



Ammonius on Universals and Abstraction

An interpretation and Translation of Ammonius' *In Porphyrii Isagogen* 39, 8-42, 16

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Résumé de l'article

L'exégèse de l'*Isagoge* de Porphyre par Ammonius et, partant, son interprétation des célèbres lignes 1.9-12 sont les premières chronologiquement à nous avoir été préservées. Bien que l'essence de cette interprétation, la soi-disant doctrine des trois états de l'universel, soit aujourd'hui bien connue, la section du commentaire dans laquelle elle apparaît n'a jusqu'ici jamais été entièrement traduite. L'article qui suit présente une traduction complète du commentaire d'Ammonius sur l'*Isagoge* 1.9-12, précédée d'une brève introduction.

AMMONIUS ON UNIVERSALS AND ABSTRACTION

AN INTERPRETATION AND TRANSLATION OF AMMONIUS' *IN PORPHYRII ISAGOGEN* 39, 8-42, 16

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RÉSUMÉ : L'exégèse de l'Isagoge de Porphyre par Ammonius et, partant, son interprétation des célèbres lignes 1.9-12 sont les premières chronologiquement à nous avoir été préservées. Bien que l'essence de cette interprétation, la soi-disant doctrine des trois états de l'universel, soit aujourd'hui bien connue, la section du commentaire dans laquelle elle apparaît n'a jusqu'ici jamais été entièrement traduite. L'article qui suit présente une traduction complète du commentaire d'Ammonius sur l'Isagoge 1.9-12, précédée d'une brève introduction.

ABSTRACT : Ammonius' is the earliest exegesis we possess of Porphyry's Isagoge, as is his interpretation of lines 1.9-12, over which so much ink was subsequently spilt. Although the essence of this interpretation, the so-called doctrine of the three states of the universal, is now widely known, the section of commentary in which it appears has hitherto never been translated in its entirety. The following article therefore presents a complete translation of Ammonius' commentary upon Isagoge 1.9-12, preceded by a brief introduction.

In spite of his cardinal role in late antique philosophy, much of the extant work of Ammonius, the son of Hermias, remains inaccessible to the Greekless reader.¹ This state of affairs, though understandable insofar as Ammonius himself has only recently emerged from obscurity, is still disconcerting when we consider the immense historical importance of one of these ignored works, namely, his *In Porphyrii Isagogen*. Not only is this work the earliest surviving commentary on Porphyry's hugely

1. Although we now possess only four commentaries bearing Ammonius' name (that on the *De interpretatione*, which seems to be an authentic published work, and those concerning the *Isagoge*, the *Categories*, and the *Prior Analytics*, which seem to be transcripts of the commentator's lectures), scholars are now generally in agreement that the commentary on the *Metaphysics* and Nicomachus' *Introduction to Arithmetic* of Ammonius' student Asclepius and those of his fellow pupil John Philoponus on the *Categories*, *Prior* and *Posterior Analytics*, *Physics*, *De generatione et corruptione*, *Meteorologica*, *De anima*, *De generatione animalium* are largely, if not entirely, the transcripts of their master's lectures. Of these commentaries, to date there exist complete or partial translations of only those on the *Categories* and the *De interpretatione* ascribed directly to Ammonius and the *Posterior Analytics*, *Physics*, *De generatione et corruptione*, *Meteorologica* and *De anima* ascribed to Philoponus. All of these translations are to be found in the *Ancient Commentators on Aristotle* series published jointly by Duckworth and Cornell University Press.

influential introduction to philosophy, but it is also the source of at least one doctrine of enduring philosophical importance. This doctrine, of course, is that of the three states of universal, which are described by Ammonius as *πρὸ τῶν πολλῶν, ἐν τοῖς πολλοῖς* and *ἐπὶ τοῖς πολλοῖς*, or *prior to the many, in the many* and *posterior to the many*.² This doctrine is offered by the Alexandrian in response to what was, by his time, an already ancient debate concerning the ontological status of genera and species (or universals in general), a debate whose main positions are rapidly summarized by Porphyry in the following lines from the *Isagoge* :

For example, concerning both genera and species — whether they subsist, whether they actually depend on bear thought alone, whether if they actually subsist they are bodies or incorporeal and whether they are separate or are in perceptible things and subsist about them.³

Through various byways, Ammonius' doctrine became central to the thirteenth century response to the controversy concerning the status of universals, thereby setting the stage for the radical positions which emerged in the following century.⁴ Having played such a seminal role in the history of philosophy, it is only just that this doctrine's paternity has been made widely known, thanks in large part to the work of Alain de Libera. Over the past two decades, de Libera has not only trumpeted Ammonius' importance with respect to 'la querelle des universaux', but has also liberally cited the *locus classicus* of his doctrine. Indeed, a French translation of *In Porphyrii Isagogen* 41, 10-20 appears in at least three of his major publications,⁵ although in each instance, the citation states that he has translated lines 41, 10-42, 26 of Adolf Busse's edition⁶ of the text, whereas he in fact offers no more than the above stated ten lines from this four page section of the commentary.⁷

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2. The invention of this doctrine has been variously ascribed to Porphyry himself (see B. MIAOLI, *Porforio : Isagoge*, Padua (coll. "Studia Sapientiae", 9), 1969, p. 42-46 ; A. DE LIBERA, "Entre Aristote et Plotin : l'Isagoge de Porphyre et le problème des catégories", in C. CHIESA, L. FREULER, ed., *Métaphysiques médiévales : études en l'honneur d'André de Muralt*, Genève [coll. "Cahiers de la Revue de théologie et de philosophie", 20], 1999, p. 11) and even Alcinous (see A.C. LLOYD, "Neoplatonic and Aristotelian logic", *Phronesis*, 1, 1956, p. 59-62). Following J. Barnes (see PORPHYRY, *Introduction*, transl. J. BARNES, Oxford, Oxford University Press, 2003, p. 44, n. 83), I find neither case compelling enough to admit that the doctrine existed before Ammonius' time in anything other than an inchoate form. It is interesting to note, however, as does de Libera (see A. DE LIBERA, *La querelle des universaux : de Platon à la fin du Moyen Âge*, Paris, Seuil, 1996, p. 103), that the three states of the universal seem to be foreshadowed in "les trois acceptions du mot εἶδος, la Forme séparée du *Phédon*, la forme immanente du *Ménon* et 'l'universel logique' du *Théétète*".
 3. PORPHYRY, *Isagoge*, 1.9-12. The translation is that of BARNES, p. 3, slightly modified. Barnes' translation, for the most part, renders Porphyry's Greek as faithfully as the English tongue will allow.
 4. For the story of this transmission, see *La querelle des universaux*.
 5. They are to be found in the introduction to his (along with A.-P. SEGONDS) translation of Porphyry's *Isagoge*, Paris, Vrin, 1998, p. LXXXII-LXXXIII, in his *L'art des généralités*, Paris, Aubier, 1999, p. 198-199, and in his article entitled "Universaux", in the *Vocabulaire européen des philosophies : Dictionnaire des intraduisibles*, ed. B. CASSIN, Paris, Seuil, Le Robert, 2004, p. 1330.
 6. AMMONIUS, *In Porphyrii Isagogen*, ed. A. BUSSE, Berlin, Reimer, 1891.
 7. Indeed, the situation is made all the more confusing by means of de Libera's ambiguous translation of the last line of his excerpt, which might lead us to believe that Ammonius wishes to leave the reader to draw his own conclusions from the analogy, rather than encouraging him to read on. In *Porphyrii Isagogen*, 41, 20 reads as follows : "τοῦτο οὖν ἐννοεῖσθω καὶ ἐπὶ τῶν γενῶν καὶ εἰδῶν", which de Libera translates as "Eh bien, c'est cela qu'il faut comprendre dans le cas des genres et des espèces". This translation, unfor-

De Libera can hardly be faulted for his concentration on these ten lines, in which Ammonius introduces his solution to the third question by means of the image of the signet ring. Nevertheless, as is the case with any excerpt from so rich a text as Ammonius' commentary, much of both historical and philosophical interest is left behind. What follows may be seen as equally wanting insofar as it is little more than a slightly larger excerpt, in which not only the crucial passage, but the entire section of commentary in which it occurs, is translated. It is likewise impoverished for want of the whole whence it comes, but equally enriching in that it presents the reader with at least some part of what is otherwise only accessed with difficulty. It also shares in the goal of all excerpts, which is to entice the reader to consult the text as a whole, and in this case, to perhaps inspire someone to offer something more than an excerpt.

I. AMMONIUS' INTERPRETATION OF THE QUESTIONNAIRE

It is Ammonius' position that Porphyry offers the series of questions at *Isagoge*, 1.9-12 as proof of the potential depth of the inquiries which his subject matter could elicit and has indeed elicited in the past. Upon citing the Porphyrian passage, our commentator immediately sets about probing these depths, beginning with what is commonly interpreted as the first question, namely, whether genera and species either a) subsist (*i.e.* have a real existence) or b) simply depend on bear thought alone. This common interpretation, however, tends to overlook the fundamental ambiguity of Porphyry's wording. We are right to ask, as Jonathan Barnes points out,⁸ whether Porphyry is here presenting us with two clear alternatives (*a or b ?*), or two separate questions (*a ? b ?*). Moreover, Barnes is also correct in signalling an additional ambiguity in the very alternatives/questions themselves. Is Porphyry asking us whether genera and species "are natural items rather than creations of the mind" (*or* natural items ? creations of the mind ?) or "real items rather than fantasies" (*or* real items ? fantasies ?)⁹ Barnes sees these as two very different sets of alternatives/questions, as the first concerns the origin of something which has real existence, while the latter concerns the existing things and things which have no real existence (fantasies).

The polysemous nature of this first question comes across clearly in Ammonius' interpretation. He seems to grasp both of the Barnesian ambiguities, but treats of them, in typical Neoplatonic fashion, as simply matters of perspective. Porphyry therefore offers us two separate questions, insofar as both, in both of their senses, may be answered in the affirmative. Universals can either exist as real beings or as the fantasies within a certain mind (*contra* Barnes, who would deny fantasies any form of existence).¹⁰ They can also be either natural in origin (such as a goat or a

unately, robs ἐννοεῖσθω of its imperative mood and attempts to make τοῦτο its subject, in spite of the fact that he earlier (41, 13) respected this mood by translating the same word as "imaginons". In order to safeguard this imperative sense, I have rendered the sentence as follows : "Now consider this in the case of genera and species".

8. BARNES, *Introduction*, p. 40.

9. *Ibid.*, p. 43.

10. *Ibid.*

stag), or purely mental creations (such as a goat-stag). Therefore, though it is a creation of the mind which depends on bare thoughts alone, we may still say that the goat-stag does in some way exist.

This first question, however, also represents two distinct alternatives for Ammonius, insofar as we view it historically. As the commentator sees it, the Porphyrian questions are not simply a summary of possible philosophical positions dreamed up by Porphyry himself, but also a historical survey of the real positions held in this debate. The first question therefore represents, with regard to the history of philosophy, nothing less than the quintessence of the great Socratic schism. Whether or not Socrates concerned himself with the status of universals, it was a question that deeply occupied his successors and effectively divided the two most influential amongst them, namely Plato and Antisthenes. Ammonius sees this historic division embodied in the two alternatives, the former being the Platonic response to the problem of universals, the latter being the Antisthenian. As proof of the second alternative's Antisthenian pedigree, Ammonius furnishes us with two famous statements attributed to the first Cynic,¹¹ which scholars¹² generally accept as confirmation that Antisthenes was indeed the proponent of a sort of proto-nominalism and accordingly held (as the second alternative states) genera and species to be nothing more than bare thoughts.¹³

The second Porphyrian question, according to Ammonius, rests upon the assumption that subsisting things, such as genera and species, may be divided into the corporeal and the incorporeal. Yet, under which heading then do the aforementioned universals belong? The ancients, according to Ammonius, were particularly divided over this question. Furthermore, those who held the latter position, that universals are incorporeal, were divided into three rival camps: those who held them to subsist according to themselves, those who held them to subsist in other things and those who hold them to exist, as Porphyry explicitly mentions, “about the things which subsist (περὶ τὰ ὑφ'εστῶτα)”, in the manner of place and time. The second group, a historical fact which Porphyry's account seems to overlook, may be further divided into those who held the universals to exist “throughout the whole (δι' ὅλου)” in the manner of

11. “While I see the horse, I do not see equinity” and again “while I see the man, I do not see humanity” (*In Porphyrii Isagogen*, 40, 7-8). They are now considered the 50th fragment of Antisthenes. See *Antisthenis Fragmenta*, ed. F. CAIZZI, Milano, Istituto Editoriale Cisalpino, 1966.

12. See, for example, A. BRANCACCI, *Antisthène : le discours propre*, transl. S. AUBERT, Paris, Vrin, 2005, p. 159-161. Ammonius' assertion that this second alternative was the position of Antisthenes is duly supported and indeed well garnished by all three subsequent Neoplatonic commentators on the *Isagoge*. David states emphatically that “Antisthenes said neither genus nor species to be” (DAVID, *In Porphyrii Isagogen*, ed. A. BUSSE, Berlin, Reimer, 1904, 109, 13-14), Pseudo-Elias (PSEUDO-ELIAS, *In Porphyrii Isagogen*, ed. L.G. WESTERINK, Amsterdam, North-Holland Publishing Company, 1967, 29.65, 12) states bluntly that “we think that you supposed incorrectly, Antisthenes”, while Elias (ELIAS, *In Porphyrii Isagogen*, ed. A. BUSSE, Berlin, Reimer, 1900, 47, 16-19) himself even goes so far as to supply Plato's snide rebuttal to his opponent's famous statement: “But Antisthenes”, Plato said to him, “while you have that through which a horse is beheld and a man is beheld according to the part, that is, eyes, you do not have that through which humanity is beheld and equinity is beheld according to the whole (*i.e.* universally), for you do not have a mind”.

13. This seems to be the great “discovery (εὑρεσις)” to which Ammonius alludes at *In Porphyrii Isagogen*, 40, 10.

whiteness in white lead, those who held them to exist “according to appearance (κατὰ τὴν ἐπιφάνειαν)” in the manner of a spherical figure.

Despite this confrontation with an embarrassment of historical positions, Porphyry, as Ammonius takes his third question to imply, clearly held that genera and species both subsist and are incorporeal. Both of these responses would be fairly evident to anyone professing to be a student of Plato. The answer to the third question, however, is unclear. Porphyry, according to Ammonius, presents us with two historical options for what an incorporeal universal might be. It might be either separate from the corporeal world, or exist in and about perceptible things. This question alone, perhaps, (as far as a Platonist is concerned) is justification of Porphyry’s warnings about the depths of such an investigation. It therefore, with due reason, occupies the rest of Ammonius’ exegesis.

In order to broach such a difficult problem and explain the apparent discord amongst the ancients on this subject, Ammonius follows the Platonic practice of first offering his solution in the form of an illustration. He turns to one with a distinguished philosophical pedigree, namely, the image of a signet ring making an impression in a waxen tablet. This image was first used by Plato in the *Theaetetus* (191c-195a)¹⁴ in his discussion of perception and memory. It was conserved by Aristotle, who used it in the same context in both his *De anima* (II.12, 424a19-24) and *De memoria* (I.1, 450a32). Chrysippus later inherited this image from the Platonists and through him it became one of the key images of stoic psychology.¹⁵

The image recurs yet again in the context of sensation and memory in the writings of Plotinus (41 [IV 6], 1, 20), but was also used earlier by the Egyptian (8 [IV 9], 4, 20) as a means of illustrating the resemblance of all souls to one another. This latter use of the image marks its first transposition beyond the domain of psychology to the richer and wider field of metaphysics, and will set a precedent which Ammonius will follow to great effect in his discussion of the three states of the universal.

The celebrated image runs as follows : a signet ring bearing a relief of Achilles as its seal is used to make multiple impressions on several waxen tablets. After the event, another man chances upon the same waxen tablets, and concluding that the several impressions upon the tablet are the product of the same seal, he attains the impression of the same figure in relief of Achilles in his reasoning faculty (ἐν τῇ δianoίᾳ). This image, according to Ammonius, illustrates how the seal of Achilles can exist in three different states. The first state is as figure in relief upon the signet

14. Although DE LIBERA (*L’art des généralités*, p. 198, n. 48) is correct to point out that the idea of a lump of wax (τό ἐκμαγεῖον) on which impressions can be made does occur at *Timaeus* 50c-d (and is taken up later by Aristotle at *Metaphysics* I.6), the origin of Ammonius’ image is clearly the passage from the *Theaetetus*, where the vocabulary (*i.e.* κηρός, δακτύλιος) exactly parallels that employed by Ammonius.

15. See, for example, Chrysippus, frag. 53. Its lasting association with stoicism is nowhere better demonstrated than in Boethius *Consolatio Philosophiae*, where, seven centuries after the death of Chrysippus, it remains synonymous with stoic psychology : “[...] quondam Porticus attulit / obscuros nimium senes, / qui sensus et imagines / e corporibus extimis / credant mentibus imprimi, / ut quondam celeri stilo / mos est aequare paginae / quae nullas habeat notas / pressas figere litteras” (BOETHIUS, *Consolatio Philosophiae*, liber 5, metrum 4, 1-9, ed. C. MORESCHINI, Monachii, Lipsiae, Saur, 2000, p. 151).

ring itself, where it may be called *prior to the many* (i.e. prior to the multiple impressions in wax). The second is its existence in the wax as the multiple impressions, where it may be called *in the many*. The third is in the reasoning faculty of the viewer who beholds the tablets and concludes that the images are derived from the same seal, where it may be called *posterior to the many*. It is these three possible states of the seal, as Ammonius goes on to show, which correspond to the three possible states of universal.

In order to apply this extremely mundane image to the cosmic level of the universals, we need only, according to Ammonius, imagine the bearer of the signet ring as the demiurge rather than a man and the seal to be not a figure in relief of Achilles, but the form of humanity itself. Of course, one might initially object to the fact that such an analogy presupposes that the demiurge has the forms with himself. This objection is foreseen by Ammonius and refuted on the basis that if the demiurge is not to be considered as less of a craftsman than his human counterpart, he must possess an idea of what he is making.¹⁶

Therefore, with regard to the universals, the form is in the demiurge just as the relief is in signet-ring (*prior to the many*), it exists separately in each human being (*in the many*), and for the man who beholds multiple human beings and concludes that they all partake in a common form of humanity, it exists in his reasoning faculty (*posterior to the many*).¹⁷ Thus, we have Ammonius' answer to Porphyry's third question, which is no less than an affirmation of all three options. A universal, such as a genus or a species, may exist in any of the three states described by Porphyry. The first possible state of the universal (*prior to the many*) is clearly "separate", while the second (*in the many*) is clearly inseparable and permanently "in perceptible things". The third state (*posterior to the many*) must therefore account for those universals which exist "about perceptible things", specifically, about the mind which has created them.

Each of these three states can easily be related to an earlier theory of universals, be it Platonic idealism, Aristotelian hylomorphism or the more enigmatic Aristotelian theory of logical or abstracted universals.¹⁸ This third theory, Ammonius makes clear,

16. In *Porphyrii Isagogen*, 41, 23-42, 1. This, of course, complicates DE LIBERA's assertion that "le commentateur chrétien syriaque Sergius de Reš'ainā achève le processus entamé par Ammonius, en transposant l'universel antérieur au multiple en 'Idée divine'" (*Vocabulaire européen des philosophies*, p. 1332). Unless we are to take this as evidence of Ammonius' secret deal with the Bishop of Alexandria (which would be a very great stretch), it seems clear that there is nothing specifically Christian about placing the divine ideas in the mind of the creator. Indeed, it is likely that he draws his inspiration for these arguments from no less a pagan than Proclus (see, for example, the strikingly similar argument comparing the human craftsman and the divine demiurge at *In Platonis Timaeum commentaria*, ed. E. DIEHL, Leipzig, Teubner, 1903-1906, I.321, 15-17).

17. See also P. HOFFMANN, "Résumé", in *Annuaire. Résumé des conférences et travaux. École pratique des hautes études. V^e section*, 101 (1992-1993), p. 241-242.

18. Concerning this third type of universal in Aristotle, see, for example, the passage from the beginning of the *De anima* where the Stagirate states that "we must be careful not to ignore the question whether soul can be defined in a single account, as is the case with animal, or whether we must not give a separate account for each sort of it, as we do for horse, dog, man, god (in the latter case the universal, animal — and so too

was unknown to Plato, who assumed that even the demiurge had to look outside of himself to grasp the forms. Such an opposition between the Platonic and Aristotelian conceptions of universals raises the spectre of disharmony between the two thinkers, something which later Neoplatonism was generally loath to tolerate. Ammonius concludes this section of commentary, however, by stating that it is not the appropriate place to plunge into a discussion of the principle of homodoxia,¹⁹ though he does hint at a potential solution, according to which Aristotle should be taken as pronouncing on one aspect of reality and Plato on another.

II. THE UNIVERSALS ‘POSTERIOR TO THE MANY’ AND THE PROBLEM OF ABSTRACTION

Having examined the basic structure of Ammonius’ solution, we now propose to examine in greater depth one particular aspect of his solution, namely, his conception of the universal *posterior to the many*. This state of the universal is especially intriguing in that it is the only one which is produced by an act of the mind. What exactly this act is, however, is cause for question.

Ammonius’ initial description of how the universal *posterior to the many* is formed runs as follows :

But later, someone coming and beholding the wax tablets, having established that all [the impressions] are from one figure in relief, now has within himself the impression which is the figure in relief in his reasoning faculty. Therefore the seal on the signet ring is said to be *prior to the many*, but in the wax tablets it is *in the many*, and in the reasoning faculty of the impression taker it is *posterior to the many* and posterior in order of being.²⁰

According to this description, there seem to be three steps in the production of this particular type of universal. The viewer first beholds the waxen tablets after (ὄστερον) the multiple impressions have been made upon them by the ring-bearer. He then establishes that these many impressions must come from a single seal. Upon estab-

every other common predicate — is either nothing or posterior)” (ARISTOTLE, *De anima*, I.1, 402b7-8, transl. J.A. SMITH from *The Complete Works of Aristotle*, Oxford, Oxford University Press, 1984).

19. It is interesting to note the parallels between Ammonius’ conclusion and the conclusion of Boethius’ commentary on same Porphyrian passage (see BOETHIUS, *Second commentary on Porphyry’s Isagoge*, ed. BRANDT, in *Anicii Manlii Seuerini Boethii In « Isagogen » Porphyrii Commenta*, copiiis a G. SCHEPSS comparatis suisque usus recensuit S. BRANDT, Vindobonae, Tempsky ; Lipsiae, Freytag [coll. “Corpus Scriptorum Ecclesiasticorum Latinorum”, XLVIII], 1906, p. 167, 12-15 [§ 90, *infra*, in “Alexandre d’Aphrodise et l’abstraction selon l’exposé sur les universaux chez Boèce dans son *Second commentaire sur l’Isagoge de Porphyre*”). There Boethius, although likely having little or no knowledge of the substance of Ammonius’ commentary, also notes the seeming difference between Plato and Aristotle’s positions yet refuses to offer further comment.

20. “ὄστερον δέ τις εἰσελθὼν καὶ θεασάμενος τὰ κηρία, ἐπιστήσας ὅτι πάντα ἐξ ἑνὸς εἰσὶν ἐκτύπωματος, ἐχέτω παρ’ αὐτῶ τὸν τύπον ὃ ἐστὶ τὸ ἐκτύπωμα ἐν τῇ διανοίᾳ. ἢ τοίνυν σφραγὶς ἢ ἐν τῷ δοκτυλιδίῳ λέγεται πρὸ τῶν πολλῶν εἶναι, ἢ δὲ ἐν τοῖς κηρίοις ἐν τοῖς πολλοῖς, ἢ δὲ ἐν τῇ διανοίᾳ τοῦ ἀπομαζομένου ἐπὶ τοῖς πολλοῖς καὶ ὕστερογενῆς” (In *Porphyrii Isagogen*, 41, 15-20). The difficulties concerning Ammonius’ description of the third state of universal begin with the very vocabulary he employs in describing the initial image of the ring and the tablet, which desperately lacks the precision one would hope for in such a key passage. The seeming semantic overlap of words ἐκτύπωμα, τύπος and σφραγίς can be puzzling at times, but the word choice seems to be little more than a case of elegant variation.

lishing this,²¹ the viewer acquires a knowledge of the seal which has made these many impressions in his reasoning faculty, *as if* it had left its impression there as well as in the wax. This ‘mental impression’ of the seal in the reasoning faculty of the viewer²² is further qualified by Ammonius as not only ‘posterior to the many’, but also as ‘posterior in order of being (ὕστερογενής)’,²³ meaning that this type of universal is a later production modeled upon the other two types.

The production of this particular type of universal seems to be a case of abstraction as described by Aristotle, though which of the two modes of Aristotelian abstraction Ammonius intends it to represent, whether the inductive abstraction (ἐπαγωγή) described at *Posterior analytics* II.19 or the geometrical abstraction (ἀφαίρεσις) described at *De anima* III.7, is unclear. The issue is further complicated by de Libera’s assertion that “nombre de commentateurs anciens, comme Ammonius, ont manifestement cherché à absorber le modèle géométrique *dans* le modèle inductif de l’abstraction”.²⁴ We therefore find ourselves confronted with three possibilities for describing the production of this particular type of universal. It seems that it must either be a case of inductive abstraction, a case of geometrical abstraction, or, as de Libera proposes, a conflation of the two.

As it turns out, de Libera’s assertion is correct, though only partially so. It is incorrect insofar as there is evidence to suggest that Ammonius did not always conflate the two modes of abstraction. Although Ammonius does employ the nouns ἐπαγωγή and ἀφαίρεσις, as well as the verbs ἐπάγειν and ἀφαιρεῖσθαι, in his four surviving works, he does so very rarely in the technical sense of abstraction. Moreover, even when using the words in the technical sense,²⁵ he fails to offer us a clear picture of how he understands each type of abstraction. Despite the scarce fruit borne by these commentaries, there are other resources at our disposal beyond those works bearing Ammonius’ name. As we mentioned above, there also exist two commentaries under

21. AS DE LIBERA mentions (Introduction to Porphyry’s *Isagoge*, p. LXXXIII), the use of the aorist participle ἐπιστήσας implies a clear time lapse between the initial perception of the impressions and the final acquisition of the universal.

22. Although both de Libera and Ian MUELLER (in his article entitled ‘Aristotle’s doctrine of abstraction in the commentators’, in R. SORABJI, ed., *Aristotle Transformed*, Ithaca, N.Y., Cornell University Press, p. 463-480, here, p. 466) translate τοῦ ἀπομαζόμενου as ‘of the impression maker’ (“de celui qui l’a imprimée” and “of the replicator” respectively), *i.e.* ‘of the man who originally used the signet ring to make the impressions’, this is not the true sense of the verb ἀπομάσσω. The verb means instead “to take an impression”, “to copy” or “to imitate”, in the same manner in which the viewer copies or imitates the original impression of the seal in his reasoning faculty. A.H. ARMSTRONG captures this true sense when he translates Plotinus’ above cited phrase at 8 [IV 9], 4, 20, “οἷον εἰ ἐκ δακτυλίου ἐνός πολλοὶ κηροὶ τὸν αὐτὸν τύπον ἀπομαζόμενοι φέρουεν”, as “as if many pieces of wax *took* and bore the same impression of one seal-ring” (PLOTINUS, *Enneads*, vol. IV, transl. A.H. ARMSTRONG, Harvard, Harvard University Press, 1984). Therefore, the translation of ‘impression taker’ (as opposed to that of ‘impression maker’) seems the most appropriate rendering in this context, in order to indicate that the participle refers not the original ring-bearer, but to a later viewer of the impressions.

23. For the Aristotelian use of this word, which seems to be the manner in which Ammonius uses it as well, see HOFFMANN, “Résumé”, p. 241-242.

24. A. DE LIBERA, *L’art des généralités*, p. 48.

25. Such as his use of the verb ἀφαιρεῖσθαι in *In Porphyrii Isagogen*, 11, 3 or the noun ἀφαίρεσις in *In Aristotelis analyticorum priorum librum I commentarium*, ed. M. WALLIES, Berlin, Reimer, 1899, 23, 20.

the name of Philoponus which, as the manuscript titles suggest, are the “notes by Philoponus from the classes of Ammonius with some personal observations”.²⁶ These commentaries offer an exegesis of the two Aristotelian source texts for the models of abstraction themselves, and scholars are largely in agreement that the content of the texts we have before us (though variously estranged) does indeed ultimately derive from Ammonius’ original lectures.²⁷ With this in mind, it seems reasonable to venture that these commentaries do in fact offer some evidence of the views of Ammonius.²⁸

If we are to begin with Philoponus’ commentary on *De anima* 431b12-17,²⁹ we find ourselves happily confronted by a substantial exegesis of this crucial passage. Philoponus first states that abstract objects, specifically the mathematical ones, are members of “the fourth species of indivisible things”.³⁰ According to Philoponus, Aristotle calls these objects ‘abstract’ “because intellect itself separates things which are not separate from matter, and abstracting them, so to speak, from the subject, understands them as they are themselves”.³¹ In this way we are able to understand hollow-ness, the triangle, the circle, and other mathematical objects which have their being in matter. This definition of mathematical abstraction seems fairly straightforward and shows no trace of a conflation with inductive abstraction. We thus turn our attention to the commentary of ‘Philoponus’ on *Posterior analytics* 100a1-9,³² which de Libera

26. The manuscripts offer the respective titles, included by both CAG editors (John PHILOPONUS, *In Aristotelis Analytica posteriora commentaria cum Anonymo in librum II*, ed. M. WALLIES, Berlin, Reimer, 1909 and John PHILOPONUS, *In Aristotelis De anima libros commentaria*, ed. M. HAYDUCK, Berlin, Reimer, 1897), of “ΙΩΑΝΝΟΥ ΓΡΑΜΜΑΤΙΚΟΥ ΑΛΕΞΑΝΔΡΕΩΣ ΕΙΣ ΤΟ ΠΡΩΤΟΝ ΤΩΝ ΠΡΟΤΕΡΩΝ ΑΝΑΛΥΤΙΚΩΝ ΣΧΟΛΙΚΑΙ ΑΠΟΣΗΜΕΙΩΣΕΙΣ ΕΚ ΤΩΝ ΣΥΝΟΥΣΙΩΝ ΑΜΜΩΝΙΟΥ ΤΟΥ ΕΡΜΕΙΟΥ” and “ΙΩΑΝΝΟΥ ΑΛΕΞΑΝΔΡΕΩΣ ΕΙΣ ΤΗΝ ΠΕΡΙ ΨΥΧΗΣ ΑΡΙΣΤΟΤΕΛΟΥΣ ΣΧΟΛΙΚΑΙ ΑΠΟΣΗΜΕΙΩΣΕΙΣ ΕΚ ΤΩΝ ΣΥΝΟΥΣΙΩΝ ΑΜΜΩΝΙΟΥ ΤΟΥ ΕΡΜΕΙΟΥ ΜΕΤΑ ΤΙΝΩΝ ΙΔΙΩΝ ΕΠΙΣΤΑΣΕΩΝ ΠΡΟΟΙΜΙΟΝ”.

27. Both of these commentaries are indeed several degrees removed from Ammonius. The *In Aristotelis analytica posteriora commentaria librum II*, for example, is ascribed to ‘Philoponus’, or in other words, an anonymous author who relied heavily on Philoponus’ lost commentary on the same book. In spite of this, its most recent translator, O. Goldin, holds that the work “is largely a periphrastic condensation of either a lost commentary on *An. Post.* 2 by Philoponus, or another commentary on this book that derives from the lectures of Ammonius. This would explain both stylistic differences and similarities, while also giving the benefit of the doubt to whomever it was that bound this commentary together with Philoponus’ commentary on *An. Post.* 1. Nonetheless, the matter of authorship and the ultimate source of this material remains highly uncertain” (‘PHILOPONUS’, *On Aristotle Posterior Analytics* 2, transl. O. GOLDIN, London, Duckworth, 2009, p. 4). The portion of Philoponus’ *In Aristotelis libros de anima commentaria* which contains III.7, on the other hand, in fact survives only in a thirteenth century Latin translation by William of Moerbeke. Nevertheless, as W. Charlton asserts, we can safely accept that the two authors of the work which Moerbeke translated “are both direct or indirect pupils of Ammonius” (PHILOPONUS, *On Aristotle on the Intellect*, transl. W. CHARLTON, Ithaca, N.Y., Cornell University Press, 1991, p. 11).

28. Those who wish to dispute this claim will be obliged to meet us on the field of philology, for as we noted above, there is little grounds for philosophical comparison.

29. “The so-called abstract objects the mind thinks just as, in the case of the snub, one might think of it *qua* snub not separately, but if anyone actually thought of it *qua* hollow he would think of it without the flesh in which it is embodied : it is thus that the mind when it is thinking the objects of mathematics thinks of them as separate though they are not separate” (transl. SMITH).

30. PHILOPONUS, *On Aristotle on the Intellect*, transl. CHARLTON, 107, 61.

31. *Ibid.*, 108, 65-67.

32. “So from perception there comes memory, as we call it, and from memory (when it occurs often in connection with the same thing), experience ; for memories that are many in number from a single experience.

offers as the key passage of section II.19.³³ In commenting this passage, ‘Philoponus’ offers an illustration drawn from his name-sake’s own experience as a physician :

I saw countless times that hellebore carries away the humour, and many such precepts have been imprinted on my imagination, and from these many memories could be gathered up together. And from many memories there came to be within me experience and knowledge that hellebore has the power to carry the humour away. When there comes to a stand and is fixed and stabilized in my soul this knowledge that hellebore is like this and is not otherwise, it assembles the universal, for example, ‘all hellebore purifies’ which universal is a principle of demonstration.³⁴

Again this illustration offers no indication of a conflation or a confusion of the two types of abstraction. If these two passages are indicative of Ammonius’ original teachings concerning the two modes of abstraction, it would seem then that the Alexandrian did in fact clearly distinguish between the two modes of abstraction.

In spite of this oversight, de Libera’s assertion holds good with regard to the passage at *In Porphyrii Isagogen* 41, 15-20, which conforms neither to the model of geometrical abstraction nor to the model of inductive abstraction alone. It indeed seems to contain aspects of both models. It recalls inductive abstraction insofar as Ammonius makes it clear that the viewer observes *several* waxen tablets and compares *several* impressions. As we saw above in the example of the hellebore, the central aspect of inductive abstraction is the perception of multiple instances of the same thing from which a universal may be assembled. On the other hand, it also strongly recalls geometrical abstraction insofar as the impressions are in wax and must be mentally separated from the wax in order to conceive of them ‘as they are themselves’. It is only by separating the impression from the wax (just as we separate hollowness from the snub nose) that we can see that it is not an innate property of the wax and was in fact created by an external object, *i.e.* a single seal. The image of the wax impression seems therefore to imply the central aspects of both types of abstraction (assembly and separation). The same seems to hold concerning the production of the universal *posterior to the many* of humanity, for as Ammonius points out,³⁵ it is a parallel case.

We are left to conclude from this investigation that Ammonius may have recognized three possible forms of abstraction, that is to say geometrical, inductive and a conflation of the two. This should hardly come as a surprise, however, given the variety of things which can be abstracted by the human mind. A mathematical object, such as a triangle, clearly requires geometrical abstraction, while demonstrative knowledge, such as ‘gold conducts electricity’ requires inductive abstraction. The acquisition of the vast majority of things which populate our mind, however, such as

And from experience, or from the whole universal that has come to rest in the soul (the one apart from the many, whatever is one and the same in all those things), there comes a principle of skill and of understanding — of skill if it deals with how things come about, of understanding if it deals with what is the case” (transl. BARNES from *The Complete Works of Aristotle*).

33. See DE LIBERA, ‘Abstraction’, in the *Vocabulaire européen des philosophies : Dictionnaire des intraduisibles*, p. 1.

34. ‘PHILOPONUS’, *On Aristotle Posterior Analytics* 2, transl. GOLDIN, 435, 23-27.

35. *In Porphyrii Isagogen*, 42, 10-13.

the forms of everything from ‘tree’ to ‘human’, requires a combination of both modes of abstraction. Such an explanation, in typical Neoplatonic fashion, simultaneously preserves the original Aristotelian distinctions, while offering an explanation for the acquisition of all types of universals *posterior to the many*.

III. A NOTE ON THE TRANSLATION

The following translation is based on the text edited by Busse, which, as the editor points out, has come down to us in what is hardly a pristine state. The choppy and repetitious Greek in which the *In Porphyrii Isagogen* is written quickly betrays its origin as the transcription of a series of lectures, perhaps left unrevised by the lecturer himself. The narrator often darts between subjects with little or no warning and on more than one occasion offers us a sentence that seems entirely out of place. It is indeed a far cry from the eloquent pen we find on display in Ammonius’ commentary on the *De interpretatione*. The copyists also seem to have added liberally to the original transcript, leaving us with a dubious prolegomenon and several manuscripts replete with what Busse takes to be later additions.³⁶ Indeed, certain manuscripts suggest the section of commentary at hand contains just such an additional passage, beginning at line 15. I agree with Busse’s decision to omit this substantial passage (about ten lines), though not because of any suspected Christian content so much as for the fact that it amounts to little more than an inconsequential laundry list of incorporeal and corporeal things.

I have departed from Busse’s text in the following instances :

40, 1 : replace ὑφίσταται with ὑφίστανται *utrobique* (EFMVp).

40, 2 : for συμπ. (D) read συμπάδονται rather than συμπάυετοι (E).

41, 1 : omit τί δέ ἐστι ‘περὶ τὰ ὑφεστῶτα’ (E).

42, 19-20 : replace χωριστά ἐστὶν with χωριστά εἰσι τῆς ὅλης (p).

In each case I have done so for the simple reason that the sentence is otherwise grammatically incoherent. Words which do not appear in the original Greek, but are either grammatically implied or logically necessary for the English reader, are supplied in square brackets.

The philological failings of the text aside, it remains clear to even the most inattentive reader that these are indeed the thoughts of the man who, at the admission of even the most hostile of critics, “made the greatest contribution of all commentators who ever lived”.³⁷

AMMONIUS, *In Porphyrii Isagogen* (ed. A. BUSSE), 39, 9-42, 26

“For example concerning both genera and species...”

Porphyry promised to compose a concise lesson, [in] a clear style (**39, 10**) and to abstain from deeper inquiry. And so, lest someone say, that there was not some deep inquiry concerning these [things], the philosopher wishes to prove this very [thing] to

36. Introduction to *In Porphyrii Isagogen*, p. V-VII.

37. DAMASCIUS, *Vita Isidori*, ed. P. ATHANASSIADI, Athens, Apamea Cultural Association, 1999, 57C.

us on this account, [*i.e.*] that while there was some deeper inquiry concerning these [things], he neglected [it] on purpose. But also in order that what is written might become clear, as we might say.

While there subsist those [universals] among beings, there also exist those [universals] in bare **(15)** thoughts such as the centaur and the goat-stag, [which] while they subsist to whosoever has conceived [them], they do not subsist for those not having conceived [them], but with the cessation of a thought, they cease [to exist] together with it. For the centaur does not exist in reality, but having beheld a horse and a man we fashion anew the compound in thought which [is] the centaur. And again in the same way while nature made the goat and the stag, fashioning anew according to themselves we made the compound in thought which [is] the goat-stag **(40, 5)**, and in this it has being. Antisthenes therefore said the genera and the species to be in bare thoughts, saying that “while I see the horse, I do not see equinity” and again “while I see the human, I do not see humanity”. That man said these [statements] concerning a living being in a single sense perception and not a possible being in reason [in order] to refer to his own greater discovery. And so it is for the subsisting [things], some corporeal **(10)** and others incorporeal.

But on the whole some of the ancients said these [things] to be and others not to be. And of those saying them to be, some said them to be bodies, others incorporeal. And while those saying them to be bodies all remained of the same opinion, amongst those saying them to be incorporeal, since [the lot] of incorporeal [things], as it is divided, some subsisting according to themselves such as an angel and a God, others subsisting in other **(15)** [things] such as whiteness and the geometrical figures, some said these to subsist according to themselves, others said them to subsist in perceptible [things]. But again since the incorporeals subsist in perceptible [things] either throughout the whole as the whiteness is in white lead or according to appearance as a spherical figure, of those saying them to subsist in perceptible [things], some said these to be throughout the whole, others **(20)** according to appearance. But again others said these [universals] to subsist about the subsisting [things], as, for instance, both place (for this embraces the sensible) and time.

And so, since there are so many choices concerning being and not being it is said that he was able to inquire concerning both genera and species whether they are or whether they depend on bare thoughts alone. For thus Antisthenes **(41, 5)** suspected. And discovering that they subsist, he could investigate anew, whether they are corporeal or incorporeal. For they became the headings of each section of the division. But discovering anew, for example, [that they are] incorporeal he could investigate if the undivided part is material and in the many or [exists] before these things and is separated [from matter].

(10) But so that what is written may be clear, we will go through the argument by means of an illustration. For neither do they simply and at random call some [things] bodies themselves and others incorporeals, but with a certain logic, nor do they contradict one another ; for each [of them] says reasonable things. Accordingly, consider a signet ring having a certain figure in relief, for example, of Achilles, and many

available wax tablets, and the signet ring has made an **(15)** impression upon all wax tablets. But later, someone coming and beholding the wax tablets, having established that all [the impressions] are from one figure in relief, now has within himself the impression which is the figure in relief in his reasoning faculty. Therefore the seal on the signet ring is said to be *prior to the many*, but in the wax tablets it is *in the many*, and in the reasoning faculty of the impression taker it is *posterior to the many* and **(20)** posterior in order of being.

Now consider this in the case of genera and species. For the demiurge has all the paradigms of all [things] before himself, as for example when making a human, he has the form of human before himself, in reference to which he makes, looking away from all others. But if someone should object, saying that the ideas are not in the demiurge, let him understand this, that the demiurge fabricates either knowing **(25)** those [things] fabricated by him or not knowing [them]. But if he does not know [them], he would not be their fabricator. For who would make unknowingly something which he intends to make? For as nature does not have the ability produces irrationally, nature produces from whatever source not knowingly attending to that being produced. But if he makes something according to a logical state of mind, he doubtless knew altogether that being produced. Therefore if the god does not make [in a manner] worse than befits a man, he knew that **(42, 5)** being produced by himself. But if he knew that which he makes, it is clearly evident, that there are forms in the demiurge. But the form is in the demiurge just as the relief is in signet-ring, and this form is called *prior to the many* and [is] separate from matter. But the form of human is even in humans separately in each, as the figures in relief in the wax tablets, and such [forms] are said to be *in the many* **(10)** and inseparable from matter. And beholding humans severally, since all have the same form of human, just as someone later coming upon and beholding the wax tablets, we will receive an impression of this in our reasoning faculty, and this is called *posterior to the many* or *after the many* and posterior in order of being.

But such [forms] of bodies, while they are separate (for they subsist not in the body, but **(15)** in the soul), are not simply separate. For Plato is unable to explain these [forms] themselves, which he supposes to be the [forms] *prior the many*. For he does not simply wish these [forms] to be the thoughts of the demiurge, but altogether intellectual beings, towards which the demiurge looks as to archetypal images to make them thus.

And so it is said that this [question] was to enquire as to whether **(20)** [genera and species] are incorporeal beings separate from matter as those [forms] with the demiurge, or inseparable as those [forms] *in the many*, or with the sensible things, that is, those [forms] *posterior to the many*. But he [Porphyry] declines to speak concerning all these [things]. But one must see that concerning these Aristotle and Plato seem to disagree. For while Aristotle says these [forms] to be inseparable from matter, Plato says them to be separate. But either the philosophers disagree with one another, **(25)** or not (for I suppose Aristotle to pronounce as a physicist concerning these [things]), but it is presently not the right time to reflect [on this].