another faculty or with the same one differently disposed. And generally, then, just as things are separated from matter, so are the things concerning the intellect."[40] Although in the Aristotelian passage it is not at all clear that what is at stake are different sorts of intellection, which are determined by and correspond to different sorts of object, this is the way in which Albert reads it. For he reads Aristotle's conclusion in the following way: things that include a principle other than themselves in their essence determine reflexive intellection. Accordingly, turning to such a principle fundamentally constitutes the intellection of those things:

> [...] hence, whenever the intellection of something includes something else, which is its principle, just as warm and cold, and humid and dry are the principles of flesh, and just as the continuous is the principle of the straight, as the subject is the principle of every proper feature, then it is necessary that the intellect first turn to the principle, either sensible, imaginable, or intelligible; and thereafter the intellect turns back to the intellection of that which it apprehends.[41]

Reflexive intellection seems to be an act in which during the intellection of its object the intellect necessarily has to turn to something else.[42] For instance, once someone has already acquired the concept of the human essence, she cannot reactivate that concept and actually cognise the human essence without turning at the same time to the sensory representation of some human. Thus, during the intellection of the human essence, the intellect must have

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40 *De An.* 3.4, 429b20–22.

41 "[...] et ideo quandocumque intellectus alicuius est alterius quod est eius principium, sicut caro principiatur a calido et frigido et umido et sicco, et rectum, quod principiatur a continuo, sicut omnis propria passio principiatur a suo subiecto: tunc oportet intellectum primo egredi ad principium, sive illud sit sensibile sive imaginabile sive etiam intelligibile, et tunc reflectitur ad intellectum eius quod intelligit." (Albert the Great, *De anima* 3.2.16, 200.) Note that Albert extends the criterion so as to include also intelligible things with intelligible principles, which determine reflexive intellection. In this case, he says, the intellect goes from the intellection of *x*, to the intellection of *p* (its principle) and back to the intellection of *x*. Albert proposes the intellection of divine features as an example of this sort of reflexive intellection. See Albert the Great, *De anima* 3.2.16, 201.

42 "[...] et egressus quidem vocatur extensio, reflexio autem circumflexio vocatur, quia terminatur in intellectu, a quo incipit prima extensio." (Albert the Great, *De anima* 3.2.16, 201.)

a material human, which is not an intelligible *per se*, in its consideration. In other words, we cannot think of the human essence without at the same time having some particular human in mind.

To the contrary, things that are principles do not determine reflexive intellection. According to Albert, such things are grasped with 'a simple intelligence,' which especially concerns the first principles. In the intellection of the first principles, Albert tells us, the intellect *stays in itself*, that is, it does not turn to something else: "But things that are completely separate, in the apprehension of which nothing is taken, such as the first principles, the intellect apprehends staying in itself; for it has in itself the first, most common principles [...]."[43] Simple intellection, then, concerns things that are themselves principles, and in particular the first principles (such as the principle of non-contradiction), the cognition of which, according to Albert, is innate.[44]

Some sections later, Albert relates these principles to the agent intellect, which uses them as instruments for abstraction:

> [...] regarding the intellect of mortals, the agent intellect and the habitus of first principles, which we know by nature, [are] prior [...]. In fact, these principles are instruments, as it were, with which the agent leads the possible [intellect] from potency to act, and these instruments are determined by the determination of the objects of knowledge [...].[45]

It is not clear what the exact relation between the agent intellect and the innate cognition of the first principles is, but it is clear enough (1) that our cognition of the first principles is innate;[46] and (2) that the first principles play

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43 "Sed separata omnino, in quorum intellectu nihil accipitur, sicut prima principia, intelligit intellectus stans in seipso; prima enim communissima principia habet apud seipsum [...]." (Albert the Great, *De anima* 3.2.16, 201.)

44 "Et haec est veritas principiorum primorum; quae veritas semper est apud intellectum, quia, sicut dicit Boethius in consolatione philosophiae, 'communia retinet et singula perdit', intendens per communia principia prima, sicut quod non contingit simul affirmare et negare et quod totum maius est sua parte et huiusmodi." (Albert the Great, *Summa theologiae sive de mirabili scientia dei*, ed. D. Siedler et al. (Münster: Aschendorff, 1978), 1.6.25.3.1, 156.)

45 "[...] in intellectu mortalium etiam prior est intellectus agens et habitus primorum principiorum, quae scimus per naturam [...]. Haec enim principia sunt quasi instrumenta, quibus agens educit possibilem de potentia ad actum, et haec instrumenta determinantur ex determinatione scibilium [...]." (Albert the Great, *De anima* 3.3.2, 211.)

46 See, e.g.: "Ad secundum dicendum, quod dicta principia non sunt adeo communia sicut prima principia, quae sunt naturaliter cognita, sed sicut ea quae sunt propinqua principiis, ad quae potest haberi de facili via ex primis principiis." (Albert the Great, *Super ethica*, ed. B. Geyer and W. Kübel (Münster: Aschendorff, 1968), 3.2, 146.)

a fundamental role in abstraction, the act of the agent intellect.[47] What Albert suggests here, then, is that our innate simple cognition of the first principles somehow allows us to recognise essences in sensory representations so that this recognition, which is the act of abstraction, immediately causes or provokes the intellectual apprehension of the essence, that is, intellection. Thus, the act of abstraction is what sets intellection in motion, and so the former is the efficient cause of the latter.

To sum up, Albert meets MICI by understanding intellection in terms of determination, which is a non-causal, asymmetric, and ontological relation between the essence and intellectual apprehension, and which provides a good basis for knowledge of the essence. Strictly speaking, the efficient cause of intellection, what immediately provokes it, is the act of abstraction. Albert also adheres to an innate cognition of the first principles, thus putting forward a hybrid epistemology where (1) material things are cognitively accessed through perception, which is based on causation; (2) essences are cognitively accessed in an abstract form through intellection, which is based on determination; and (3) first principles are accessed through innate cognition. Radical Aristotelians, as we shall see, will take issue with (2) and (3).

5   Siger of Brabant

Thomas Aquinas is often interpreted as holding a causal account of intellection, both by his medieval and contemporary readers.[48] It is true that he often suggests that the intelligible species are the efficient cause of intellection,[49] so that his works offer some evidence (although perhaps not decisive) to support

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47   See, e.g.: "Talium igitur regulas et principia dare proprium est logici ad incomplexi cognitionem, quae a primis per se cognitis incipiat et deveniat in cognitionem eorum quae quaeruntur. Non enim omnia possunt esse incognita, quia sic quaerendo procederetur in infinitum. Principia enim prima sunt quasi semina per naturam cognitioni hominis inserta, ex quibus quasi seminibus magni oriuntur fructus scientiarum de his quae cognoscuntur per ipsa. Primis enim positis per divisionem cognoscitur, quid potentia sit in ipsis, et ipsa divisio producit usque ad ultimum; propter quod etiam ipsa divisionis scientia necessaria est logico, ut dicit Boethius." (Albert the Great, *Super Porphyrium de V universalibus*, ed. M. Santos Noya (Münster: Aschendorff, 2004), 1.6, 14.)

48   For a recent interpretation, see Elena Băltuță, "Aquinas on Intellectual Cognition: The Case of Intelligible Species," *Philosophia* 41 (2013): 589–602. A medieval reading along these lines is presented by Peter John Olivi; see, e.g., Robert Pasnau, *Theories of Cognition in the Latter Middle Ages* (Cambridge: Cambridge University Press, 1997), 168–80.

49   See, e.g., Thomas Aquinas, *Summa theologiae*, ed. P. Caramello (Rome: Marietti, 1952), 1.85.4, co.

the view that, for Aquinas, the abstract essence 'causes' intellection in the sense that: (1) it provokes it, by (2) leading the possible intellect to actuality, and (3) informing it.

Siger of Brabant[50] rejects such a strong understanding of the passivity involved in intellection, not least, I think, because it causes difficulties for MICI – for how can the intelligible species act on the intellect? However, Siger's account of intellection also parts ways with Albert's, for he also rejects the latter's understanding of the act of abstraction, notably the idea that it somehow works through our innate cognition of the first principles. In fact, like Aquinas, Siger holds that humans come into being completely devoid of knowledge (the intellect is a *tabula rasa*), and have sensory cognition as the immediate or ultimate source of all possible knowledge. But, contrary to Aquinas and, I surmise, in order to meet MICI, Siger also puts forward an immanentist account of intellection.

Siger's account of intellection starts with a discussion of the number of agents involved in the actualisation of the possible intellect and their role therein. He rejects a position that he explicitly attributes to Albert:

> […] Albert's position seems to be that some cognition, namely that of the first principles, is innate in our intellect. […] not that they [i.e., the first principles] are the agent intellect itself, but they are the instruments of the agent intellect whereby it leads the possible intellect to action […]. I claim and believe that there is no innate cognition of intelligible things in our intellect but that it is purely potential in relation to all intelligible things […].[51]

The intellect is purely potential (a *tabula rasa*) with respect to intelligible objects, hence it innately cognises nothing at all. Moreover, the first principles

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50 For Siger's life and works, see Fernand Van Steenberghen, *Maître Siger de Brabant* (Louvain: Publications Universitaires, 1977). For his accounts of the intellect and of intellection, see Carlos Bazán, *La noétique de Siger de Brabant* (Paris: Vrin, 2016). These authors also discuss the evolution in Siger's averroism from his *Quaestiones in tertium De anima* (c.1270) to his *De anima intellectiva* (after 1270), notably the transition from a position according to which the separate intellect is the agent of knowledge to one according to which the agent of knowledge is the human being.

51 "[…] videtur esse positio Alberti, quod intellectui nostro est innata aliqua cognitio, ut scilicet primorum principiorum. […] non quod ipsa sint intellectus agens, sed sunt instrumenta intellectus agentis, per quae educit intellectum possibilem ad actum […]. Dico et credo quod intellectui nostro non est innata aliqua cognitio intelligibilium, sed est in pura potentia ad omnia intelligibilia […]." (Siger of Brabant, *Quaestiones in tertium De anima*, ed. B. Bazán (Louvain: Publications Universitaires, 1972), qu. 12, 39–40.)

are not required for intellection because the agent intellect, the possible intellect, and the sensory representation are jointly sufficient for it.[52]

Intellection comes about because an intelligible object abstracted from sensory representations by the agent intellect is presented to the possible intellect, thus triggering intellection:

> When [the intellect] goes from potential to actual intellection, this is not because the cognition of some intelligible objects is innate to it, but because the intellect received from its creator, or from its nature, a natural potency by which it cognises the nature of all intelligible things when they are offered to it. And this potency is the material or possible intellect. But the presentation (*oblatio*) of the intelligible things is made by the imagined intentions and the agent intellect. Hence, the things actually apprehended actualise the material intellect.[53]

The intelligible object presented to the possible intellect actualises it. Now, a number of questions arise: What is the efficient cause in this process? What are the details of the 'presentation'? And, what is the exact link between the essence in the sensory representation and intellection?

Siger rejects the possibility that the sensory representation directly acts upon the intellect because there can be no causation between such metaphysically incompatible things. In other words, causation cannot be the link between intellection and the material essence upon which an epistemology that meets MICI is based. Siger's alternative solution is to posit an intelligible object that is the direct cause of intellection, an object that is ontologically different from, albeit similar to, the material essence, produced by the intellect itself and metaphysically compatible with it (as, say, the picture of a human is ontologically different from, albeit similar to, the human). Hence, in order to meet MICI, instead of appealing to a relation of determination between the essence and intellection, as Albert did, Siger brings to the fore an immanent

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52   "Aristoteles in hoc tertio dat principia intelligendi tria, quae sunt intellectus materialis sive possibilis, et hoc est principium materiale, et intellectus agens et intentiones imaginatae; requiruntur vero sufficienter ad actum intellectus." (Siger of Brabant, *In tertium de An.*, qu. 12, 37.)

53   "Cum autem exit de potentia intelligendi ad actum, hoc non est quia intelligibilium aliquorum sit ei innata cognitio, sed hoc est quia intellectus a suo factore vel a sua natura habuit potentiam naturalem qua cognoscens est naturam omnium intelligibilium cum sibi offeruntur. Et ista potentia est intellectus materialis sive possibilis. Oblatio autem intelligibilium fit per intentiones imaginatas et per intellectum agentem." (Siger of Brabant, *In tertium de An.*, qu. 12, 40.)

object produced by the intellect itself and causally related to intellection. Let us see how this works.

Siger begins by rejecting an account of abstraction in which, by an action analogous to that of light upon the colour, the agent intellect makes the essence contained in the sensory representation actually intelligible:

> Some […] imagine that the agent intellect throws rays illuminating the imagined intentions that exist in the organ of the phantasy and thus makes them actually intelligible, just as light through its rays makes the potential colours actual colours.[54]

This account agrees, in fact, with what both Albert and Thomas claim to be the action of the agent intellect on the sensory representation, that is, the actualisation of the material essence's potential intelligibility. However, for Siger, the analogy with light and the colour is misleading in one significant respect: while colour is indeed potentially visible, the material essence (and, in general, everything that is in a material substrate) is not, and cannot be, potentially intelligible, as materiality and intelligibility are mutually exclusive. The agent intellect, then, cannot actualise a potentiality that does not, and cannot, take place. The analogy with light does not help to clarify the true nature of abstraction and intelligibility:

> But to say that the intellect throws rays and illuminates is void, false, and said by the ignorant. Moreover, no matter how many rays the light threw, colour would never be abstracted from the true being it has in the object if it did not have intentional being. Therefore, in a similar way no matter how many rays the intellect should irradiate over the imagined intentions, the intentions are never abstracted through irradiation.[55]

Vision is possible because colour is potentially visible, that is, it has the capacity to multiply itself in the transparent under intentional being, a capacity that

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[54] "Quidam […] imaginantur quod, ⟨sicut⟩ lumen propter sui irradiationem potentia colores facit actu colores, sic intellectus agens imaginatas intentiones existentes in organo phantasiae illustrando irradiat, et sic ipsas facit actu intelligibiles." (Siger of Brabant, *In tertium de An.*, qu. 14, 49.)

[55] "Sed hoc nihil est, dictum intellectum irradiare et illuminare, immo falsum est et ab ignorante dictum. Praeterea, quantumcumque lumen colorem irradiet, tamen numquam color abstraheretur quantum ad esse verum quod habet in obiecto, nisi haberet esse intentionale. Ergo similiter quantumcumque intellectus intentiones imaginatas irradiet, numquam tamen abstrahuntur per irradiationem." (Siger of Brabant, *In tertium de An.*, qu. 14, 49.)

light actualises. But an essence in a material substrate, be it external matter or a material organ, is not intelligible, not even potentially, and hence the agent intellect's action upon the sensory representation cannot bring about actual intelligibility.

Consequently, for Siger, abstraction is the production of an intelligible object (the *ratio intelligendi universalis*) by the intellect itself through its productive power; an object similar to, but ontologically different from, the material essence:

> [...] when the imagined intentions are present in the organ of the phantasy, the agent intellect produces universal intentions [similar] to the imagined intentions, and from these similar intentions it abstracts universal notions for the intellection of things. Whence, it produces for itself universal notions for the intellection of things, not by making the imagined intentions in the organ of the phantasy end up in the possible intellect, but by producing for itself, and informing itself with, intentions similar to the imagined particular intentions, and from them it abstracts the universal notions for the intellection of things.[56]

The intellect, then, produces for itself, and informs itself with, an intelligible object that is similar to the material essence (or the imagined intention qua representation of the essence), but not identical with it – an immanent object. Siger says nothing more about the similarity in question. Intellection, in turn, amounts to the apprehension of such an object; an apprehension efficiently caused by the object itself.[57] As a consequence, intellection has a causal relation to an immanent object similar to the material essence.

In Siger's account, the unexplained relation of similarity between the immanent object and the material essence jeopardises the possibility of intellection being the basis of knowledge. Siger does not say much about the

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56   "[...] praesentibus imaginatis intentionibus in organo phantasiae, facit intellectus agens intentiones universales ⟨similes (*my correction*)⟩ intentionibus imaginatis, et ab illis intentionibus similibus abstrahit rationes rerum intelligendi universales. Unde facit sibi rationes rerum intelligendi universales, non per hoc quod faciat intentiones imaginatae ab organo phantasiae resultare in intellectum possibilem, sed quia facit sibi et informat intentiones sibi similes intentionibus particularibus imaginatis, et ab illis abstrahit rationes intelligendi rerum universales." (Siger of Brabant, *In tertium de An.*, qu. 14, 50.)

57   See Siger of Brabant, *In tertium de An.*, qu. 18, 68–69: "Similiter forma immaterialis cognitionem sui obiecti facit secundum quod est similitudo obiecti [...]. Unde nota quod duplex est universale: quoddam est universale quod est intentio pura universalis abstracta, non praedicabilis de particularibus extra; aliud est universale quod non est intentio pura, sed est forma realis, existens in pluribus, praedicabilis de eisdem. Nota ergo quod universale quod est intentio universalis pura facit cognitionem universalis realis."

similarity between the immanent object and the material essence, but this much is clear: similarity does not sufficiently ground non-accidentally correct knowledge. Take, for instance, two phenomenologically identical immanent objects D and D*, one of which was produced using the material essence *dog* as a model and the other made up in some other way (for instance, as the notion of the chimera is made however it is). Suppose also that John has intellection caused by D and Peter has intellection caused by D*. Suppose further that both John and Peter claim to know that *dogs bark*. Similarity does not sufficiently explain why John has a case of knowledge about a mind-independent fact and Peter a case of epistemic luck because similarity is not an asymmetric dependence relation between the immanent object and the material essence so as to sufficiently explain why the immanent object is derived from the material essence and not the other way around. As we shall see, similar concerns drive Radulphus Brito's rejection of accounts of intellection such as Siger's.

6   Radulphus Brito

Like Siger, Brito rejects Albert's innate cognition of first principles.[58] But Brito also rejects any account of intellection according to which the first object of intellection is an immanent object.[59] His main motivation is to uphold the

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58   "[…] intelligere nostrum dependet ex sensatis et imaginatis. Anima intellectiva non cadit sub sensu neque quantum ad essentiam neque quantum ad suam operationem. Et ideo non potest primo a se intelligi, sed ex intellectione aliarum rerum intelligitur." (Radulphus Brito, *Quaestiones in Aristotelis librum tertium De anima*, in Winfried Fauser, *Der Kommentar des Radulphus Brito zu Buch III De anima: Kritische Edition und philosophisch-historische Einleitung* (Münster: Aschendorff, 1974), qu. 4, 140.) "Ad istam quaestionem dicendum quod omnis nostra cognitio saltem quantum ad ea quae primo cognoscimus sumitur a sensibus." (Ibid., qu. 22, 268.) "[…] nulla species intelligibilis est concreata cum intellectu, immo intellectus in prima sui creatione est sicut tabula rasa […] illa in intellectu existens prohiberet intellectum alia intelligere […]." (Ibid., qu. 12, 199.) For Brito's life and work, see Ana María Mora-Márquez and Iacopo Costa, "Radulphus Brito," in *The Stanford Encyclopedia of Philosophy*, ed. E. N. Zalta (2018), https://plato. stanford.edu/archives/spr2018/entries/radulphus-brito; for Brito's cognitive psychology, see Sander W. de Boer, *The Science of the Soul: The Commentary Tradition on Aristotle's De anima c.1260–c.1360* (Leuven: Leuven University Press, 2013), 58–64, 106–113, 173–180.

59   "Aliqui tamen dicunt quod primo intelligitur conceptus et mediante ipso intelligitur res. Et hoc probant […]. Item, quod patitur patitur a suo simili. Sed isti conceptus sunt magis similes intellectui quam quod quid est, quia sunt immateriales sicut intellectus. Ergo etc." (Radulphus Brito, *In tertium de An.*, qu. 7, 175.)

possibility of scientific knowledge about the external world, hence his reiterated claim that the first object of intellection is the essence itself.[60] Brito is, however, aware of the challenge that intellection presents because of the metaphysical incompatibility between the intellect and material essences. In the question "Whether intellection is a sort of affection," he sets out to engage the challenge with an account of intellection that aims to preserve both the passivity of the possible intellect and a direct cognitive access to material essences.

In line with the Aristotelian tradition, Brito holds that intellection is a sort of affection. But affection is of two kinds: first, there is alteration, which is an affection in the strict sense, and in which a form is removed and its contrary received. For instance, heating is an affection in the strict sense because, under the action of the heating agent, the heated thing gradually loses the form of coldness and receives that of heat. Second, there is pure reception, in which, under the action of an agent, there is only the actualisation of a potency without alteration.[61] It is noteworthy that the textual witnesses to Brito's commentary on *De anima* transmit two different qualifications of reception: while in most manuscripts reception is qualified as an affection in a wide sense (*largo modo*), in the manuscript in London[62] (= L) it is qualified as an affection in an improper sense (*improprie*), which would amount to strict equivocation. L, then, has a reading of the second sense of affection that is closer to Albert's understanding of it, according to which reception is an affection only in an equivocal sense. As we shall see, however, Brito wants to stay closer to a position that the material essence in the sensory representation is the efficient cause of intellection so as to make the *largo modo* reading seem more appropriate.

The intellect is affected in the second, and not in the first, sense of affection, that is, not by undergoing alteration but only reception. It does not undergo alteration because

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60   "Dico quod illud quod primo intelligitur est quod quid est rei et non eius species […].
      Quia illud intellectus intelligit quod de alio affirmat vel negat in oratione. Modo intellectus affirmat et negat ipsam rem de alia et non speciem rei quae est in anima. Quare etc."
      (Radulphus Brito, *In tertium de An.*, qu. 7, 174.)

61   "[…] duplex est passio, sicut Philosophus distinguit, quia quaedam est passio proprie
      dicta, quae est cum abiectione formae contrariae et per mutuam actionem contrarium
      ad invicem. Alia est passio largo modo [improprie L] dicta, quae est receptio perfectionis
      ab altero actu ente." (Radulphus Brito, *In tertium de An.*, qu. 2, 121.)

62   MS London, British Museum, Arundel 4, fol. 1r–16v.

[…] those things that are affected and act in the first sense have material contact (*communicant in materia*). But the intellect and the intelligible thing do not have material contact, because the intellect is unmixed and immaterial. Therefore, there is no affection properly speaking in it.[63]

So, the immateriality of the intellect prevents it from having material contact, and hence from undergoing alteration. But it undergoes reception because "[…] that which has a receptive potency of some form or perfection is passive according to the affection which is the reception of the perfection; but the intellect is such […]."[64] So, it undergoes reception in the sense that it is actualised by something other than itself. The question becomes, then, by what is it actualised? Brito provides a clear answer later in his commentary, but already here, in his reply to the counterarguments, he hints at his position:

[…] the object of the intellect is the essence (*quod quid est*) which exists outside joined to particulars. But it *transforms* the intellect, and is an object of the intellect, only through the action and abstraction of the agent intellect […]. Also, the agent intellect, which, together *with the phantasm*, is the agent of intellection, is something real […].[65]

Here, then, the essence in the sensory representation and the agent intellect are proposed as efficient co-causes of intellection. Later, in question twelve, Brito makes clear that the agent intellect cannot be the only efficient cause of intellection. Otherwise, given that the agent intellect is naturally joined to the possible intellect, we would have intellection all the time, which is not the case. Therefore, the sensory representation, or rather the essence in it, must also play an efficient role in provoking intellection:

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63   "[…] illa quae patiuntur primo modo et agunt communicant in materia. Sed intellectus et intelligibile non communicant in materia, quia intellectus est immixtus et immaterialis. Ergo illi non est passio proprie dicta." (Radulphus Brito, *In tertium de An.*, qu. 2, 121–22.)

64   "Quia illud quod habet potentiam receptivam alicuius formae seu perfectionis est passivum passione quae est receptio perfectionis. Sed intellectus est huiusmodi […]." (Radulphus Brito, *In tertium de An.*, qu. 2, 121.) (L: "[…] quod intellectus sit passivus passio improprie dicta: Quod illud quod habet potentiam receptivam alicuius formae est receptivum passione improprie dicta.")

65   "[…] quod quid est extra coniunctum cum particularibus est obiectum intellectus. Sed tamen actu non immutat intellectum neque obicitur intellectui nisi per actionem et abstractionem intellectus agentis […]. Item, intellectus agens qui est agens intellectionem una⟨m (?)⟩ cum phantasmate, est aliquid reale […]." (Radulphus Brito, *In tertium de An.*, qu. 2, 126; my italics.)

> But it must be understood that the agent intellect does not sufficiently lead the intellect from potency to act. Rather, a phantasm is required with it, which by virtue of the agent intellect moves the possible intellect. Because if the agent intellect sufficiently led the possible intellect from potency to act, our intellect would have intellection all the time, since the agent intellect is always joined to the possible intellect.[66]

The material essence in the sensory representation sets in motion the possible intellect thanks to the action of the agent intellect. But, how can the agent intellect give the material essence the capacity to set in motion an immaterial power? To see this, we must turn to question sixteen, where Brito explains the exact roles of the agent intellect and of the essence in the sensory representation in intellection.

Question sixteen concerns the mechanism of abstraction[67] by means of which the agent intellect makes intelligible the material essence in the sensory representation. Brito, like Siger, rejects the accounts of abstraction according to which the role of the agent intellect is to provide the material essence with intelligibility because whatever is received in a material substrate will be individual, and hence non-intelligible. However, Brito parts ways with Siger in that he holds the material essence to be potentially intelligible. The material essence is not actually intelligible only because in material substrates it co-exists with accidents such as colour, magnitude, and so forth. Accordingly, for Brito, Aristotle's comparison of the role of the productive intellect in intellection to that of light in vision is revealing, because as light actualises the visibility of the colour, the agent intellect actualises the intelligibility of the material essence. Intelligibility is an active power of the material essence. Once this power is actualised, the material essence can produce intellection:

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66   "Sed intelligendum est quod intellectus agens non sufficienter reducit intellectum de potentia ad actum. Sed requiritur cum hoc phantasma quod in virtute intellectus agentis movet intellectum possibilem. Quia si intellectus agens sufficienter reduceret intellectum possibilem de potentia ad actum, cum intellectus agens sit semper coniunctus cum intellectu possibili, tunc intellectus noster semper intelligeret." (Radulphus Brito, *In tertium de An.*, qu. 12, 199–200.)

67   For abstraction, see Ana María Mora-Márquez, "La contribution de Raoul le Breton à la discussion médiévale sur le caractère passif ou actif de l'intellection," in *Miroir de l'amitié: Mélanges offerts à Joël Biard*, ed. C. Grellard (Paris: Vrin, 2017), 177–92; and Mary Sirridge, "The Universal Living Thing is either Nothing or Posterior," in *Mind, Cognition and Representation: The Tradition of Commentaries on Aristotle's De anima*, ed. P. J. M. M. Bakker and J. M. M. H. Thijssen (Aldershot: Ashgate, 2007), 45–68.

"[…] the phantasms do not have intelligibility as a passive potency, but as an active potency to be apprehended because they actively produce intellection."[68]

Brito points, then, to a co-causality between the essence in the sensory representation and the agent intellect in the process of intellection:

> […] owing to the virtual contact between the light of the agent intellect and the phantasm, and to the co-assistance of this light with the phantasms, the quiddity that was in the phantasms with accidental notions can *in itself* move or transform the intellect without the accidents and the particular conditions under which it was in the phantasy being cognised.[69]

In this process, however, the material essence in the sensory representation seems to be the foremost efficient cause of intellection. Brito takes abstraction to be, in an almost literal sense, the illumination by the agent intellect of only the essence in the sensory representation. Through the act of abstraction, the material essence becomes actually intelligible, just as the whiteness of milk, but not its sweetness, becomes actually visible under the action of light. In other words, the agent intellect makes the essence in the sensory representation actually capable of producing the act of intellection:

> […] in relation to the phantasms the agent intellect, owing to a certain separation of the quiddity from the particular and material conditions (not real but according to the way of transforming), makes them capable of immaterially transforming or moving the possible intellect so that the quiddity in the phantasy produces a determined cognition in the intellect.[70]

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68   "[…] phantasmata non sunt in potentia passiva respectu intelligibilitatis sed sunt in potentia activa ad intelligi quia faciunt active intellectionem." (Radulphus Brito, *In tertium de An.*, qu. 16, 242.)

69   "[…] ex contactu virtuali luminis intellectus agentis ad phantasmata et ex coassistentia istius luminis cum phantasmatibus quidditas quae erat in phantasmatibus sub ratione accidentium potest movere seu immutare intellectum *secundum se* praeter hoc quod accidentia et condiciones particulares sub quibus erat in phantasia cognoscantur." (Radulphus Brito, *In tertium de An.*, qu. 16, 236; my italics.)

70   "[…] intellectus agens circa phantasmata facit quod ipsa ex quadam separatione quidditatis a conditionibus particularibus et materialibus non realiter sed secundum modum immutandi possunt intellectum possibilem immaterialiter immutare seu movere ita quod quidditas phantastica facit in intellectu determinatam cognitionem." (Radulphus Brito, *In tertium de An.*, qu. 16, 239–40.) Cf.: "[…] respectu intellectus possibilis facit

Intellection is, thus, primarily caused by the material essence even though this essence is made an actual cause by the agent intellect.

To sum up, intellection is, for Brito, the reception of a material essence in the intellect, where reception is understood as the actualisation of a potency by an agent other than the receiving thing. In intellection, this agent is the material essence *under the light* of the agent intellect.[71] The relation between intellection and the material essence is, therefore, one of causation; a causation enabled by the agent intellect,[72] which Brito considers an efficient co-cause.

Brito's account has an edge on Siger's in that in the former intellection is, through causation, directly[73] and non-accidentally linked to the material essence, so as to be a good basis for knowledge about the material world.[74] But does Brito meet all the criteria of MICI? Not quite, because it contains an explanatory gap, for the act of abstraction that makes the essence causally efficient with respect to intellection is not sufficiently accounted for. It is explained only metaphorically as an illumination of sorts. Consequently, Brito fails to meet MICI because it remains mysterious how the agent intellect can help the material essence get rid of its metaphysical hindrance to be the efficient cause of intellectual acts.

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formam positive et immaterialiter a quidditate phantastica generari […] in intellectu phantasmata generent determinatam cognitionem rei cuius sunt phantasmata." (Ibid., qu. 16, 240.)

71   "Secundo dicendum est quod intellectus possibilis intelligit per abstractionem a phantasmatibus, id est intelligendo quidditatem rei, non intelligendo accidentia vel conditiones particulares et materiales sub quibus existit in phantasia." (Radulphus Brito, *In tertium de An.*, qu. 22, 269.) For Brito, the intelligible species is the act of intellection. He thus rejects a position often attributed to Aquinas, according to which the intelligible species is the efficient cause of intellection: "[…] dicendum quod species quae dicitur esse in anima non est aliud quam cognitio rei. Et hoc potest probari per rationes prius dictas." (Ibid., qu. 24, 288.)

72   "[…] phantasmata secundum se et in virtute propria non agunt in intellectum possibilem sed in virtute intellectus agentis et sub esse immateriali et abstracto." (Radulphus Brito, *In tertium de An.*, qu. 22, 271.)

73   "[…] dico quod illud quod intelligitur de se est quidditas rei secundum se cui accidit et esse signatum et esse abstractum. Tamen intelligitur sub esse quod habet in anima ita quod illud esse quod habet in anima non est illud quod intelligitur sed illud sub quo res intelligitur." (Radulphus Brito, *In tertium de An.*, qu. 7, 176.)

74   "[…] talis intellectus non est fictus quia quidditas et natura rei prior est quam conditiones individuales et ideo nata est cognosci non cognoscendo illas conditiones." (Radulphus Brito, *In tertium de An.*, qu. 22, 269.)

7   Conclusion

In the first part of this chapter I formulated MICI as:

> The challenge to account for intellection by means of a (a) non-cognitive/
> non-epistemic, (b) plausible, and (c) positive link between intellection
> and essences that (d) makes intellection a good basis for non-accidental
> knowledge about them.

Albert, Siger, and Brito succeed in meeting (a) and (c): they all posit relations
between intellection and its object (determination in Albert and causation in
Siger and Brito) that are (a) non-cognitive/non-epistemic and (c) positive. As
we have seen, Siger fails to meet (d), because the relation of similarity between
the immanent object, which directly causes intellection, and the material
essence jeopardises intellection's ability to be the basis of true knowledge. In
order to meet (d), Brito rejects accounts such as Siger's, which introduce inter-
mediate objects of intellection. But Brito leaves a gap as regards (b), for he posits
a relation of causation, made possible by the agent intellect, between intellec-
tion and the material essence, but does not explain sufficiently the mechanism
whereby the agent intellect enables such a relation. Does Albert's account fare
any better as regards MICI? Regarding (b), is determination a plausible relation
between the immaterial and the material realms? If we understand it as akin
to formal causation, as I have suggested, I think it is; for nothing prevents, say,
the form of the table in the designer's mind from formally determining the
material table in my living room, so determination between the immaterial
and the material realms can indeed obtain. As I have shown, Albert's account
also meets (d), for, through determination, intellection of x is ontologically
dependent on x so as to be a good basis for non-accidental knowledge of x. His
account is also complete, insofar as the Aristotelian theoretical framework is
concerned, for intellection continues to be a passive process, which in Albert's
case is actualised by the act of abstraction and not by the object of intellection,
as in Siger's and Brito's accounts.

To sum up, although Albert's, Siger's, and Brito's accounts are structurally
similar in that they all understand concept formation as crucially composed of
two distinct psychological processes – intellection and abstraction – the sub-
tle but substantial differences between their accounts emerge clearly when we
submit these accounts to the test of MICI.

CHAPTER 6

John of Jandun on How to Understand Many Things at the Same Time

Michael Stenskjær Christensen

1 Introduction

In *Quaestiones super tres libros Aristotelis De anima* John of Jandun offers one of the strongest endorsements of so-called 'monopsychist psychology' of his generation. He thinks the rational activity of any human individual is made possible through a single and unitary intellect that is separate from the individual human being. This means that the rational capacities are not a part of the individual human, are not encased in the human body and limited by the life and death of the individual, and do not express any personal identity or uniqueness particular to the individual. This is a radical idea that goes back to Averroes (1126–98) and was developed in the thirteenth century, especially by Siger of Brabant in his *De anima intellectiva* from 1270. Jandun was the strongest proponent and developer of the idea in the early fourteenth century.[1] It is a challenging position to hold, but Jandun goes very far to defend and develop the doctrine. His strong conviction of the basic truth of it leads him to a discussion and defence of an unconventional position concerning the possibility

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1 Zdzisław Kuksewicz, *La thèorie de l'intellect chez les averroistes latins des XIIIᵉ et XIVᵉ siècles: De Siger de Brabant à Jacques de Plaisance* (Wrocław: Ossolineum, 1968) presents an extensive analysis of the medieval tradition of this theory. The question is also in flux throughout the texts of Averroes himself; see the extensive discussion in Richard C. Taylor, "Introduction," in Averroes (Ibn Rushd) of Cordoba, *Long Commentary on the De anima of Aristotle* (New Haven: Yale University Press, 2009): xix–lxxvi. The term "averroism" itself is controversial and I will steer clear of it here, but see Guyla Klima, "*Ancilla theologiae vs domina philosophorum*: Thomas Aquinas, Latin Averroism and the Autonomy of Philosophy," in *Was ist Philosophie im Mittelalter?*, ed. J. A. Aertsen and A. Speer (Berlin: De Gruyter, 1998), 393–402; Bernardo Carlos Bazán, "Was There Ever a 'First Averroism'?" in *Miscellanea Mediaevalia*, vol. 27: *Geistesleben im 13. Jahrhundert*, ed. J. A. Aertsen and A. Speer (Berlin: De Gruyter, 2000), 31–53; and John Marenbon, "Latin Averroism," in *Islamic Crosspollinations: Interactions in the Medieval Middle East*, ed. A. Akasoy, J. E. Montgomery, and P. E. Pormann (Exeter: Gibb Memorial Trust, 2007). Jean-Baptiste Brenet, *Transferts du sujet: La noétique d'Averroès selon Jean de Jandun* (Paris: Vrin, 2003), explores the details of Jandun's position in relation to Averroes and argues that viewing him merely as an "averroist" is insufficient and reductionist.

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of engaging in multiple simultaneous but unrelated acts of understanding occasioned by the same intellect. In this chapter I will analyse his discussion, explore its connection with the monopsychist model of the intellect, and investigate possible explanations for his unconventional position.

In the general context of the present volume this chapter focuses on the metaphysical foundation of intellectual thoughts through the lens of the atypical idea that the intellect does not belong to individual human beings, but is united with them during an act of understanding. Where the previous chapter by Ana María Mora-Márquez has provided a rich discussion of the thirteenth century tradition, the present chapter shifts the focus towards the metaphysics of the intellectual soul in the early fourteenth century by conducting a case study on an unusual and less intuitive interpretation of understanding and how it relates to humans. Thereby it also provides an indirect presentation of the broader Latin tradition of the late thirteenth and early fourteenth centuries.

As an example given by Juhana Toivanen in volume one suggests, there is nothing counter-intuitive in a visual perception of a computer screen as well as a coffee mug on a stack of books. He points out how this experience might be challenged by the mechanics of Aristotelian sense perception, according to which a single sense organ is actualised as one, and only one, sense input at a time.[2] So the challenge for the Aristotelian in the case of sense perception is to find an explanation that saves the phenomenon as well as the metaphysics of perception. When it comes to matters of the intellect we will not have to reconcile phenomenology with Aristotelian metaphysics because the possibility of entertaining multiple thoughts at the same time is often found to be counter-intuitive and makes many people uneasy. Within a medieval Aristotelian psychology this is explained by the same ideas that give rise to a problem in the domain of sense perception: the intellect understands an object by being actualised by a species that represents the object. And since nothing can be actualised as more than one thing at any time, any simultaneous understanding of multiple objects becomes impossible. According to John of Jandun that is also the view most commonly held by the Aristotelian commentators of his day. He, however, follows a philosophical path that goes against this position in a discussion within his question on the subject, entitled *Whether the intellect can understand multiple objects simultaneously*. Here we will investigate how he arrives at that solution.

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2 See Juhana Toivanen, "Perceiving Many Things Simultaneously," in *Forms of Representation in the Aristotelian Tradition, Volume One: Sense Perception,* ed. J. Toivanen (Leiden: Brill, 2022), 148–51.

Jandun presents an investigation of an enigmatic question, namely how the separate intellect engages in simultaneous independent acts of understanding, and what effect that has on human psychology. It would be tempting to think that this investigation (in book 3, question 32) was a response to a call which can be found in book 3, question 27, where Jandun discusses direct and higher-order understanding and mentions that some consider those two acts to be simultaneous. He proposes to discuss this simultaneity elsewhere, but as we will see below, the question 32 concerning multiple simultaneous objects of understanding does not give an answer to the point raised in the context of question 27, because it does not deal with higher-order understanding at all. So although the themes are related, question 32 is not a solution to, nor in conflict with, the other question.

But why would Jandun then delve into the problem of simultaneous understanding of separate and causally unrelated objects within a single intellect, as he does in question 32? And why does he invest significant resources in the discussion of this problem when it is not central to addressing the challenges of conventional cases of simultaneous understanding? Furthermore, why does he give an answer that goes against the common opinion, even though he admits that he is not able to give a strong demonstrative argument in support of his view? Part of the answer to these questions can be found by connecting the text with the contemporary context. But I also think that the radical idea of simultaneous individual understanding is related to his ideas about the monopsychist intellect. His analysis could make his theory more resilient against an attack by accepting the consequence that the attack accuses him of. I will argue that this is not presented with a hidden agenda of providing such a defence, but as an honest philosophical investigation of the doctrines, which in turn can also work as a defence against some types of attacks on his theory.

2   The Problem

After a long discussion of the central chapters 4–5 of Aristotle's *De anima* 3, one of the first questions in Jandun's treatment of chapter 6 asks whether the intellect can understand multiple things simultaneously. The question springs from one of the main themes of the chapter, namely the activities of composition and division, which are taken to pertain to several things at the same time. But, as is often the case in the question commentaries, the textual passage that gives rise to a question is quickly forgotten in favour of other related philosophical problems. He presents arguments for and against and an extended analysis and discussion of various versions of the problem.

The initial question, *Whether the intellect can understand multiple objects simultaneously*, contains several ambiguities. Jandun identifies several problems based on how simultaneity is understood. These include the problem of whether one or several acts of understanding take place, as well as that of whether the different cases of understanding are occasioned by one or several individuals. Here we should note that the locution that an understanding "is occasioned by" a person reflects the fact that according to Jandun, understanding does not actually take place within the person, but within the separate intellect. The case is therefore analogous to the idea that an understanding takes place within the intellect of a person in conventional psychology. Jandun argues that 'simultaneous' can mean two different things. It can mean either that two things occur in the same instant, or that they occur immediately after each other without any intervening time. When a cause and its effect are simultaneous it is an example of this idea of quasi-simultaneity where two events follow upon each other without any intervention. The more challenging type of simultaneity in this connection is when two things occur at the same time, and that is also the type of simultaneity that his analyses revolve around. With that we are left with three different combinations of cases:

(1)   The separate intellect understands multiple objects through the *same* act of understanding at one time.

(2)   The separate intellect understands multiple objects through *multiple* acts of understanding at one time by cognition:

  (a)   occasioned by a single individual;

  (b)   occasioned by multiple individuals.

Instances of the first case (1) are instances of understanding that necessarily imply different objects, for example the understanding of relations, and hylomorphic substances. When I understand the concept of a relation, I simultaneously understand the two referents of the relation, and when I understand what a hylomorphic substance is, I simultaneously understand the ideas of form and matter. The second version (2) is more problematic because it implies that the same immaterial substance, the intellect, is actualised by two or more distinct forms at the same time. With most commentators the schema would only comprise the two general cases (1) and (2), but in a monopsychist psychology we get the extra level of complexity that it depends on whether the understanding is occasioned by one or several individuals. For Jandun the most difficult of these cases is (2a), when the same individual entertains several acts of understanding of different objects at one time.

The basic question is therefore which, if any, of these variations of simultaneous understanding are possible. The main focus of Jandun's attention is in the more difficult question of type (2a) simultaneity. To get a better grasp

of the consequences of these different versions of the problem, I will begin by outlining Jadun's monopsychist model of the intellect. This will help us to analyse his question and also to see why he may have chosen the position that he has.

3   The Separate Intellect and Human Understanding

Jandun defends a so-called monopsychist model of the intellect. This term refers to the idea that the intellect is not individuated according to the individuals that make use of the intellect but is rather shared among them. According to Jandun, the intellect is a unitary, self-subsisting, immaterial substance that realises the intellective powers of the individual when needed. Discussions of this idea are spread out through the majority of book 3 of his *De anima* commentary, but questions 5 and 7 are particular focal points, as they discuss whether the intellect is the substantial form of the human soul (question 5) and whether the intellect is one and shared among all humans (question 7). Here I will sketch the main lines of those arguments.[3]

In question 5, entitled *Whether the intellective soul is the substantial form of the human body*, the nature of substantial forms is the centre of attention. Early in the question we find a discussion of whether the intellective power is the substantial form that gives being to the body, but Jandun presents it in a stronger version where the destruction of one includes the destruction of the other. Jandun uses Averroes to argue strongly against this materialist position (which he attributes to Alexander of Aphrodisias). The main arguments hinge on the incompatibility of an immaterial intellective power and the ontology of substantial forms of material bodies. Every form, he argues, that requires some material conditions fulfilled in a body to realise the existence of the hylomorphic composite will necessarily disintegrate when those material conditions are no longer fulfilled. If the intellective power maintains an existence after the bodily death, it follows that it cannot have this role, which means that it cannot be the substantial form that gives being to the body.[4]

The definition of the intellect and its relation to the human body revolves around how it can be a form of the body and still remain incorruptible and

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3 More in-depth treatments can be found in Kuksewicz, *La thèorie de l'intellect*, 204–19; and Brenet, *Transferts du sujet*, esp. 41–59, and 340–71. See also the preceding chapter by Ana María Mora-Marquéz, which contains expositions of different models of the mind and the connection between human beings, intellect, and understanding.

4 John of Jandun, *Quaestiones super libros De anima* (Venice: Hieronymus Scotus, 1587; reprinted Frankfurt am Main: Minerva, 1966), 3.5, col. 235.

independent from any matter. Jandun argues that something can be a form of a body in two ways. The common definition of form as that which gives being and actuality to a hylomorphic substance is the first meaning. The second variation presents the form as a so-called intrinsic operation, which, he argues, is connected with the substance during the operation of a given power. This is not distinct from the body in place or subject, and it depends on the body for actualisation. The form and the body are united in the act of the power, but they are not one in being. This all seems opaque, but it is supposed to entail that the realisation of the power depends directly on both components, the body and the intellect, where each of them are necessary but insufficient causes. The intellect therefore provides the human soul with its essential power, but not its being.[5] Jandun also emphasises that the act of understanding itself is located solely in the separate intellect. No understanding takes place in the body-soul composite of the individual human.[6] In this way he separates the realisation of the intellective power from the existence of the body. He sees the separate substances and the celestial bodies as proofs that the realisation of intellectual powers need not necessarily take place in the form of a material body.

Jandun calls the form that actualises the human hylomorphic composite the cogitative soul (*anima cogitativa*).[7] This describes the human soul by its highest power, the cogitative power (*vis cogitativa*). The cogitative power recognises and distinguishes individual phenomena based on previous experience, composes different properties of a particular object into a coherent whole, and performs acts of judgement concerning particulars. It is one of four central internal senses, of which the others are imagination (*virtus imaginativa*),

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5   "Alio modo sumitur forma corporis pro operante intrinseco appropriato corpori. Dico autem quod operans intrinsecum appropriatum corpori est illud operans quod non est distinctum a corpore loco et subiecto et cuius actus proprius proprie et praecise dependet ab illo corpore vel ab aliquo existente in illo corpore ita quod operans intrinsecum et illud corpus, licet non sint unum in esse ita quod esse unius fit esse alterius, sunt tamen unum in uno opere proprio quod ab utroque dependet immediate." (Jandun, *Quaestiones super libros De anima* 3.5, col. 239–40.) In all quotations I impose my own punctuation and normalise the orthography according to Charlton T. Lewis and Charles Short, eds., *A Latin Dictionary, Founded on Andrews' Edition of Freund's Latin Dictionary Revised, Enlarged, and in Great Part Rewritten* (Clarendon Press, Oxford, 1879).

6   "Dicam ergo breviter quod compositum ex anima intellectiva et corpore humano intelligit ratione partis in qua sola est ipsum intelligere subiective, scilicet ratione animae intellectivae, et istud aggregatum est ens actu per animam intellectivam, vel ratione animae intellectivae eo quod ipsa est ens actu. Illud tamen esse non recipitur in corpore humano subiective." (Jandun, *Quaestiones super libros De anima* 3.5, col. 244.)

7   The concept of the cogitative soul is also to be found in Averroes. See Taylor, "Introduction," lxix–lxxxvi.

memory (*virtus memorativa*), and the common sense (*sensus communis*).[8] The cogitative power registers and recognises properties of individual objects of perception or imagination, or, as Jandun says, the individual forms (which he calls intentions) of all the ten categories, such as the form of a particular person, a given particular line, whiteness, fatherhood, cooling, and other categories. This means, according to him, that it does not recognise the particular or common perceptible properties, but the intentions, which are imperceptible and separate from the sensible properties with which they are connected before being stored in memory.[9]

But the cogitative power also has a likeness to the powers of the intellect because it is able to make judgements, albeit non-universal ones. Jandun explains:

> Again, the Commentator [scil. Averroes] says about this power, in the same commentary on book three, that this power is some kind of reason. And I understand this so that just as reason is a power to apprehend abstract objects, which reasons about things apprehended universally, so does this noble power reason about things that are apprehended individually, and it moves from one thing to another to gain cognition of something unknown. And from this it follows that it is the proper power of humans, because only humans reflect.[10]

He expands this by explaining how the cogitative power composes an immaterial intention with the memory of a sensed object, such as the intentional act of vision with the quality 'white' in a memory of seeing something white. When somebody judges that she has seen something white, imagination provides the image (*idolum*) of whiteness, while memory provides a previous stored act of vision, and the cogitative power composes these into a judgement.

Finally, Jandun gives two practical examples of how this combinatory and discriminative power of imagination and memory can provide non-universal judgements. When a good doctor recognises the suffering of his patient and its

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8   For the full treatment of these powers, see Jandun, *Quaestiones super libros De anima* 2.37, col. 214–18.

9   Jandun, *Quaestiones super libros De anima* 2.37, col. 214.

10   "Rursus dicit Commentator de ista virtute in eodem tertio quod ista virtus est aliqua ratio, et ipsum intelligo sic quod sicut ratio est virtus apprehensiva abstracta, ratiocinans de rebus universaliter apprehensis, sic ista nobilis virtus ratiocinatur de rebus individualiter apprehensis et discurrit de uno in aliud ad cognitionem ignoti, et ex hoc sequitur eam esse propriam homini, quia solus homo ratiocinatur." (Jandun, *Quaestiones super libros De anima* 2.37, col. 215.)

cause, as well as his complexion, his age, and the other circumstances of his condition, and when he recalls from memory someone in the same circumstances dying from this malady, and by his imagination foresees the death of the current patient, then that true judgement comes about through the power of his cogitative power. The experienced meteorologist is a similar, albeit less morbid, example of this when he foresees an eminent hailstorm by comparing the current conditions with his memory of previous similar phenomena and extrapolating the development of the weather in his imagination.[11] These properties of the cogitative power are what lead Jandun to suspect that Aristotle refers to this same power when he mentions a prudent and deliberative (*consiliativum* and *ratiocinativum*) power in *Nicomachean Ethics* 6.[12] And he claims that these properties also led some, such as Galen (who is Jandun's main example here), to identify the full intellectual power with the ensouled body.[13]

Phantasia, Jandun argues, is also used ambiguously by Aristotle to refer to either the simpler power of imagination or the more elevated cogitative power. The term is a synonym for imagination when he talks about *phantasia* as the ability to preserve the species of objects of sense perception, but it refers to the cogitative power when he describes it as power of reflection and evaluation. The cogitative power is more elevated than the imaginative because it performs the semi-rational activities of the soul.[14] The cogitative power therefore describes the full human soul in its complete capacities, which is combined with the intellective power in the act of abstract understanding. This means that while the intellective power is not a part of the material body, the body is still a necessary requirement for actualising an act of human understanding.

So, to sum up, the human soul is close in being to the intellect because it possesses a cogitative soul, and it is through the cogitative soul that the human nature is fully actualised. Together, the cogitative soul and the intellect actualise human understanding.[15] The cogitative soul is the substantial form of the human body, the form that enables the full gamut of human activities, with the exception of abstract and universal understanding. The cogitative soul,

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11   Jandun, *Quaestiones super libros De anima* 2.37, col. 215.

12   He is probably thinking of the discussion in *EN* 6.5 of φρόνησις, which also includes the idea of being βουλευτικός.

13   Jandun, *Quaestiones super libros De anima* 2.37, col. 214–15.

14   Jandun, *Quaestiones super libros De anima* 2.37, col. 217.

15   Jandun, *Quaestiones super libros De anima* 3.5, col. 244. Brenet, *Transferts du sujet*, 41–59 gives a more detailed analysis of this doctrine and its historical context.

however, adheres to the requirements of a material form, as it is inherent in the body, gives it being as a living human, and perishes with it at death.[16]

Later, in question 7, entitled *Whether the intellect is one and shared among all humans*, Jandun explains how the intellect exists as a separate substance and how it enables understanding in the individual. His model maintains the immaterial and separate nature of the intellect, as he takes to be required by Aristotle in chapter 5 of *De anima* 3. But it also seems to raise some questions regarding the privacy, ownership, and simultaneity of some mental activities: (1) if all mental activity is caused by one centralised thought-process, does it follow that everyone has the same thoughts at any one time, or can there be distinct mental activities and trains of thought for distinct individuals at any one time? This calls the privacy of thought content into question. Conversely, (2) since common observation supports contrary mental acts in distinct individuals, does it result in multiple simultaneous and mutually inconsistent and even contradictory acts in the separate intellect? This raises the question of ownership of thought content. Furthermore, (3) if the intellect is one in number, can it then be allowed that multiple individuals understand the same object of understanding at the same time through multiple acts of the intellect? If that were the case, it would follow that one power has multiple simultaneous actualisations, which looks like an impossibility according to conventional Aristotelian metaphysics. These challenges highlight the problem of letting one substance provide powers to distinct individuals that need to be engaged concurrently.[17] In the following section we will also see how these problems lie at the core of the challenges concerning simultaneous understanding of multiple objects.

Jandun's solution to the first question of privacy is to individuate each act of understanding by the products of the cogitative soul. He sees this as a way of connecting each act to a particular embodied individual and ensuring that no thought content leaks between them.[18] This principle of individuation means that there is no distribution of thoughts across individuals, because

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16   Jandun, *Quaestiones super libros De anima* 3.5, col. 244.

17   Jandun himself presents the challenges among a longer collection of problems facing this theory in Jandun, *Quaestiones super libros De anima* 3.7, col. 259–61.

18   "Imaginatur ergo iste homo [i.e., Averroes] quod homo per istum modum intelligit quia totum aggregatum ex intellectu et homine habente virtutem [*corr. from* virtute] cogitativam producit in seipsum actum intelligendi, et hoc est ipsum intellectum nobis continuari ita tamen quod ipsum actum intelligendi elicit et recipit ratione alterius et alterius principii; nam ratione ipsius intellectus materialis recipit, et ratione animae et virtutis cogitativae actualiter cogitantis praesente intellectu agente producit seu efficit hunc actum, et sic intelligit." (Jandun, *Quaestiones super libros De anima* 3.7, col. 262–63.)

the content of the cogitative soul of Socrates (which arises from cognition of particulars or sense perception) enables him to produce a certain intellectual act that will not be possible for Plato, because the cogitative soul of Plato does not hold the same content.[19] This addresses the first question concerning the privacy of thought content.

But who is then the subject or "owner" of the understanding? According to Jandun only the weakest interpreter of the ideas of Averroes will not see that it is still the individual Socrates. However, we must understand 'Socrates' to refer not only to the composite of body and cogitative soul that he lives and dies as, but rather to the whole composite of that hylomorphic substance along with the separate intellect, as it is engaged in the individual during understanding. The separate intellect is not different from the individual in place or subject during the act of understanding but works as the so-called intrinsic operator of the individual. This creates a higher-order composite as long as the understanding lasts, which Jandun takes to be a unitary entity that can be the owner and subject of the understanding.[20] This addresses the second question concerning ownership of the thought content.

To round off the presentation of Jandun's monopsychist doctrine, let us have a look at the final question concerning multiple simultaneous acts of the same power. When two or more people understand the same object of understanding, does this result in one or more actualisations of the power? Multiple individuals can hardly understand the same object through a single act, as

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19   "Tunc ad propositum dico quod quantumcumque fit unus numero intellectus quo omnes homines intelligent, tamen non sequitur si ego acquiro aliquem actum intellectus, scilicet scientiam vel speciem vel intellectionem, quod tu acquiras illam eandem, quia possible est quod fantasia mea sive cogitativa fit in praeparatione propria et debita ad producendum actum intellectus, scilicet quod actu cogitabit, et sic ego acquiro illum actum, et tua cogitativa non sic erit indebita praeparatione et propinque ut fit movens, et sic tu non acquires neque elicies talem actum, neque intellectus tuus ex tuo fantasmate recipiet talem actum, et sic tu non eris intelligens sicut ego aut econverso." (Jandun, *Quaestiones super libros De anima* 3.7, col. 263.)

20   "Et mihi videtur utique quod solutio bene levis est parum exercitatis. Non enim diceret Commentator quod Socrates intelligit formaliter prout 'Socrates' dicit solum compositum ex corpore et anima cogitativa inhaerente, sed prout dicit totum compositum ex anima intellectiva et praedicto composito. Hoc autem totum compositum est quid unum sufficienter prout requiritur ad talem operationem eliciendam. Nam ipse intellectus incorporeus existens non est distinctus loco et subiecto ab ipso Socrate cogitante, et cum hoc habet naturalem inclinationem et promptitudinem ut ex speciebus existentibus in anima cogitativa hominis moveatur ad similitudinem rei cognoscendae, et sic est operans intrinsecum et appropriatum homini, ut videbitur post, et ideo ex ipso cum homine sufficienter fit ens unum unitate requisita ad talem actum sicut est intelligere." (Jandun, *Quaestiones super libros De anima* 3.7, col. 263.)

among other things that would require them to start and end the act in exactly
the same instant, which does not exactly reflect the evidence from experience.
Jandun's preferred solution is again to refer to individuation through phan-
tasms.[21] A power, he says, cannot have more than one act in relation to a single
object when it has only one immediate cause. But when multiple individu-
als engage in understanding of an object through their individual phantasms
the act is multiplied according to their input.[22] This does sound like a radical
theory, but because Jandun wants to maintain the singularity and unity of the
separate intellect he needs some way of enabling several different acts of
the same substance with respect to the same thing. We may however ask
whether he is then able to maintain this requirement of unity if he adheres to
the principle that a thing is defined in accordance with its function.

Jandun's discussion of these three challenges of privacy, ownership and
simultaneity shows that the separate intellect is actualised by many acts of
understanding at any one time through individual cogitative souls. But the
causal relation between the cogitative act and the intellective act individuates
each act and creates a unique composite consisting of the individual human
soul and an actualisation of the intellect. In this way the separate intellect
looks like a separate and unitary substance, but it is only ever actualised in the
composite of a particular human and the intellect when, and only for as long
as, an act of understanding takes place. From this we see that it is necessary
for Jandun that the same form, the intellect, has any number of simultaneous
actualisations.

4   Understanding Many Things at the Same Time

4.1   *Solving the Problem*
The monopsychist model means that the intellect must be able to engage in
any number of simultaneous acts of understanding. In the preceding section

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21   This problem and solution are also explored more in-depth in question 3.10 titled *Whether
      the acts of understanding by which different humans understand a single object of under-
      standing are different or one in number* (Utrum intellectiones quibus diversi homines
      intelligunt unum intelligibile sint diversae numero aut una numero).

22   "Et dico quod una virtute impossibile [*corr. from* virtutem impossibilem] est habere
      diversos actus respectu unius obiecti et respectu eiusdem motivi propinqui, sed si motiva
      propinqua sunt diversa et distincta, nullum est inconveniens. Nunc autem si Socrates
      et Plato intelligant unum intelligibile motivum propinquum non est unum et idem, sed
      aliud et aliud, scilicet fantasma Socratis et Platonis, aut intentio imaginata aut cogitatio
      aut qualiter volueris appellare." (Jandun, *Quaesiones super libros De anima* 3.7, col. 267.)

we saw how the alternative would undermine the possibility of separate persons occasioning an understanding of separate objects simultaneously. Later, in book 3, question 32 (*Whether the intellect can understand several objects simultaneously*), we see a further exploration of this field of problems. Jandun presents an analysis of four different types of simultaneous understanding, and quickly resolves most of the simpler variants by disambiguations that reveal them as innocuous. But he also identifies one version of simultaneous understanding that turns out to be particularly difficult because it is generally considered to be impossible. He is not able to prove definitively that simultaneous understanding of this sharpened and difficult kind must be possible, but he makes the case that it is likely to be possible. In this section I will outline his different versions of simultaneous understanding with a special focus on what Jandun describes as the most difficult version. Next, we will see how he argues that the most difficult type of simultaneous understanding is possible.

As already mentioned above, Jandun divides simultaneity into strict simultaneity, two things happening in the same instant, or simultaneity as the uninterrupted sequence of two connected things, such as the occurrence of a cause and its immediate effect. The second, and somewhat odd, version of "simultaneity" is less problematic according to Jandun, because nobody would deny the existence and possibility of such sequential occurrences. This is also possible to do intellectually, he says, by thinking of two separate concepts without any intervening time or thought.[23]

Within things that are strictly simultaneous we have the aforementioned subdivisions:

(1)   The separate intellect understands multiple objects through the *same* act of understanding at one time.

(2)   The separate intellect understands multiple objects through *multiple* acts of understanding at one time by cognition:

    (a)   occasioned by a single individual;

    (b)   occasioned by multiple individuals.

Among those subdivisions some cases are easier than others. Jandun is happy to accept that two different objects, such as man and donkey, can be understood through one concept, such as 'sentient' or 'animal,' and the first type of simultaneity (1) is therefore easily accepted. Many of the examples that he

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23   Interestingly, Jandun's argument in support of this view shows a tendency to ascribe internal phenomenology a strong argumentative force, as he says that "this does not require much proof, as anyone has experienced this in himself" ("[…] et hoc non multum indiget probatione, quia quilibet est expertus in seipso […]" (Jandun, *Quaestiones super libros De anima* 3.32, col. 391)).

gives at first in support of simultaneous understanding fall under this category. This goes for the equivocal term that refers to several referents at the same time, for correlatives like father and son, for the minor of an argument along with the conclusion, and not least for the elements of a composition and division – the subject of the question raised in the Aristotelian text.[24]

Also the second version of multiple simultaneous acts of understanding, where they are occasioned by multiple individuals (2b), is simple for him to solve, as anything else would contradict the foundation of a monopsychist model of mind. On the other hand it is a problem that is only relevant within that model of mind because a non-monopsychist would find the idea of many numerically separate acts of understanding occasioned by distinct individuals quite natural, as every individual has her own intellect. As he already finds that he has established the truth of the monopsychist approach, he does not need to supply any arguments in favour of this case, but merely to point out how absurd it would be if several people could not have simultaneous understandings of different objects. He does however present a couple of examples that support the general observation by pointing to different people having different opinions about a fact and acting with different ends in mind. In this way he also quickly accepts the truth of version (2b).

The main problem for Jandun lies in simultaneous understanding by the same individual. He writes:

> But concerning the other understanding, that is, whether the intellect can understand multiple objects in the same instant by different acts of understanding, which are caused by phantasms or products of the cogitative soul that belong to a single individual, is a good question, and there is disagreement among the teachers on this. And this means asking whether one person can understand different objects through different acts of understanding in the same instant.[25]

The general opinion, he says, is that simultaneous understanding is impossible. As is typical within question commentaries, he presents five potential arguments against the idea of simultaneous understanding. I will highlight three of them that focus on the mechanics of capacities and form reception. He argues

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24   *De An.* 3.6, 430a26–b4.

25   "Sed de alio, scilicet an intellectus possit in eodem instanti intelligere plura diversis intellectionibus causatis a phantasmatibus vel a cogitationibus unius hominis est bene dubium et diversitas inter doctores, et hoc est quaerere an unus homo possit intelligere diversa diversis intellectionibus in uno instanti." (Jandun, *Quaestiones super libros De anima* 3.32, cols. 391–92.)

that when an indivisible power like the intellect is directed at something, it is directed only towards that and nothing else. He uses the famous example of how wax is imprinted with the form of a signet ring, which was generally used to illustrate how the object of cognition actualises the cognitive power. When wax is actualised by one form, it is argued, it cannot be actualised by another at the same time. Finally, any power can only be engaged in one act or use at the same time – an argument much like the problems we have discussed above concerning the workings of the separate intellect.

These three arguments are refuted by somewhat similar distinctions and exceptions. Although an indivisible power is necessarily directed in its entirety towards an object, due to its indivisibility it does not follow that it can only direct itself at one object. Just as the point at the centre of a circle is the end with reference to any number of radii, so the intellect can refer itself to multiple objects in accordance with what Jandun call its "formal similarity" (*conformitas*) in its understanding of the objects.[26] It looks like the idea is that although any conversion towards an object includes the conversion of the whole power, such conversion does not preclude it from being directed at other objects simultaneously. As there seems to be a conflict between this idea and the singularity of form reception, it needs to be addressed in the response to the following two objections.

Unlike the wax imprint, the intellect and the act of understanding are immaterial. According to Jandun that should solve the problem of multiple simultaneous acts through different forms being actualised in the same subject. The objection that one power can only have one act is therefore also rejected with the qualification that it can only have one act with respect to the same object, and the basis is again the immaterial nature of the power of the intellect. But we do not find much more support for the supposed possibility of multiple simultaneous actualisations than this. Finally, he presents and rejects a couple of further challenges to the position that refer to the potential simultaneous understanding of all potential objects of understanding as well as the apparent rejection of the doctrine by Aristotle. The rejections do not, however, present substantial new philosophical arguments but rather establish distinctions that show how the Aristotelian ideas do not preclude multiple simultaneous intellectual activities.[27]

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26   "[…] quantumcumque sit indivisibilis tamen potest referri ad multa secundum conformitatem quod est ipsum converti, sicut cum punctus in medio circuli, licet sit unus et indivisibilis secundum se, tamen est terminus multarum linearum et ad eas refertur." (Jandun, *Quaestiones super libros De anima* 3.32, col. 392.)

27   Jandun, *Quaestiones super libros De anima* 3.32, cols. 392–93.

While most of Jandun's discussion aims at showing how multiple simultaneous acts of understanding are possible, he does very little to argue that it is actually likely or necessary. But in the final section of the question he gives an argument to that effect that is based on an analogy with sense perception. He argues that when an object is positioned before the eyes with one patch of white and another of another colour, say red, it will be no problem for the observer to answer which colours were present in front of him without moving his gaze or changing the focus at any point. Jandun draws the conclusion that simultaneous acts of understanding in the same power are possible with the following rhetorical question:

> Therefore, if vision is able to see different objects of vision with different acts of seeing by which it perceives the separate colours simultaneously, why should the intellect not be able to understand different objects of understanding simultaneously?[28]

Jandun is aware of a counter-argument against this conclusion, namely that sense perception works differently from understanding because of the corporeal nature of the activity. The idea would be that simultaneous sense perception is made possible through different types of actualisations of different parts of the sense organ, each actualisation reflecting a distinct quality of the sensed object. But that model of pixelated perception is rejected because the power of sight is actualised in its entirety, and because if perception were pixelated, then two different colours would be actualised in one part of the sense medium at the same time.[29] Jandun believes that this type of simultaneous understanding is possible, but this reference to sense perception is the only positive argument he gives. The remaining part of his discussion, which is somewhat extensive, is rather a discussion and rejection of the arguments against such simultaneity.

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28   "Si igitur visus potest simul videre diversa visibilia diversis visionibus quibus cognoscit proprios colores, quare non poterit intellectus simul intelligere diversa intelligibilia?" (Jandun, *Quaestiones super libros De anima* 3.32, col. 394.)

29   "Hoc autem non videtur sufficere, quia quantumcumque visus et alius sensus fit in corpore, tamen nulla est ratio quare duobus coloribus appropinquatis visui visio unius recipiatur in una parte et alterius in altera, cum virtus visiva sit ibi per totum, et praecipue quia species duorum sensibilium (ut puta duorum colorum) possunt simul sentiri in una parte medii et videtur esse manifestum ut dicitur in *Perspectiva*." (Jandun, *Quaestiones super libros De anima* 3.32, col. 394.) For an overview of the whole landscape of these kind of problems in the thirteenth and fourteenth centuries, see volume one, chapter five.

This means that the argument in favour of (2a) simultaneous acts of understanding rests on two premises, (1) the analogy with sense perception and (2) the assumption that anything the lower faculty of sense perception is capable of should also be possible for the higher faculty of intellection. The argument itself is not particularly strong, and Jandun also closes the question with the remark that he wishes that he could find the truth of the question in a demonstrative proof, but that he nonetheless presently finds his answer most likely to be the true answer to the problem.

So in the *De anima* commentary he leaves this question slightly open, but with a clear preference for confirming the possibility of multiple simultaneous acts of understanding occasioned by the same individual. However, this is not quite consistent with the position that we find in his *De sensu* commentary on simultaneous perception. Since one of the two basic premises of his conclusion involves an analogy with sense perception, a short detour to that discussion is relevant. He dedicates a whole question to whether multiple objects of perception are perceived through multiple acts.[30] His answer is negative, and the similarity between sense perception and the intellect is used as a central argument to reach that conclusion. He assumes in the *oppositum* as well as in the determination of the question the analogy between sense perception and the intellect that we have also seen in the *De anima* commentary. And he argues that since the intellect normally understands distinct objects through a single act, the story must be the same in the case of sense perception. In the determination he writes as one of his arguments: "But the intellect understands different objects simultaneously through one act, as is clear from the act of combining and dividing."[31] This is an exact reference to the beginning of *De anima* 3.6, which deals with the subject of composition and division, the context in which Jandun raises the question on simultaneous understanding under scrutiny here. And when we look at his refutations of the initial arguments in support of separate acts of perception, we find another direct conflict. One of the initial arguments holds that since the intellect understands separate objects of understanding through different acts, sense perception is capable of the same thing. This argument is countered by

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30 John of Jandun, *Quaestiones super librum De sensu et sensato*, ed. J. Toivanen, in "Medieval Commentators on Simultaneous Perception: An Edition of Commentaries on Aristotle's *De sensu et sensato* 7," *Cahiers de l'Institut du Moyen-Âge Grec et Latin* 90 (2021), qu. 34, titled *Whether one sense perceives contrary objects of perception or objects of perception from different genera through a single act* (*Utrum unus sensus percipiat contraria vel sensibilia diversorum generum sub unica actione*).

31 "Sed intellectus simul intelligit diversa unica actione, ut patet componendo et dividendo." (Jandun, *Quaestiones super librum De sensu et sensato*, qu. 34, 205.6–7.)

the statement that: "to understand different objects and through different acts seems entirely impossible."[32]

These conclusions seem to conflict with the doctrines outlined in the present question on simultaneous understanding. This is partly because he presents the doctrines from the point of view of the standard cases of composition and division where thinking of a hylomorphic substance implies thinking about both the form and matter at the same time, though they are covered by two different concepts. That is a case that is also included in Jandun's current discussion, but easily solved as a case of non-controversial simultaneous understanding that only involves one act of understanding. In the *De sensu* commentary he does not get into the much more difficult case of (2a), simultaneous understanding of unrelated objects.[33] This different, and somewhat inconsistent, position needs to be pointed out, and I will also take it up again towards the end.

4.2 *Why the Doctrine of Simultaneous Unrelated Acts of Understanding?*

I introduced the chapter noting that it seems intuitively likely that we cannot think about more than one thing at a time. This is different from sense perception, where it is easier (or maybe even necessary) to accept that we perceive multiple things at the same time. We have followed Jandun's analysis of different possible suggestions of what simultaneous understanding may cover, and found him to identify one particularly difficult case. This was the case of multiple simultaneous acts of understanding that are occasioned by separate causes (products of the cogitative soul) within the same individual. In conventional language this would correspond to one individual who thinks about two different and unrelated things at the same time. According to Jandun, even this attenuated case of simultaneous understanding should be possible, although it is difficult to find a definitive demonstrative proof of it, and he even thinks that it is also supported by experience.[34] But why does he delve into the analysis of this idea?

It could be (1) a result of honest philosophical investigation to simply get closer to the truth, (2) an answer to an existing philosophical problem within

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32   "Sed simul intelligere diversa et sub diversis rationibus omnino non videtur possibile." (Jandun, *Quaestiones super librum De sensu et sensato*, qu. 34, 206.13–14.)

33   Jandun actually presents short reflections on the possibility of simultaneous acts in the determination of the *De sensu* question, but he does not pursue the idea.

34   At an answer to one of the challenges to the position he writes that "[...] one person can think about several objects, as it is clear from experience" ("Ad aliud conceditur quod unus homo potest simul multa cogitare, ut patet quantum ad experientiam" (Jandun, *Quaestiones super libros De anima* 3.32, col. 392)).

his philosophy, or (3) a part of a dialogue with contemporary discussions on the same topic. I will suggest that all three explanations are relevant and argue further that the curious investigation of the subject also might have a fruitful outcome for his psychological theory. Another potential explanation for why he takes up the question could be found in a problem, which Jandun has flagged earlier in the context of his discussion of intellectual self-knowledge and which looks like an obvious reference to the question discussed here. But I will show that this cannot be the case. Then I will briefly connect Jandun's text with similar contemporary discussions on the subject, before finally looking at the beneficial consequences the discussion may have in relation to some challenges to his monopsychist theory. Ultimately I will argue that the discussion may have been occassioned by contemporary debates, but that he pursues it to the extent that he does out of philosophical curiosity and to connect the issue with his general psychology.

4.2.1 Self-Knowledge and Simultaneous Understanding

In book 3, Jandun presents no less than three questions that revolve around distinct aspects of intellectual self-knowledge, questions 13, 27, and 30 with the respective titles *Whether the possible intellect can understand its act of intellection within itself, Whether the possible intellect can understand itself*, and *Whether the possible intellect always understands the agent intellect with a numerically identical act of understanding.*[35] Aside from that, his initial question of book 1, *Whether there can be a science of the soul*, revolves around the same set of problems, as is almost always the case in the very common initial questions. I am inclined to see the first two questions, numbers 13 and 27, as analyses of different types of self-knowledge that are not mutually conflicting but represent different elements of self-reflexive consciousness. The first question analyses how an act of understanding also results in an awareness of that act, while the second analyses how the possible intellect (and by extension the individual) can inspect and experience its own internal functions and acts.[36]

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35   In Latin: *Utrum intellectus possibilis possit intelligere suam intellectionem existentem in eo*; *Utrum intellectus possibilis possit intelligere seipsum; Utrum intellectus possibilis semper intelligat intellectum agentem eadem intellectione numero.*

36   This distinction is taken from Susan Brower-Toland, "Olivi on Consciousness and Self-Knowledge: The Phenomenology, Metaphysics and Epistemology of Mind's Reflexivity," *Oxford Studies in Medieval Philosophy* 1 (2013): 136–71. She analyses various aspects of self-knowledge in the works of Peter John Olivi and distinguishes self-knowledge into two basic types, one of which she calls *state-reflexive* self-awareness and the other *subject-reflexive* self-awareness.

In question 27 on the latter type of self-awareness Jandun closes the main determination of the problem by raising the question of whether intellectual self-knowledge takes place at the same time as the understanding of the primary object of understanding. The difficulty of the problem leads him to postpone it for later with the words:

> But this is quite difficult, and perhaps it will be investigated later, in what follows, whether the intellect can understand multiple intelligible objects simultaneously through different acts of understanding.[37]

This looks conspicuously like an announcement of the later question that is the centre of attention here, as it not only concerns whether the intellect understands multiple things simultaneously, but explicitly whether this takes place through distinct acts of understanding. This is however only an apparent connection, as we shall see.

Question 27 contains an extensive discussion of how the possible intellect is able to know itself through an analysis of this process.[38] He argues that the possible intellect does not know itself by its own essence but through its actualisation by the intelligible species of an object of knowledge. He determines the question in three sections. First, he establishes how, in his view, the intellect can be an object of knowledge; second, he argues that it cannot know itself by its own substance; and finally he presents the way in which it actually does know itself. The first point is the one we have already seen in the other question, namely that the intellect has the ability to know anything within its primary object, which is anything that has being, *ens*, and since the intellect has being, it is a possible object of its own knowledge.

Jandun's overall claim is that self-knowledge requires the actualisation of the intellect by an external species, and that it therefore cannot know itself by its own essence. This is the standard view within the commentary tradition on Aristotle's *De anima* in the thirteenth and early fourteenth century and also reflects Aristotle's position in *De anima* 3.4, 429b22–430a9.[39] As part of that discussion Jandun details what happens when the possible intellect

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37 "[…] hoc autem est bene difficile, et forte inquiretur a modo in consequentibus an intellectus possit simul intelligere plura intelligibilia diversis intellectionibus." (Jandun, *Quaestiones super libros De anima* 3.27, col. 375.)

38 The following presentation is based on a section of my PhD dissertation, Michael S. Christensen, *Intellectual Self-Knowledge in Latin Commentaries on Aristotle's De anima from 1250 to 1320* (Copenhagen: University of Copenhagen, 2018), 165–70.

39 In Christensen, *Intellectual Self-Knowledge*, 57–112, I show this through a detailed doctrinal analysis of 17 commentaries from the period.

understands itself. The overall idea is that the possible intellect knows itself
through an observation of its objects, acts, powers, and finally its essence. He
describes the process in the following way:

> We should now consider how the possible intellect arrives at a knowl-
> edge of itself, and stated briefly I believe that it first knows some object
> of knowledge (whatever it could be) by its species, and then it considers
> that received species in itself anew. Subsequently, it considers the power
> receptive of that species, and then it considers the substance underlying
> that power and received species.[40]

This is clearly a case of the acquisition of substantial knowledge taking its
starting point from accidents.[41] It contains the following steps: (1) an external
object of knowledge is known by the reception of an intelligible species in the
possible intellect; (2) the possible intellect reconsiders that species in a way
that is different from the original reflection; (3) it can then turn its attention to
its own power of species reception; (4) and this finally leads to a consideration
of the substance that has that power, the possible intellect itself.

At the second step we note that the object under investigation is not the
intellect actualised by the species, but rather the species itself. This means that
the intellect cannot simply be observed by itself once it has been actualised,
but it is rather the species that actualises the intellect that first comes under
scrutiny. From there the intellect will proceed to inspect its powers and finally
the underlying substance. In the subsequent discussion Jandun makes it clear
that the agent intellect is the efficient cause behind the act of knowing, but the
species that represents the external object is instrumental to acquiring knowl-
edge about the intellect. The species that makes the possible intellect able to
know the primary object of knowledge also disposes it towards receiving an
understanding of itself. The species is in the possible intellect as an inherent

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40   "Nunc videndus est modus per quem intellectus possibilis proveniat ad intelligere
     seipsum, et breviter credo quod modus est quod prius intelligat aliquod intelligibile
     per eius speciem receptam, quodcumque sit illud, deinde considerat istam speciem in
     se receptam de novo, et postmodum considerat potentiam receptivam illius speciei, et
     tandem considerat substantiam subiectam illi potentiae et illi speciei receptae." (Jandun,
     Quaestiones super libros De anima 3.27, col. 374.)

41   This is a very commonly held doctrine within this tradition and is derived from Aristotle,
     De anima 1.1, 402b9–22 and 2.4, 415a14–22 where he lays out elements of a general meth-
     odology for a science of the soul. I have mapped the use of this doctrine in Christensen,
     Intellectual Self-Knowledge, 76 and 120–24.

and actualising form, which means that the intelligible species makes the intellect available as a possible object of its own understanding.

So that is the way Jandun imagines the possible intellect acquires knowledge about itself. And in this procedure the temporal aspect plays a pivotal role to him. Right after the above quote he continues:

> [...] and it is not fitting to say that it knows all these things simultaneously, but the cognition of the thing whose species informs the intellect persists for some time, and at the end of that time it [i.e., the intellect] begins to consider that received species, and that consideration endures for some time, and then at the end of that time it begins to know the power receptive of that species, and then it comes about that it knows the substance underlying the power and species and thus it knows itself.[42]

Here we see how Jandun puts a very strong emphasis on the temporal aspect of this process. We might still wish for more detail on what happens in the process. Reading his exposition of the process and the steps the intellect takes towards a knowledge of its own substance, it is difficult not to get the feeling of a mental spotlight that is moved from one aspect of the intellect to another. But the all-important features are the steps in the process – the initial reception of an intelligible species, the subsequent switch from a focus on the primary object of understanding to the actualisation of the species itself through the species – and how the different steps in the analysis of the intellect take place in a temporal sequence.

Shortly after this discussion Jandun then presents the connection with the question of simultaneous understanding. He writes:

> It should however be considered that although, according to the common teaching, the possible intellect does not understand itself in the same instant in which it understands the thing from which it has the species present to it, but in another instant, and in the intervening time the understanding of the object takes place, although this time is very short and insignificant and is thought not to exist due to this insignificance, and for that reason both acts of understanding are thought to take place

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42   "[...] nec oportet dicere quod simul intelligat omnia illa, sed cognitio rei cuius species informat intellectum continuabitur per aliquod tempus, et in fine illius temporis incipiet considerare speciem illam receptam, et illa consideratio erit per aliquod tempus, deinde in fine illius temporis incipiet intelligere potentiam susceptivam illius specei, et postea continget ut intelligat substantiam subiectam illi potentiae et specei et sic intelliget seipsum." (Jandun, *Quaestiones super libros De anima* 3.27, col. 374.)

at the same instant. Yes, I have even heard some say that they experience
in themselves that they understand the object and the act of understand-
ing itself simultaneously. But this is quite difficult, and perhaps it will
be investigated later, in what follows, whether the intellect can under-
stand multiple intelligible objects simultaneously through different acts
of understanding.[43]

The higher-order understanding of the primary act of understanding is tempo-
rally separate from the first act, and as it seems, they cannot take place at the
same time. Does this mean that question 32 on simultaneous understanding
is the answer to this challenge raised by some that actually they experience
first understanding and higher-order understanding to be simultaneous? If we
expect that, we will be disappointed.

In question 32 Jandun tries to make the case that simultaneous understand-
ing of several objects through several acts of understanding occasioned by the
same person should be possible despite the general opinion that it is not. In
the question on self-knowledge he argues emphatically that the different acts
of understanding are temporally separate, and he rejects the idea of the simul-
taneity of the two acts. Are those two views contradictory? No, his view on
simultaneous understanding simply does not disprove the theory of his oppo-
nent about simultaneous first and higher-order knowledge. But supporting the
possibility of simultaneous understanding does not contradict the possibil-
ity of procedural first and higher-order knowledge. The two questions do not
therefore result in conflicting conclusions, but are just not directly related. If
Jandun had wanted to make the case that intellectual self-knowledge *is* simul-
taneous with the first-order understanding, like the testimony he references,
he would need arguments to the effect of those in question 32 to support the
idea. But as he presents the arguments here, the process of self-knowledge
simply does not involve any need of simultaneity. I will therefore hold that
the discussion of intellectual self-knowledge is not the reason why Jandun

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43   "Considerandum etiam quod quamvis intellectus possibilis secundum communem
      doctrinam non intelligat seipsum in eodem instanti in quo intelligit rem cuius species
      est apud eum, sed in alio instanti, et in tempore medio continuatur intellectio illius rei,
      cum contingit quod illud tempus est multum breve et parvum et propter eius parvitatem
      putatur nullum esse, et ideo in eodem instanti creditur utraque intellectio contingere;
      immo audivi aliquis dicere se exp⟨er⟩iri in seipsis quod ipsi intelligerent simul rem
      et ipsum suum intellectum; hoc autem est bene difficile et forte inquiretur a modo in
      consequentibus an intellectus possit simul intelligere plura intelligibilia diversis intel-
      lectionibus." (Jandun, *Quaestiones super libros De anima* 3.27, col. 374.) I am indebted to
      Juhana Toivanen for pointing out that *experiri* seems to have lost the "er" in the textual
      transmission.

argues against the common opinion and supports multiple simultaneous acts of understanding of different objects occasioned by the same individual.

4.2.2   Philosophical Investigations with Derived Benefits

If we look at contemporary sources, we see that the question of multiple simultaneous acts of the intellect is not entirely uncommon. However, in commentaries on *De anima* it is a rarity: having surveyed all the lists of questions at my disposal I have found only two other texts that address this issue.[44] When we look outside the Aristotelian commentaries, we find more examples. Thomas Wylton (d. 1322) has been identified as an early, and maybe the first, proponent of the position that the intellect can be engaged in multiple simultaneous acts of understanding.[45] Wylton bases his view on how the intellect is able to perform composition and division, and several of his arguments are similar to those that Jandun brings up in his question. This connection with Wylton makes it likely that Jandun was aware of these discussions, especially as we know that Wylton influenced Jandun strongly.[46] Based on the initial

44   I have not had the opportunity to study the texts, but they are Albert of Saxony (last half of the fourteenth century), *Quaestiones in libros De anima* 3.10: "Utrum intellectus posset intelligere plura simul" (preserved in Leipzig, Universitatsbibliothek Leipzig 1416, fol. 141r–234r; Krakow Biblioteka Jagiellońska 635; and Krakow Biblioteka Jagiellońska 751, fol. 237–348); and Anonymus (presumably fourteenth century), *Quaestiones in tres libros De anima* 3.10: "Utrum intellectus potens simul plura intelligere prius cognoscat divisibile vel indivisibile" (preserved in München Bayerische Staatsbibliothek, Clm 23808, fol. 34r–v; Tübingen, Universiteitsbibliothek, Mc 335, fol. 120r–60r; Vatican, Biblioteca Apostolica Vaticana, Pal. Lat. 1050, fol. 5r–90r; Wrocław, Biblioteka Uniwersytecka we Wrocławiu, IV. F. 29., fol. 275r–326r). The anonymous text is catalogued in Jozef De Raedemaeker, "Informations concernant quelques commentaires du De anima," *Bulletin de Philosophie Médiévale* 8/9 (1967): 91–98.

45   Russel L. Friedman, "On the Trail of a Philosophical Debate: Durandus of St.-Pourçain vs. Thomas Wylton on Simultaneous Acts in the Intellect," in *Philosophical Debates at Paris in the Early Fourteenth Century*, ed. S. F. Brown, T. Dewender, and T. Kobusch (Leiden: Brill, 2009), 433–61, discusses simultaneous understanding according to Durandus of St Pourçain, who denies the possiblity, and contrasts it with Wylton, who argues in favour of it. For Thomas Wylton, see his question *Quod in intellectu possunt esse plures intellectiones simul*, ed. P. T. Stella, in "Le 'Quaestiones de libero arbitrio' di Durando da S. Porciano," *Salesianum* 24 (1962): 506–7. For more literature on Wylton, see Friedman, "On the Trail," 436. I am indebted to the anonymous reviewer for making me aware of this connection to theological literature.

46   The influence of Thomas Wylton on Jandun is often highlighted, but see in particular Jean-Baptiste Brenet, "Jean de Jandun et la Questio de anima intellectiva de Thomas Wylton," *Freiburger Zeitschrift für Philosophie Und Theologie* 56:2 (2009): 309–40, for the most extensive comparison in this context. See also Thomas Wylton, *On the Intellectual Soul*, ed. L. O. Nielsen, C. Trifogli, and G. Trimble (Oxford: Oxford University Press, 2011).

survey of the commentaries on *De anima*, Jandun might be the first, or at least among the very first, to bring up the topic within that context. So the question remains, why it was so central to him.

We see that he follows Wylton in the general position of multiple unrelated acts of understanding in the same individual. But it also dovetails well with his general, and strongly established, monopsychist position. We will return to that theory and investigate at which planes the present question connects with the grander argument of the commentary. In this way I will argue that the discussion is a coherent development of already established premises. This will also show what influence his position on simultaneous understanding has on the general theory of the monopsychist intellect.

As outlined above, it is absolutely necessary that the separate intellect can engage in any number of simultaneous acts. Otherwise the monopsychist model would never reflect the real-world experiences that it is supposed to explain, because then no two people could ever engage in intellectual reflection at the same time. This is clearly absurd, and Jandun himself gives examples that demonstrate that this has to be possible.[47] But we might want to ask whether, from the perspective of the intellect, there is any structural difference between how one person engages the intellect in two different acts of understanding versus how two people do so. If not, then this would seem to entail that the explanation and defence of simultaneous understanding in different individuals would also extend to the single individual. Conversely, this might entail that if the simultaneous understanding occasioned by a single individual is disproved, then it might also extend to the case of simultaneous understanding of separate individuals. If the possibility of (2a) simultaneous understanding by one person can be proven to be impossible, and (2a) and (2b) simultaneous understanding are parallel, then the (2b) simultaneous understanding that involves more than one person would also be challenged. This means that if a convincing case can be made against (2a) simultaneity, then we would have a very strong argument against the monopsychist model of mind. The discussion of type (2a) simultaneous understanding can therefore be seen as a consequence of the monopsychist theory, and in this way it explores the potential space for such a challenge against the theory.

To better understand this, we must reiterate the basic question of what happens when humans actualise their intellective powers. This will help us to see whether there is any difference, from the perspective of the intellect, between how one person engages the intellect in two different acts of understanding and how two people do so. An individual engages in abstract reflection by

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47   Jandun, *Quaestiones super libros De anima* 3.32, col. 391.

way of the phantasms that are present in his body and as a result of his sense perceptions' collaboration with the separate intellect. My intellectual acts are a result of the combined forces of my hylomorphic composite of body and cogitative soul and the separate intellect. This should be a way to avoid some of the potential problems of agency and privacy of the thoughts of the individual, as we have also already outlined. Does this mean that there can be no thought-content in the separate intellect during the process? This would mean that the intellect provided the power of abstract thinking, and the thought-content must be an actualisation of the cogitative soul. The idea could be that during the act of understanding the intellect and the human together make up a higher composite that exists only for that small period of time, but the separate intellect only provides the power of abstraction.

This is however not the way Jandun approaches the problem. He views the intellect as an intrinsic cause of the actualisation of understanding, the *operans intrinsecum* in his words. As we have discussed earlier, this means that it does not give being to the human substance but rather enables it to become a human properly speaking by enabling it to actualise its proper act, understanding. He is also clear that not merely the agent intellect but rather the intellect in its entirety, including both the possible and agent intellect, is separate. As the possible intellect is the part of the intellect that assumes the form of the object of understanding delivered from the agent intellect analogously to matter in the hylomorphic compound, it seems that the act of understanding is to be found within the separate intellect itself. If it was indeed restricted to the individual cogitative soul, then that would in itself fulfil the role of the possible intellect and thus obviate the whole point of Jandun's model, where both aspects need to be strictly separate, immaterial, unitary, and eternal. The conclusion seems to be that when a person understands, it is the separate possible intellect that becomes actualised (in the composite of cogitative soul and the intellect) by the object of the understanding that is provided by the input from the cogitative soul. Therefore, if (1) the separate possible intellect is actualised by the object of understanding within the composite individual during understanding, and (2) any number of individuals need to be able to understand at the same time, then it follows that the intellect must be actualised by any number of objects of understanding at any time. The ontology of one substance with multiple simultaneous actualisations is difficult to imagine, and it also seems to contradict traditional Aristotelian metaphysics. But this certainly seems to be Jandun's view.

Does this mean that there is a structural similarity between (2b), according to which two or more persons understand different things at the same time, and (2a), according to which a single person understands multiple things at

the same time? The clear similarity of course lies in the way the intellect is actualised. When multiple people each understand an object, the intellect is actualised as the understanding of that object within each of them at the same time. When a single individual understands multiple objects at the same time, and they are caused by different sense perceptions, then the intellect is also actualised as different objects at the same time, but now just within one person rather than multiple. There is a certain elegance in this: as soon as it is allowed that the intellect can be several things at the same time, it is really not that important whether that takes place within one or several individuals. At least from the perspective of the intellect, the two cases are structurally alike.

When we go back to Jandun's description of the hard version of simultaneous understanding (2a), we see that the parallel also extends to how the human soul understands. As we saw above, he says that

> […] whether the intellect can understand multiple objects in the same instant by different acts of understanding, which are caused by phantasms or products of the cogitative soul that belong to a single individual, is a good question, and there is disagreement among the teachers on this.[48]

The phrasing is a bit ambiguous but it looks like he means that separate acts of understanding are each caused by different phantasms or cogitations. If that is correctly understood, then the raw material for production of understanding (phantasms, cogitations) are fed to the intellect, producing two different acts of understanding at the same time. This can either happen in two different persons (which is the non-controversial case, in the eyes of Jandun), or in one and the same person. It is unclear whether it is even possible for the human perceptual system to produce two simultaneous phantasms, and although Jandun does not bother getting into that problem it is certainly implied that it is at least theoretically possible to entertain a phantasm and a cogitation at the same time.[49]

If there is no structural difference between one or two persons thinking about two things, would a destructive argument against one of the two cases also hit the other? This of course depends on the argument. If it were

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48 "[…] an intellectus possit in eodem instanti intelligere plura diversis intellectionibus causatis a phantasmatibus vel a cogitationibus unius hominis est bene dubium et diversitas inter doctores." (Jandun, *Quaestiones super libros De anima* 3.32, cols. 391–92.)

49 Jandun discusses and holds that it is possible to perceive multiple things at the same time. However, it does not follow that it is possible to entertain two simultaneous phantasms.

to be proven to be psychologically impossible to entertain two simultaneous phantasms, cogitations, or either of the two, individual simultaneous understanding would be rendered impossible, because such understanding must be caused by different sources of content. Such an argument would state that although it is obviously possible to receive two simultaneous sense impressions, it does not mean that it is possible to focus on two simultaneous objects of sense perception, or to combine a sense perception with a product of cognition. But that would amount to arguing that it is impossible for me to enjoy a beautiful view and at the same time savour the delicate hot tea in my cup, or to reminisce about last year's vacation while enjoying a wine from the region I visited. Such arguments would be difficult to get off the ground, in particular against a philosopher like Jandun who ascribes a very high value to arguments from experience.

However, it would seem easier to argue phenomenologically that although such parallel processing is possible in the lower psychological faculties, it does not extend to the higher activity of abstract reflection – at least in non-monopsychist phenomenology. When it comes to higher intellectual activities, the full capacity of the mind is occupied, and there is no space left for parallel processing. In Toivanen's chapter (vol. 1) this is highlighted with the example that when I am deeply engaged in intellectual activity, I may still see the bridge that I need to cross to avoid walking into the river.[50] But I only see it in a restricted sense that is widely different from the way I see a movie in the cinema. The focus and attention of my mental capacities are on the mental task at hand. This is even more attenuated when we try to imagine two truly parallel intellectual activities, say performing long division and phrasing a logical argument simultaneously. But this is actually what Jandun argues, that it is possible for one person to perform two completely distinct intellectual tasks simultaneously. And it is hard to see how he can deny its possibility at the individual level while maintaining it at the transpersonal level. A rejection of simultaneous phantasms or cognitions would face challenges from common experience, but a rejection at the level of multiple simultaneous activities of the intellect would contradict a basic assumption of the whole monopsychist model.

If Jandun were to try to avoid the position of truly parallel intellectual activities, he could use a couple of strategies, though they would be difficult. One possibility would be to argue that the intellect cannot be actualised as more than one understanding in each individual. One could argue that when the individual engages in understanding, the intellect joins the soul-body

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50 See vol. 1, chapter five, pp. 176–77, an example discussed by Ockham, Wodeham, and Chatton.

composite in a higher-level compound, and the intellect can only engage in one actualisation at a time (per individual). But if he were to restrict this to the level of individuals, he could refer to the corporeal nature of cogitative soul and say that it can only have one connection with the intellect at any time. But that would easily lead back to the question of whether the cogitative soul can entertain several simultaneous phantasms or cognitions, which he seems to think it can. Alternatively, he could place a restriction on the nature of the intellect and say that it can only be actualised as one thing at a time per person, but that would come very close to holding that it is impossible for it to be actualised as more than one thing at a time in general.

So where does this leave Jandun? If he accepts that it is possible of having several simultaneous phantasms or cognitions, and he maintains that the intellect can be actualised as more than one understanding at a time, then it is difficult for him to deny the possibility of simultaneous understanding of unrelated objects of understanding within the same individual. When we analyse the question with this negative procedure, we can see that a possible explanation for why he gives the atypical answer is that when he follows the path of his theory, it is difficult not to end up where he does. Or to put it differently, if he rejected (2a) simultaneity, it would raise very serious problems for his model of monopsychist psychology.

But why, then, does he go into the whole detailed discussion of (2a) simultaneous understanding in the first place, instead of just leaving it untouched? He points it out as a particular type of simultaneity that he is not forced to engage with, as he easily gets around the typical cases of simpler types of simultaneous understanding (which is not caused by different phantasms or cognitions). It is in other words not a necessary discussion elicited by a standard challenge. As we have already highlighted, he was probably aware of the issues and the discussion of this theme in the theological literature through his contemporary Thomas Wylton. But he seems to be the first within the tradition of commentaries on *De anima* who pursues the problem. So although Wylton may have made him aware of the subject, the most charitable interpretation of why he pursues it so extensively would be to consider it a result of philosophical interest. He has seen that this is a particular and difficult problem, and he pursues it to its logical conclusion given the premises that he already takes to be well established. The above investigation of the connection between the question of simultaneity and his ideas of how the intellect works have shown how he reaches the most coherent and natural conclusion. The result is a non-standard doctrine, also within the theological tradition, and Jandun is very aware of this. The inspiration from Wylton plays a role here, but we have also shown how this interpretation aligns well with his general monopsychist psychology.

There are more indications that support this notion of philosophical curiosity and openness. First of all, Jandun does similar things in other passages. We have already mentioned question 13, on *De anima* 3, where he discusses the reflexivity of any act of understanding. The question is hard on the reader, and Jandun does not hide that he also found it difficult to untangle the different levels of objects and understanding that it discusses. He gives the disarming admission that as almost nobody have worked on the problem, he allows himself to proceed according to what seems most likely and preserve the liberty to change his mind if he gets a better idea.[51] I take that to be another example of a true and honest analysis of a question where the doctrine is unsettled and requires an exploration of unknown territory. In the present question we also notice that the whole discussion of (2a) simultaneity takes the shape of an inquisitive add-on that closes of the question with the analysis of an edge case not included in the common examples that he has already handled. Further, we have also noticed how the presented theory is not completely consistent with the positions presented in other texts, such as his *De sensu* commentary, and that he openly admits that he cannot prove his position demonstratively, but simply finds it to be a sufficient and likely explanation. These are signs of an explorative investigation of an uncharted space.

An alternative theory could be to explain the surprising doctrine as an indirect defence of his general theory of intellect. By going into the whole problem of (2a) simultaneity, and being quite extensive about it, he may be seen to close off the opening for someone to argue that his monopsychist theory would result in a controversial type of simultaneous individual understanding. He does not patch that hole by cunning distinctions that would show how (2a) simultaneity is different from (2b) simultaneity, but rather by simply accepting the possibility of the normally controversial view. We have shown here that his position can work as a defence against such an attack, but it does not follow from this that defence is the motivation for the position. Not only does Jandun not present any such possible challenges, but he also does not draw any direct connection with the broader theory of the intellect in his discussion. So such an explanation would ascribe to him a hidden agenda that can only be traced very indirectly through an extensive analysis of the text. I have been tempted by this interpretation myself, but I find it more charitable and less complicated

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51   "Qualiter ergo intelligeret eam? Et ad istam difficultatem solvendam invenio paucos laborasse manifeste. Unde ad praesens sufficit mihi probabiliter transire, salva mihi libertate aliter dicendi alias, si mihi melius apparebit." (Jandun, *Quaestiones super libros De anima* 3.32, col. 293.)

to read his discussion as an honest philosophical analysis than as a veiled defence of a challenge that is never raised.

5   Conclusion

In this chapter I have sought an explanation for an enigmatic discussion and solution in John of Jandun's commentary on Aristotle's *De anima*. In question 32 of his commentary on book 3 he asks whether the intellect is able to understand more than one thing at the same time. The question itself is not uncommon, and in the context of the text it addresses a specific problem of how a concept can refer to several things at the same time. Jandun does not spend an extraordinary amount of time in his discussion on the main problem of the text, nor on some of the main examples of simultaneous understanding or challenges thereof. But he delves into a discussion of a sharpened concept of simultaneous understanding, namely whether one individual can understand several objects of understanding that are not related. He wants to support this more challenging, and maybe counter-intuitive, notion of simultaneous understanding. It is, however, difficult for him to give any demonstrative arguments in favour of the position. Nonetheless, he tries to make the case for it by giving counter-arguments to the critics of the idea (which he knows and admits are the majority) along with a single positive argument in its favour. That argument is not particularly strong but is based on the analogy between intellect and sensation and holds that if it is possible to have two simultaneous sense perceptions it must also be possible to engage in two simultaneous acts of understanding.

But why does he delve so deeply into an analysis of this atypical position? He was probably familiar with the issue due to his contemporary Thomas Wylton, who holds the same position as Jandun. But I think the reason he digs into the issue so extensively is related to his monopsychist model of the intellect, where we find a heavy emphasis on the idea that a substance can only be in one act at a time. It is not surprising that he follows Wylton in his conclusions, but I also argue that the discussion we find is an honest philosophical investigation of a space that is opened up by his general theory of the monopsychist intellect. If the workings of the separate intellect are parallel when one or more people are engaged in acts of understanding, the natural conclusion for him is to accept the possibility of individual simultaneous understanding of unrelated objects. This is not a common doctrine, but it follows from his established premises, so he is not afraid to follow those to

their natural conclusion, even though it seems counter-intuitive and contrary to the established tradition. This has the fortunate consequence that a possible flank attack against his theory is closed off because he accepts the potential point of attack, the simultaneous understanding of independent objects, as an acceptable conclusion.

Concept Empiricisms, Ancient and Modern

Alexander Greenberg

1   Introduction

My topic is concept empiricism and its historical antecedents. Concept empiricism, like all other forms of empiricism, grants a special and central role to experience. But concept empiricism should be distinguished from empiricism in epistemology and philosophy of science, which claim experience has a central role in accounting for the justification of our beliefs and the nature of our scientific theories. Concept empiricism, on the other hand, is an empiricist thesis in the philosophy of mind, a thesis which claims that the capacity for thought depends on perception. More specifically, it is a claim about concepts, which are the constituents of thoughts and that in virtue of which thoughts have their content. Concept empiricism claims that all concepts derive in some sense from perceptual experience. The view is well-expressed by the medieval slogan *nihil est in intellectu quod non prius fuerit in sensu* ("there is nothing in the intellect which was not first in the senses").

Concept empiricism has a long history. Versions of it seem to have been defended by Aristotle; by a number medieval philosophers, including Thomas Aquinas and William of Ockham,[1] who typically took themselves to be developing an Aristotelian thesis; and by John Locke, George Berkeley, and David Hume in the early modern period. It is also currently enjoying a revival in contemporary psychology and philosophy of mind, most prominently in the work of the philosopher Jesse Prinz and the psychologist Lawrence Barsalou, who defend their version of concept empiricism on both theoretical and empirical grounds.

My focus will be on how these different forms of concept empiricism compare, and how they differ. In particular, I will discuss how the contemporary concept empiricism defended by Prinz and Barsalou – which, following Edouard Machery, I will call "neo-empiricism" – compares with the kind of concept empiricism we can find in Aristotle. Neo-empiricists often stress how

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1 For a survey, see Gregory W. Dawes, "Ancient and Medieval Empiricism," in *The Stanford Encyclopedia of Philosophy*, ed. E. N. Zalta (2017), https://plato.stanford.edu/entries/empiricism-ancient-medieval/.

their view differs from its historical antecedents, in particular from early modern empiricism. The first difference is that neo-empiricists do not think of concepts in terms of conscious images. The second difference is that neo-empiricists do not motivate their empiricism by appeal to anti-nativism, i.e., scepticism about whether any concepts are innate.

I shall argue that we can find in Aristotle the seeds of a version of concept empiricism which differs from neo-empiricism in an additional, more drastic way. Aristotelian empiricism and neo-empiricism agree about what I will call a "Content Derivation Claim," a claim that the constituents of thought – concepts – depend on perceptual experience for their content:

> Content Derivation Claim: All concepts derive their content from the contents of perceptual experience or from operations on the contents of perceptual experience.

To say that concepts derive their content from perceptual experience is to say that the content of concepts – what they are concepts of – is explained, in some way, by reference to the content of perceptual experience. Aristotelian empiricism and neo-empiricism both involve this claim. They disagree, however, about what explains why this claim is true. Neo-empiricists ground the Content Derivation Claim in two theses about thinking. First, they claim that the 'vehicles' of thought – what thinking is 'done in' – are perceptual. This claim is often stated in terms of there being no "amodal code" unique to thought, only the various modality-specific codes used by the different senses.[2] Second, neo-empiricists claim that thinking is a matter of re-enacting or simulating perceptual representations.[3]

Aristotelian concept empiricism, I will argue, involves neither of these claims about thinking. Aristotle looks like he denies both that thought has perceptual vehicles and that thinking is essentially a matter of re-enacting perceptual experiences. On Aristotle's account, the Content Derivation Claim is instead explained by perceptual experience providing representations of particular objects, objects which we then abstract away from and represent under a more general aspect in thought. This marks a fundamental difference from neo-empiricism. And this difference is not of merely historical interest.

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2 Lawrence W. Barsalou, "Perceptual Symbol Systems," *Behavioral and Brain Sciences* 22:4 (1999): 578; Jesse J. Prinz, *Furnishing the Mind: Concepts and Their Perceptual Basis* (Cambridge, MA: MIT Press, 2002), 119. These two theses are identified as the essence of neo-empiricism in Edouard Machery, "Two Dogmas of Neo-Empiricism," *Philosophy Compass* 1:4 (2006): 388–89.

3 Barsalou, "Perceptual Symbol Systems," 578, 586; Prinz, *Furnishing the Mind,* 150.

It may allow Aristotelian empiricism to overcome a key problem faced by neo-empiricism. Aristotelian empiricism, because it does not ground the Content Derivation Claim in a thesis about the perceptual nature of thinking, looks like it can give a better account of the role of concepts in reasoning.

I will proceed as follows. In section two, I will outline neo-empiricism and its motivations in more detail. In section three, I will outline Aristotle's concept empiricism. I will then, in section four, highlight the key difference between Aristotelian and neo-empiricism. I will then conclude, in section five, by showing how this key difference means Aristotelian empiricism promises to better account for the role of concepts in reasoning.

2   Neo-Empiricism

2.1   *What Is an Account of Concepts Supposed to Be an Account Of?*

Before I outline the neo-empiricist account of concepts and the Aristotelian alternative, I first need to say what these accounts are supposed to be accounts of. We can characterise concepts as the constituents of thoughts. My thought that pigeons are grey contains two concepts, PIGEON and GREY.[4] The fact that this thought features these concepts is part of what makes it the thought that it is. Concepts also are what different thoughts have in common and how they can differ. For example, what my thought that pigeons are grey and your thought that pigeons are grey have in common is that they feature the same concepts. On the other hand, my thought that pigeons are funny and your thought that pigeons are sad have one thing in common – they both feature the concept PIGEON – though they differ with respect to the other concepts involved.

Characterising concepts in this fashion, as constituents of thoughts, is fairly intuitive. The term "concept," however, should really be thought of as a theoretical term for something which is supposed to play a variety of explanatory roles in philosophy of mind and psychology, four of which I will outline.

The first phenomenon concepts are claimed to account for – one which is implicit in our initial characterisation of them – is the intentionality of thought. Another way of putting this point is to say that thoughts have content – they are about or represent things – and that concepts play a role in explaining what particular thoughts are about.

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4   As is customary in the contemporary literature, I use SMALL CAPS to refer to concepts. Note that this differs from Seyed Mousavian's usage of small caps to indicate *ma'ānī* in chapters three and four of this volume.

Second, concepts are claimed to account for the compositionality of thought. Compositionality is the ability of elements of thoughts to be recombined in a rule-governed fashion to make distinct thoughts, like the thought that pigeons are tasty, and complex concepts, like JUVENILE PIGEON. Compositionality, because it provides rules for formulating thoughts, is then often taken to explain two key explananda: the systematicity of thought – how the ability to think one thought, say, that John loves Mary, necessarily comes along with the ability to think other thoughts, like the thought that Mary loves John –, and the productivity of thought – how creatures like us with finite minds are capable of thinking an infinite number of new thoughts.[5]

Third, concepts are supposed to underwrite transitions between thoughts through reasoning and inference. For example, say I infer from my thought that pigeons are birds and my thought that birds lay eggs to the conclusion that pigeons lay eggs. What explains why this inference is possible is the fact that the same concepts – PIGEON, BIRD, EGG – feature in the different thoughts.

Fourth, concepts are supposed to be employed in categorisation. What enables me to categorise particular birds as pigeons is supposed to be explained by the fact that I possess the concept PIGEON.

This is a very brief sketch of what concepts are and some of the explanatory roles they play. But it should suffice to illustrate what contemporary philosophers and psychologists mean by the term "concept," and to illustrate what theories of concepts, like neo-empiricism, are supposed to be accounts of.

It should also be noted, however, that some of these explanatory roles are focused on more by philosophers and others are focused on more by psychologists. For example, some philosophers, in particular Jerry Fodor, tend to focus on the role of concepts in explaining intentionality[6] and compositionality,[7] but downplay the importance of categorisation.[8] On the other hand, much of the empirical work on concepts has focused on the role concepts play in categorisation, and Fodor has been criticised for failing to give due weight to this role of concepts.[9]

This has led some to suggest that philosophers and psychologists in fact are talking past one another, and that we should not think that 'concept' picks

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5   See Jerry A. Fodor and Zenon W. Pylyshyn, "Connectionism and Cognitive Architecture: A Critical Analysis," *Cognition* 28:1 (1988): 33–41.

6   Jerry A. Fodor, *Concepts: Where Cognitive Science Went Wrong* (Oxford: Oxford University Press, 1998), 7–9.

7   Fodor and Pylyshyn, "Connectionism and Cognitive Architecture," 41–46.

8   Jerry A. Fodor, "Having Concepts: A Brief Refutation of the Twentieth Century," *Mind & Language* 19:1 (2004): 29–47.

9   Prinz, *Furnishing the Mind*, 99–100.

out a natural psychological kind which plays all of these explanatory roles.[10] For want of space, I cannot consider this possibility seriously in what follows; rather, I will assume, along with neo-empiricists and some of their critics, that 'concept' picks out a single psychological kind which plays these different roles.

2.2   *Neo-Empiricism's Two Key Theses*

Neo-empiricism is one attempt to say what concepts are, one which its proponents claim explains how concepts play all these roles. Neo-empiricism is succinctly characterised by Machery as involving two key theses:[11]

(1)   Concepts are encoded in perceptual representational systems.
(2)   Conceptual processing is a matter of re-enacting or simulating perceptual states and manipulating those perceptual states.

I will outline the neo-empiricist account of concepts by unpacking each of these claims in turn.

Thesis (1) is a claim about the 'vehicles' of thought – it claims that these vehicles are perceptual – and therefore understanding it requires understanding the commonly-made distinction in the philosophy of mind between a representational vehicle and representational content.[12] The representational vehicle is what does the represen*ting*; the representational content is what is represen*ted*. Different vehicles can have the same content. For example, both a map and a sentence can represent that Gothenburg is north of Copenhagen. The content – what is represented – is in a key respect the same; but the vehicle – what does the representing – is different. It also should be noted, though, that the phrase "representational vehicle" can refer to different things in different contexts. Sometimes, as in our map/sentence example, it refers to the form or format of the representation.[13] At other times, it refers to the area of the brain responsible for the representation in question.[14]

Neo-empiricists claim that the vehicles of thought are perceptual. This is both a claim about the representational format of concepts and a claim about the areas of the brain involved in concept use. Neo-empiricists assume that the various senses – sight, hearing, smell, and so forth – are distinct representational systems. The way in which the senses are distinct representational systems is unpacked in terms of each of the different senses involving

10   Edouard Machery, *Doing without Concepts* (Oxford: Oxford University Press, 2011).

11   Machery, "Two Dogmas of Neo-Empiricism," 388–89.

12   Daniel C. Dennett, *Consciousness Explained* (New York: Black Bay Books, 1991), 147–48; Ruth Garrett Millikan, "Perceptual Content and Fregean Myth," *Mind* 100:4 (1991): 439–59.

13   Tim Crane, *The Mechanical Mind: A Philosophical Introduction to Minds, Machines and Mental Representation*, 2nd ed. (London: Routledge, 2003), 136.

14   Dennett, *Consciousness Explained*, 131.

representations with a modally-specific 'code,' a code which is specific to the sense in question.[15] They also claim this separation of the senses is reflected at the neurological level, in terms of different brain areas being responsible for the different senses,[16] but I will focus more on the format-orientated characterisation of the senses as involving different codes.

Thesis (1) is the claim that concepts are representations in modally-specific codes. More accurately, neo-empiricists claim that a particular concept involves representations in various different modally-specific codes.[17] For example, the concept DOG will involve both visual representations of how dogs look and auditory representations of how dogs sound. To deny thesis (1) is to claim that concepts are mental representations that have an 'amodal code' – a code that is not specific to perceptual systems, but is instead unique to thought and typically understood to be language-like. There are two ways to defend an amodal code. First, one can deny that there are any modally-specific codes for representations,[18] an option Prinz calls a "common code" theory. Second, one can grant that there are modally-specific representations, but claim that there is an additional amodal code unique to thought. This latter option, which Prinz calls a "central code" theory, is the more common way of claiming that concepts are amodal representations.[19]

Neo-empiricists, on the other hand, deny that there is any amodal code for mental representations, whether that be a common code or a central code. This element of neo-empiricism is nicely described by Prinz as the denial that there is a *lingua franca* of the mind.[20]

In order to fully understand this claim, however, we need to specify what makes a code modal or perceptual. Often this is understood in terms of representational format. Perception is often claimed to have an 'analogue' format whereas conceptual representation is claimed to be 'digital.'[21] Prinz's answer to

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15   Prinz, *Furnishing the Mind*, 117–18.

16   Barsalou, "Perceptual Symbol Systems," 582–83.

17   Barsalou, "Perceptual Symbol Systems," 578; Prinz, *Furnishing the Mind*, 119.

18   See, e.g., Zenon W. Pylyshyn, "Imagery and Artificial Intelligence," in *Perception and Cognition: Issues in the Foundations of Psychology*, ed. C. Wade Savage (Minneapolis: University of Minnesota Press, 1978), 19–55.

19   See, e.g., Guy Dove, "Beyond Perceptual Symbols: A Call for Representational Pluralism," *Cognition* 110:3 (2009): 412–31; cf. Jerry A. Fodor, *LOT 2: The Language of Thought Revisited* (Oxford: Oxford University Press, 2008), esp. 169–95.

20   Prinz, *Furnishing the Mind*, 120.

21   Barsalou frames the modal/amodal distinction in these terms, "Perceptual Symbol Systems," 578–79. For defence of this way of distinguishing perceptual and conceptual representations, see Fred Dretske, *Knowledge and the Flow of Information* (Cambridge MA: The MIT Press, 1981), 135–53.

this question is that what makes a representation perceptual is that it is produced or used by one of the senses. Prinz understands the senses as "dedicated input systems," i.e., as distinctly specifiable mental systems that respond to their own proprietary input (e.g., wavelengths of light for sight, frequency of molecular motion for hearing).[22] This fits nicely with my focus on neo-empiricism's historical antecedents, since it has a family resemblance to Aristotle's way of demarcating the senses in terms of their proper objects.[23] Prinz is more liberal than Aristotle, however, in his view of how many senses there are, including emotions and kinaesthetic awareness of one's own movements among the senses.[24]

That clarifies what it means to say a representation is perceptual. But given this, what does it mean to say that a given concept is encoded in perceptual representations? Here neo-empiricists appeal to memory. Take my concept DOG. Neo-empiricists claim that my various perceptual experiences of dogs are grouped together in long-term memory. Neo-empiricists appeal to a variety of ways in which perceptual representations can be linked in memory, which I will illustrate with three types of links described by Prinz.[25]

First, there are binding links, which link together perceptual representations of something, typically in different senses, as co-instantiated in the same object. For example, the visual representation of a dog as brown and hairy might be bound together with the auditory representation of the sound of its bark. Second, there are predicative links by which determinate perceptual representations are predicated as belonging to more general determinable types. This could be a particular dog, Clifford, or a specific kind of dog, say the border collie, predicated as belonging to the general category of dogs. Third, there are situational links, which relate to what members of a category typically or paradigmatically do. Visual representations of dogs wagging their tails and fetching balls might be examples of such links. Prinz calls a set of perceptual representations grouped together in these ways a "long-term memory network."[26]

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22   Prinz, *Furnishing the Mind*, 115–17.

23   Aristotle, *de An.* 2.6; see Richard Sorabji, "Aristotle on Demarcating the Five Senses," *The Philosophical Review* 80:1 (1971): 55–79. See also Katerina Ierodiakonou's and Hamid Taieb's contributions in *Forms of Representation in the Aristotelian Tradition, Volume One: Sense Perception*, ed. J. Toivanen (Leiden: Brill, 2022), chapters one and eight, respectively.

24   Prinz, *Furnishing the Mind*, 120–22. Prinz defends William James's view that the emotions are perceptions of bodily states (e.g., facial expressions, hormone levels, etc.), and defends the thesis that emotions are dedicated input systems on this basis. But this is not the only way to understand this thesis; we could also identify the emotions' proprietary input in distal terms, e.g., fear is the perception of danger.

25   Prinz, *Furnishing the Mind*, 144–48.

26   Prinz, *Furnishing the Mind*, 144; cf. Barsalou, "Perceptual Symbol Systems," 586.

The neo-empiricist claim is that my perceptual representations of dogs are grouped together by these various types of links to form a specific long-term memory network about dogs. While the notion of a long-term memory network is fairly clear, we need to say a bit more about how this links up with the role of concepts in thinking. This is where thesis (2) comes in, which states that conceptual processing – the use of concepts in thinking, reasoning, categorisation, and so forth – involves re-enacting or simulating perceptual states and manipulating those states.[27] For example, verifying that horses have manes, is supposed to involve, on this picture, simulating perceptual representations of a horse and of a mane; if the representations match, one judges that horses have manes.[28]

Crucially, though, the particular simulated perceptual representation does not provide the entire content of the concept by itself but rather through its relation to the relevant long-term memory network. It is a particular perceptual representation that acts as a proxy for the long-term memory network in thought. For example, a border collie representation could act as a proxy in thought for the long-term memory network for DOG. It should be noted that the border collie perceptual representation could, on a different occasion, act as a proxy for the long-term memory network for BORDER COLLIE, MAMMAL, or ANIMAL; it just depends on which long-term memory network it is hooked up to on a particular occasion.

Because they act as proxies, Prinz calls perceptual representations that play this role "proxytypes."[29] Barsalou calls them "perceptual symbols," and in the following passage he gives a succinct summary of how these perceptual symbols relate to the collections of perceptual representations in long-term memory:

> Once a perceptual state arises, a subset of it is extracted via selective attention and stored permanently in long-term memory. On later retrievals, this perceptual memory can function symbolically, standing for referents in the world, and entering into symbol manipulation. As collections of perceptual symbols develop, they constitute the representations that underlie cognition.[30]

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27 Barsalou, "Perceptual Symbol Systems," 578, 586; Prinz, *Furnishing the Mind*, 150.
28 The example is from a study by Karen Olseth Solomon and Lawrence W. Barsalou, "Representing Properties Locally," *Cognitive Psychology* 43:2 (2001): 129–69.
29 Prinz, *Furnishing the Mind*, 150.
30 Barsalou, "Perceptual Symbol Systems," 577–78.

There is a lot more to be said about the neo-empiricist account of concepts and how they figure in thinking. But this brief outline suffices for my purpose, which is to highlight the way in which neo-empiricism grounds the Content Derivation Claim, the claim that all concepts get their content from perceptual experience. Neo-empiricism grounds this claim first in the thesis that conceptual thought is carried out in the same vehicles – the same 'code' – as perceptual representations, and second in the thesis that concept use – thinking, categorising, reasoning, and so forth – involves re-enacting or simulating perceptual representations. This is enough detail to compare neo-empiricism with an alternative way of grounding the Content Derivation Claim that we can find in Aristotle, who neo-empiricists claim gives a historical antecedent of their view. Before moving on to Aristotle, however, we should briefly note a couple of differences that neo-empiricists stress between their view and the traditional early modern concept empiricism put forward by Locke, Berkeley, and Hume.

2.3   *Differences to Early Modern Concept Empiricism*

Neo-empiricists stress two broad kinds of difference between their view and the views of early modern empiricists. The first difference concerns the nature of the perceptual representations; the second difference concerns what motivates the view.

Neo-empiricists claim that the perceptual representations they appeal to in order to ground concepts are importantly different to those appealed to by the early modern empiricists.[31] Specifically, neo-empiricists claim that the perceptual representations they appeal to should not be understood as conscious mental images that represent objects by resembling them. Neo-empiricists instead typically claim that perceptual representations represent objects in the external world by standing in reliable causal relations with them.[32] We should note here that neo-empiricists are not claiming that there are no such things as conscious mental images or denying that perceptual representations might in some sense resemble what they represent. The key claim is that perceptual representations do *not* represent by means of any such resemblance. Neo-empiricists claim that this marks a clear difference from the perceptual representations appealed to by early modern empiricists.[33]

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31   Barsalou, "Perceptual Symbol Systems," 583; Prinz, *Furnishing the Mind*, 143–44.

32   Prinz, *Furnishing the Mind*, 123–26, 237–61.

33   Neo-empiricists tend to assume all early modern empiricists understood perceptual representations as conscious images: see Barsalou, "Perceptual Symbol Systems," 578; Prinz is somewhat more cautious: see Prinz, *Furnishing the Mind*, 25–26. There is reason to doubt this applies across the board. Berkeley and Hume definitely speak of ideas as images,

The fact that neo-empiricists stress these differences between their view and early modern empiricists might make it a bit obscure what they mean when they call representations "modal" or "perceptual." How can we understand the claim that perceptual representations have a distinctive representational format if we deny they are conscious images that represent by resemblance? The neo-empiricist answer here is that we can identify the distinctive representational format of perceptual representations in a different way, not as something that is given in consciousness, but at a *functional* level, in terms of the distinctive way in which perceptual systems process information.

The second main difference between neo-empiricism and its early modern antecedents is its motivations. In particular, neo-empiricists do not appeal to anti-nativism – that is, scepticism about innate knowledge – in support of their view. This differs from, for instance, Locke, whose concept empiricism is directly motivated by his claim that there are no innate principles of knowledge.[34] Neo-empiricists, on the contrary, are happy to countenance innate representations as long as those innate representations are perceptual.[35]

Instead, neo-empiricists motivate their view by arguing that it provides the most parsimonious explanation both of the different roles concepts are supposed to play and of the empirical data.

The empirical evidence that is offered in support of neo-empiricism typically concerns categorisation tasks. We can briefly illustrate with a couple of studies carried out by Barsalou and his colleagues. One study showed that subjects who had been previously asked to verify that horses have manes were quicker to verify that ponies have manes than to verify that lions do.[36] Barsalou claims that this finding is explained by neo-empiricism because

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both in relation to perception and thought: see George Berkeley, *A Treatise Concerning the Principles of Human Knowledge*, ed. J. Dancy (Oxford: Oxford University Press, 1998 [1734]), pt. 1, para. 33; David Hume, *A Treatise of Human Nature*, ed. L. A. Selby-Brigge and P. H. Nidditch, 2nd ed. (Oxford: Clarendon Press, 1978 [1739–40]), bk. 1, pt. 1, secs. 1, 7. Locke is a trickier case. The traditional view of Locke, at least since Berkeley, holds that he thought of all ideas as imagistic, and some still hold this view of Locke: see Michael Ayers, *Locke*, vol. 1: *Epistemology* (London: Routledge, 1991), ch. 5. However, some Locke scholars deny this, claiming instead that what Locke meant by "ideas" was the "mental contents" of acts of awareness: see John W. Yolton, *Locke and the Compass of Human Understanding: A Selective Commentary on the "Essay"* (Cambridge: Cambridge University Press, 1970), 129; id., *Perceptual Acquaintance: From Descartes to Reid* (Minneapolis: University of Minnesota Press, 1984), 212–13; David Soles, "Is Locke an Imagist?" *The Locke Newsletter* 30 (1999): 17–66.

34   John Locke, *An Essay Concerning Human Understanding*, ed. P. H. Nidditch (Oxford: Clarendon Press, 1975 [1690]), bk. 1, chs. 2–4.

35   Prinz, *Furnishing the Mind*, 194.

36   Solomon and Barsalou, "Representing Properties Locally," 137–45.

thinking about a horse's mane, on the neo-empiricist model, involves simu-
lating a perceptual symbol representing a horse's mane. Such simulation is
claimed to prime the subjects for thinking about a pony's mane but not a lion's
mane, because a horse's mane is visually similar to a pony's mane but not to
a lion's mane. Another study involved feature-listing tasks in which subjects
are asked to verbally list features of given nouns, for example "watermelon."
Subjects were more likely to describe internal features, such as red flesh and
seeds, when given the complex noun phrase "half watermelon."[37] Given that
these are visually salient properties, this was claimed to support the neo-
empiricist account of thinking as simulating perceptual representations.[38]

The most developed theoretical argument for neo-empiricism is given by
Prinz, who argues that a neo-empiricist account of concepts gives the sim-
plest account of how concepts can play a variety of explanatory roles. These
explanatory roles, some of which we have already covered, include the role of
concepts in accounting for intentionality, compositionality, concept acquisi-
tion, and categorisation.[39]

While it would distract from my purposes to go into Prinz's argument in
detail, I can at least outline its structure. In essence, he argues that all the alter-
native theories of concepts fail to play at least some of these explanatory roles.
Theories of concepts put forward by psychologists often can account for the
role concepts play in categorisation, which is natural given that they were
developed to explain categorisation experiments. But such theories, Prinz
claims, fail to explain the role of concepts in accounting for intentionality
because how we categorise things as falling under a certain concept can often be
detached from what that concept refers to.[40] Theories of concepts developed
by philosophers, on the other hand, do better at accounting for intentionality,
but often cannot account for the role of concepts in categorisation or give a

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37   Lawrence W. Barsalou, Karen Olseth Solomon, and Ling Ling Wu, "Perceptual Simulation
      in Conceptual Tasks," in *Cultural, Typological, and Psychological Perspectives in Cognitive
      Linguistics: The Proceedings of the 4th Conference of the International Cognitive Linguistics
      Association*, ed. M. K. Hiraga, C. Sinha, and S. Wilcox (Amsterdam: John Benjamins, 1999),
      3:209–28.

38   We should note that studies like these, insofar as they support neo-empiricism, would also
      support traditional early modern empiricism. This is because they justify for the claim
      that concepts have a perceptual nature but not necessarily the neo-empiricist version of
      this claim rather than the traditional imagistic version. The reason neo-empiricists give as
      to why we should understand conceptual representations as they do, rather than as con-
      scious images, is instead because the imagistic account lacks sufficient representational
      power. See Prinz, *Furnishing the Mind*, 25–32.

39   Prinz, *Furnishing the Mind*, 3–16.

40   Prinz, *Furnishing the Mind*, 59–60, 86.

plausible story about concept acquisition.[41] Prinz claims that neo-empiricism can provide an account of concepts that allows them to play all of these explanatory roles; more specifically, Prinz's claim is that neo-empiricism is the *simplest* account of how concepts can play all the explanatory roles we want them to.

An appeal to parsimony is crucial in both of these arguments for neo-empiricism. This is because a denial that there are amodal, non-perceptual representations is not absolutely required to explain the phenomena in question. With regards to Prinz's arguments, a defender of amodal representations could simply claim that perceptual representations play the role of determining the content of those amodal representations. This would be a version of what Prinz calls a central code theory, but would allow concepts to play the same explanatory roles as neo-empiricism does. Similarly, the empirical studies do not necessarily show that perceptual representations are the vehicles of thought across the board, as they already look like cases where mental imagery would be useful to carry out the tasks in question.[42] Prinz and Barsalou recognise this. Their key claim is that neo-empiricism is the simplest theory that can explain the relevant phenomena, and that this gives us reason to prefer it over the claim that there are amodal representations.[43]

Neo-empiricism thus differs from early modern empiricism in these two key ways: in terms of how it understands perceptual representations, and in terms of how it is motivated. But apart from these expressed differences, neo-empiricists typically see themselves as inheritors of a long-standing historical tradition.[44] For example, Prinz claims that the rejection of amodal mental representations, the denial that there is a *lingua franca* of the mind, is an "important component of traditional empiricism."[45]

I am going to dispute this claim. Neo-empiricists, particularly in their claims about the perceptual character of thought, are better thought of as inheritors of a specific extreme form of empiricism defended by Berkeley and Hume. I shall argue that Aristotle did not defend an empiricism of this form. He was

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41   Prinz, *Furnishing the Mind*, 94–95, 99–100. The main philosophical account of concepts to which Prinz applies this criticism is Fodor's informational atomism, which claims that concepts are lexical items (words) in a language of thought, which get their content by standing in the right kind of causal relations with their referents. See Fodor, *Concepts*, 6–15.

42   Edouard Machery, "Concept Empiricism: A Methodological Critique," *Cognition* 104:1 (2007): 19–46.

43   Barsalou, "Perceptual Symbol Systems," 580; Prinz, *Furnishing the Mind*, 122–25.

44   Barsalou, "Perceptual Symbol Systems," 578.

45   Prinz, *Furnishing the Mind*, 120.

a concept empiricist, but not one who held that the vehicles of thought are perceptual. He is better thought of as, in Prinz's terms, a central code theorist, that is, he grants that there are distinctive perceptual representations, but he claims that there is an additional amodal kind of representation that is unique to thought.

We should draw a couple of conclusions from this. First, we should recognise that concept empiricism is a broader church than the neo-empiricists think it is. Second, a less extreme version of concept empiricism like the kind I will identify in Aristotle also has theoretical benefits; specifically, it makes concepts more suitable for the role they play in reasoning.

3   Aristotelian Empiricism

While Aristotle did not provide a detailed account of concepts, we can find the seeds of a version of concept empiricism in *De anima* and the *Posterior Analytics*. Aristotle repeatedly stresses the connection between the faculty of intellect (*noûs*) and the faculty of perception, a connection which goes via the imagination (*phantasía*). Having introduced *phantasía* and *noûs* in *De anima* 3.3 and 3.4 respectively, Aristotle then discusses the role images (*phantásmata*) play in thought. *Phantásmata* are the products of the faculty of *phantasía*, and are characterised as lasting impressions resulting from sense perception.[46] Aristotle claims that the operations of the intellect are dependent on images in a number of ways:

> [...] the soul never thinks without an image (*phantásmatos*).[47]

> That which can think [...] thinks the forms in images (*en toîs phantásmasi*).[48]

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46   *De An.* 3.3, 428b25–429a9.

47   *De An.* 3.7, 431a17; cf. *Mem.* 1, 450a1. Translations of Aristotle come from *The Complete Works of Aristotle: The Revised Oxford Translation*, 2 vols., ed. J. Barnes (Princeton: Princeton University Press, 1984), except for those from *De anima*, which come from Aristotle, *De Anima: Books II and III with Passages from Book I*, 2nd ed., trans. D. W. Hamlyn (Oxford: Clarendon Press, 1993), and those from the *Posterior Analytics*, which come from Barnes' later translation, Aristotle, *Posterior Analytics*, 2nd ed., trans. J. Barnes (Oxford: Oxford University Press, 1993).

48   *De An.* 3.7, 431b3.

> [...] unless one perceived one would not learn or understand anything, and when one contemplates one must simultaneously contemplate an image (*phántasma*).[49]

On Aristotle's account, humans differ from other animals by having the faculty of intellect (*noûs*), which enables higher cognitive abilities, such as thinking (*noeîn*), learning (*manthánein*), contemplation (*theōreîn*), and knowledge or understanding (*epistḗmē*). Other animals, Aristotle claims, have perception and imagination (*phantasía*), but not these other states.

However, as the passages quoted above indicate, Aristotle also stresses the interrelation between thought and perception. And it is in Aristotle's discussion of this interrelation that, I suggest, we can find a form of concept empiricism. My focus is on understanding the precise nature of this empiricism. In particular, I will concentrate on whether, like neo-empiricism, it features the claim that the vehicles of thought are perceptual. I will argue that Aristotle does not agree with this claim. We should read Aristotle as not agreeing with this claim because it conflicts with key elements of his philosophy of mind. Instead, it is better to interpret him as adhering to a different form of empiricism, one which does hold that the contents of thoughts depend in some sense on the contents of perceptual states, but also one which does *not* claim that the vehicles of thought are perceptual.

In summary, according to this Aristotelian version of empiricism, *noḗmata* (thoughts or concepts) get their content from *phantásmata* (images), which are stored perceptual representations which have the same content as the *aisthḗmata* (sense perceptions) that cause them. Forming *noḗmata* involves isolating or selecting aspects of perceptual contents and representing them under a more general aspect than perception on its own is capable of, an ability that is enabled by the faculty of *noûs*. I will outline this Aristotelian concept empiricism in section 3.1. I will then briefly discuss, in section 3.2, how Aristotle might answer a perennial problem faced by versions of concept empiricism, the question of whether his empiricism can account for the full range of concepts we possess. I will then move on to discuss how this Aristotelian empiricism compares with neo-empiricism.

Before I move on, however, I should note that the concept empiricism I will outline is only *part* of Aristotle's account of intellect – *noûs* – and its relation to perception. Concept acquisition and possession, in the sense we have been discussing, is not Aristotle's main focus when he gives his account of *noûs* in *De*

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49   *De An.* 3.8, 432a7–10.

anima 3.4–8. The key function Aristotle outlines for *noûs* is grasping intelligible forms or essences.[50] The word *nóēsis* ('thinking') often refers to the mental state of grasping essences, and at times Aristotle also uses *noûs* just to refer to this mental state.[51] *Noûs* in this sense seems to have non-propositional content – it is just directed towards the essence itself, it does not predicate anything of the essence[52] – and to be a mental state that cannot go wrong.[53] As a number of commentators have noted, *noûs* in *this* sense is something extremely rarefied, and is something few if any of us can ever hope to achieve.[54]

It is clear that having *noûs* in this sense is more than mere concept possession. Possessing the concept MAN does not suffice for having *noûs* of man, that is, grasping man's essence. But I do not think this means that Aristotle's discussion of the connection between *noûs* and perception is irrelevant to my purposes. While *noûs* and *nóēsis* often refer to the state of grasping essences, *noûs* also refers to a distinctive psychological faculty. The mental state of grasping essences may be the paradigmatic or central exercise of the faculty, but Aristotle stresses that we can only achieve this state by a step-by-step process starting with perception,[55] and this process also promises to tell us about what ordinary concept possession involves.

Furthermore, in addition to the grasp of essences, Aristotle also claims that the faculty of *noûs* enables other higher cognitive capacities that non-human animals lack. First, *noûs* enables the capacity for propositional thought. Aristotle highlights this when he claims that only *some* kinds of thinking can be true or false; specifically, truth and falsity require "combination." "Where there is both falsity and truth," Aristotle claims, "there is already a combination of thoughts (*noēmátōn*) as forming a unity."[56] The kind of combination of thoughts Aristotle is appealing to seems just to be predicating one thing of another. To illustrate, I might predicate 'is white' of 'Cleon' when thinking truly, but predicate 'is not white' of 'white' when thinking falsely.[57] And Aristotle claims that what produces this predication is *noûs*: "that which produces a unity in each case is the intellect (*noûs*)."[58] The elements that are combined in

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50   *De An.* 3.4, 429a13–18, b10–18.
51   *APo.* 2.19, 100b5–17.
52   *De An.* 3.6, 430b27–29.
53   *APo.* 2.19, 100b6–7.
54   Michael Frede, "Aristotle's Rationalism," in *Rationality in Greek Thought*, ed. M. Frede and G. Striker (Oxford: Clarendon Press, 1996), 162–64; Myles F. Burnyeat, *Aristotle's Divine Intellect* (Milwaukee: Marquette University Press, 2008), 15–19.
55   *APo.* 2.19, 99b35–100b5.
56   *De An.* 3.6, 430a27–28.
57   *De An.* 3.6, 430b2–5.
58   *De An.* 3.6, 430b5–6.

such acts of thinking are *noḗmata*, often translated as "thoughts,"[59] but given that they seem to be sub-propositional elements of thought, it seems equally appropriate to translate them as "concepts."

Second, and relatedly, *noûs* enables the capacities of language and reasoning. On Aristotle's account of language, words are "symbols of affections in the soul,"[60] and the particular affections (*pathḗmata*) he has in mind seem to be thoughts or *noḗmata*. Furthermore, Aristotle claims that making an "affirmation" (*katáphasis*) – that is, to affirm something of something else[61] – involves the very same kind of combination of thoughts discussed in *De anima*.[62] Likewise, the kind of proposition that figures in logical inferences, on Aristotle's account, is "a statement affirming or denying something of something,"[63] which must also depend on *noûs*'s power to combine *noḗmata*.

We can see, then, that *noûs* enables a range of higher cognitive abilities. For this reason, Aristotle's discussion of *noûs* is still relevant to my purposes, even if his main focus is on the mental state of grasping essences. This is because the contents of this mental state, *noḗmata*, also serve as the sub-propositional constituents of propositional thought, and thus account for reasoning and language. As I outlined above, these are some of the key explanatory roles that concepts are supposed to play. For this reason it does not seem inappropriate to draw an empiricist account of concept possession out of Aristotle's discussion of how the intellect depends on perception.

3.1 *Aristotle on How Thought Depends on Perception*

I will find an Aristotelian version of concept empiricism in Aristotle's descriptions of the role played in thought by perception and imagination, the latter of which, according to Aristotle, is part of the perceptual faculty.[64] There seem to be two main ways in which thought depends on perception on Aristotle's account. First, Aristotle claims that perception is implicated in the genesis of thoughts, in particular in the genesis of thought content, that is, what thoughts are about. Second, Aristotle suggests that perception is implicated in occurrent acts of thinking – or more precisely, that stored perceptual images (*phantásmata*) are called upon in occurrent acts of thinking. I will focus on the genetic role because it is in Aristotle's discussion of the genetic role that we find a kind of concept empiricism.

59   See Aristotle, *De anima*, trans. Hamlyn; id., *De anima*, trans. C. Shields (Oxford: Clarendon Press, 2016).

60   *Int.* 1, 16a4.

61   *Int.* 1, 16a4.

62   *Int.* 1, 16a10–14.

63   *APr.* 1.1, 24a16–17.

64   *Mem.* 1, 450a11–14.

The first key place where Aristotle stresses the role of perception in the genesis of thought content is in the following passage in *De anima* 3.8:

> Since there is no actual thing which has separate existence, apart from, as it seems, magnitudes which are objects of perception, the objects of thought are included among the forms which are objects of perception, both those that are spoken of as in abstraction and those which are dispositions and affections of objects of perception. And for this reason unless one perceived one would not learn or understand anything, and when one contemplates one must simultaneously contemplate an image; for images are like sense-perceptions, except that they are without matter.[65]

Aristotle here argues from the claim that nothing but perceptible magnitudes exists to the conclusion that without perception one would not learn or understand anything. But what is important for my purposes is that this argument goes via the claim that the objects of thought (*noētá*) – what we can think about – are among the forms (*eídē*) of the objects of perception (*aisthētá*).

Let us examine the reasoning behind this argument by looking at the following formalisation, roughly adapted from the one given by Shields:[66]

(1)   Nothing has a separate existence apart from magnitudes that are objects of perception.

(2)   If (1), then the objects of thought are included among the forms of objects of perception.

(3)   The objects of thought are included among the forms of objects of perception.

(4)   If (3), then unless one perceived one would not learn or understand anything.

(5)   Unless one perceived one would not learn or understand anything.

It is worth clarifying a couple of points of this argument. First, it should be noted that Aristotle's initial conclusion (3) is not the claim that objects of thought and of perception are always the *same*. Aristotle is explicit here that the objects of thought include things abstracted away from perception – by which he typically means mathematical entities like numbers and geometrical objects. The claim is just that objects of thought are *forms* of the objects of perception. I take it the idea is that while I may perceive a particular triangle, I can also think about its form, that is, the features it shares with other triangles, and that in virtue of which it counts as a triangle. The form of a triangle is not, I take it, a particular perceivable item. But Aristotle's claim is just that I can

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65   *De An.* 3.8, 432a3–10.

66   Shields, in Aristotle, *De anima*, trans. C. Shields (Oxford: Clarendon Press, 2016), 344.

think about something imperceptible, like the form of a triangle, only if it is among the forms of particular things I perceive.

Second, Aristotle's reasoning behind premises (2) and (4) is not entirely clear, so we have to partially reconstruct it, and we can do so in a couple of different ways.

On the one hand, one might think that premise (2) rests on an assumption that if there is no world apart from the one we perceive, then we cannot think about anything other than that world that we perceive. Similarly, premise (4) might seem to be based on an assumption that if the objects of thought are the forms of objects of perception, then we must learn about the objects of thought via perception.

But in both of these of cases, we can more plausibly interpret Aristotle as relying on a weaker assumption that if our capacities to think and learn about things are not to be mysterious or unexplained, we had better explain those capacities in terms of the world we perceive and our perception of that world. Our capacity to think about the world *would* be mysterious if we had to explain it in terms of, say, intellectual insight or Platonic recollection. But it would not be mysterious if we can explain it in terms of perception, as perception is a natural and familiar way of gaining knowledge about the world.[67] This reconstructs Aristotle's argument in *De anima* 3.8 as one from best explanation, one that concludes that thought and learning are most easily explained by reference to perception and the perceptible features of objects.[68]

This leads us to the second significant passage in which Aristotle discusses the genetic dependence of thought on perception, *Posterior Analytics* 2.19. In this passage, Aristotle asks and answers the question of how one comes to know the 'principles' (*archaí*). The principles are primitive items that figure in scientific demonstrations but are not themselves known by demonstration. Aristotle in the end concludes that the principles are known through a

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67 This is a common Aristotelian refrain. For example, in *De sensu* he claims the senses "bring in tidings of many distinctive qualities of things, from which knowledge of things both speculative and practical is generated in the soul" (*Sens.* 1, 437a2–3). Similarly, in *Metaphysics A*, he says that sight "most of all the senses, makes us know and brings to light many differences between things" (*Metaph.* 1.1, 980a26–27).

68 Another issue with this argument, raised by both ancient and contemporary commentators (see Ps.-Simplicius, *On Aristotle on the Soul 3.6–13*, trans. C. Steel (London: Bloomsbury, 2013), 284.14–25; Shields, trans., *Aristotle: De anima*, 344–45), is that premise (1) – the claim that nothing has separate existence other than the perceptual magnitudes – is inconsistent with an Aristotelian Prime Mover, who moves the cosmos from outside, and being outside the cosmos, would not be in space (*Cael.* 1.9, 279a16–22). Recharacterising the argument as one from best explanation, one which understands Aristotle as chiefly concerned with providing the simplest explanation of our capacity for thought, makes this less problematic.

step-by-step process starting with perception and ending with knowledge or understanding (*epistémē*), a process he calls "induction" (*epagōgḗ*). Aristotle explicitly defends this account of learning by appeal to an argument from best explanation. He rejects the alternative account that knowledge of the principles is "present in us without being noticed,"[69] and he also claims that this alternative account, which appears to be the Platonic theory of recollection,[70] is "absurd."[71] It is absurd because it entails that we "possess pieces of knowledge more exact than demonstration without its being noticed."[72] Aristotle then outlines his alternative account, which claims that knowledge of the principles is grounded in perception through the process of induction.

While it is clear that principles are items that figure in demonstrations, commentators disagree about what else is true of them. Some claim that they are universally generalised propositions – propositions of the form 'All *A*s are *B*s' – and that Aristotle is suggesting that principles are basic propositions of this form learnt through experience. On the other hand, they sometimes seem to be to basic concepts, as much of Aristotle's explanation, as we will shortly see, sounds like a description of a process of concept acquisition. However, we need not concern ourselves with a definitive answer as to what principles are. This is because on a wide variety of readings at least one part of Aristotle's explanation involves outlining how we form general concepts.[73]

In any case, Aristotle's preferred explanation of how we come to know the principles looks empiricist in nature. As I have already indicated, it outlines a step-by-step process starting with perception. Perception, Aristotle claims, is

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69   *APo.* 2.19, 99b26.

70   The term "present in us" (*enoúsai*) is also used by Plato: *Phaedo* 73a; *Meno* 85c.

71   *APo.* 2.19, 99b26.

72   *APo.* 2.19, 99b27.

73   This includes: (a) those who claim 'principles' just means general concepts (see, e.g., David Ross, *Aristotle's Prior and Posterior Analytics: A Revised Text with Introduction and Commentary* (Oxford: Oxford University Press, 1949); Richard D. McKirahan, *Principles and Proofs: Aristotle's Theory of Demonstrative Science* (Princeton: Princeton University Press, 1992), 252); (b) those who claim Aristotle vacillates between talking about general concepts and universal propositions (see, e.g., Jonathan Barnes, ed., *Aristotle: Posterior Analytics*, 271); (c) those who claim that Aristotle talks about both general concepts and universal propositions, but that there is no vacillation, because to have a concept just is to learn a certain kind of universal proposition (see, e.g., Deborah Modrak, *Aristotle: The Power of Perception* (Chicago: University of Chicago Press, 1987), 162–64; Richard Sorabji, *Animal Minds and Human Morals: The Origins of the Western Debate* (Ithaca: Cornell University Press, 1993), 31–32). Only those who claim Aristotle's exclusive focus is on universalised propositions and explicitly *not* on concept acquisition (e.g., Dominic Scott, *Recollection and Experience: Plato's Theory of Learning and Its Successors* (Cambridge: Cambridge University Press, 1995), 105–17) will find this passage irrelevant to my purposes.

a "connate discriminatory capacity" shared by all animals.[74] In some animals, those that have the capacity of memory (*mnḗmē*), a sense-perception or percept (*aísthēma*) can be "retained" (*monḗ*).[75] Then, for an even smaller subset of animals, "from memory (when it occurs often in connection to the same item)" comes "experience" (*empeiría*).[76] In Aristotle's usage, 'experience' does not refer to what contemporary philosophers typically mean by it – that is, conscious experience – but rather refers to being experienced with an item of a certain kind, for example having experience of dogs.[77]

The next and final stage in the explanation is when Aristotle describes what looks like formation of general concepts:

> [F]rom experience, or from all the universal which has come to rest in the soul (the one apart from the many, i.e. whatever is one and the same in all these items), there comes a principle of skill (*téchnē*) or understanding (*epistḗmē*) – of skill if it deals with how things come about, of understanding if it deals with how things are.[78]

Aristotle also describes this final stage as involving the formation of an "account" (*lógos*) (*APo.* 2.19, 100a2–3), an account that is based on the retention of the sense-perceptions he has just mentioned.

As a whole, this description claims that we come to a particular basic and foundational kind of knowledge by, in empiricist fashion, repeatedly perceiving things of a certain kind. It will be easier to understand Aristotle's view here if we illustrate it with an example. The idea seems to be that someone first perceives, say, a number of distinct dogs. The person then holds these perceptual

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74   *APo.* 2.19, 99b35–36.

75   *APo.* 2.19, 99b37; 2.19, 100a3. While Aristotle here calls this capacity "memory" (*mnḗmē*), it seems more appropriately thought of as imagination (*phantasía*), the general capacity to retain sense-impressions, much like the contemporary psychological notion of long-term memory. For Aristotle, however, memory strictly so-called, is always of the past: *Mem.* 1, 449a9–b24. This means that although memory involves *phantasía* (see *Mem.* 1, 450a13), *phantasía* does not always involve memory because we can have *phantásmata* that are not of the past, such as in perceptual illusions: *de An.* 3.3, 428b3–5. The current context – of retained sense-impressions in learning – likewise does not seem to involve representation of the past.

76   *APo.* 2.19, 100a4–5.

77   Aristotle's 'experience' therefore has more in common with the term as it is used in "experience of working with children" than in "visual experience." For an in-depth account of Aristotle's notion of experience, one which highlights this feature, see Pavel Gregoric and Filip Grgic, "Aristotle's Notion of Experience," *Archiv für Geschichte der Philosophie* 88:1 (2006): 1–30.

78   *APo.* 2.19, 100a6–10.

representations of dogs in her memory, until she counts as having experience of dogs. At this stage she has a generalised representation, that is, not just a representation of *this dog* and a representation of *that dog*, but a representation of *dogs*. And from this, she comes to have an understanding (*epistémē*) or an account (*lógos*) of dogs. I take this to be essentially a process of abstracting away from how particular dogs differ and recognising what they all have in common in a way that allows one to reason about dogs *in general*, for instance by having the concept DOG figure in scientific demonstrations.[79] In this way, I understand Aristotle's induction (*epagōgḗ*) to describe, at least in part, how basic general concepts emerge from repeated perception of things that fall under those concepts. And the key reason Aristotle gives in support of this account, as far as I can see, is that it explains how we form these concepts better than the alternatives.

These two passages can therefore be understood as giving arguments from best explanation for an empiricist account of concept acquisition. In section four, I will discuss how this version of concept empiricism compares with neo-empiricism. Before I do that, however, I would like to briefly discuss how well this version of empiricism can account for the full scope of the concepts we have. Empiricist accounts of concept possession face perennial problems accounting for the full range of our concepts. Examples concepts empiricists traditionally have trouble dealing with are ethical and mathematical concepts.[80] For this reason, examining what resources Aristotle has at his disposal to answer this question will allow us to more fully understand this Aristotelian version of concept empiricism and assess its plausibility.

3.2   *Aristotelian Empiricism and the Question of Scope*

Aristotle does not at any point provide a detailed answer to this question of scope, that is, an explanation of how the process of induction can account for the full range of concepts we have. However, I think we can provide the beginnings of an answer on Aristotle's behalf. In particular, I am going to focus on three elements in Aristotle's philosophy of mind that could be appealed to

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79   I have given what Barnes calls an "honest empiricist" reading of 2.19. I have ignored what he calls an "easy rationalist" reading (see Barnes, ed., *Aristotle: Posterior Analytics*, 259), i.e., an interpretation that claims that *noûs* also plays an essential role alongside induction in how we come to know the principles (see, e.g., Terence Irwin, *Aristotle's First Principles* (Oxford: Clarendon Press, 1988), 134–36). Though I cannot argue for this here, I find Barnes' interpretation more plausible; according to this interpretation, '*noûs*' is just the right word for the mental state that grasps the principles.

80   For further examples, see Prinz, *Furnishing the Mind*, 25–32.

in order to answer the question of scope: (a) the scope of perceptual content; (b) the distinctive generality of conceptual representation; (c) some of the examples of the concepts Aristotle claims we gain by induction.

Let us start with the scope of perceptual content. If the scope of what we can perceive is very narrow, then the concept empiricism Aristotle defends clearly will not provide a good explanation of the full range of concepts we have. However, there is reason to suggest that Aristotle thinks the content of perception can be quite rich. Aristotle outlines three different kinds of perceptible objects. The first two are those perceived "in themselves" or "in their own right" (*kath' autó*).[81] The first are the "proper" or "special" (*ídion*) perceptible objects – colour, sound, flavour, and so forth – each of which is perceived by a single sense.[82] The second are the "common" (*koinón*) perceptible objects – movement, rest, number, unity, figure, size – which can be perceived by a number of senses.[83] The third kind of perceptible objects are not perceived in themselves, but "incidentally" or "extrinsically" (*katà symbebēkós*). Aristotle's example is perceiving the son of Diares by perceiving "a white thing" (the proper perceptible object in this case) that happens to be the son of Diares.[84]

Aristotle's official account of perception given in *De anima* 2.4–2.12 largely focuses on the proper perceptible objects, but this should not mislead us into thinking that common and incidental perception are unimportant. Aristotle seems to claim that a wide variety of objects may be perceived incidentally, and he never suggests that incidental perception is not a genuine form of perception.[85] Key examples are given by Aristotle's claims about the perception of animals. Animals, on Aristotle's account, have perception but lack intellect,[86] so any claims about what they can perceive cannot derive from the higher cognitive abilities that require the intellect. Aristotle describes a lion hunting an ox who "perceived by the lowing that it was near," and dogs hunting hares for whom "the scent of hares told them hares were there."[87] These objects of perception – hares and oxen – clearly do not fall under any of the categories of proper or common perceptible objects, so they must be

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81   *De An.* 2.6, 418a9–10.

82   *De An.* 2.6, 418a11–17.

83   *De An.* 2.6, 418a18–20.

84   *De An.* 2.6, 418a21–24.

85   Stanford Cashdollar, "Aristotle's Account of Incidental Perception," *Phronesis* 18:2 (1973): 158–59. See also Mika Perälä's chapter in *Forms of Representation in the Aristotelian Tradition, Volume One: Sense Perception*, ed. J. Toivanen (Leiden: Brill, 2022).

86   *De An.* 3.3, 427b14–15.

87   *EN* 3.10, 1118a18–21.

incidentally perceived.[88] Therefore, on Aristotle's account, not only can we perceive colours, sounds, and shapes, we can also perceive things like men, hares, and oxen.

Furthermore, it also seems that on Aristotle's account, perceiving something – for example, a man or an ox – already involves perceiving it *as* a certain type of thing. In other words, Aristotle seems to suggest that perception represents a particular as falling under a certain universal type. This interpretation is suggested by Jonathan Barnes,[89] and developed in detail by Victor Caston.[90] It is suggested by a claim that comes after the passage from *Posterior Analytics* 2.19 that I have already discussed, in which Aristotle claims that "although you perceive particulars, perception is of universals, – e.g., of man, not of Callias the man."[91] This claim seems to play the role of explaining how perception – which Aristotle claims is necessarily of particulars[92] – can provide the raw materials for the process of forming general concepts that we outlined above. As Barnes puts it, Aristotle is answering the question: "How can the gap between universals and particulars be jumped?" Aristotle's answer, according to Barnes, is that:

> [P]erception […] gives us universals from the start. […] He means that we perceive things *as As*; and that this, so to speak, lodges the universal, *A*, in our minds from the start […]. (It should be noted that this account is intended to hold for *all* perceivers: it is not particular to human perception, nor does it involve the intellect in any way. Even a fly sees an *F*.)[93]

Perception, on this interpretation of Aristotle's account, represents particulars *as* certain types of things.[94] If we combine this with the range of objects Aristotle claims we can perceive, this means we can perceive things as, *inter alia*, red, loud, or bitter (proper), as round, large, or approaching (common),

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88   Further examples are given by Gregoric and Grgic, "Aristotle's Notion of Experience," 12n28, who point to claims in the *Historia animalium* "which force us to assume that non-rational animals have incidental perception": e.g., "when the Egyptian ichneumon sees the snake called the asp, it does not attack until it has summoned others to help" (*HA* 9.6, 612a16–17), the cranes are said to "see the clouds and bad weather" (*HA* 9.10, 614b21), and the lion is "watching for the man who is shooting and then attacks him" (*HA* 9.44, 629b24).

89   Barnes, ed., *Aristotle: Posterior Analytics*, 266.

90   Victor Caston, "Aristotle on Perceptual Content" (manuscript under review).

91   *APo.* 2.19, 100a16–b1.

92   *APo.* 1.31, 87b29–31.

93   Barnes, ed., *Aristotle: Posterior Analytics*, 266.

94   For further argument for this interpretation, see Caston, "Aristotle on Perceptual Content," esp. secs. 3–6.

and as men, hares, or oxen (incidental). Perceptual content, on Aristotle's account, can thus be very rich. And with such a rich conception of perceptual content, Aristotle's claim that our concepts in the end derive from perception begins to look more plausible.[95]

Let us now move on to the second aspect of Aristotle's philosophy of mind that helps us answer the question of scope: the distinctive representational powers Aristotle claims the intellect adds to the content of perception. Specifically, the intellect seems to add the capacity to represent *generality*. This is already evident in the process of induction (*epagōgḗ*) outlined above, the process of forming basic concepts by a step-by-step process starting with perception. This process already involves isolating aspects of perceptual content and representing them under a more general aspect.

The fact that intellect gives us a distinctive capacity to represent generality shows up in Aristotle's explanation of why perception on its own does not suffice for *epistḗmē*, that is, knowledge or understanding. Although Aristotle claims that knowledge is grounded in perception in the way I outlined earlier, he claims that perception on its own cannot *suffice* for knowledge. The key reason for this seems to be that perception is necessarily of a particular, even if perception represents that particular as a kind of thing: "Even if perception is of what is such-and-and-such [...] nevertheless what you perceive must be a this so-and-so at a place and at a time."[96] This means perception cannot suffice for knowledge, because we have knowledge, Aristotle claims, "in so far as we get to know universals,"[97] that is, in so far as we understand "what is found always and everywhere."[98]

Caston, in the course of integrating Aristotle's epistemology with the account of perceptual content discussed above, suggests that these passages

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95   To illustrate, in *Posterior Analytics* 2.19, Aristotle's example of a basic concept gained by induction is the concept MAN. Barnes suggests this choice of example is "unfortunate." This is because a man plausibly is not a proper or common perceptible object, but only an incidental perceptible one. This means, Barnes claims, that it cannot be the case that MAN is "directly implanted in the mind by the senses" (Barnes, ed., *Aristotle: Posterior Analytics*, 266). But if incidental perception is a genuine form of perception – and we genuinely can perceive things like men, oxen, and hares – I do not think this is a problem. Of course, it is a philosophically interesting question how we perceive things like men, oxen, and hares. But it is *prima facie* plausible that we do (see, e.g., P. F. Strawson, "Perception and Its Objects," in *Perception and Identity: Essays Presented to A. J. Ayer with His Replies to Them*, ed. G. F. Macdonald (London: Macmillan, 1979), 43–44). And if we do, then grounding our concepts in perception looks more plausible.

96   *APo.* 1.31, 87b29–31.

97   *APo.* 1.31, 87b39.

98   *APo.* 1.31, 87b33.

give us the essential difference, on Aristotle's account, between perceptual and conceptual mental representation. The problem that seems to be raised by these passages is that knowledge looks like it requires a kind of generic representation of *kinds as such* – for example, a representation not just of *this dog*, *that dog*, etc., but of *dogs in general*. Perception, since it is of particulars, cannot provide this kind of general representation. This is the case even if we accept Barnes' interpretation that perception involves representing things as general types. This is because perception still only represents a particular as falling under a certain type, for instance, I can perceive *that dog*, but I cannot perceive *dogs in general*. Representing a general type, such as dogs in general, requires a distinctive and essentially generic mental representation.

Caston identifies concept possession, on Aristotle's account, with the capacity for this kind of generic mental representation required for knowledge. Concept possession, on Caston's interpretation of Aristotle, is essentially tied to the ability to grasp and make generalisations.[99] An essential part of this ability is the capacity to represent types or kinds themselves, that is, not just as predicates (e.g., *That is a dog*) but as subjects of predication (e.g., *Dogs are mammals*).[100]

If Caston's interpretation is correct, gaining a basic concept from perception (as described in *Posterior Analytics* 2.19) involves gaining the ability to represent the types or kinds of perceptible objects. But although this is mental representation of a fundamentally different kind than perception, it is still grounded in perception – as the kinds that one represents conceptually derive from the kinds that one perceives things as.[101]

This again contributes to an answer to the question of scope. Concepts of general kinds have often been claimed to be problematic for concept empiricism, as we do not have perceptual experiences with the requisite generality. For example, no perceptual experience of a triangle can represent triangles in general, as perceptual experiences of triangles will always be of equilateral,

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99   Caston, "Aristotle on Perceptual Content," sec. 7.

100   Caston, "Aristotle on Perceptual Content," sec. 7.

101   I think we can find further support for Caston's interpretation if we look at the language of the first passage I discussed in which Aristotle outlined his concept empiricism, *De anima* 3.8. In that passage, Aristotle did not simply identify the objects of thought (*tà noētá*) with the objects of perception (*tà aisthētá*). Instead, he claimed that the objects of thought are "among the forms of the objects of perception" (*en toîs eídesi toîs aisthētoîs tà noētá esti*; *de An.* 3.8, 432a5–6). The claim that the objects of thought are forms of perceptible objects makes complete sense if, with Caston, we hold that thinking (*noeîn*) involves mental representations of general kinds or types, because that is just what something's form (*eîdos*) is, it is the kind or type of thing it is.

isosceles, or scalene triangles.[102] This Aristotelian version of empiricism, however, promises to give a more plausible account of how we form general concepts, given that it claims the intellect adds a distinctive ability to represent what is given in perception under a more general aspect. I will return to this feature later, as I think it marks a key difference and advantage of Aristotelian empiricism when compared to other forms of concept empiricism.

The third and final point that Aristotle can make in response to the question of scope is simply to refer to some of the examples of concepts gained through the process of induction that Aristotle discusses. The process of induction, given that it simply involves forming a general concept on the basis of commonalities in perception, might look limited. But looking at a couple of Aristotle's examples of concepts can I think make us more optimistic about the explanatory power of Aristotelian induction.

We can first see this if we focus on Aristotle's description of how we can formulate more and more general concepts via induction. I take it that this is what Aristotle suggests in *Posterior Analytics* 2.19 after the passage I discussed above, when he describes a process of gaining knowledge of successively more general concepts with a simile of a routed army becoming organised and coming to a "stand" or "stop" (*stántos*):

> When one of the undifferentiated items makes a stand, there is a primitive universal in the soul [...]. Next a stand is made among these items, until something partless and universal makes a stand. E.g. such-and-such an animal makes a stand until animal does; and with animal a stand is made in the same way.[103]

I take it that in this passage Aristotle is claiming that the process of induction can operate at different degrees of generality. At one end, I could perceive things as men, hares, and oxen, and then, through the step-by-step process discussed above, form the general concepts MAN, HARE, and OX. At a greater degree of generality, I can also recognise what all of these have in common – that is, perceive them as animals – and then form the more general concept ANIMAL. And presumably we will be able to say the same about even more general concepts, such as the concept BEING. In this way, Aristotelian induction, because it can operate at greater or lesser degrees of generality, can provide us with more concepts that it might initially seem.

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102 The *locus classicus* for this objection is Berkeley's criticism of Locke's theory of 'abstract ideas' (see footnote 119 below).

103 *APo.* 2.19, 100a16–b3.

The second example in which Aristotelian induction provides more than one might expect is the case of mathematical concepts. Here Aristotle's philosophy of mind links up with his philosophy of mathematics, as he gives an empiricist-friendly account of mathematical objects. He claims that mathematics does not study mathematical objects that are separate from perceptible objects. Rather, it studies perceptible objects in a way that ignores features irrelevant to their mathematical properties. In this way, arithmetic studies perceptible objects insofar as they are indivisible; geometry studies perceptible objects insofar as they have magnitudes:

> Each question will be best investigated in this way – by supposing separate what is not separate, as the arithmetician and the geometer do. For a man *qua* man is one indivisible thing; and the arithmetician supposes one indivisible thing, and then considers whether any attribute belongs to man *qua* indivisible. But the geometer treats him neither *qua* man nor *qua* indivisible, but as a solid.[104]

Because of this account of mathematical objects, Aristotle typically refers to mathematical entities like numbers and the objects of geometry under the heading of "things spoken of as in abstraction" (*tà en aphairései legómena*). And when we turn to his philosophy of mind, we see that this account of mathematical objects means we have an empiricist-friendly story about how we are able to think of them and form mathematical concepts: we think about the mathematical properties of perceptible objects *as if they were separate* when in fact they are not. Aristotle illustrates this in the following passage:

> Those things which are spoken of as in abstraction one thinks of just as, if one thought actually of the snub, not *qua* snub, but separately *qua* hollow, one would think of it apart from the flesh in which the hollow exists – one thinks of mathematical entities which are not separate, as separate, when one thinks of them.[105]

Aristotle illustrates here with the example of "the snub." The snub is not separable from flesh (as it is specifically concavity of the nose), but we can still study a feature of it, its concavity, as if that feature were separate. And while

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104   *Metaph.* 13.3, 1078a22–26.
105   *De An.* 3.7, 431b12–17.

this is an example of a geometrical property, Aristotle thinks the same process is involved in thinking about numbers too. Thinking about numbers involves thinking about perceptible objects insofar as they are indivisible.

This means that, given Aristotle's philosophy of mathematics, mathematical concepts raise no special problem for an Aristotelian concept empiricism. We can just say that such concepts are formed by the very same process of induction, that is, through the recognition of commonalities between different objects given in perception. It is just that in this case the particular commonalities recognised will be mathematical ones; presumably, sameness in shape or magnitude for geometrical properties, and sameness in numerosity for arithmetical properties. In fact, Aristotle explicitly says that induction can also provide us with mathematical concepts. He claims that "even the items we speak about on the basis of abstraction can be made familiar by induction"[106] because they are concepts that derive from thinking about perceptible objects in a particularly focused way.[107] In this way, one key problematic set of concepts for empiricists – mathematical concepts – is one that Aristotelian empiricism can account for.

In summary, therefore, Aristotle has a variety of different materials available to him to answer the question of how his concept empiricism can account for the full scope of concepts we have. First, he can appeal to the richness of his account of perceptual content. Second, he can appeal to the way in which the intellect builds on the content of perception both by representing kinds as such, and by induction providing us with more general and abstract concepts. While I do not think what I have said provides a complete answer to the problem of scope, I think it provides a plausible starting point.[108]

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106   *APo.* 1.18, 81a2–3.

107   *APo.* 1.18, 81a4–5.

108   I do not claim these are the only examples of concepts traditionally problematic for empiricists that Aristotelian induction can account for. Another key case, which I do not have space to discuss, is that of ethical concepts, though Jessica Moss has argued that Aristotle holds that ethical concepts are grounded in a practical analogue of induction (Jessica Moss, *Aristotle on the Apparent Good: Perception, Phantasia, Thought, and Desire* (Oxford: Oxford University Press, 2012), 200–233). On this picture, one forms ethical concepts through habituation, which involves a series of pleasurable or painful experiences, where such experiences are a way of perceiving a course of action as good or bad. Forming an ethical concept, on this picture, essentially involves the same kind of recognition of perceived commonalities as takes place in theoretical induction. If such a picture is plausible, Aristotelian induction will likewise be able to account for ethical concepts.

4   How Aristotelian Empiricism Compares with Neo-Empiricism

We can now move on to consider how this Aristotelian concept empiricism compares with neo-empiricism. While there may be some similarities,[109] I am going to concentrate on how they differ. In particular, I will argue that Aristotle's empiricism does not share the two key theses of neo-empiricism. These are:

(1)   Concepts are encoded in perceptual representational systems.
(2)   Conceptual processing is a matter of re-enacting or simulating perceptual states, and manipulating those perceptual states.

I will concentrate on thesis (1), which is a claim about the vehicles of thought. In any case, (1) is the really crucial element in neo-empiricism. If thesis (1) is false – if thought does not have perceptual vehicles – then thesis (2) will not be true – that is, thinking will not *essentially* involve simulating perceptual states. So if Aristotle thinks that (1) is false, as I think he does, he will not think (2) is true in the strong sense in which neo-empiricists take it to be true.

Recall that the claim that the vehicles of thought are perceptual can be understood physiologically – that is, as the claim that the brain areas responsible for thought are those responsible for perception – or as a claim about representational format – that is, that conceptual representations share the same format as perceptual representations. Neo-empiricists tend to claim that the vehicles of conceptual representations are perceptual in both of these two senses.

Does Aristotle think the vehicles of thought are perceptual in either of these senses? Let us start with the physiological understanding of vehicles. Aristotle

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109   One way in which there may be a similarity between Aristotelian empiricism and neo-empiricism is in the nature of the perceptual representations appealed to. But it depends on how we understand *phantásmata*, the retained perceptual representations Aristotle appeals to. Some interpret *phantásmata* as pictorial mental images, which can be consciously attended to (see, e.g., Richard Sorabji, *Aristotle on Memory*, 2nd ed. (London: Duckworth, 2004), xiv–xix, 2–8). If this is correct, Aristotle's empiricism more closely resembles the empiricism of Berkeley and Hume. Other interpreters instead claim that a *phántasma* is in its essence a content-bearing persisting state with the same content as a perceptual experience, but a state that is not necessarily itself an object of awareness (see, e.g., Michael E. Wedin, *Mind and Imagination in Aristotle* (New Haven: Yale University Press, 1988), 25–30, 39–45; Julia Annas, "Aristotle on Memory and Self," in *Essays on Aristotle's De anima*, ed. M. C. Nussbaum and A. Oksenberg Rorty (Oxford: Clarendon Press, 1992), 304–5; Victor Caston, "Why Aristotle Needs Imagination," *Phronesis* 41:1 (1996): 51–52). If the latter interpretation is correct, Aristotle's view more closely resembles neo-empiricism because neo-empiricists, as I have said, typically stress that the perceptual representations they appeal to are not imagistic.

clearly does not think that thought has perceptual vehicles in *that* sense. This is because he holds that the intellect does not have an organ.[110] He holds this view because the range of the intelligible is greater than what can be perceived. Our senses, he claims, are "not capable of perceiving when the object of perception has been too intense,"[111] whereas the intellect is unlimited in what it is able to think about, which leads him to conclude that the intellect is "unmixed" with the body.[112] If the intellect is unmixed with the body, thought cannot take place in the perceptual systems understood physiologically.

As Aristotle's view that the intellect is unmixed with the body is not likely to be shared by contemporary concept empiricists, we should not focus too much on the physiological understanding of vehicles. I will instead focus on the question of whether, on Aristotle's account, thought and perception share the same representational format.[113]

As I said earlier, representations that differ in format can have the same content. This is typically illustrated by examples: for instance, a map and a sentence can both represent that Gothenburg is north of Copenhagen, but they each use a different format. With this in mind, thesis (1) of neo-empiricism was explicated in terms of the different senses being perceptual systems that use, in Prinz's terms, their own proprietary format or modal codes. Neo-empiricism claims that thought is carried out in the various different codes of the different senses. Neo-empiricism claims that thought has no proprietary amodal code, whether that be a common code – that is, one used by both the senses and thought – or a central code – that is, a code specific to thought which the codes of the different senses are translated into. Prinz phrases this, recall, as the idea that there is no *lingua franca* of the mind.

Aristotle, I will argue, disagrees with neo-empiricism here. He is best interpreted as holding that there is a representational code or format that is unique to thought, though he would not deny that this differs from the representational format of perceptual representations. He is therefore best understood, in Prinz's terms, as a central code theorist. Aristotle's account still deserves, however, to be thought of as a version of concept empiricism because it

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110   *De An.* 3.4, 429a23–25.

111   *De An.* 3.4, 429b1–2.

112   *De An.* 3.4, 429a18.

113   One might worry that it is anachronistic to ask this question about Aristotle's philosophy of mind, since it presupposes the contemporary vehicle/content distinction. However, there is reason to think Aristotle recognises such a distinction. In particular, in *De memoria* Aristotle distinguishes between contemplating "a picture painted on a panel" both "as a picture" (*hōs zôion*) and "as a likeness" (*hōs eikóna*; *Mem.* 1, 450b24), which clearly seems to suggest the vehicle/content distinction.

involves the claim that all concepts get their content from perception or from operations on perceptual content – what I referred to as the Content Derivation Claim.

An account like this – that is, a version of concept empiricism that denies the vehicles of thought are perceptual – might seem as though it is not a genuine option. One might be puzzled as to how it really counts as a version of concept empiricism. So before I outline why we should view Aristotle in this way, I will further explicate the view by reference to different versions of early modern empiricism. In the early modern period Berkeley and Hume seem to agree with the neo-empiricist claim that the vehicles of thought are perceptual. Locke, on the other hand, did not, but still defended a form of concept empiricism.

Berkeley and Hume certainly did hold that thought has the same representational format as perception. This is evident in Hume's claim that ideas are "faint images" of impressions "in thinking and reasoning,"[114] and in Berkeley's claim that "it impossible for me to conceive in my thoughts any sensible thing or object distinct from the sensation or perception of it."[115]

The key difference between them and Locke shows up in the different ways in which they treat abstract ideas, that is, thoughts about general kinds of things. Berkeley and Hume, like neo-empiricists, claim that abstract thought uses particular perceptual representations as proxies for collections of perceptual representations:

> [A]n idea, which considered in itself is particular, becomes general, by being made to represent or stand for all other particular ideas of the same sort.[116]

> Abstract ideas are therefore in themselves individual, however they may become general in their representation. The image in the mind is only that of a particular object, tho' the application of it in our reasoning be the same as if it were universal.[117]

Locke, on the other hand, did not hold that abstract thought involves a particular perceptual representation acting as a proxy for collections of perceptual representations. This is evident if we look at Locke's description of someone forming the abstract idea of *Man*:

114   Hume, *Treatise*, bk. 1, pt. 1, sec. 1.
115   Berkeley, *Principles of Human Knowledge*, pt. 1, para. 5.
116   Berkeley, *Principles of Human Knowledge*, Introduction, para. 12.
117   Hume, *Treatise*, bk. 1, pt. 1, sec. 7.

[T]hey make nothing new, but only leave out of the complex *Idea* they had of *Peter* and *James*, *Mary* and *Jane*, that which is peculiar to each, and retain only what is common to all.[118]

It is most natural to understand Locke here as claiming that abstraction creates a mental representation which is fundamentally different in kind from the particular ideas it derives from. An abstract idea, on Locke's account, seems to be a new kind of mental representation, an essentially general one, created by a process of selectively attending to aspects of particular ideas and retaining "only what is common to all." A key reason for interpreting Locke in this way, given by David Soles, is that it takes seriously and at face value his language of abstraction "leaving out" the irrelevant details of particular ideas.[119]

If this reading is correct, abstract ideas look like they have a different representational format from perceptual content, as generic abstract content is something that perception cannot provide on its own. This does not mean, however, that Locke cannot still be a concept empiricist. Locke will still count as defending the Content Derivation Claim as long as abstract ideas are only ever produced by selectively attending to features of particular ideas resulting from perception (which I take it is what Locke is suggesting when he says that those who form abstract ideas "make nothing new").

There is, therefore, a form of concept empiricism that does not claim that the vehicles of thought are perceptual. Locke held such a view, and I suggest that Aristotle did also. The reasons for interpreting Aristotle in this way are partly textual and partly philosophical.

The textual reason for interpreting Aristotle like this is that he explicitly distinguishes what he calls "first thoughts" (*prôta noḗmata*) from "images" (*phantásmata*), the retained sense-perceptions from which our concepts are ultimately derived. First thoughts, *prôta noḗmata*, seem to be basic thoughts or concepts that are not 'combined' with any other concepts, and it is natural

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118   Locke, *Essay*, bk. 3, pt. 3, sec. 7.

119   Soles, "Is Locke an Imagist?" 49. This reading also allows us to be charitable about Locke's description of the "general Idea of a Triangle" as "neither Oblique, nor Rectangle, neither Equilateral, Equicrural, nor Scalenon; but all and none of these at once. In effect, it is something imperfect, that cannot exist, an idea wherein some parts of several different and inconsistent *Ideas* are put together" (Locke, *Essay*, bk. 4, pt. 7, sec. 9). As David Soles points out, if abstraction creates a new kind of general representation, these claims make sense: Soles, "Is Locke an Imagist?" 50. This reading also undermines Berkeley's criticism of this passage, in which he claims that it is impossible to imagine such a triangle: Berkeley, *Principles of Human Knowledge*, pt. 1, paras. 13, 16.

to think that Aristotle might be referring to the basic concepts that result from induction.[120] About first thoughts, Aristotle asks:

> [W]hat distinguishes first thoughts (*prôta noḗmata*) from images? Surely neither these nor any other thoughts will be images, but they will not exist without images.[121]

Aristotle here explicitly claims that no thoughts – including first thoughts – are images (*phantásmata*). It would be hard to see how to interpret this claim if Aristotle agreed with Berkeley, Hume, and the neo-empiricists that thoughts have perceptual vehicles. It is much easier to understand if one agrees with Locke that thought involves a kind of representation that perception itself cannot provide. Aristotle does admit that first thoughts will not exist without images, though this is easy to understand if we understand Aristotle as I am suggesting, because he still holds that all thoughts get their content from perception (via the process of induction).

The philosophical basis for this interpretation can be found in the reasons Aristotle gives for thinking that perception cannot suffice for knowledge. Aristotle thinks that perception, because it is necessarily of particulars, cannot represent the generality sufficient for knowledge on Aristotle's conception of it, for example, it cannot represent something of the form 'All *A*s are *B*s.' This looks like a claim that there is a distinct kind of mental representation – an essentially general one – that figures in thought. And just as was the case with Locke, it seems that Aristotle claims that perception on its own cannot provide this kind of mental representation because it necessarily represents particulars. The best way to understand these claims – while still making them consistent with Aristotle's empiricist account of concept acquisition – is *not* to hold that thought is carried out in perceptual vehicles, but instead to claim that thoughts only derive their contents from perception.

For these two reasons, we should interpret Aristotle as disagreeing with the fundamental claim of neo-empiricism that the vehicles of conceptual representation are perceptual. We should think of Aristotle as holding that the contents of all thoughts ultimately derive from perception. But we should also interpret him as holding that thought is carried out using a kind of representation that is fundamentally different from those that figure in perception.

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120   Aristotle refers the principles (*archaí*) of Posterior Analytics 2.19 as "the primitives" (*tà prôta*) at *APo.* 2.19, 100b4, and describes the initial upshot of induction as "a primitive universal (*prôton kathólou*) in the soul" at *APo.* 2.19, 100a17.

121   *De An.* 3.8, 432a13–14.

5 Conclusion: The Theoretical Benefits of Aristotelian Empiricism

What can we conclude from this key difference between Aristotle's empiricism and neo-empiricism? Why should we care that Aristotle's account does not share neo-empiricism's key feature? I want to stress two things we can learn from this difference between Aristotle's account and neo-empiricism.

First, the difference between Aristotelian and neo-empiricism is of historical interest because it shows that we should broaden our perspective as to what counts as an instance of concept empiricism. Prinz described the claim that there is no amodal code of representations that are unique to thought – the denial that there is a *lingua franca* of the mind, as he put it – as an "important component of traditional empiricism."[122] We should be sceptical of this claim, as it excludes Aristotle (and Locke) from that tradition. Aristotle and Locke should not be excluded from counting as concept empiricists because they both clearly give perceptual experience a special and central role in explaining how we have the concepts that we do. For this reason, we should therefore adopt a broader understanding of what it is to be a concept empiricist as simply being someone who claims that the content of thought is ultimately, and in some sense exclusively, grounded in the content of perception.

Second, I shall end by suggesting that the kind of concept empiricism I have attributed to Aristotle promises to have at least some theoretical benefits over neo-empiricism. In particular, it seems that Aristotelian empiricism might get over a problem that neo-empiricism faces in accounting for reasoning. And it seems to do so precisely because it differs from neo-empiricism in the way I have outlined.

We can illustrate this problem by focusing on the role of concepts in accounting for inference. Consider the following inference:

(1)   Dogs are mammals.
(2)   Mammals give birth to live young.
(3)   *So* dogs give birth to live young.

One key role for concepts, as I outlined at the beginning, is to explain these kinds of transitions of thought. To do this, concepts have to be what holds fixed across different lines of an inference. The inference above, for example, is only valid if the same concepts DOG, MAMMAL, and GIVES BIRTH TO LIVE YOUNG figure in different lines of the inference.

There is reason to be sceptical that neo-empiricism can provide us with concepts that can play this explanatory role. This is because neo-empiricism

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122   Prinz, *Furnishing the Mind*, 120.

claims the role of concepts in thinking is played by proxytypes, particular perceptual representations that act as proxies for long-term memory networks of associated perceptual representations. Proxytypes, in virtue of the kind of thing they are, look ill-suited to be what holds fixed across different lines of an inference.

We can formulate this kind of objection in different ways. I will outline, briefly, a version of it given by Machery.[123] Machery's objection focuses on the neo-empiricist claim that a particular perceptual representation, such as a perceptual representation of a border collie, can serve as the proxytype for the long-term memory network for DOG, but also, on a different occasion, for the long-term memory network for MAMMAL or ANIMAL. For the above inference to be valid, the particular perceptual representation – the border collie representation – needs to be hooked up with the same long-term memory network – the one for DOG – in each of the different lines of the inference. To account for the validity of this inference, therefore, the neo-empiricist needs to say why the particular border collie representation is hooked up with the same long-term memory network in the two different lines of the inference in which it appears.

How can the neo-empiricist answer this question? They cannot, given the very nature of their view, claim that some intrinsic feature of the particular perceptual representation involved, for instance, the particular perceptual representation that serves as a proxytype for DOG. This is because it is an essential part of their view that such a particular perceptual representation could serve as a proxytype for the long-term memory network for MAMMAL or ANIMAL instead. The answer neo-empiricists typically give, as Machery points out,[124] is to say that what makes the border collie representation serve as a proxy specifically for the DOG long-term memory network is that it has a causal or historical relationship to that specific long-term memory network.[125]

This answer looks unsatisfactory. It means that an inference like the one above is only valid because the particular perceptual representation that

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123   Edouard Machery, "Neo-Empiricism and the Structure of Thoughts," in *The Architecture of Cognition: Rethinking Fodor and Pylyshyn's Systematicity Challenge*, ed. P. Calvo and J. Symons (Cambridge, MA: The MIT Press, 2014), 343–48; cf. Jonathan Weinberg, "Making Sense of Empiricism: Review of Jesse Prinz, Furnishing the Mind," *Metascience* 12 (2003): 282–84. It is worth noting that Machery understands his version of this objection to be essentially the same problem that Fodor and Pylyshyn raised for connectionism in their classic paper, "Connectionism and Cognitive Architecture," in which they argued that connectionism fails to account for the systematicity of thought.

124   Machery, "Neo-Empiricism and the Structure of Thoughts," 345.

125   Barsalou, "Perceptual Symbol Systems," 588; Prinz, *Furnishing the Mind*, 151.

figures in it is contingently hooked up with the same long-term memory network in each of the different lines of the inference.[126] But the above inference surely is valid in virtue of its logical form, that is, just in virtue of the identities of the representations that figure in it. But it is hard to explain how this is the case if, as on the neo-empiricist picture, the particular border collie perceptual representation that figures in the inference only stands for dogs because of its causal or historical relations to long-term memory network for DOG. On the neo-empiricist picture, the border collie perceptual representation only represents dogs across different lines of the inference because of contingent causal or historical relations. This cannot give us an inference that is valid in virtue of its logical form. In this way, neo-empiricist concepts look ill-suited for reasoning.

If we consider Aristotelian empiricism, however, we see that it has a key theoretical advantage here. The Aristotelian version of concept empiricism I have outlined escapes this criticism entirely. It does so because of its key difference with neo-empiricism, because it claims that forming a concept involves a new *kind* of representation – an essentially general one – that perception cannot provide on its own. This means that Aristotelian empiricism does not face the explanatory demand neo-empiricist did, to account for how particular perceptual representations gets hooked up with the right set of representations in memory. On the Aristotelian picture, the content of a concept is determined at the initial stage of concept formation, in Aristotelian induction. Concepts so-understood can much more easily account for logical transitions between thoughts and be what holds fixed across different lines of an inference. In this way, an account of concepts modelled after Aristotle's empiricism looks like it plays at least some of the explanatory roles of concepts better than the neo-empiricist account. If this is correct, Aristotelian empiricism has more than mere historical interest.

Acknowledgements

126   Machery, "Neo-Empiricism and the Structure of Thoughts," 345–46.

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