

Avicenna against Porphyry's Definition of *Differentia Specifica**

INTRODUCTION

From Antiquity, the term *differentia* (gr. διαφορά; ar. *faṣl*) has been employed to designate several notions. For this reason, Porphyry opened the section concerning the predicable *differentia* in his *Isagoge* with an exposition of the three main senses in which the term is used, and clarified the one adopted by the logicians. Porphyry recorded three senses of *differentia* — a common one, a proper one, and the most proper¹; only the most proper one is the sense in which the

* *Acknowledgements and preliminary remarks* : I am very grateful to Amos Bertolacci for his careful reading and useful comments on a previous draft of the present paper. I also wish to thank Maroun Aouad, Riccardo Chiaradonna and Gabriele Galluzzo for their precious comments and suggestions on this paper that they largely contributed to improve. Each time I make a reference to passages taken from Avicenna's *Madḥal*, the numbers of pages and lines I provide refer to the edition : IBN SİNĀ, *Kitāb al-Şifā', al-Manṭiq, al-Madḥal*, edd. Ğ. Ş. QANAWATĪ, M. AL-ḤUḌAYRĪ, A. F. AL-AHWĀNĪ, I. B. MADKŪR, Al-Maṭba'a al-amīriyya, Cairo 1952 (henceforth : Cairo edition). The translations I provide are mine, except where otherwise indicated.

¹ PORPH., *Isag.*, 8.8 Busse : « Let differences be so called commonly (κοινῶς), properly (ιδίως) and most properly (ιδιαιτάτα) » (transl. J. BARNES, *Porphyry, Introduction*, Oxford University Press, Oxford 2003, p. 8). The exact interpretation of what Porphyry meant by 'common and proper differentiae' presents some difficulties (see BARNES, *Porphyry, Introduction*, pp. 155-164). However, the late antique Greek tradition and the medieval Arabic tradition understood them as accidents, whereas the most proper *differentia* is the specific *differentia*. Ammonius clearly interprets the common *differentiae* as those accidents that Porphyry called 'separable', and the proper *differentiae* as the Porphyrean 'inseparable accidents'; see AMMON., *In Isag.*, 92.23-26 Busse (the same interpretation can also be found in ELIAS, *In Isag.*, 77.13-19 Busse and DAVID, *In Isag.*, 173.22-31 Busse). Within the Arabic tradition anterior and contemporary to Avicenna, Al-Fārābī and Ibn Al-Ṭayyib surely followed this traditional interpretation in their commentaries on the *Isagoge* : cf. AL-FĀRĀBĪ, *Kitāb Īsāgūġi ay l-Madḥal*, 126.4-7 Dunlop : « Porphyry of Tyre, in his book on the *Eisagoge*, calls the separable accidents (*al-a'rāḍ al-mufāriqa*) which are employed in distinguishing 'general differentiae' (*fuṣūl 'amma*), and the inseparable (*gayru mufāriqin*) 'special differentiae' (*fuṣūl ḥaṣṣa*), and he calls the differentiae in the absolute sense, those which distinguish between the species in their substances, 'special of special' (*ḥawāṣṣu l-ḥawāṣṣi*). They are sometimes called also 'substantial differentiae' (*fuṣūl ḡawhariyya*) and 'essential differentiae' (*fuṣūl dātīyya*) » (transl. D. M. Dunlop, pp. 135-136). Cf. IBN AL-ṬAYYIB, *Tafsīr Kitāb Īsāgūġi li-Furfūriyūs*, 118.13-15 Gyekye : « Porphyry begins his discussion of the *differentia* by first enumerating, according to his custom, the meanings designated by the name ['differentia']. He says that they are three : a common [one] (*'amm*), i.e., the separable accident (*al-'araḍ al-mufāriq*), the proper (*ḥaṣṣ*), i.e., the inseparable

logicians employ the term. The difference between the common and the proper sense, on the one hand, and the most proper sense, on the other, lies in the fact that the differentiae taken in the common and proper sense make the item they diversify *otherlike* (ἄλλοῖον), whereas the most proper differentia makes it *other* (ἄλλο). This latter kind of differentia is the specific differentia, which is defined in the *Isagoge* as *what is predicated in the 'what sort of thing is it?' of many items differing in species*². This definition of the specific differentia was received by the Arabic Peripatetic tradition: the present inquiry will concern Avicenna's refutation and restatement of the definition of differentia, starting from his analysis of this predicable contained in the *Book of the Healing* (*Kitāb al-Šifā'*)³.

In the section of the *Kitāb al-Šifā'* dedicated to the reworking of Aristotle's *Topics* (*Ġadal*), in the chapter dealing with the division of the predicables (I, 6), Avicenna refers to the definitions provided by an indistinct plurality of philosophers ('in their definitions', ar. *fi ḥudūdihim*), claiming that, according to them, the genus differs from the differentia because it is predicated in the 'what is it?' (*min tarīqi mā huwa*). These philosophers, Avicenna remarks, are unable to distinguish genus and differentia by invoking the fact that only one of them is *predicated of many items differing in species* (*maqūl 'alā kaṭīrīna muḥtalifīna bi-l-naw'i*), since they place this feature in the definition of both predicables⁴. There is enough evidence,

accident (*al-'araḍ ḡayru l-mufāriqi*), and the most proper (*ḥāṣṣu l-ḥāṣṣi*), i.e., the substantial differentia (*faṣl ḡawhari*) » (English transl. by K. Gyekye, *ibid.*, p. 103, slightly modified). For these two Arabic commentaries on the *Isagoge*, cf. *infra*, p. 136, n. 25 and p. 159, n. 68. According to the newly rediscovered commentary on the *Categories* preserved in the Archimedes Palimpsest, edited in R. CHIARADONNA, M. RASHED, D. SEDLEY (N. TCHERNETSKA), *A rediscovered Categories Commentary*, « Oxford Studies in Ancient Philosophy », 44, 2013, pp. 129-194, a detailed list of the meanings of genus, species and differentia was already provided by Boethius of Sidon: see ANON. [PORPH. ?], *In Cat.*, 10.13-15 [= *ibid.*, p. 158].

² PORPH., *Isag.*, 11.7-8 Busse: « A difference is what is predicated, in the 'what sort of thing is it?' (ἐν τῷ ποῖόν τι ἔστι), of several items which differ in species » (transl. Barnes, *Porphyry, Introduction*, p. 10, slightly modified). Porphyry introduced the definition apparently ascribing it to other philosophers (*Isag.*, 8.8 Busse: ὁρίζονται, 'they define'). The definition, although not explicitly provided by Aristotle, seems to have nonetheless Peripatetic origins (see BARNES, *Porphyry, Introduction*, p. 191).

³ The *Kitāb al-Šifā'* represents the ideal starting point for a reconstruction of the evolution of Avicenna's criticism of the traditional definition of differentia, given Avicenna's declared purpose in this *summa* of more strictly following the traditional schemes of presentation of all topics, and his inclination to analyze extensively the transmitted doctrines.

⁴ IBN SİNĀ, *Ġadal*, I, 6 [55.10-14]: « Then, this genus is described by saying that it is predicated of many differing in species in answer to 'what is it?' (*fi ḡawābi mā huwa*). And you know that differentia, in their definitions, does not distinguish itself from genus in virtue of being predicated of different species, but it [distinguishes itself from genus] in virtue of [this latter's] being [predicated] in the 'what is it?' (*min tarīqi mā huwa*); thus, if it were among the possibilities of differentia — as it was explained in the First Teaching, in the context of the science of the *Demonstration* — and differentia were apt to be [given] in answer to 'what is it?' (*fi ḡawābi mā huwa*), then [the differentia] would share with the genus this definition ». (For a minor correction to the Arabic text, cf. *infra*, p. 171, n. 101).

in Avicenna's words, of a polemic towards two traditional points: firstly, that the differentia shares with the genus the fact of being predicated of many species; and, secondly, that genus and differentia differ because the differentia is not predicated in the 'what is it?' (*min ʔarīqi mā huwa*). Both points are important in order to understand Avicenna's criticism of the traditional definition of differentia and his attempt to redefine this predicable.

The present inquiry consists of two main sections. I will start by taking into exam Avicenna's criticism of the first part of the traditional definition of differentia, namely the contention that the differentia is predicated of *many differing in species* (section I). This section will provide a brief account of the late antique debate on this subject and its reception in the Arabic Peripatetic milieu, pointing to the reasons why Avicenna seems to prefer, in his other logical works, a different definition of differentia. Then, I will take into account the second part of the definition, describing the differentia as *predicated in the 'what sort of thing is it?'* (section II). In *Madḥal*, II, 1, Avicenna introduces, on this subject, an important innovation: he formulates an original distinction between two types of predications, namely the predication in the 'what is it?' (ar. *min ʔarīqi mā huwa*), and the predication in answer to the question 'what is it?' (ar. *fī ǧawābi mā huwa*). The two Arabic expressions were both considered, by the preceding Arabic Peripatetic tradition, as synonymous renderings for the Greek expression ἐν τῷ τί ἐστίν, since they were equally employed in paraphrases and translations of the Greek texts, whereas Avicenna discriminates between them. Avicenna introduced this distinction in order to solve two main problems: how to distinguish the two predicables genus and differentia; and how to explain that both genus and differentia have an essential way of predication within the definition⁵. These Aristotelian problems puzzled many ancient and modern commentators: my point is that Avicenna's solution is original, if compared to those of the previous commentators. I will then argue that Avicenna's rejection of Porphyry's definition is based on the attempt to provide a consistent interpretation of the Aristotelian account of differentia (section II.5.1), and on the need of finding a reading of the account of the five predicables provided in the *Isagoge* that might be consistent with the one provided in the *Topics* (section II.5.2). An English translation of the crucial passage of *Madḥal*, II, 1 is provided in the Appendix.

⁵ The late antique tradition raised and tried to solve an aporia regarding how the definition, even if its constitutive parts are not both predicated ἐν τῷ τί ἐστίν of the *definiendum*, is nonetheless predicated in this way. The problem can be found clearly formulated in ELIAS, *In Isag.*, 56.30-57.11 Busse.

I. DIFFERENTIA AS PREDICATED OF MANY ITEMS DIFFERING IN SPECIES

I.1. *The late antique debate within Ammonius' school*

The definition of genus and differentia as both predicated of *many items differing in species* (κατὰ πλείονων καὶ διαφερόντων τῷ εἶδει) has caused long debates among the late antique commentators. Porphyry quotes, in the *Isagoge*, two definitions of species and differentia⁶ that seem to be modeled on the Aristotelian definition of genus given in the *Topics*⁷, stating that the differentia, as well as the genus, is predicated of many items differing in species. However, this assumption is not unproblematic: three commentaries on the *Isagoge* produced during the VIth century in the school of Alexandria⁸, namely those of Elias, David, and Ps.-Elias (David), provide evidence that this was a debated subject. More in detail, Elias says that it is possible to raise an aporia on Porphyry's statement, for defining the differentia as predicated of many items leads to accomunate the subjects of predication, rather

⁶ Respectively, *Isag.* 4.11-12 Busse and *Isag.*, 11.7-8 Busse. For Porphyry's definitions of genus, species and differentia, see also PORPH., *In Cat.*, 82.5-22 Busse.

⁷ ARIST., *Top.*, A, 5, 102a31-32; cf. C. LUNA, *Simplicius, Commentaire sur le Catégories d'Aristote, Chapitres 2-4*, Les Belles Lettres, Paris 2001, pp. 454-455.

⁸ The only Greek commentaries that have survived are that of Ammonius son of Hermias (ed. A. BUSSE, Berlin 1891 [CAG IV.3]) and those of the last philosophers of the school of Alexandria, namely Elias (ed. A. BUSSE, Berlin 1900 [CAG XVIII.1]), David (ed. A. BUSSE, Berlin 1904 [CAG XVIII.2]) and the commentary that is commonly known under the name of Ps.-Elias (David), ed. by L. G. WESTERINK (North Holland, Amsterdam 1967). In Greek, a commentary ascribed to Philoponus has also survived, partially preserved in the form of a group of *scholia* preserved in Cod. Bodl. Barocc. 145, ff. 119-137b (edited by C. A. BRAND, *Scholia in Aristotelem*, vol. IV, Academia Regia Borussica, Berolini apud Georgium Reimerum 1836, pp. 10-12), but it has been widely recognized as spurious. It is still uncertain whether PHILOP., *In Phys.*, 250.26-28 Vitelli can or cannot be considered as a reference made by Philoponus himself to his own commentary on the *Isagoge*; however, a commentary on the *Isagoge* by Philoponus is recorded, in the Arabic tradition, by Ibn Abī Uṣaybi'a (*Uyūn al-anbā' fī ṭabaqāt al-aṭibbā'*, p. 105 Müller), who mentions a *Šarḥ Kitāb Īsāgūḡi li-Furfūriyūs* whose author is Philoponus; neither Ibn al-Nadīm nor al-Qiftī, however, record it in their bibliographies. Finally, fragments of a Syriac translation of Philoponus's commentary are preserved in ms. Vat. Syr. 158. For Philoponus' commentary on the *Isagoge*, see E. GANNAGÉ, *Philopon (Jean -), Tradition Arabe*, in *Dictionnaire des Philosophes Antiques*, vol. Va, Paris 2012, esp. pp. 516-518. A commentary was probably written also by Eutocius: the sources for the existence of this commentary are ELIAS, *In Apr.*, 134.4-6 Westerink and ARETHAS, *Scholia in Porph. Isag.*, 36.24-30 Share. It has been argued that also Stephanus from Alexandria must have written a commentary on the *Isagoge* on the basis of the fact that the Syriac tradition (more specifically, Severus Bar Šakkū in his *Dialogi*) seems to make reference to it (see A. BAUMSTARK, *Aristoteles bei den Syrern vom V-VIII Jahrhundert*, Leipzig 1900, esp. pp. 183, 189 and 210), though this claim is still uncertain.

than differentiating them⁹. However, Elias' approach to Porphyry's definition is favorable: he tries to solve the aporia he raises on the differentia by saying that this predicable is predicated of many items *qua* universal utterance (ὡς καθόλου φωνῇ), whereas *qua* differentia it belongs to one subject only¹⁰.

Whereas Elias tries to justify Porphyry's claim by focusing on the status of the differentia as *predicated of many*, the real core of the problem is individuated by David: the fact that the 'many' in question are said to *differ specifically*. Since the differentia is a universal utterance, it is predicated of many individuals of a species ('rational' is, for instance, predicated of many men); those individuals, however, do not differ specifically. David testifies that some philosophers, against Porphyry's description of differentia as *predicated of many differing in species* (κατὰ πλειόνων καὶ διαφερόντων τῷ εἶδει), had argued that the differentia is also predicated of many items that do not differ specifically, but numerically: 'being capable of receiving intellect and knowledge', for example, is a differentia of the species 'man' only, so that it is predicated of many individuals numerically — and not specifically — different¹¹. David agrees with this objection and tries to solve the problem with a philological note on the text: he claims to know other manuscripts that add 'also' (καί) before 'in species' (τῷ εἶδει), so that the description of differentia should be read as: « predicated of many that differ *also* in species » (κατὰ πλειόνων καὶ διαφερόντων καὶ τῷ εἶδει). In this way, one should understand that the differentia can be predicated both of many specifically and of many numerically different¹².

⁹ The problem raised within the school of Alexandria left a trace in ARETHAS, *Scholia in Porph. Isag.*, 151.1-14 Share: Arethas claims that some people moved an objection to Porphyry because differentia described as predicated of many seems to introduce a common feature (κοινωνία) rather than a distinctive one among those items. Porphyry's choice to define differentia as predicated of many presents indeed some difficulties, but may be due to certain passages such as ARIST., *Top.*, Z, 6, 144b4-9, in which differentia is said to have a greater extension in predication than its species (ἐπὶ πλεόν ἢ διαφορὰ τῶν εἰδῶν λέγεται), so that it is impossible to predicate the species of the differentia.

¹⁰ ELIAS, *In Isag.*, 87.14-19 Busse: « 'Differentia is [what is predicated] of many items [...]': doubts are immediately raised on this [first part of Porphyry's statement] (εὐθέως τοῦτο ἀπορείται): in fact, they say, if differentia [is predicated] of many items, then this is a shared feature (κοινωνία) and no more a differentia, just like 'animal', belonging to many items, stresses a shared feature of theirs rather than a differentia. To this [point] we answer that, *qua* universal utterance (ὡς καθόλου φωνῇ), [differentia] is predicated of many items, since *qua* differentia it is not [predicated] of many items, but rather it belongs to one thing only. »

¹¹ The same argument can be found in ARETHAS, *Scholia in Porph. Isagog.*, 151.15-24 Share.

¹² DAVID, *In Isag.*, 195.7-16 Busse: « Again, they attack [Porphyry's] definition and say that he (*scil.* Porphyry) was wrong in saying [that differentia is predicated] 'of many items differing in species': [differentia], in fact, is not only predicated of [items] differing in species, but also [of items differing] in number. 'Being capable of receiving intellect and knowledge (τὸ νοῦ καὶ ἐπιστήμης δεκτικόν)', in fact, does not belong to many items differing in species, but [it belongs to items differing] in number, since it belongs to men only, and men do not differ specifically, but numerically

The same argument is put forward by Ps.-Elias (David)¹³, although his approach is different from David's: Ps.-Elias argues that Porphyry is right in avoiding a description of the differentia as predicated of many differing *in species and in number*, since he is here referring to the most proper sense of differentia (namely, that of the specific differentia), and not to the differentia taken in a looser sense (namely, what is otherwise called 'proprium'). Evidently, Ps.-Elias is worried by the fact that describing the differentia specifica as *predicated of many differing in number* might entail confusing its definition with the definition of the proprium.

1.2. The 'Porphyrean tradition'

If the passages taken from Elias', David's and Ps.-Elias' commentaries witness that Porphyry's description was discussed among the last generation of Alexandrian philosophers, an aporia on this issue was raised and answered in the Porphyrean tradition of commentaries to the *Categories* as well. The occasion was provided by the passage in *Cat.*, 1b16-24, in which Aristotle states that, in the case of things that are different in genus and not ranked under each other (τῶν ἐτερογενῶν καὶ μὴ ὑπ' ἀλλήλα τεταγμένων), the differentiae differ in species (τῷ εἶδει)¹⁴. This statement led a group of commentators to reflect preliminarily upon the cases in which the differentia is predicated of several things differing in species. The problem was, in fact, discussed along similar lines by Porphyry himself¹⁵, Boethius¹⁶, and Simplicius¹⁷. Porphyry started the debate in the way it was later reported by the others: he imagined, in his *Commentary by Questions and Answers* on the *Categories*¹⁸, that someone could question him about the truth of his description

[...]. Those [philosophers] speak well, but in many manuscripts it can be found the conjunction 'also' (καὶ): '[differentia is predicated] of many items differing *also* in species (διαφερόντων καὶ τῷ εἶδει)', so that one also understands [that differentia is predicated of many items differing] in number as well ».

¹³ PS.-ELIAS (DAVID), *In Isag.*, praxis 43, 116.15-17 Westerink: « Then they inquire again by saying: 'the description of the differentia is defective, since [the differentia] is not only predicated of many items differing in species, but also [of many items differing] in number' [...] ».

¹⁴ The claim that non-subordinate genera do not share the same differentia is also made in the *Topics*: cf. ARIST., *Top.*, 107b19-26 and *Top.*, 144b13-18. On these passages, see H. GRANGER, *The Differentia and the Per Se Accident in Aristotle*, « Archiv für Geschichte der Philosophie », 63, 1981, pp. 118-129, esp. p. 122.

¹⁵ PORPH., *In Cat.*, 82.29-37 Busse (cf. *infra*, Tab. 1).

¹⁶ BOETH., *In Cat.*, col. 177B12-C5.

¹⁷ SIMPL., *In Cat.*, 55.24-56.15 Kalbfleisch.

¹⁸ Porphyry dealt with the same problem in his long commentary *Ad Gegalium* as well: this is proved by the newly-discovered anonymous commentary on *Categories* found in the Archimedes Palimpsest, if the author is to be identified with Porphyry, as it seems. In what follows, given the partial state of preservation of this part of Porphyry's *Ad Gegalium* commentary, I will mainly compare Simplicius' commentary with Porphyry's short commentary by questions and answers, referring, each time that it is possible, to the newly-discovered *Ad Gegalium* commentary too.

of the differentia as *predicated of many differing in species*. As a reply, Porphyry admits that the differentia is predicated of many things *in most cases* (ἐπὶ τὸ πολὺ), though not in all cases: this opinion is also quoted by Simplicius¹⁹ and is recalled in the *Isagoge*²⁰, where Porphyry states that the differentiae are *often* (πολλάκις) predicated of many species²¹. Porphyry explains that there are differentiae that are equal in number (ἰσάριθμοι) with their species, like levity and heaviness, for they are, respectively, just differentiae of fire and earth²². Simplicius raises a similar aporia in his commentary on Aristotle's *Categories*²³, observing that some

¹⁹ SIMPL., *In Cat.*, 56.6-8 Kalbfleisch. This appears also to be the position that can be found in the aforementioned commentary on the *Categories* preserved in the Archimedes Palimpsest, edited in CHIARADONNA, RASHED, SEDLEY (TCHERNETSKA), *A rediscovered Categories Commentary*. The article proposes the identification of the fragment preserved in the manuscript with a fragment of Porphyry's lost commentary on the *Categories Ad Gedalium*: the passage I will quote seems to fit well with this hypothesis, showing the same ideas and the same terminology as the other Porphyrean commentary *by Questions and Answers*; I refer, in particular, to the idea that the fact that the differentia is predicated of many species is true only in most cases (ὡς ἐπὶ τὸ πολὺ) and that there are some differentiae that are equal in number with the species (ἰσάριθμοι τοῖς εἶδεσιν); on these analogies, see CHIARADONNA, RASHED, SEDLEY (TCHERNETSKA), *A rediscovered Categories Commentary*, p. 185. The passage I am speaking about is: ANON. [PORPH. ?], *In Cat.*, 11.12-14 [= *ibid.*, p. 160]: τὸ μέντοι κατὰ πλείονων εἰδῶν λέγεσθαι τὴν διαφορὰν ὡς ἐπὶ τὸ πολὺ λέγεται. Εἰσὶ γάρ τινες καὶ ἰσάριθμοι τοῖς εἶδεσιν [...].

²⁰ PORPH., *Isag.*, 18.19-21 Busse: « Again, differences are often observed in several species — for example, quadruped in very many animals which differ in species; but a species applies only to the individuals under it » (transl. Barnes, *Porphyry, Introduction*, p. 16).

²¹ Ms. BnF ar. 2346 preserves an anonymous *scholion* that might be a comment upon the use of πολλάκις that Porphyry made in the passage quoted above (rendered in Arabic as *fī aktārī l-amri*, 'in most cases'). The argument of the *scholion* is the same that can be found in Porphyry's and Simplicius' commentaries on the *Categories*: ANON., *In Isag.* [p. 1097, n. 3 Badawī]: « He [i.e. Porphyry] only said 'in most cases' (*fī aktārī l-amri*) because sometimes there are differentiae that are equivalent to their species, as the heaviness (*al-tiqḥ*) for the earth, the levity for the fire and the receptivity of science for man ».

²² The idea seems to be that the qualities of heaviness and levity are properly predicated only of their corresponding basic element, and that all the other things that are, for instance, heavy or light are such, so to speak, in a derivative way, in virtue of their being made of earth or fire. This is the way in which Simplicius understands this example (SIMPL., *In Cat.*, 55.26-27 Busse). See also M. CHASE, *Simplicius, On Aristotle Categories 1-4*, Duckworth, London 2003, p. 137, n. 588. Porphyry then proceeds to imagine that his interlocutor could ask him a similar question about the description of species as *predicated of many differing numerically*. This second horn of the question and its solution will be left aside in the present paper, since they regard the problem of the unique instantiation of some species, namely the cases of monadic species like the Sun and the Moon: in sum, Porphyry's interlocutor is wondering how the description of species as 'predicated of many differing in number' could apply to such cases, in which the species 'Sun', for instance, is predicated of just one individual. On the problem of the unique instantiation in the neoplatonic tradition, see P. ADAMSON, *One of a Kind: Plotinus and Porphyry on Unique Instantiation*, in R. CHIARADONNA, G. GALLUZZO eds., *Universals in Ancient Philosophy*, Edizioni della Normale, Pisa 2013, pp. 329-351.

²³ SIMPL., *In Cat.*, 55.24-32 Kalbfleisch.

differentiae are predicated of a unique species. He mentions two cases: levity as a differentia of fire; and the ultimate differentiae belonging to a species, which are said to convert with the *definiendum*, for they belong to that species only (for instance, the capability of receiving knowledge is a differentia that belongs to man only). Quite evidently, Simplicius' aporia is based upon Porphyry's commentary on the *Categories*.

It is noteworthy that a similar approach can be found in the only extant²⁴ long commentary on the *Isagoge* produced within the Baghdad Peripatetic school, namely that by Ibn al-Ṭayyib (d. 435H/1043)²⁵. Also in this commentary, in the context of Ibn al-Ṭayyib's reflection upon the definition of differentia, one encounters the aporia that was raised in Simplicius' commentary in the wake of Porphyry's considerations. The argumentation employs the same examples provided by Porphyry, namely that of levity and heaviness as proper differentiae of fire and earth, and receptivity of knowledge as a proper differentia of man (cf. Tab. 1). The solution proposed by Ibn al-Ṭayyib, on the other hand, is not the one proposed by Porphyry in this context: as we shall see (below, I.3), its doctrinal background is rather the distinction between divisive and constitutive differentiae explained in Porphyry's *Isagoge*²⁶.

²⁴ At least, among the so far edited commentaries. There are, for instance, several works by Yaḥyā Ibn 'Adī (d. 364H/974) concerning Porphyry's *Isagoge* that are preserved in some still unedited manuscripts. Among them, there are at least *A series of questions on the notions of the book of Isagoge* ('Iddat masā'il fī mā'ānī kitāb Isāgūgī) and *The Answers given by Abū Bišr Mattā on the questions of Yaḥyā Ibn 'Adī concerning Porphyry's Isagoge* (Ta'ālīq 'idda 'anhu 'an Abī Bišr Mattā fī umūr ġarat baynahumā fī l-manṭiq — Agwiba šayḥinā Abī Bišr Mattā ibn Yūnus al-Qunnā'ī 'an masā'il sa'alahū Yaḥyā ibn 'Adī ibn Ḥumayd ibn Zakariyyā 'anhā fī mā'ānī Isāgūgī li-Furfūriyūs); see G. ENDRESS, *The Works of Yaḥyā ibn 'Adī. An analytical inventory*, Reichert, Wiesbaden 1977, pp. 47-48 and 52. For an inventory of the newly discovered texts by Yaḥyā Ibn 'Adī, see R. WISNOVSKY, *New Philosophical Texts of Yaḥyā Ibn 'Adī: a Supplement to Endress' Analytical Inventory*, in F. OPWIS, D. REISMAN eds., *Islamic Philosophy, Science, Culture, and Religion – Studies in Honor of Dimitri Gutas*, Brill, Leiden - Boston 2012, pp. 307-326.

²⁵ For the critical edition of the Arabic text of the commentary, see: *Ibn Al-Ṭayyib's Commentary on Porphyry's Eisagoge* (Taḥṣīr Kitāb Isāgūgī li-Furfūriyūs) — *Arabic text edited with introduction and a glossary of Greek-Arabic logical terms*, ed. K. GYEKYE, Dar el-Machreq, Beyrouth 1975. For an English translation provided by the editor himself, cf. K. GYEKYE, *Arabic Logic — Ibn Al-Ṭayyib's Commentary on Porphyry's Eisagoge*, State University of New York Press, Albany 1979.

²⁶ Cf. *infra* T2.

Tab. 1 : *The position of the aporia on the definition of differentia and Porphyry's solution*

PORPH., <i>In Cat.</i> , 82.29-37 Busse	SIMPL. <i>In Cat.</i> , 55.24-56.8 Kalbfleisch	IBN AL-TAYYIB, <i>Tafsīr Kitāb Īsāghūṭi li-Furfūriyūs</i> , 146.8- 21 Gyekye ^a
(Q.) But, since you [earlier] stated that differentia is predicated of many species, did you say this as if it [always] ^b holds?	But how do we predicate differentia of [things] differing in species and species of [things] differing in number? For behold, some differentiae are predicated of one species only, like 'light' [is predicated] of fire (the other things are, in fact, light because of [their] fieriness) and 'heavy' [is predicated] of earth and, in general, the ultimate differentiae [are predicated] of each species, like, in the case of 'man', the fact of being receptive of intelligence and knowledge, that also convert with the <i>definiendum</i> [...].	An aporia may be raised against Porphyry ; it is as follows : how do you maintain, Porphyry, that differentia is said of many species, and we, here, see the heaviness ^c , a differentia of earth, which does not go beyond a species ; levity, a differentia of fire, does not go beyond a species ; and receptivity of knowledge, a differentia of man, does not go beyond the species of man ?
(A.) No, but just for the most part, for some [differentiae] are equal in number with the species, like lightness and heaviness, the former belonging only to fire, the latter [only] to earth.		

^a English translation by K. Gyekye, p. 132, slightly modified.^b There is a small difficulty in the Greek text : the editor A. Busse suspects that the text might be read with the help of an integration : τοῦτ' <ἀεὶ>, εἴρηκας; in order to obtain the meaning that Porphyry's interlocutor in the dialogue is asking whether Porphyry's claim must be considered as holding in every case or not. The English translation by S. K. STRANGE, *Porphyry, On Aristotle's Categories*, Duckworth, London 1992, p. 68, agrees with Busse's suggestion and renders the statement (slightly paraphrasing the Greek) : « did you intend this claim to hold <in general> ? ».^c I would rather read in [146.9] *al-ṭiql* ('heaviness') instead of *al-baql* ('plant/herb') as the editor K. Gyekye does. In support of the reading *al-ṭiql*, see the aforementioned anonymous Arabic scholion on ms. BnF ar. 2346 (p. 1097, n. 3 Badawī). From a palaeographical point of view, the corruption of an original *al-ṭiql* into a reading *al-baql* is easily explainable, for the difference in the *rasm* of the two words just lies in the diacritics of the first letter : in a manuscript lacking some diacritics, then, the two readings would be identical.

Cf. ANON. [PORPH. ?], <i>In Cat.</i> , 11.12-14 [= CHIARADONNA, RASHED, SEDLEY, <i>A rediscovered Categories Commentary</i> , p. 160 ^d] : However, that the differentia is said of a plurality of species is the case only for the most part. For there are also some differentiae that are equal in number with the species.	[...] As for the differentia, Porphyry says that it is for the most part said of many species, but not always.	—
---	--	---

^d I am quoting the English translation provided *ibid.*, p. 161.

Simplicius's commentary on the *Categories* also preserves a fragment attesting Jamblicus' contribution to the debate²⁷. Jamblicus, according to Simplicius, claimed that differentiae are accidentally predicated of one species only, for they always have the possibility of being predicated of many species. Although a differentia — qualified as 'more specific' (ἰδικωτέρα) and more akin to the nature implicated in matter (τῇ ἐνύλῳ φύσει συγγενεστέρα) — may be predicated of just one species, it still retains the potentiality of being predicated of many species. This means that, even though, in virtue of some fortuitous circumstances (τις συντυχία πραγμάτων), there may not be a plurality of species capable of receiving the differentia in question, this is due to an accidental occurrence that is external to the nature of the differentia and does not affect its nature (οἰκεῖος λόγος)²⁸. In sum, Jamblichus held a more radical position than Porphyry, claiming that the differentia has always the potentiality of being predicated of many species, in spite of the accidental circumstances in which it may be predicated of only one

²⁷ IAMBlichus *apud* SIMPL., *In Cat.*, 56.8-15 Kalbfleisch [= fr. 17 Larsen] : « Jamblichus [says] : 'even if some differentiae are not predicated of many items, they too are such that it would be possible, in so far as it depends on them, to be predicated of many items' ; he says : 'the differentia that is determinately predicated of one species is more specific (ἰδικωτέρα) and more akin to the nature implicated in matter (τῇ ἐνύλῳ φύσει συγγενεστέρα), but even if it is disposed in this way, it still retains the potentiality, in virtue of its own definitional account (κατὰ τὸν ἑαυτῆς λόγον), of being attributed to many species. If, then, the conjunction of some fortuitous circumstances didn't allow the expansion of the [species] undergoing [the predication of the differentia] into a multitude, this wouldn't represent, however, an obstacle to the proper account of the differentia (οὐδὲν τοῦτο ἐμπόδιόν ἐστιν πρὸς τὸν οἰκεῖον τῆς διαφορᾶς λόγον)' ».

²⁸ The argument is analogous to the one employed in the case of the monadic species ; cf. B. DALSGAARD LARSEN, *Jamblique de Chalcis : exégète et philosophe*, 2 vols., Universitetsforlaget, Aarhus 1972, vol. I, p. 250.

species, whereas Porphyry simply claimed that the differentiae are predicated of many species *in most cases* (ἐπὶ τὸ πολὺ)²⁹.

I will argue that Avicenna's refutation of the definition of differentia as *predicated of many items* is based on considering the possibility of predication of many items as a non-essential feature of the differentia. Avicenna's refutation, then, reaches a conclusion that somehow reverses Jamblichus'.

I.3. *The Arabic Peripatetic tradition*

The Peripatetic circle of Baghdad was familiar with the Porphyrean aporia on the differentia, as one can see from the aforementioned discussion by Ibn al-Ṭayyib. The solution adopted in the commentaries on the *Isagoge* produced in this context, however, is not based on Porphyry's solution in the commentary on the *Categories*, but rather on Porphyry's distinction of divisive and constitutive differentiae in the *Isagoge*: the *divisive* differentiae — which divide a genus together with their opposite differentiae (as 'rational' and 'irrational' divide the genus 'animal') — are predicated of more than one species (for instance, 'rational' is predicated of both 'man' and 'angel'), whereas the *constitutive* differentiae — which constitute a species (as 'mortal', in addition to 'rational', constitutes 'man') — are predicated of one species only (namely of the species they constitute)³⁰. This can be argued

²⁹ On Porphyry's and Jamblichus' views, see also the aforementioned LUNA, *Simplicius, Commentaire sur le Catégories*, pp. 467-470. According to C. Luna, Porphyry's claim that the differentiae are predicated of many items *in most cases* seems to imply that being predicated of many items is not an essential feature of the differentia, since it does not belong to all the differentiae. Then, Jamblichus would reverse this opinion, holding that the differentiae have in their nature the possibility of being predicated of many items, though sometimes this does not happen. Jamblichus' opinion, according to this interpretation, has to be read in opposition to Porphyry's. As R. Chiaradonna pointed out to me, Jamblichus' view suggests a skepticism toward the possibility of distinguishing the species by means of the differentiae, which has also a reflection on Jamblichus' theological views (see R. CHIARADONNA, *Logica e teologia nel primo neoplatonismo — A proposito di Anon.*, In *Parm.*, XI, 5-19 e *Iambl.*, Risposta a Porfirio [De Mysteriis], I, 4, « *Studia graeco-arabica* », 5, 2015, pp. 1-11). Simplicius' attitude, however, is apparently neutral: he does not explicitly endorse neither Porphyry's nor Jamblichus' view. C. Luna claims (*ibid.*, p. 470) that Simplicius, though not explicitly, rejects Porphyry's solution, being more inclined to believe that being predicated of many items is an essential feature for defining the differentia.

³⁰ PORPH., *Isag.*, 9.24-10.3 Busse: « Three species of differences being observed, and some being separable and some inseparable, and again of the inseparable some being in their own right (καθ' αὐτὰς) and some accidental (κατὰ συμβεβηκός), again of differences in their own right some are those in virtue of which we divide genera into species and some those in virtue of which the items divided are specified (εἰδοποιεῖται) » (trans. Barnes, *Porphyry, Introduction*, p. 10).

from a fragment of the Paris manuscript of the Arabic *Organon*³¹, which reports the answer that Ḥasan Ibn Suwār (d. 411H/1020) provided to a passage of the commentary on the *Isagoge* ascribed by the Arabic tradition to a commentator (or to a compilation of commentaries) named Allīnūs³². In this passage, Ḥasan Ibn Suwār apparently found an objection raised against Porphyry's definition of differentia as predicated of many species, arguing that, contrary to Porphyry's definition, every differentia must be equivalent to the species it is constitutive of. Allīnūs' criticism of Porphyry quoted by Ḥasan Ibn Suwār (who probably commented upon a passage of the Porphyrean exposition of the divergencies between species and differentia³³) provides further evidence of the existence of philosophers opposing Porphyry's view on the subject:

T1 : ḤASAN IBN SUWĀR [= p. 1097, n. 2 Badawī]

« Allīnūs refused this statement and said this : he said 'as to what Porphyry said [about the fact] that the differentia is predicated of many species, because it is anterior to the species by nature, well, I do not know how this statement could be true, for it does not exist — as far as I think — a differentia that is more common than the species. And this because every differentia is equivalent to the species that it constitutes'. So, this is what Allīnūs said. But what I think is that Porphyry considered, in this place, the differentiae *qua* divisive, and that they, in this manner, are predicated of many species, for, when 'rational' and 'mortal' are assumed as

³¹ Specifically on this manuscript, see H. HUGONNARD-ROCHE, *Remarques sur la tradition arabe de l'Organon d'après le manuscrit Paris, Bibliothèque Nationale, ar. 2346*, in C. BURNETT ed., *Glosses and Commentaries on Aristotelian logical texts : the Syriac, Arabic and Medieval translations*, Warburg Institute, London 1993, pp. 19-28.

³² The identity of this commentator, mentioned by several Arabic sources among those who commented upon Aristotle's works, is still dubious, despite the efforts made by many scholars to identify him with certainty. Recently, the existence itself of a commentator named Allīnūs has been doubted, with the proposal of identifying with this name a compilation of materials coming from some Greek commentaries. For a history of all the hypotheses concerning his identity, see A. ELAMRANI-JAMAL, *Alīnūs (Allīnūs)*, in *Dictionnaire des Philosophes Antiques*, vol. I, Éditions du Centre National de la Recherche Scientifique, Paris 1989, pp. 151-152. I only wish to add to the account of the history of the studies provided by Elamrani-Jamal the mention of two contributions on the subject that were published several years later : M. RASHED, *Les marginalia d'Aréthas, Ibn al-Ṭayyib et les dernières gloses alexandrines à l'Organon*, in D. JACQUART, C. BURNETT eds., *Scientia in margine – Études sur les marginalia dans les manuscrits scientifiques du moyen âge à la renaissance*, Droz, Genève 2005, pp. 57-73 (proposing an identification with David) ; H. HUGONNARD-ROCHE, *La tradition gréco-syriaque des commentaires d'Aristote*, in V. CALZOLARI, J. BARNES eds., *L'oeuvre de David l'Invincible et la transmission de la pensée grecque dans la tradition arménienne et syriaque — Commentaria in Aristotelem Armeniaca — Davidis Opera*, Vol. I, Brill, Leiden - Boston 2009, pp. 153-173.

³³ Cf. PORPH., *Isag.*, 18.19-21 Busse. Actually, Allīnūs seems to conflate with this statement also the passage of *Isag.*, 18.21-22 Busse.

divisive of the animal, they are both predicated of more than one species only. 'Rational' is, in fact, predicated of the angel and of the man, whereas 'quadruped' and 'flying', when they are assumed as constitutive — as being animated and [being] in motion for animal, and the receptivity of science and knowledge for man — are just predicated of one species only ».

Hasan Ibn Suwār's answer to Allīnūs' criticism implies the distinction of divisive and constitutive differentiae elaborated by Porphyry himself. Ḥasan Ibn Suwār claims that, for instance, 'rational', which is a divisive differentia of the genus 'animal', is predicated of two species, namely 'man' and 'angel', whereas the constitutive differentiae are not predicated of more than one species.

This is evident also in the answer that his pupil Ibn al-Ṭayyib provides to the aporia raised in the aforementioned passage (cf. *supra* Tab. 1):

T2: IBN AL-ṬAYYIB, *Tafsīr Kitāb Isāğūṭ li-Furḡūriyūs*, 146.11-21 Gyekye³⁴

« The solution of the aporia is as follows : the differentia, in accordance with its name, is that by which things are differentiated and made specific, and it is impossible that that by which things are differentiated and made specific should include many species, but it exists only for one species. But differentia is either simple or composite. The simple is such as levity and, in general, the simple forms of species, whereas the composite is such as the composite form of species, like man and ass. For the differentia of man is composed of 'rational' and 'mortal'. Simple differentiae are those equal to their species, for heaviness³⁵ is equal to earth, and levity to fire. Similarly, the composite, as a whole, is equal to its species. But, since the composite differentiae are used collectively and individually, if they are used collectively their species become equal, like 'rational and mortal', for man. If a part of the differentiae is taken, it encompasses many species. When Porphyry says that 'differentia is predicated of many species', he means a part of the composite, not the simple, differentia. On account of the combination of both (simple and composite) in it (species), the species of differentiae is one ».

Ibn al-Ṭayyib argues that there are *simple* and *composite* differentiae. He takes as an example of simple differentiae the differentiae mentioned in Porphyry's commentary on the *Categories* ('heaviness' and 'levity') as instances of differentiae predicated of one species only (respectively, 'earth' and 'fire'). Then, he takes as an example of composite differentiae the differentia of 'man' (namely, 'rational mortal'), which is composed by two differentiae differing in rank ('rational' —

³⁴ English translation by Gyekye, p. 132, slightly modified.

³⁵ Reading *al-ṭīql* ('heaviness') instead of *al-baql* ('plant/herb') as the editor K. Gyekye does ; for an explanation of the genesis of the corruption, cf. *supra*, p. 137, n. c.

which, taken alone, is a divisive differentia of the genus 'animal' — and 'mortal' — which forms, together with 'rational', a constitutive differentia). The divisive differentia ('rational') taken alone is predicated of more than one species, for it is also predicated of the rational immortal animals (i.e. the angels). Only the addition of a second differentia ('mortal') makes the whole composite differentia exactly correspond to the species that it constitutes.

This theory of the composite differentia must have been already elaborated in Ammonius' school, for it is stressed in Ammonius' commentary on the *Isagoge*³⁶. Ammonius states that the differentiae can either be considered as divisive, or as constitutive; when they are assumed as divisive, they are like 'rational' and 'mortal' singularly taken with respect to the genus 'animal'. When, on the contrary, they are assumed as constitutive, the same differentiae 'rational' and 'mortal' can be combined to form a unique constitutive differentia (as 'rational mortal' with respect to 'man'). The basis for this theory may be a passage of Porphyry's *Isagoge* claiming (in the context of an argument for the claim that the same differentiae may either be considered as divisive or as constitutive) that the differentiae 'rational' and 'mortal' are constitutive of 'man', and the differentiae 'rational' and 'immortal' are constitutive of 'deity'³⁷.

The description of differentia as predicated of many was briefly discussed by Al-Fārābī as well, although with a different attitude. In his commentary on the *Topics*³⁸, Al-Fārābī quotes the definition of differentia as *predicated of many*

³⁶ AMMON., *In Isag.*, 98.19-99.22 Busse: « [...] They say that, among the specific differentiae, some are constitutive (συστατικαί) and some are divisive (διαρετικαί), but not [in such a manner that] the ones [are constitutive] and the others [are divisive], but [in a way that] the same [differentiae] sometimes are constitutive and sometimes divisive, according to whether they are considered in a certain way or in another. 'Rational' and 'irrational', and 'mortal' and 'immortal' are differentiae of the animal, and they are divisive, since 'animal' is divided in these [features]; if those that can be combined are taken together (for instance, like 'rational' and 'mortal'), they become constitutive differentiae of 'man', because they are constitutive (συνιστῶσι) and completive (συμπληροῦσιν) of its nature. [...]. One must know that when they are combined, they produce four couples, three of which are constitutive [of a species], whereas one is not [...]; see that 'rational and mortal' are constitutive, for it is 'man', 'rational and immortal' is the divine being, 'irrational and mortal' is the horse, but there is nothing 'irrational and immortal' [...]. »

³⁷ PORPH., *Isag.* 10.9-19 Busse: « But these very divisive (διαρετικαί) differences of genera are found to be completive (συμπληρωτικαί) and constitutive (συστατικαί) of species. For animal is split by the difference of rational and non-rational, and again by the difference of mortal and immortal; and the differences of rational and of mortal are found to be constitutive of man, those of rational and of immortal of god, and those of non-rational and of mortal of the non-rational animals. [...] Since, then, the same differences taken in one way are found to be constitutive and in one way divisive, they have all been called specific » (trans. Barnes, *Porphyry, Introduction*, p. 10).

³⁸ AL-FĀRĀBĪ, *Kitāb al-Ġadal*, 87.3-12 Al-Aḡam: « Differentia is what is predicated of many that differ in species in the 'what sort of thing is it?' with regard to its substance (*al-faṣlu huwa l-mahmūlu*

differing in species in the 'what sort of thing is it?' with regard to its substance³⁹, then he proceeds to briefly enumerating the aspects that genus and differentia share and those in virtue of which they differ. Among the shared characteristics, there is the fact of being predicated of many species (which is also said to be a feature distinguishing genus and differentia from definition). However, Al-Fārābī is aware of the difficulties entailed by this description: the major problem is caused, in his view, by the consideration that a description of differentia as predicated of many is not applicable to the differentia when it comes to the case of the demonstrative syllogism, for in that case the differentia must be predicated of one species only. In order to solve the problem, Al-Fārābī makes reference to a broader and commonly-known sense of *differentia*, which allows claiming that the differentia is predicated of many, but which does not correspond to the narrower sense of *differentia* employed in demonstrations. In short, Al-Fārābī is aware of the problems entailed by a definition of this sort, and underlines an inconsistency in the use of the term 'differentia', which is employed differently in the *Posterior Analytics* and in the *Topics*.

To sum up: the Baghdad Peripatetic tradition answered the aporia in the context of the study of Porphyry's account of differentia in the *Isagoge*, with a positive approach. I shall argue that Avicenna's criticism of Porphyry's definition is based on the rejection of the possible solution provided by the theory of the composite differentiae, which was held within Ammonius' school and among the Baghdad Aristotelians.

'alā kaṭīrīna muḥtalifīna bi-l-naw'i 'alā ṭarīqi ayyi šay'in huwa fī ḡawharihi). The differentia shares with genus in many respects, for it let [us] know the thing's substance as genus does, it is predicated of many differing in species as well, and it is a part of the definition as genus is. The two [predicates] differ because the differentia distinguishes the species from all what shares with it its proximate genus, and because the differentia follows the genus in the arrangement. It is necessary that you know that if the state of the differentia is examined according to the demonstration ('alā ṭarīqi l-burhān), then it is impossible for the differentia to be predicated of [other] species but the one it is a differentia of. But the one that is here employed is the commonly known (*mašhūr*) differentia, and that by which the differentia is defined is its commonly known definition. The commonly known differentia is like 'walking' and 'biped', that are differentiae for the man: each one of them is, in fact, predicated of many differing in species; so, genus and differentia have [something] in common with the definition because they belong to the entire species everytime, but differ from it because they are predicated of more than one species only ».

³⁹ The addition of the expression 'in its substance' (*fī ḡawharihi*) has the purpose of distinguishing the differentia from the common accident, which is predicated of many items in answer to 'what sort of thing is it?' as well, though not with regard to the thing's substance.

I.4. Avicenna's refutation

Avicenna shows serious perplexities about Porphyry's description of the differentia as predicated of many items differing in species in *Madḥal*, I, 13⁴⁰. The reason for Avicenna's refutation of this description is similar to the rationale of the aporia mentioned by Elias in his commentary: the problem is, in fact, explaining how the differentia can distinguish the subjects it is predicated of, if Porphyry is right in claiming that it is predicated of many items. Porphyry's claim that the differentia is predicated of many items differing in species seems to imply the lack of a differentiation among those items of which the differentia is predicated, unless it is possible to understand Porphyry's statement as if it meant that the differentia is not predicated of all the items at the same time, but of each of them singularly taken. In the passage that follows (T3), Avicenna presents this one as a way to save Porphyry's statement (section a₃), but raises doubts on the possibility of a reading of this sort. He therefore concludes that if this reading is not plausible, as he claims, then Porphyry's definition of differentia as predicated of many has to be rejected.

T3 : IBN SĪNĀ, *K. al-Madḥal*, I, 13 [77.8-21]

« [(a₁)] But for his [*scil.* Porphyry's] statement '[predicated] of many differing in species' there are three [possible] concepts: the first one is among the things that are not considered by [the man] who aims at making this book precede [the others] (*scil.* Porphyry), but we will explain it in its place. [Then], there are two concepts that are closer to the evidence: [(a₂)] the first one consists in the fact that the nature of the differentia encompasses, with [its] predication, many species, inevitably other than the only species differentiated. [(a₃)] The other [concept] consists in the fact that the nature of the differentia is what determines the quality⁴¹ of the

⁴⁰ This is the chapter entirely devoted to the predicable differentia in Avicenna's reworking of the *Isagoge*.

⁴¹ I suspect that in [77.12] *ayyiyya* ('essential quality') should be read instead of *anniyya* ('existence') as printed in the Cairo edition: it seems that Avicenna used the expression *mā huwa* as related to the term *māhiyya* and, analogously, the expression *ayyu šay'in huwa* as related to *ayyiyya*. Therefore, when Avicenna states that the differentia signifies the *ayyiyya*, he may be referring to the fact that the differentia is predicated in answer to 'what sort of thing is it?', as well as when he states that genus signifies the quiddity he means that it is predicated in answer to the question 'what is it?'. *Anniyya*, on the contrary, would convey an existential meaning: it would mean the fact of existing, which does not seem to fit well in this context. For the meanings of the term *anniyya*, see R. M. FRANK, *The Origin of the Arabic Philosophical Term anniyya*, « Cahiers de Byrsa », 6, 1956, pp. 181-201; M.-T. D'ALVERNY, *Anniyya-Anitas*, in *Mélanges offerts à E. Gilson*, Pontifical Institute of Medieval Studies - Vrin, Toronto - Paris 1959, pp. 9-81 [repr. in EAD., *Avicenne en Occident*, Vrin, Paris 1993]; A. HASNAWI, *Anniyya ou Innīyya (essence, existence)*, in *Encyclopédie philosophique universelle. Publié sous la direction d'A.*

several things that differ each other in species, as if he said that it is predicated of [many] species in answer to 'what sort of thing is it?', not of the complex of them, but of each one of them [singularly taken], as well as the statement of someone who says that the sword is what people strike with does not mean that it is what people strike with together, but what each one of them [strike with], but this interpretation is absurd and uncorrect. If it is possible for this to be understood from this utterance, then it is a description corresponding to the differentia; [on the contrary], if it is impossible to understand this from this utterance and only the first aspect is understood, then this definition, in the way they understand it, is defective. [(b)] This is so because, as you learned, it does not necessarily follow to the nature of the differentia *qua* differentia being not distinctive of a unique species. On the contrary, this is an accident that sometimes occurs to some differentiae, so that it is an accident to the nature of the differentia, and not a differentia for the differentia and, moreover, it is not an accident that is common to the complex of the differentiae, so that it assumes in the descriptions the [same] function that the differentia assumes in the definitions; so, this [description] is defective ».

According to Avicenna, the fact of being distinctive of more than one species is not necessarily concomitant to the nature of the differentia, although it may belong to certain differentiae (section b). Avicenna's argument is that, given that being predicated of many belongs to some differentiae accidentally, this feature cannot be assumed as a *differentia specifica* in the definition (*hadd*) of the predicable 'differentia', for it is not an essential constitutive element with respect to the nature

Jacob, vol. II, Presses Universitaires de France, Paris 1990, pp. 101-102 and G. ENDRESS, D. GUTAS, *GALex*, vol. I, Brill, Leiden 2002, s.v. 'anniyatun', pp. 428-436. As to the manuscript tradition, I found the reading *ayyiyya* attested in mss. Damat Ibrahim 822, Süleymaniye Kütüphanesi 2442 and Brit. Mus. Or. 7500, and I suppose this could also be the reading of the Arabic manuscript on which the Latin medieval translation is based, since the term is rendered in Latin as *quale quid*. Then, I found the reading *anniyya* explicitly attested in ms. Paris, BnF ar. 6829 only. Finally, an *anceps* reading without diacritics is preserved by mss. Leid. Or. 4, Şehid Ali 1748, Nuruosmaniye 2710, Carullah 1424 and Kitābhānah-i Madrasa-i Namāzī 247, so that it is impossible to tell whether, in those cases, it has to be read as *ayyiyya* or *anniyya*. A. Bertolacci has already suggested the opportunity of replacing one crucial occurrence of the term *anniyya* in the *Ilāhiyyāt* with the term *ayyiyya* (see A. BERTOLACCI, *A Hidden Hapax legomenon in Avicenna's Metaphysics: Considerations on the use of Anniyya and Ayyiyya in the Ilāhiyyāt of the Kitāb aš-Šifā'*, in A. M. I. VAN OPPENRAAY ed., with the collaboration of R. FONTAINE, *The Letter before the Spirit: The Importance of Text Editions for the Study of the Reception of Aristotle*, Brill, Leiden - Boston 2012, pp. 289-309), pointing at the opportunity of similar replacements in passages of the *Madhal*, like the one presently discussed (see, *ibid.*, p. 304, n. 39). The term *ayyiyya* may have originated as a rendering of the Greek ποιότης (see, on this subject, BERTOLACCI, *A Hidden Hapax legomenon*, pp. 301-304) and was already employed by Al-Kindī in his treatise *On First Philosophy* (*Fī l-falsafa l-ūlā*) to designate what is signified by the *differentia specifica* (cf. *Kitāb al-Kindī ilā l-Mu'tašim bi-llāh fī l-falsafa l-ūlā* in *Rasā'il al-Kindī al-falsafiyya*, ed. M. 'A. ABŪ RĪDA, Cairo 1950, vol. I, p. 129, lin. 12-14; see BERTOLACCI, *A Hidden Hapax legomenon*).

of the differentiae. Moreover, it is not even an accidental feature common to all the differentiae, for it is not shared by all of them: hence it cannot even be employed in the description (*rasm*) of the predicable, as an expression replacing the *differentia specifica*. Avicenna's point, here, is demonstrating that the locution 'predicated of many species' can figure neither in a proper definition, nor in a description of differentia. Avicenna's criticism, then, reaches a conclusion that is opposite to Jamblichus' claim that the differentiae are predicated of many species in virtue of their natures. Avicenna claims, in fact, that the differentiae are *primarily* and *essentially* predicated of one species only, although some differentiae sometimes happen to be predicated of more than one species. This is also the reason why Avicenna criticizes the traditional division of the five predicables in *Madḥal*, I, 13 since, according to him, this division includes only the kind of differentia which happens to be predicated of many items, leaving aside the differentia which is predicated of one species only⁴².

Moreover, Avicenna rejects the solution adopted by the Baghdad tradition, for he does not agree with the claim made by the Baghdad Peripatetics in reply to the possible objection raised against Porphyry, namely that a differentia may either be considered as merely divisive, or as constitutive. I shall argue that this is the doctrine that Avicenna is criticizing as a false belief (*ẓannun kaḍibun*) in the further passage of *Madḥal*, I, 13 quoted below (T4). Accordingly, I incline to believe that the unspecified plurality of those who hold this belief (*al-ẓānnūna*), addressed by Avicenna in the same passage, may be identified with the Greek and Arabic tradition of Porphyry's commentators endorsing this theory:

T4: IBN SĪNĀ, *K. al-Madḥal*, I, 13 [80.1-14]

« [(i)] What is believed by those who believe that, among the differentiae that realize, there is what divides and, then, expects another differentia to come, so that the [two differentiae] are, together, constitutive (like 'rational', that is sometimes believed to divide the animal, then, for the constitution of the species, they wait that 'mortal' is joined to it), this is a false belief (*ẓannun kaḍibun*): [(ii)] this is so because it is not a condition of the differentia the fact of being inevitably constitutive for the lowest species, when it divides in a way that it causes the constitution of the species, for there is a difference between our saying 'it constitutes the species' and our saying 'it constitutes a lowest species'. [(ii.a)] 'Rational', even if it does not constitute the 'man', which is the lowest species, it constitutes the 'rational animal', which is a

⁴² *K. al-Madḥal*, I, 10 [58.18-20]: « It escaped to it [i.e. the traditional division of the universal utterance] the nature of the differentia (*ṭabī'atu l-faṣli*) qua differentia; on the contrary, it was included in it, among the differentiae, only what is predicated of many species, but this is not the nature of the differentia qua differentia, for not every differentia is so ».

species of the 'animal' and a genus for the 'man', if what they say about the fact that 'rational' is more common than the 'man' is true and [if] the 'rational animal' occurs [both] to the 'man' and the 'angel' not [just] by homonymy, but in such a way that the utterance occurs with a single meaning. [(ii.b)] Then, our saying 'rational animal' is a locution whose complex has a conceived notion, and this is more specific than 'animal', without being neither a differentia (on the contrary, the differentia is a part of it, namely 'rational') nor a proprium, so that it is inevitably a species of it⁴³. [(ii.c)] Similarly, it has been clarified that it is a genus of 'man', and the author of the *Isagoge* himself has already explained something similar in [a certain] place⁴⁴. [(ii.d)] 'Rational', then, has already constituted a species which is [also] a genus, so that, while dividing [a genus], it [also] inevitably constituted [a species]. [(iii)] From this, we learn that the differentia is only primarily predicated of a unique species [and] constantly, being predicated of many species in answer to 'what sort of thing is it?' only secondarily [and] by mediation [of something else]».

Section (i) rejects the belief of those philosophers who draw a neat distinction between divisive and constitutive differentiae and believe in a composition of differentiae that are constitutive of a species jointly, without being so separately. This account fits well with the theory of 'composite differentiae' explained in Ammonius' and Ibn al-Ṭayyib's commentaries on the *Isagoge*. Then, in point (ii) Avicenna proceeds to explain the conceptual mistake of those philosophers, namely their understanding of 'constitutive of a species' as 'constitutive of a *lowest* species', without considering as really constitutive differentiae those differentiae that are constitutive of intermediate species. Points (ii.a-d) aim at demonstrating this assumption with the example of the differentia 'rational': this differentia, in fact, does not constitute a lowest species (namely, 'man'), but constitutes nonetheless 'rational animal', which is showed to be a species at point (ii.b), although not a lowest species, being also a genus of 'man', as Avicenna states at point (ii.c)⁴⁵. The obvious conclusion is that 'rational' is a differentia that

⁴³ Being a species is the only possibility left: it could certainly not be either a genus or a common accident, because in both cases it would be more general (and not more specific) than 'animal'.

⁴⁴ Cf. PORPH., *Isag.*, 4.21-5.1 Busse. For a discussion of the meaning of this reference, cf. *infra*, n. 45.

⁴⁵ Avicenna specifies, at point (ii.c), that Porphyry said that 'rational animal' is a *genus* for 'man'. The importance of this clause must not be underestimated: Avicenna specifies it because he intends to clarify that he is here merely following the example that Porphyry provided to explain his *Arbor* (PORPH., *Isag.*, 4.21-5.1 Busse): in the example, 'rational animal' is a genus for man, which is further constituted by the differentia 'mortal'. This leads to understand that, if 'rational animal' is, in Porphyry's view, a genus both for man and deity, then the two species are differentiated because a man is a *mortal* rational animal, whereas a deity is an *immortal* rational animal, as the Greek commentators of the school of Alexandria (see, for instance, AMMON., *In Isag.*, 70.13-20 Busse and ELIAS, *In Isag.*, 63.25-34 Busse) suggest. Moreover, this interpretation is confirmed by another Porphyrean passage stating it explicitly (PORPH., *Isag.*, 10.9-14 Busse). Actually, Avicenna does not agree with this example, for he thinks that a deity (or *angel*, as he and some commentators read) may be said to be rational just in an

is constitutive of an intermediate species. Thus, by assuming that, for a differentia, being *constitutive* does not necessarily imply being *constitutive of a lowest species*, Avicenna has demonstrated that a divisive differentia, while dividing a genus, also constitutes a species (which may be either an intermediate species, as in the case of the divisive differentia 'rational' with respect to the intermediate species 'rational animal', or a lowest one, as in the case of the divisive differentia 'mortal' with respect to lowest species 'man'). This argument is intended to be a refutation, not only of the clear-cut dichotomy between divisive and constitutive differentiae, but also of the traditional explanation of Porphyry's definition of differentia as *predicated of many items differing in species*: having clarified that those differentiae that the tradition considered as merely divisive (and predicated of many species) are also constitutive, Avicenna implies that they are also primarily predicated only of the species that they constitute, as he concludes at point (iii). In Avicenna's view, as we shall see, a differentia can be predicated of many items specifically different only in a mediated way.

In other words, for Avicenna all the constitutive differentiae are also divisive differentiae and, conversely, all the divisive differentiae are constitutive differentiae: as Avicenna had explained shortly before the aforementioned passage, only the *negative differentiae* have, apparently, the characteristic of being divisive without being constitutive, but this kind of 'differentiae' are not actually differentiae⁴⁶:

equivocal way. Furthermore, stating that an angel is a rational animal would also imply considering it as an animate body, but, analogously, an angel can be said to be so only equivocally. Accordingly, he believes that 'rational animal' is already a complete definition of 'man' and not just its genus, concluding that there is no need of introducing 'mortal' as a divisive differentia of man. The Arabic commentators from the school of Baghdad (see e.g. IBN AL-ṬAYYIB, *Tafsīr K. Isāgūgī li-Furfūriyūs*, 87.8-12 Gyekye), still accepting the division of 'rational animal' by the differentiae 'mortal' and 'immortal', claim nonetheless that the 'rational immortal animal' is the species of the *celestial bodies*, specifying that God cannot be said to be a body (as His being a rational immortal animal would imply). Avicenna's refutation of Porphyry's example can be found in the conclusive section of *Madḥal*, I, 11, after his exposition of the *Arbor Porphyriana*; see *Madḥal*, I, 11 [64.10-18]: « As to what concerns this division that was adduced [by Porphyry] for the substance and that reaches the man, well, it is uncorrect, although it does not affect our attempt of comprehension of the objective we aim at. This [is so] because since the animate body encompasses the plants together with the animals, it does not encompass the angels but equivocally, for the animate body is not a genus encompassing the angels. Similarly, when 'rational' is said of the man and the angel, this is so just equivocally, and the 'rational' that is a constitutive differentia of man is not said of the angels [too]. If this is so, then neither the 'rational animal' is a genus [both] for the man and the angels, nor the 'animate body' is a genus of the plants, the angels and the animals. Since things are in this manner, [then], there is no need of the introduction of 'mortal' as a differentia dividing the 'rational animal' into the man and what is not a man ».

⁴⁶ For the problem of the so-called *negative differentiae* in Avicenna's *Madḥal*, I, 13 see also J. MCGINNIS, *Logic and Science: The Role of Genus and Difference in Avicenna's Logic, Science and Natural Philosophy*, « Documenti e studi sulla tradizione filosofica medievale », 18, 2007, pp. 165-186. Pages of particular relevance for Avicenna's approach to the problem in *Madḥal* are pp. 178-181.

T5: IBN SĪNĀ, *K. al-Madḥal*, I, 13 [78.14-16]

« There is not, among the constitutive differentiae, [anything] that does not divide [as well]. Among the divisive differentiae, apparently (*fī ḡāhiri l-amri*), there is [something] that does not constitute, but this does not absolutely apply to anything but the negative differentiae (*al-fuṣūl al-salbiyya*), that aren't actually (*bi-l-ḥaqīqati*) differentiae ».

Negative differentiae cannot, in Avicenna's opinion, be considered as really constitutive of a species: first of all, the intelligibility of their notion depends on the consideration of the corresponding positive notion (the notion conveyed by 'irrational', for instance, cannot be understood without considering the notion of 'rational'); moreover, they do not really signify a distinctive feature of a group of things, for they just signify a feature that the things do not have:

T6: IBN SĪNĀ, *K. al-Madḥal*, I, 13 [79.3-5]

« Negations are concomitants (*lawāzim*) for the things in relation to the consideration of [certain] notions that do not belong to them, for 'irrational' (*ḡayru l-nāṭiqi*) is something that is intelligible by considering the 'rational' (*al-nāṭiq*), so that the species' notion and its differentia⁴⁷ are something *in se*⁴⁸, then the fact of not being characterized by anything else is concomitant to it (*yalzamuhu*) ».

The reason for Avicenna's refusal to accept negative differentiae may be rooted in Aristotle's warning against the division of genera by negative terms in *Top.*, Z, 6⁴⁹. Avicenna's criticism is directed *in primis* towards Porphyry, who considered

⁴⁷ I translate the Arabic: *al-naw'u ma'nāhu wa-faṣluhu* as 'the species' notion and its differentia', though it is also possible to translate: 'the species, its notion and its differentia' (see McGINNIS, *Logic and Science*, p. 180).

⁴⁸ For a different translation of this passage, see McGinnis' translation in the previously quoted article, p. 180 and in J. McGINNIS, *Avicenna*, Oxford University Press, Oxford 2010, p. 40.

⁴⁹ ARIST., *Top.*, Z, 6, 143b11-144a4. Aristotle devotes a τόπος to the inquiry on the mistake that an interlocutor could make dividing a genus by negations (ἀπόφασις). The example he provides is that of the line (γραμμή), which is defined as 'a length without breadth' (μήκος ἀπλατὲς): the problem is that this definition does not signify a species, but just the fact that the length does not have breadth (οὐδὲν γὰρ ἄλλο σημαίνει ἢ ὅτι οὐκ ἔχει πλάτος). In the passage, Aristotle takes also into account the fact that, in some cases, the use of a negation is required, for example in the case of privations; the example provided is that of 'blind' (τυφλὸν), which is defined as 'unable to see' (τὸ μὴ ἔχον ὄψιν). However, in Aristotle's view, there is no difference, in this context, between the case of privative terms and that of negative terms. In the *De Partibus Animalium* (ARIST., *PA*, 642b21-24), Aristotle claims that the problem with privative (and negative) differentiae is that they do not produce a species, in virtue of the principle that it is impossible for the species to come into existence from something which is non-existent. Aristotle achieves, in that passage, a demonstration of the fact that privations cannot be taken as differentiae (*PA*, 643a6: εἰ δὲ τοῦτο, δῆλον ὅτι ἀδύνατον στέρησιν εἶναι διαφορὰν); this statement does not exclude, however, the use of privations as differentiae *tout court*, but just the use of them as

such differentiae as 'irrational' and 'immortal' as constitutive, respectively, of the irrational animal and of the deity⁵⁰; it probably targets also the Baghdad tradition, which did not reject this position. According to Avicenna, there are only two cases in which a negative differentia can be considered as really signifying a distinctive feature. (i) The first is when the fact that the thing differentiated cannot be characterized by a different distinctive feature is concomitant to the negative differentia. An example is the case of the genus 'number', which can be divided by the two opposite differentiae of 'divisible into two equal parts' and 'not divisible into two equal parts' (*laysa bi-munqasimin bi-mutasāwiyyīna*). The latter, despite being a negative differentia, adequately distinguishes a class of numbers (namely, that of the odd numbers) because it is necessarily concomitant (*yalzamu*) to its notion that, if a number is not divisible into two equal parts (and, therefore, is not an even number), then it belongs necessarily to the species of the odd numbers, which share the feature of not being divisible into two equal parts, without any other possibility. So, even though the name applied to the notion is that of a negative notion, nonetheless it signifies a certain characteristic that is distinctive of a species of the genus 'number'⁵¹. (ii) The second case in which the use of differentiae of this kind is admitted is when necessity forces us to use a negative name in order to designate a notion that happens to be nameless. The example provided by Avicenna is the hypothetical case in which the notion of 'neighing' signified the entire class of entities that are not 'men', and happened to lack a name, being the class conventionally designated as 'irrational'. In a similar case, 'irrational' would signify a distinctive feature that individuates a species opposed to 'man' under the genus 'animal'⁵².

constitutive differentiae for the species in those cases in which a genus is divided by one differentia only. Aristotle is critical towards this method of division and states that, when another kind of division is employed, privations too will be differentiae (cf. *PA*, 634b25-26 : Καὶ γὰρ οὕτως μὲν αἱ στέρησεις ποιήσουσι διαφορὰν, ἐν δὲ τῇ διχοτομίᾳ οὐ ποιήσουσιν). On this passage against Platonic dichotomy, see M. BALME, *Aristotle's use of division and differentiae*, in A. GOTTHELF, J. G. LENNOX eds., *Philosophical Issues in Aristotle's Biology*, Cambridge University Press, Cambridge 1987, p. 75.

⁵⁰ See, for instance, the aforementioned passage PORPH., *Isag.*, 10.9-19 Busse.

⁵¹ *K. al-Madḥal*, I, 13 [78.16-79.1]: « When we say that the animal can be 'rational' or 'irrational', we do not establish 'irrational' as a species realized in opposition to 'rational', unless it is conventionally agreed that what is not rational is a unique species, like what is not divisible into two equal parts under the number, for it is a unique class, namely the 'odd', or the man does not regret posing the 'irrational animal' as a genus for the barbarians and a species of the animal ».

⁵² *K. al-Madḥal*, I, 13 [79.5-10]: « But someone is sometimes forced to use the utterance of the negation for the notion that belongs to the thing *per se*, if it has not an acquired name, but this does not mean that the negation is essentially its name, on the contrary, the name has a concomitant in virtue of which it has been deflected from its meaning to it. If among the animals there were nothing being not a man except for the neghing, and [if] the neghing in itself were a differentia for that other [thing] and, moreover, were not named, and [if] it were said 'irrational' but it were meant, by this, 'neighing', then 'irrational' would signify in the way the differentia does ».

Finally, Avicenna succeeds in demonstrating that the Peripatetic philosophers from Baghdad cannot save Porphyry's definition by claiming that the differentiae that are predicated of many items differing specifically are the differentiae divisive of a genus, not the differentiae constitutive of a species. He achieves this goal by proving that the distinction between the differentiae considered as merely divisive and the differentiae considered as merely constitutive is wrong, and by showing that the only differentiae that are divisive without being constitutive (namely, the negative ones) cannot be considered differentiae properly speaking, since they are not really significative of a distinctive feature. However, Avicenna has not definitely excluded that the differentiae are predicated of many items differing specifically, for he admits that the differentiae are predicated in this manner *secondarily* (*qawlan tāniyyan*) and *by way of mediation* (*bi-tawassuṭin*)⁵³. Avicenna means that the differentiae that are predicated of many items differing in species are not those dividing a genus — as the Baghdad philosophers claimed — but rather those that are constitutive of a genus and are, then, predicated of the several species ranked under this genus on account of the fact that the genus itself is predicated of them. A differentia like 'sensitive', for instance, is a constitutive differentia belonging to the genus 'animal' and, therefore, it is also predicated of all the species ranked under the genus 'animal', like 'man', 'horse' and so on, for they all are 'sensitive'. However, 'sensitive' is predicated of the species 'man' secondarily and by way of mediation, because it primarily belongs to the genus 'animal' and only secondarily, as a consequence of the fact that the genus 'animal' is predicated of its own several species, it is predicated of those species as well. This is also recalled in a passage from *K. al-Burhān*⁵⁴, where Avicenna compares the fact that the genus of 'animal' is primarily (*awwalan*) predicated of 'animal' and, in virtue of its being predicated of 'animal', it is also predicated of 'man', to the fact that the differentia belonging to the genus of 'man' is secondarily predicated of 'man' as well. This means that 'being predicated of many items' is an accidental feature of the differentia, deriving from circumstances that are external to the nature of the differentia and, therefore, should not be mentioned in its definition.

⁵³ Cf. T4, point (iii).

⁵⁴ *K. al-Burhān*, I, 10 [103.13-4]: « Compare to this [also] the state of the differentia that belongs to the genus of 'man' [i.e. the 'animal'] in its belonging to 'man', for it is just like the genus of 'animal' that, in its being a part of the 'animal', primarily (*awwalan*) belongs to the 'animal' and, by [its belonging to] the 'animal', [also] belongs to 'man' (*wa-bi-l-ḥayawāni li-l-insāni*) ». For 'sensitive' (*ḥassās*) taken as an example for the differentia of genus, cf. *K. al-Iṣārāt* [230 Dunya]: « [Differentia] may either be a differentia belonging to the lowest species, like 'rational', for instance, belongs to 'man', or it may belong to an intermediate species, so that it belongs to the genus of [one of] the lowest species, like 'sensitive', for it is the differentia of 'animal', namely the differentia of the genus of 'man' ».

II. DIFFERENTIA AS PREDICATED IN THE 'WHAT SORT OF THING IS IT?'

In the context of his inquiry into Porphyry's account of differentia in *Madḥal*, I, 13, Avicenna states that there are doubts that could be raised about the definition of differentia as predicated in answer to 'what sort of thing is it?' (*fī ḡawābi ayyi šay'in huwa*)⁵⁵. He claims that the definition can either be understood according to his own principles, or according to the understanding of the majority of philosophers; but, he continues, only if analysed according to his own principles the description is complete. Despite these polemic remarks, Avicenna does not deal with the problem any further, deferring its deeper inquiry to his forthcoming treatment of the divergencies among the five utterances: this is a reference to the second treatise of *Madḥal*, more specifically to the chapter devoted to the analysis of the communities and the divergencies between genus and differentia (*Madḥal*, II, 1). In *Madḥal*, II, 1 Avicenna clearly states that there is a difference, in his own view, between a predication in the 'what is it?' (*min ṭarīqi mā huwa*) and one in answer to the 'what is it?' (*fī ḡawābi mā huwa*)⁵⁶. He introduces this distinction while commenting upon the fourth difference between genus and differentia that Porphyry mentions in the second part of his *Isagoge* (where he deals with the similarities and differences between the five universal predicables), namely the fact that the genus is predicated of its subject *ἐν τῷ τί ἐστί*, whereas the differentia is predicated *ἐν τῷ ποῖόν τί ἐστί*⁵⁷. Avicenna firstly introduces this

⁵⁵ IBN SİNĀ, *K. al-Madḥal*, I, 13 [78.1-4]: « Here is an occasion of inquiry and raising doubts that appears when you say that it [i.e. the differentia] is predicated in answer to 'what sort of thing is it?', whose unveiling we have delayed to a certain moment when we will deal with the divergencies [between the five utterances], along with the fact that, if we understand this description according to our principles and according to what we will explain in another place, then the description is complete as a description. However, in this place, we will cope with this description just according to what the group [of philosophers] employing it understands ».

⁵⁶ The distinction has been observed, with particular reference to Avicenna's *Burhān*, in B. IBRAHIM, *Freeing Philosophy from Metaphysics: Fakhr al-Dīn al-Rāzī's Philosophical Approach to the Study of Natural Phenomena*, PhD Thesis submitted to McGill University, Insitute of Islamic Studies, McGill University, Montreal 2013 (esp. pages 47-59).

⁵⁷ PORPH., *Isag.*, 15, 2-4 Busse: « Again, a genus is predicated in answer to 'what is it?', a difference to 'what sort of thing is it?' » (trans. BARNES, *Porphyry, Introduction*, p. 13, slightly modified). Porphyry's description of genus (*Isag.*, 2, 15-16 Busse) states that a genus is *predicated of many differing in species in the 'what is it?'* (*ἐν τῷ τί ἐστί*), whereas the description of the differentia (*Isag.*, 11, 7-8 Busse) states that the differentia is *predicated of many differing in species in the 'what sort of thing is it?'* (*ἐν τῷ ποῖόν τί ἐστί*). In Porphyry's view, the only element that allows us to distinguish genus from differentia is the way they are predicated of their subjects: this becomes particularly clear in the passage in which Porphyry proves that the description given for genus can adequately distinguish it from the other four predicables. There, Porphyry says that genus and differentia have in common the first part of the description, namely the fact of being predicated of many differing in species, but they differ as for the second part of the description, because the genus is predicated *ἐν τῷ τί ἐστί*, whereas the differentia is not; cf. *Isag.*, 3, 5-10 Busse.

distinction in *Madḥal*, II, 1 [94.4-96.18]: in what follows, I am going to analyse the passage (in section II.1), referring to the English translation I provide at the end of this paper (section IV).

II.1. *The structure and contents of Madḥal, II, 1 [94.4-96.18]*

The text of the relevant passage of chapter II, 1 can be divided into five main sections. In the first section (a), Avicenna quotes Porphyry's statement of the difference between genus and differentia. The second section (b) contains Avicenna's criticism of Porphyry's *lemma*, which is unable, in Avicenna's view, to distinguish genus from differentia. The third section (c) is a digression meant to trace the profile of the philosophers Avicenna is critically addressing, in order to clarify, among the possible ways of considering the relationship between genus and differentia, which one Avicenna is specifically referring to in his criticism. The fourth section (d) contains the real core of the passage, namely the exposition of the difference between a predication *in the 'what is it?'* (*min ṭarīqi mā huwa*) and one *in answer to the 'what is it?'* (*fī ḡawābi mā huwa*). Finally, the fifth section (e) shows Avicenna's criticism of someone, among the excellent philosophers, who stated that the differentia could be, in some cases, predicated *in answer to the 'what is it?'* (*fī ḡawābi mā huwa*).

As it appears from this outline of the passage, Avicenna turns out not to be pleased with the apparently unproblematic statement (a), namely Porphyry's claim that genus and differentia differ from each other because the genus is predicated in the 'what is it?' of its subjects, whereas the differentia is predicated in the 'what sort of thing is it?': in Avicenna's opinion, this does not represent a satisfactory way to distinguish genus and differentia. It is noteworthy that in Porphyry's statement, as reported by Avicenna in section (a), the Greek ἐν τῷ τί ἐστίν is rendered as *min ṭarīqi mā huwa* and the Greek ἐν τῷ ποῖόν τί ἐστίν as *min ṭarīqi ayyi šay'in huwa*⁵⁸, with the Greek ἐν τῷ being translated in both cases as *min ṭarīqi*.

In section (b), Avicenna claims that a similar statement is not a valid logical differentiation, because the two objects that Porphyry aims at distinguishing (genus and differentia) are qualified by different attributes (namely, the fact of being predicated ἐν τῷ τί ἐστίν, and the fact of being predicated ἐν τῷ ποῖόν τί ἐστίν, respectively), but the fact itself of being qualified by the former attribute does not necessarily imply the impossibility of being qualified by the latter.

⁵⁸ Notably, this is how the two Greek expressions in the corresponding passage of Porphyry's *Isagoge* are translated into Arabic by Abū 'Uṭmān al-Dimašqī (d. 920ca.); for further considerations about this subject, cf. *infra*, §II.2.

Avicenna considers the fact of being predicated in the ‘what is it?’ (*min ʔarīqi mā huwa*) and that of being predicated in the ‘what sort of thing is it?’ (*min ʔarīqi ayyi ʔayʔin huwa*) as two different attributes. But in order to achieve a valid distinction between genus and differentia by means of these two attributes, the two attributes must be mutually exclusive. This mutual exclusion is what Avicenna calls, in the passage, the ‘potential for negation’ (*quwwatu l-salbi*), which must be understood as the possibility of denying that a thing is characterized by a certain attribute by stating that it is characterized by another attribute. For Avicenna, this is not the case of Porphyry’s distinction between genus and differentia. To argue this point, Avicenna introduces an analogy: genus and differentia cannot be distinguished by simply stating that the first is predicated in the ‘what is it?’ (*min ʔarīqi mā huwa*) and the latter in the ‘what sort of thing is it?’ (*min ʔarīqi ayyi ʔayʔin huwa*), since the two attributes are not mutually exclusive, as it is impossible to distinguish Zayd and ‘Amr on account of the fact that the former is sensitive and the latter is rational, because nothing prevents Zayd from being also rational and ‘Amr from being also sensitive⁵⁹ (or, nothing prevents Zayd, who is a sailor, from also being a goldsmith and ‘Amr, who is a goldsmith, from also being a sailor). Furthermore, Avicenna is going to claim, in what follows, that genus and differentia share the fact of being predicated in the ‘what is it?’ (*min ʔarīqi mā huwa*). Avicenna does not accept Porphyry’s distinction of genus and differentia because he probably approaches this distinction with in mind two different levels of essential predication, a more general one and a more specific one, as he is going to clarify: he identifies the predication *min ʔarīq* with the more general level of predication — reserving the more specific level of predication for the predication *fī ǧawāb* — and considers it, consequently, inadequate to distinguish genus and differentia at a more specific level.

After stating that the two attributes of being predicated in the ‘what is it?’ (*min ʔarīqi mā huwa*) and being predicated in the ‘what sort of thing is it?’ (*min ʔarīqi ayyi ʔayʔin huwa*) are not mutually exclusive, Avicenna tries to see whether Porphyry and the philosophical tradition following him⁶⁰ make good use of the more specific level of predication — namely that *in answer to* (*fī ǧawāb*) — assigning

⁵⁹ It is possible for the subject to be sensitive and rational at the same time because the two differentiae are, respectively, a constitutive and a divisive differentia for the genus of the subject, so that they are not mutually exclusive.

⁶⁰ In the passage of *Madḥal*, II, 1 the reference to those philosophers is quite vague: there is just the remark ‘according to the principles of those [philosophers]’ (*ʔalā uṣūli hāʔulāʔi*) at p. 94, l. 16 and another allusion (p. 95, lin. 2-3) to a plurality of people who do not consider it impossible (*lā yamnaʔunahu*) that a thing’s differentia can also be something else’s genus. However, the context reveals an anti-Porphyrean vein, which is probably not limited to the rejection of Porphyry’s attempt to distinguish between genus and differentia, but also involves the later tradition of commentators, following this pattern.

to it the 'potential for negation', and taking it, therefore, as suitable to distinguish genus from differentia. In other terms, he tries to understand whether, in those philosophers' view, the fact that the genus is predicated *in answer to 'what is it?'* (*fī ḡawābi mā huwa*) implies that it is not predicated *in answer to 'what sort of thing is it?'* (*fī ḡawābi ayyi šay'in huwa*). In Avicenna's view, this is not the case: according to those philosophers, Avicenna says, nothing prevents the genus from being predicated in answer to 'what sort of thing is it?' (*fī ḡawābi ayyi šay'in huwa*) because a genus can distinguish a thing from another that does not belong to that genus and, therefore, has not the quiddity that the genus constitutes. Vice versa, a differentia can be considered, in those philosophers' view, both as a genus and as a differentia: the example is that of the *generical differentiae*, like 'sensitive', that would be, in some sense, a genus for the man hearing and seeing, whereas it is a differentia for the animal. Avicenna concludes, then, that the philosophical tradition before him has not employed the predication *in answer to (fī ḡawāb)* as a tool to operate a proper distinction between genus and differentia.

In section (c) Avicenna clarifies the philosophical frame of his remarks: his solution takes genus and differentia to be two different natures, and not two different considerations of the same nature. Accordingly, Avicenna's ideal interlocutor is not someone who believes that generality and differentiability are two different dispositions of the same nature, but someone who, despite believing that genus and differentia are different predicables, fails to distinguish them properly.

After having delimited the philosophical context of his observations, in section (d) Avicenna introduces his distinction between a predication *in the 'what is it?'* and a predication *in answer to the 'what is it?'*. The explanation of the distinction has the form of an answer to an imaginary objection: Avicenna imagines that someone could reproach him for having already stated, in many other passages, that the differentia can be predicated in the 'what is it?' (*min ṭarīqi mā huwa*), thus equating the predication of genus and differentia and losing the possibility of distinguishing these two predicables on the basis of their ways to be predicated of their subjects. As a reply, Avicenna shows that he can hold this opinion nonetheless, because he regards the fact of being predicated in the 'what is it?' (*min ṭarīqi mā huwa*) and the fact of being predicated in answer to 'what is it?' (*fī ḡawābi mā huwa*) as different types of predication. The predicates in the 'what is it?' (*min ṭarīqi mā huwa*) are the predicates that enter into their subjects' quiddity (*dāḥil fī l-māhiyyati*), whereas the predicates in answer to 'what is it?' (*fī ḡawābi mā huwa*) are the predicates that are suitable to answer the question 'what is it?'. Every predicable that is constitutive of a thing's quiddity is predicated of that thing in the 'what is it?' (*min ṭarīqi mā huwa*), since it is part of its quiddity, even if, taken alone, the predicable in question cannot be considered as signifying the thing's quiddity. In Avicenna's view, genus and differentia are both predicated in the 'what is it?'

(*min ʔarīqi mā huwa*) of their subjects, since they are both constitutive parts of their quiddities, sharing this general level of essential predication. As a result, Porphyry's characterization — by simply stating that the genus is predicated in the 'what is it?' (*min ʔarīqi mā huwa*) — cannot distinguish genus from differentia. Consequently, the distinction between genus and differentia must be operated at a more specific level of essential predication, which applies only to the genus. The differentia is not, taken alone, a suitable answer to the question 'what is it?', so it cannot be predicated in answer to 'what is it?' (*fī ǧawābi mā huwa*); on the contrary, the differentia is more specifically predicated in response to 'what sort of thing is it?' (*fī ǧawābi ayyi šay'in huwa*)⁶¹.

In section (e) of the passage, Avicenna rejects the opinion of *someone among the excellent philosophers* (*ba'du l-fuḍalā'i*) about the possibility of predicating the differentia in answer to 'what is it?' (*fī ǧawābi mā huwa*) in certain cases. If this were the case, the difference between genus and differentia would lie in the fact that the genus is always a suitable answer to the question 'what is it?', signifying the principle of the thing's essence, whereas the differentia is so just in some cases, since sometimes a differentia may also convey a relation, or a quality (being, for example, an affective quality)⁶². According to Avicenna, there are two problems in this statement: one is the denomination 'differentia' applied to those qualities that are not specific differentiae; the other is that — if the philosopher quoted by Avicenna admits that, in certain cases, the differentia is predicated in answer to 'what is it?' — being predicated in this way is no longer a distinctive feature of either genus or differentia on which the distinction between these two predicables can be based⁶³.

⁶¹ The same idea is also expressed in the *Ta'liqāt*, where Avicenna states that the genus is predicated of the complete shared quiddity of something, whereas the differentia is predicated in the 'what is it?' as a constitutive part of the thing's quiddity; cf. IBN SĪNĀ, *Ta'liqāt*, 31.11-14 Badawī: « The genus is predicated of the perfection (*kamāl*) of the shared quiddity (*māhiyya muštāraka*) in virtue of [its] being common, whereas the differentia is predicated in the 'what is it?' (*min ʔarīqi mā huwa*), since it is a constitutive part (*ǧuz' muqawwim*) for the thing's quiddity, and species is predicated of a specific (*ḥāṣṣ*) quiddity. Then, his [*scil.* Aristotle's] statement: 'the judgement [on the state of] (*ḥukm*) differentia is the judgement [on the state of] quiddity' signifies that the differentia is constitutive of the quiddity without being predicated of the perfection of the quiddity, but its way and course (*ʔartqatuhu wa-maḍhabuhu*) are those of quiddity ».

⁶² For the kinds of qualities, cf. ARIST., *Cat.*, 8, 8b25ss., *Met.*, Δ, 14, 1020a33-b12 and *Phys.*, E, 2, 226a27-29. In the passage from the *Metaphysics*, Aristotle deals with four senses of 'quality' that he finally reduces to two main senses, namely (i) the sense in which a 'quality' is a differentia of the substance and (ii) the sense in which 'quality' is one of the affections (πάθη) of the changeable substances. The same opposition between the two senses is the basis for the passage from Aristotle's *Physics*. For these passages, see M. MARIANI, *Aristotele e la differenza*, in A. FABRIS, G. FIORAVANTI, E. MORICONI eds., *Logica e teologia. Studi in onore di Vittorio Sainati*, Edizioni ETS, Pisa 1997, pp. 3-21, p. 20 and Aristotle, *Posterior Analytics*, transl. with a commentary by J. BARNES, Clarendon Press, Oxford 1993², p. 177.

⁶³ The identification of this philosopher qualified as 'someone among the excellent [philosophers]' (*ba'du l-fuḍalā'i*) is still uncertain. Analogous locutions are elsewhere used by Avicenna in the *K. al-*

II.2. The terminology in the Arabic translation and commentaries of the *Isagoge*

In a passage of the third treatise of *Ġadal*⁶⁴, Avicenna seems to claim explicitly the originality of his distinction between a predication *min ʿarīqī mā huwa* and one *fī ʿawābi mā huwa*, by saying that it is something that the common opinion (*al-mašhūr*) did not understand⁶⁵. To corroborate the novelty of Avicenna's distinction, I will first argue that, before Avicenna, the two expressions were employed synonymously by the Arabic philosophers, as two equivalent renderings for the Greek expression ἐν τῷ τί ἐστίν. A first piece of evidence is provided by the Arabic renderings for this Greek expression in the Arabic translation of Porphyry's *Isagoge* by Abū 'Uṭmān al-Dimašqī⁶⁶. Al-Dimašqī is quite consistent in rendering the two

šifā' (for two occurrences in the *Ilāhiyyāt*, see A. BERTOLACCI, *The Reception of Aristotle's Metaphysics in Avicenna's Kitāb al-Šifā' - A Milestone of Western Metaphysical Thought*, Leiden-Boston: Brill, 2006, p. 566). In *Ilāhiyyāt*, IX, 3 (393.16-17), in particular, 'an excellent [man] among the predecessors' (*fāḍil al-mutaqaddimna*) probably designates Alexander of Aphrodisias (see BERTOLACCI, *The Reception of Aristotle's Metaphysics*, p. 561). As to the argument quoted, by claiming that the name 'differentia' designates, sometimes, relations or affective qualities, Alexander testifies, in his commentary to the *Topics*, that the name 'differentia' was used in such a loose sense, including also the accidental qualities (ALEX., *In Top.*, 47.29-48.1 Wallies: « differentia in the proper sense (κυρίως) is that according to which genus is divided into [its] species: in fact, not everything that is different from something differs because of the properly said 'differentia', since in most [of the cases] the reciprocal difference [between the things] is in virtue of some accidental features, but in a general way this sort of features are called 'differentiae' [as well] »). Alexander, however, does not explicitly argue that, for this reason, the genus is more suitable than the differentia to be predicated in the 'what is it?'.

⁶⁴ IBN SĪNĀ, K. *al-Ġadal*, III, 1 [171.18-172.1]: « [...] because the distinction between the predication in the 'what is it?' (*min ʿarīqī mā huwa*) and the predication in response to 'what is it?' (*fī ʿawābi mā huwa*) is not among the things that are understood in the common opinion (*al-mašhūr*) ».

⁶⁵ For a discussion of this passage, cf. *infra*, §II.4.1.

⁶⁶ The Arabic translation of Porphyry's *Isagoge* by Abū 'Uṭmān al-Dimašqī is preserved in ms. BnF ar. 2346 (containing the so-called 'Arabic Organon') and can be considered the only extant Arabic translation of the text preserved in its entirety. Other *testimonia* of the Arabic translation of the *Isagoge* preserving a text that is very close to that preserved by the Parisian manuscript, are the *lemmata* in the long commentary on the *Isagoge* by Ibn al-Ṭayyib and the translation preserved in ms. Ambros. &105sup. (edited by C. BAFFIONI, *The Arabic Version of Porphyry's Isagoge in the Ambrosiana Library*, « Studi Filosofici », 34, 2011, pp. 37-72; for another study of this manuscript see: C. BAFFIONI, *Il manoscritto ambrosiano arabo & 105 sup. e la trasmissione delle opere di logica greca in arabo*, « Studia graeco-arabica », 2, 2012, pp. 245-254). Other Arabic translations of the *Isagoge* are, however, attested, although no longer extant: for example, Ibn al-Nadīm's *Fihrist* [p. 244 Flügel] tells us that Ayyūb Ibn Al-Qāsim Al-Raqqī (†840 ca.) translated Porphyry's *Isagoge* from a Syriac translation into Arabic. Another translation from a Syriac version into Arabic might have been that of Hunayn Ibn Ishāq: two *marginalia* preserved in ms. BnF ar. 2346, f. 149v quote two fragments of Ḥasan Ibn Suwār's commentary on the *Isagoge*, in which Ibn Suwār compares the Arabic translation of Dimašqī with the Syriac one of Athanasius, which he quotes in the Arabic translation of Ibn Ishāq. It is not clear whether Ibn Ishāq produced a complete Arabic translation of the *Isagoge* based on the Syriac translation of Athanasius or he simply translated the parts he found significantly different

Greek expressions into Arabic: he establishes a precise correspondence between the Greek ἐν τῷ τί ἐστι and the Arabic *min ṭarīqi mā huwa*, on the one hand, and between the Greek ἐν τῷ ποῖόν τί ἐστι and the Arabic *min ṭarīqi ayyi šay'in huwa*, on the other. I provide in Tab. 2 the results of the survey on the Arabic translation of Porphyry's definitions of genus (*Isag.*, 2.14-17 Busse), species (*Isag.*, 4.11-12 Busse) and differentia (*Isag.*, 11.7-10 Busse)⁶⁷. The third column of the table shows how Avicenna has modified the final part of the definition of each predicable:

Tab. 2: *The Arabic translation of Porphyry's definitions of genus, species and differentia*

Porphyry	Arabic Translation by al-Dimašqī ^a	Avicenna's definition of essential predicables
<i>Isag.</i> , 2.14-17 Busse: Τριχῶς οὖν τοῦ γένους λεγομένου περὶ τοῦ τρίτου παρὰ τοῖς φιλοσόφοις ὁ λόγος· ὁ καὶ ὑπογράφοντες ἀποδεδώκασιν γένος εἶναι λέγοντες τὸ κατὰ πλείονων καὶ διαφερόντων τῷ εἶδει ἐν τῷ τί ἐστι κατηγορούμενον οἶον τὸ ζῶον.	[1060.14-16 Badawī] fa-id kāna l-ḡinsu yuqālu 'alā ṭalāṭati anḥā'in fa-qawlu l-falāsifatī inna-mā huwa fī l-ṭālīṭi minhā ¹ , wa-huwa llaḍī rasamūhu bi-an qālū: al-ḡinsu huwa l-maḥmūlu 'alā kaṭīrīna muḥṭalīfīna bi-l-naw'i min ṭarīqi mā huwa miṭālu dālika l-ḥayyu ² . ms. Ambr. 105 & sup., f. 3r-v [= 55.3-5 Baffioni] (A); Lemma reported by Ibn al-Ṭayyib [68.6-71.20 Gyekye] (T): 1. om. <i>minhā</i> AT 2. <i>al-ḥayy</i>] <i>al-ḥayawān</i> A	[47.18-19] [...] wa-huwa llaḍī yatakallamu fihi l-manṭiqiyyūna wayarsumūnahu bi-annahu l-maqūlu 'alā kaṭīrīna muḥṭalīfīna bi-l-naw'i fī ḡawābi mā huwa .

^a I provide the text of Badawī's edition of the translation by al-Dimašqī preserved in ms. Paris. BnF ar. 2346, comparing it with the text preserved in ms. Ambros. & 105 sup (A) and the text of the lemmata quoted by Ibn al-Ṭayyib in his commentary to the *Isagoge* (T).

from the text offered by Dimašqī. However, Porphyry's *Isagoge* might have made its first appearance in the Arabic world before all the aforementioned translations with an epitome of logic written by Muḥammad Ibn Al-Muqaffa' (d. 815 ca.), whose text is still preserved and edited (ed. M. T. DĀNĪŠPAZŪH, *Manṭiq Ibn Al-Muqaffa'*, Teheran 1978). Telling with certainty which was the Arabic version of the *Isagoge* that Avicenna had at his disposal is not an easy matter, since neither *Madḥal* nor any other work Avicenna produced on the *Isagoge* are lemmatic commentaries; however, the version by Abū 'Uṭmān al-Dimašqī could be the one Avicenna read, and was employed by his contemporaries (as it is possible to infer from Ibn al-Ṭayyib's commentary on the *Isagoge*).

⁶⁷ The translator regularly rendered the Greek terminology in the same way also in his translation of the passage containing Porphyry's attempt to demonstrate that the definition of genus allows us to distinguish it from the other universal predicates (Gr. *Isag.*, 3.5-20 Busse; Ar. 1062.1-1063.7 Badawī). In this passage, as in the others we mentioned, each occurrence of the Greek ἐν τῷ τί ἐστιν corresponds to the Arabic *min ṭarīqi mā huwa* and the Greek ἐν τῷ ποῖόν τί ἐστιν to the Arabic *min ṭarīqi ayyi šay'in huwa*.

<p><i>Isag.</i>, 4.11-12 Busse : ἔτι δὲ καὶ οὕτως· εἰδός ἐστι τὸ κατὰ πλειόνων καὶ διαφερόντων τῷ ἀριθμῷ ἐν τῷ τί ἐστι κατηγορούμενον.</p>	<p>[1064.4-6 Badawī] wa-qad yašifūnahu aydan 'alā hādihi l-ḡihati : al-naw'u huwa l-maḥmūlu 'alā kaṭīrīna muḥtalifīna bi-l-'adadi min ṭarīqi mā huwa.</p> <p>= A, f. 6r [= 58.2-3 Baffioni] ; = T [83.5-7 Gyekye]</p>	<p>[55.5-6] [...] fī tašawwurihi maqūlan 'alā kaṭīrīna muḥtalifīna bi-l-'adadi fī ḡawābi mā huwa.</p>
<p><i>Isag.</i>, 11.7-10 Busse : Ὅρίζονται δὲ αὐτὴν καὶ οὕτως· διαφορά ἐστι τὸ κατὰ πλειόνων καὶ διαφερόντων τῷ εἶδει ἐν τῷ ποίῳν τί ἐστι κατηγορούμενον. τὸ γὰρ λογικὸν καὶ τὸ θνητὸν τοῦ ἀνθρώπου κατηγορούμενον ἐν τῷ ποίῳν τί ἐστιν ὁ ἀνθρώπος λέγεται ἀλλ' οὐκ ἐν τῷ τί ἐστιν.</p>	<p>[1082.4-7 Badawī] wa-qad yaḥuddūna l-faṣla aydan 'alā hādihi l-ḡihati : al-faṣlu¹ huwa l-maḥmūlu 'alā kaṭīrīna muḥtalifīna bi-l-naw'i min ṭarīqi ayyi šay'in huwa, li-annal-nāṭiqa wa-l-mā'ita maḥmūlāni 'alā l-insāni, wa-yuqālu l-insānu bihimā min² ṭarīqi ayyi šay'in huwa, lā min ṭarīqi mā huwa.</p> <p>= A, ff. 15v-16r [= 67.9-11 Baffioni]. T [132.17-21 Gyekye]: 1. <i>al-faṣlu</i>] wa-l-faṣlu T 2. <i>min</i> 'an T</p>	<p>[76.12-13] [tumma lahu rusūmun maṣḥūratun miṭlu qawlihim...] wa-aydan innahu l-maqūlu 'alā kaṭīrīna muḥtalifīna bi-l-naw'i fī ḡawābi ayyi šay'in huwa.</p>

Furthermore, there is some evidence of the fact that the Arabic Peripatetic philosophers paraphrased the renderings *min ṭarīqi mā huwa* and *min ṭarīqi ayyi šay'in huwa* of the Arabic translation as having the same meaning as the Arabic expressions *fī ḡawābi mā huwa* and *fī ḡawābi ayyi šay'in huwa*. Al-Fārābī, for example, in his short paraphrase of the *Isagoge*⁶⁸, defines the predicate regarding the 'what is it?' (*min ṭarīqi mā huwa*) as every predicable that is suitable to provide an answer to the question 'what is it?'⁶⁹. Also the Baghdad philosopher Ibn al-

⁶⁸ This short paraphrase of Porphyry's *Isagoge* has been edited by D. M. DUNLOP, *Al-Fārābī's Eisagoge*, « The Islamic Quarterly », 3, 1956, pp. 117-138. The paraphrase is considered as a part of Al-Fārābī's epitome of logic, which has had a quite complicated manuscript tradition, an attempt of the reconstruction of which was made by M. GRIGNASCHI, *Les traductions latines des ouvrages de la logique arabe et l'abrégé d'Alfarabi*, « Archives d'Histoire Doctrinale et Littéraire du Moyen Âge », 39, 1972, pp. 41-107.

⁶⁹ AL-FĀRĀBĪ, *Kitāb Īsāgūḡi ay l-Madḥal* [120.16-22 Dunlop] : « Every universal predicate which may be used in reply to 'What is it?' (*wa-kullu maḥmūlin kullīyyin yalīqu an yuḡāba bihi fī ḡawābi mā huwa*) is the predicate, in the sense of 'What is it?' (*huwa l-maḥmūlu min ṭarīqi mā huwa*) [...] Since every genus is predicated of more than one species and of individuals of each one of them, it is predicated of individuals differing in species, in the sense of 'What is it?' (*min ṭarīqi mā huwa*) » (English transl. by D. M. Dunlop, p. 129).

Ṭayyib, in his lemmatic commentary on the *Isagoge*, takes the predication in the ‘what is it?’ of the genus as equivalent to saying that the genus is an answer to the question ‘what is it?’⁷⁰. It seems, therefore, that the terminological distinction introduced by Avicenna had been elaborated neither in the context of the Arabic translation of the texts, nor in the context of the Arabic commentary tradition. Having ascertained that the terminological distinction is forged by Avicenna, it remains to be clarified what leads him to draw such a distinction.

II.3 Aristotle’s account of differentia

One of the major interpretative problems posed by Aristotle’s *Organon* is the predicative status of the differentia⁷¹. Ancient and modern commentators have generally agreed on the fact that genus, definition, and species are essential predicates, whereas proprium and common accident are accidental predicates: what has puzzled most of them is the ambiguous status of the differentia, which can be taken, on the one hand, as an essential constitutive predicable, but is predicated, at the same time, in the ‘what sort of thing is it?’ (ἐν τῷ ποῖόν τι ἐστίν), like the accidental predicates. The problem is due to the fact that Aristotle seems to hold two radically different views on the predicative status of the differentia in different parts of the *Organon*. Two opposite positions have been found in Aristotle’s logical works⁷², both stemming from Aristotle’s purpose of explaining the relationship between genus and differentia: (i) the first one, which can be inferred from *Topics*, Δ-Z⁷³ and *Categories*, 1-9, states that only the genus can be

⁷⁰ Ibn al-Ṭayyib paraphrases Porphyry’s lemma (*Isag.*, 4.10-11 Busse) claiming that the species is what is ranked under the genus and that of which its genus is predicated in the ‘what is it?’ (*min ṭarīqi mā huwa*), and states that Porphyry means that, when it is asked what that species is, the answer (*al-ḡawāb*) is given by its genus (83.1-11 Gyekye). Then, he paraphrases Porphyry’s claim that the differentia is predicated in the ‘what sort of thing is it?’ claiming that the differentia is the answer given if it is asked ‘what sort of thing is it?’ (132.17-23 Gyekye).

⁷¹ Major contributions on this subject are: H. GRANGER, *Aristotle on Genus and Differentia*, « Journal of the History of Philosophy », 22, 1984, pp. 1-23; MARIANI, *Aristotele e la differenza*. Both papers explain the inconsistency of Aristotle’s statements on this subject arguing for a chronological evolution of Aristotle’s thought. A different approach to the problem is showed by D. MORRISON, *Le statut catégoriel des différences dans l’Organon*, « Revue Philosophique de la France et de l’Étranger », 183, 1993, pp. 147-178, who tries to save the internal coherence of Aristotle’s thought by thinking of two different senses of ‘essential predication’ Aristotle introduces when he seems to contradict himself.

⁷² I refer to the ‘Teoria I’ and ‘Teoria II’ singled out in MARIANI, *Aristotele e la differenza*, p. 7.

⁷³ The central books of the *Topics* clarify that the differentia is not predicated ἐν τῷ τί ἐστίν; see *Top.*, Δ, 2, 122b, 16-17: οὐδεμία γὰρ διαφορὰ σημαίνει τί ἐστίν ἀλλὰ μάλλον ποιόν τι, καθάπερ τὸ πεζὸν καὶ τὸ δίπουν. A remarkable passage, however, is *Top.*, Δ, 6, 128a20-29, in which Aristotle mentions some unspecified philosophers (δοκεῖ τισι) who think that the differentia is predicated ἐν τῷ τί ἐστίν: « Since someone thinks that also the differentia is predicated of the species in the ‘what is it?’, it is

predicated ἐν τῷ τί ἐστι, whereas the differentia is predicated ἐν τῷ πόλιν τί ἐστι ; (ii) the second one, mainly conveyed by *Topics*, H, 3-5⁷⁴ and *Posterior Analytics*, states that the differentia can be predicated ἐν τῷ τί ἐστι like the genus. In sum, the question is whether, in Aristotle's opinion, the differentia must be considered as predicated ἐν τῷ τί ἐστι like the genus, or not. The issue is complicated by the need of meeting two main requirements, namely that of properly distinguishing genus from differentia, and, on the other side, that of granting the unity of the definition, which is composed by both predicates. These two problems might explain the inconsistency of Aristotle's statements. The first account (i) of the predicative status of genus and differentia succeeds in distinguishing genus from differentia, providing a clear distinction of their predicative statuses, but is unable to adequately explain the unity of the definition: it does not explain how definition is predicated ἐν τῷ τί ἐστι, if its constitutive parts are predicated ἐν τῷ τί ἐστι in the case of the genus, and ἐν τῷ πόλιν τί ἐστι in the case of the differentia. The second account (ii), on the other hand, is more suitable to secure the unity of the definition, since it removes the radical difference that the first account establishes among the predicative statuses of genus and differentia by stating that the differentia is predicated ἐν τῷ τί ἐστι like the genus, but it turns out to be unable to distinguish genus and differentia, at least on the basis of their predicative status⁷⁵.

The question of the predicative status of the differentia has been frequently associated with the problem of the categorial status of this predicable: the problem concerning the way in which the differentia is predicated has been strictly related to the question whether the differentia belongs to the category of substance or to

necessary to distinguish genus from differentia by employing the aforementioned elements; first of all, the fact that the genus is predicated of more [items] than the differentia, then the fact that it is more suitable to provide the genus as an answer to 'what is it?' than the differentia ('animal', for instance, signifies what a man is more than 'capable of walking') and the fact that the differentia always signifies a quality of the genus, whereas the genus does not [signify a quality] of the differentia [...] ».

⁷⁴ See, for example, *Top.*, H, 3, 153a15-22. The passage argues that, since the definition (ὅρος) is a statement showing the essence (τὸ τί ἦν εἶναι) of the thing, then also the predicates contained in it are predicated ἐν τῷ τί ἐστι of the *definiendum*; Aristotle then explicitly affirms that genus and differentia are predicated ἐν τῷ τί ἐστι. See also *Top.*, H, 5, 154a24-29. In this latter passage, Aristotle states again that genus and differentia are both predicated ἐν τῷ τί ἐστι (ἐν τῷ τί ἐστι τὸ γένος καὶ αἱ διαφοραὶ κατηγοροῦνται); the context is the statement, in the *incipit* of chap. 5 of book H, that it is more difficult to build (κατασκευάζειν) a definition than demolishing it (ἀνασκευάζειν), since it is not simple to infer, either autonomously or by putting questions to the interlocutors, that the parts of the definition are genus and differentia and that they are predicated ἐν τῷ τί ἐστι.

⁷⁵ For a description of these two different accounts of differentia provided in the *Organon* as two different stages of the development of Aristotle's thought on differentia, see the aforementioned GRANGER, *Aristotle on Genus and Differentia*, pp. 11-12.

one of the nine accidental categories⁷⁶. The two problems regarding the predicative and the ontological status of the differentia are dealt with separately in Avicenna's work⁷⁷; I am going therefore to consider them separately, mainly focusing on the predicative problem. As to the question of whether the differentia is a substance or an accident (a quality, for instance), Avicenna's view is the following: the differentiae in themselves do not include, in their quiddities, the definitions of substance or quality, and are therefore none of them, properly speaking; the fact of being a substance or a quality, however, is necessarily concomitant (*yalzamu*) to them⁷⁸. In the case of 'rational', for instance, the differentia is, in itself, neither a substance nor a quality (i.e. being a substance or a quality is external to its quiddity⁷⁹), but the fact is concomitant to it of being a substance possessing rationality⁸⁰. Therefore, in Avicenna's view, the differentia is a predicable that can

⁷⁶ The phenomenon is quite frequent in late antiquity; on the debate regarding the categorial status of differentiae in late antiquity, see F. A. J. DE HAAS, *John Philoponus' New Definition of Prime Matter - Aspects of its Background in Neoplatonism and the Ancient Commentary Tradition*, Brill, Leiden - New York - Köln 1997, especially pages 165-250, MORRISON, *Le statut catégoriel des différences dans l'Organon* and MARIANI, *Aristotele e la differenza*.

⁷⁷ Aristotle seems to suggest that he himself considers them as two different problems in *Top.*, A, 9, 103b20-39, by claiming that what signifies the 'what it is' of something (ὁ τὸ τί ἐστι σημαίνειν) may either signify its substance or its quality or its quantity or any other of its categories.

⁷⁸ *K. al-Ilāhiyyāt*, V, 6 [235.1-8]: « It must be known that the meaning of the statement that the differentiae of substance are a substance and that the differentiae of quality are a quality is that it is concomitant (*yalzamu*) to the differentiae of substance being a substance and that it is concomitant to the differentiae of quality being a quality, [but] not that there exists in the meaning of their quiddities the definition of substance in [the sense] that they are themselves substances, nor that the differentiae of quality include in their quiddities the definition of quality in that they are qualities [in themselves]. [They do not include this] unless we mean by the differentiae of substance, for example, not the differentia predicated univocally (*bi-l-tawāṭu'i*) of substance, but the differentia predicated of it derivatively (*bi-l-ištiqāqi*) — I mean [for instance] not 'rational', but 'rationality'. It would then be as you have learned, and it would be a differentia derivatively, not univocally. [But] true differentia is spoken of univocally » (English translation by Marmura, *Avicenna, The Metaphysics of the Healing*, p. 179, modified).

⁷⁹ *K. al-Ilāhiyyāt* V, 6 [235.13-17]: « Thus, the differentia which is spoken of univocally means something having a certain description in an unqualified [sense]. Thereafter, by way of reflection and contemplation, it becomes known that this thing with this certain description must be either a substance or a quality. An example of this is that the rational is something possessing rationality. There is nothing in its being something possessing rationality [that renders it] either a substance or an accident. It is, however, known externally that this thing cannot but be either a substance or a body » (English translation by Marmura, *Avicenna, The Metaphysics of the Healing*, p. 180).

⁸⁰ There are two senses in which the term 'differentia' may be understood. Avicenna states, in *K. al-Nağāt*, 48.21-22 Fakhry, that the differentia can be considered as a 'simple differentia' (*al-faṣl al-mufrad*), e.g. rationality (*al-nuṭq*), whereas in another way it can be considered as a 'logical' differentia, e.g. rational (*al-naṭiq*). This latter differentia is conceived as composed (*murakkab*), because 'rational' is something having rationality (*ṣay'un lahu nuṭq*). The statement that being a substance or an accident

either belong to the category of substance or to an accidental category, depending on the category of its genus and species⁸¹. The problem of the predicative status of the differentia, on the other hand, governs Avicenna's criticism of the last part of the traditional definition of differentia; it is, therefore, the main concern of the present inquiry.

II.4. *The late antique Peripatetic tradition on differentia*

II.4.1. The problem of the proper distinction between genus and differentia

Avicenna claims, in a passage of *Ġadal*, III, 1 (T7), that the common opinion (*al-mašhūr*) simply considers the fact of being predicated in the 'what is it?' (*min ʿarīqi mā huwa*) as sufficient to distinguish genus from differentia:

T7: IBN SĪNĀ, *K. al-Ġadal*, III, 1 [171.13-172.1]

« So we say: firstly, when the thing that is a differentia is conceived in the common opinion (*fi l-mašhūr*) in its differentiability — not with respect to what we did in defining the predicate in answer to 'what is it?' (*fi ḡawābi mā huwa*), but with respect of the casual meeting with something divided by another thing⁸² [in a way that] people do not fail to recognize it as a differentia —, then it is judged that the thing is not a genus, and that it is not predicated in answer to 'what is it?' (*fi ḡawābi*

is external to the quiddity of the differentia just applies to the latter kind of differentiae: on this point, see J. JANSSENS, *Ibn Sina on Substance in Chapter Two of the Maqalat (Categories) of the Shifa'*, in P. FODOR, G. MAYER, M. MONOSTORI, K. SZOVÁK, L. TAKÁCS eds., *More MODOQUE - Festschrift für Miklós Maróth zum siebzigsten Geburtstag*, Forschungszentrum für Humanwissenschaften der Ungarischen Akademie der Wissenschaften, Budapest 2013, pp. 353-360, esp. p. 359. The latter is the only sense in which 'differentia' has to be understood in *Madḥal*: Avicenna declares, in *Madḥal*, I, 13, that he is dealing in this work with the 'logical' differentia (the latter I mentioned), because the other (the first one) is predicated of its subjects only in a derivative way: *K. al-Madḥal*, I, 13 [82.11-16]: « Know that the differentia that is one of the five [utterances] is 'rational', which is predicated of the species absolutely (*muṭlaqan*), not 'rationality', which is predicated of the species through derivation (*bi-l-ištiqāqi*), because these five [utterances] are parts of a unique thing, namely the universal utterance. The form of the universal utterance, in its complex, consists in being predicated of its particulars, and it is shared because it gives the particulars its name and its definition [mss. Āṣir Efendi 207, Nurosmāniye 2708, Dār al-Kutub 894 and Lat. transl.: *ismahu wa-ḥaddahu* (*nomen suum et diffinitionem suam*); Cairo ed.: *ismahā wa-ḥaddahā*], whereas the rationality does not give to anything among the particulars neither its name nor its definition. If this is said 'differentia', it is a differentia in a different notion from that we are speaking of ».

⁸¹ According to a view that D. Morrison named *homocategorial*; see MORRISON, *Le statut catégoriel des différences dans l'Organon*, esp. pp. 161-166.

⁸² It means: the meeting of a constitutive differentia with the compound formed by the genus and a divisive differentia.

mā huwa), but in answer to ‘what sort of thing is it?’ (*fī ḡawābi ayyi šay’in huwa*)⁸³, and that, according to the common opinion, it does not play the role of the genus. If, then, the consideration [of it] is not in this manner, and the other manner is obscure, then the predication in the ‘what is it?’ (*min tarīqi mā huwa*), as regards what is predicated in the ‘what is it?’, is enough to establish that that thing is a genus, because the distinction between the predication in the ‘what is it?’ (*min tarīqi mā huwa*) and the predication in answer to ‘what is it?’ (*fī ḡawābi mā huwa*) is not among the things that are understood in the common opinion (*al-mašhūr*)».

The portrait that Avicenna gives of the ‘common opinion’ is reminiscent of the Peripatetic tradition of commentators who believed that the distinction between the definitory formulae of the genus and differentia is only based on the fact that the genus is predicated in the ‘what is it?’, whereas the differentia is not. The target of Avicenna’s criticism is likely to be a long Peripatetic tradition, encompassing Alexander of Aphrodisias, Porphyry, the philosophers active in Ammonius’ school in Alexandria, and the Arabic Peripatetic tradition of Baghdad. Alexander held, in fact, that differentia and genus differ just because the differentia is not predicated ἐν τῷ τί ἐστὶ: he explicitly states this in his commentary on the *Topics*, trying to explain why Aristotle claims that the differentia is *generic* (γενική)⁸⁴. It is also clear, from the definitions of genus and differentia provided in the *Isagoge*, that Porphyry held a view of this sort: both genus and differentia are *predicated of many items differing in species*, so that there is no difference between the two descriptions of genus and differentia, apart from the fact that the genus is predicated ἐν τῷ τί ἐστὶ and the differentia is predicated ἐν τῷ ποῖόν τί ἐστὶ. The tradition of commentators on the *Isagoge* held the same opinion: the extant Greek commentaries on the *Isagoge*, namely those by Ammonius⁸⁵, Elias⁸⁶, David⁸⁷ and Ps.-Elias (David)⁸⁸, follow the pattern of Porphyry’s definitions, declaring that genus is distinct from differentia by being predicated ἐν τῷ τί ἐστὶ. This tradition had followers also among the Arabic Peripatetic commentators on the *Isagoge* in the school of Baghdad. Ḥasan Ibn Suwār, for example, in a surviving fragment of his commentary, stated that the fact that the genus is predicated in the ‘what is it?’ (*min tarīqi mā huwa*) is able to distinguish genus from differentia, proprium,

⁸³ I read in [171.15-16]: *wa-annahū laysa maqūlan fī ḡawābi mā huwa, bal fī ḡawābi ayyi šay’in huwa*, according to the text preserved by mss. Leid. Or. 4 and Leid. Or. 84. The Cairo edition, printing *wa-annahū laysa maqūlan fī ḡawābi ayyi šay’in huwa*, has a text that is unintelligible from a logical point of view.

⁸⁴ ALEX., *In Top.*, 38.27-39.2 Wallies.

⁸⁵ AMMON., *In Isag.*, 60.13-61.16 Busse.

⁸⁶ ELIAS, *In Isag.*, 57.11-58.4 Busse.

⁸⁷ DAVID, *In Isag.*, 141.16-25 Busse.

⁸⁸ PS.-ELIAS (DAVID), *In Isag.*, praxis 31, 77.1-3 Westerink.

and accident, which are by contrast predicated in the 'what sort of thing is it?' (*min ʔarʔiqi ayyi ʔayʔin huwa*)⁸⁹. We can find a distinction of this sort also in the ninth lesson (*taʔlīm*) of the commentary by his pupil Ibn al-ʔayyib⁹⁰: in this latter case, the discussion falls within the introduction to Porphyry's investigation of the description of genus in *Isag.*, 2.17-3.20 Busse, where Porphyry concludes that the description of genus is neither redundant (περιττὸν) nor defective (ἐλλειπτον), for it can properly distinguish the genus from the other four predicables. It can be argued that the context of Ḥasan Ibn Suwār's fragment is the same, for also in that case the commentator proceeds by analysing the parts of the description of genus, in order to see whether they can distinguish the genus from the other predicables or not⁹¹.

⁸⁹ Ḥasan Ibn Suwār [p. 1062, n. 2 Badawī]: « The sum of what Porphyry mentioned about the logical genus is this: he said that it is what is *predicated of many differing in species in the 'what is it?'* (*al-maḥmūlu ʔalā kaʔirina muḥtalifina bi-l-nawʔi min ʔarʔiqi mā huwa*). And the description is taken from something that plays the role of genus and by the propria and the accidents of that thing. [(i)] What plays the role of genus in this description is our saying 'predicated' (*al-maḥmāl*), for what is predicated can be a genus or not. [(ii)] [(ii.0)] But the rest of what he mentioned are differentiae that differentiate it from the utterances that signify the individuals, for they are not predicated of many (*ʔalā kaʔirina*), but of one only, [(ii.1)] and our saying 'different in species' (*muḥtalifina bi-l-nawʔi*) differentiates it from species and proprium, since the species is not predicated of a species, and the proprium is not predicated of [things] differing in species, since it is predicated of one only species. Even if some species were found as predicated of [other] species, this would be not, however, in virtue of their being species, but in virtue of their being genera. [(ii.2)] And our saying: in the 'what is it?' (*min ʔarʔiqi mā huwa*) differentiates genus from differentia, accident and proprium too, because no one of them is predicated in relation to 'what is it?' (*bi-mā huwa*), but in the 'what sort of thing is it?' (*min ʔarʔiqi ayyi ʔayʔin huwa*), even if they are not identical in this notion, I mean being predicated in the 'what sort of thing is it?' (*min ʔarʔiqi ayyi ʔayʔin huwa*). So, this is the sum of what Porphyry said about genus ».

⁹⁰ IBN AL-ʔAYYIB, *Tafṣīr Kitāb Ṭisāgʔat li-Furṣariyas*, 69.9-16 Gyekye: « [...] And since the genus is a universal, and the universal predicables are five, as we said at the beginning of the book, then the genus is common to the other four [predicables] in that it is a universal, viz., it is predicated of many things. [(i)] This sentence, 'viz., it is predicated of many things', is like the genus. [(ii.1)] We said 'differing in species' so as to differentiate the genus from proprium and species, since the latter two are predicated only of individuals. [(ii.2)] Our phrase, 'in the 'what is it?' ' (*min ʔarʔiqi mā huwa*), is meant to differentiate the genus from the differentia, and the accident, since these two are predicated only in respect of what sort a thing is of. Now, since in the description of the genus there is something which it has in common with all the universal things and differentiae which differentiate it from the others, there is no doubt that this description is adequate and perfectly sound, because the description belongs to it alone. » (English translation by GYEKYE, p. 53, modified).

⁹¹ The accounts by Ḥasan Ibn Suwār and that by Ibn al-ʔayyib are very close, though slightly different in structure: Ibn Suwār considers the fact of being a *predicable* as the genus in the description of genus [(i)] and, then, all the attributes are added in order to distinguish it from all the other utterances [(ii)]. Ibn al-ʔayyib, on the contrary, takes the fact of being predicated of many items as the part of the description that plays the role of genus [(i)]: this divergence depends on the fact that Ibn Suwār aims at explaining how genus differs from all the other significant utterances, individual predicates included, whereas Ibn al-ʔayyib specifies, before starting, that the distinction will be drawn between the universal utterances.

Defined in this manner, however, the differentia needed to be distinguished from the common accident: the schools of Alexandria and Baghdad agreed in including the differentia among the predicables that are ‘substantially (οὐσιωδῶς) predicated’, together with genus and species, in virtue of its being constitutive of the substance (συμπληρωτική τῆς οὐσίας) of its subjects⁹².

II.4.2. The problem of the essential predication of the differentia

The distinction of genus and differentia on the grounds that the first is predicated essentially, whereas the second is not, entails a further difficulty, namely that of explaining how the two predicables are part of the definition. The problem of the predicative status of genus and differentia *qua* parts of the definition is clearly dealt with in Alexander of Aphrodisias’ commentary on book A of the *Topics*⁹³: Alexander aims at providing a consistent exegesis of Aristotle’s accounts of differentia in the *Categories* and in the *Topics*. The main problem is caused by the fact that, in the *Categories*, the differentia is said to be predicated of a subject (καθ’ ὑποκειμένου) but — assuming, as Alexander explicitly does in this passage, that what is predicated καθ’ ὑποκειμένου of something is also predicated ἐν τῷ τί ἐστι of that something — this entails a difficulty in distinguishing genus and differentia, since they both would be predicated essentially (ἐν τῷ τί ἐστι) of their subjects. On the other hand, in a number of occurrences in the *Topics*, Aristotle states that the differentia is predicated ἐν τῷ ποῖόν τί ἐστιν. The solution

⁹² Cf. the aforementioned AMMON., *In Isag.*, 60.13-61.16 Busse and IBN AL-ṬAYYIB, *Tafsīr K. Isāgūgh li-Furfūriyūs*, 129.18-22 Gyekye. In the latter passage, Ibn al-Ṭayyib raises an aporia on the problem of the overlapping in definition of differentia and common accident, asking which is the distinctive feature that enable us to distinguish the differentia from the common accident. The answer is that the differentia is ‘substantial’ for the thing (*gawhariyyun li-l-ṣay’i*), whereas the common accident accidentally belongs to the thing (*dahīl*).

⁹³ ALEXAND., *In Top.*, 47.14-23 Wallies: « The differentia as well is predicated of many items differing in species, but not in the ‘what is it?’ (ἐν τῷ τί ἐστι), since otherwise the definition of genus and differentia would be the same; on the contrary, as he [*scil.* Aristotle] says in other passages, the differentia is predicated mostly in the ‘what sort of thing is it?’ (ἐν τῷ ποῖόν τι μᾶλλον κατηγορεῖται) of those things of which it is predicated as a differentia, since it explains what sort of thing it is. Hence, one must not think that what was said in the *Categories* concerning the fact that differentiae are predicated of a subject (καθ’ ὑποκειμένου κατηγοροῦνται) was said with regard to the properly called ‘differentiae’, on the contrary, it was said of those already assumed together with matter (τῶν ἤδη συνειλημμένων τῇ ὕλῃ). In fact, everything predicated of a subject is predicated of it in the ‘what is it?’, but if the differentiae were predicated in the ‘what is it?’ they would be genera rather than differentiae». Another strictly related passage is the one in which Alexander comments upon Aristotle’s observation on those who claim that the differentia is predicated in the ‘what is it?’ (*In Top.*, 365.4-21 Wallies), a passage that seems to be recalled in a *Quaestio* of Alexander’s on the subject matter of differentia specifica that was translated into Arabic (cf. *infra*, n. 94).

to the problem comes, for Alexander, from the account of the unity of definition provided in Aristotle's *Metaphysics*. Alexander distinguishes, in fact, two kinds of differentiae: the differentiae in their proper sense (αἱ κυρίως λεγόμεναι διαφοραί), which are predicated ἐν τῷ ποῖόν τί ἐστιν, and the differentiae already conjoined to the *matter* (αἱ ἤδη συνειλημμένοι τῇ ὕλῃ), which are predicated ἐν τῷ τί ἐστιν as parts of the composition of genus and differentia, which is analogous to a *synolon* of matter and form. In short, Alexander's solution consists in the individuation of two different ways of considering the differentia: Aristotle's account in the *Categories* would refer to the differentia considered as already joined to the genus, as a form considered after its conjunction to matter, whereas Aristotle's account in the *Topics* would reflect the status of the differentia in itself, as predicated ἐν τῷ ποῖόν τί ἐστιν. Besides his purpose of making the accounts of *Categories* and *Topics* compatible, Alexander's aim is to avoid a total overlap of the definitions of genus and differentia, which otherwise would be the same.

Alexander's twofold consideration of the differentia was transmitted to Ammonius of Hermias' school in Alexandria and, I shall argue, to the Peripatetic school of Baghdad; this latter might also have become acquainted with Alexander's view through the Arabic version of Alexander's *Quaestio on differentia specifica*, which echoes Alexander's observations in his commentary on the *Topics*⁹⁴. Ms. BnF

⁹⁴ I refer to the long *Quaestio on differentia specifica* edited by 'A. BADAWI, *Arista 'indal-'Arab*, Cairo 1947 (1978²). The manuscript tradition ascribes the Arabic version to al-Dimašqī, and preserves some notes ascribed to Abū Bišr Matta together with Alexander's text. In the passage at p. 304.17-20, the author claims that Aristotle makes reference, in the *Categories* (*Cat.*, 3b1-2), to the differentiae considering them as conjoined to matter, for he says that they are predicated synonymously of their subjects. Otherwise, claiming that the differentiae are predicated synonymously of their subjects would entail claiming that they are predicated according to the quiddities of their subjects, just like the genera, and that genera are synonymously predicated of the differentiae, but this claim would contradict Aristotle's views stressed in the *Topics* (*Top.*, 317.21-4). For this passage, see also M. RASHED, *Essentialisme*, De Gruyter, Berlin 2007, p. 59. The passage of this Arabic *Quaestio* seems to be strictly related to the aforementioned ALEX., *In Top.*, 365.4-21 Wallies, for it deals with the same themes in an abridged way:

ALEX., <i>Quaestio de differentia</i> , 304.17-20 Badawi	ALEX., <i>In Top.</i> , 365.4-21 Wallies
« It is possible to think that Aristotle employs the differentiae, in the <i>Categories</i> , according to the fact that they are conjoined to a matter (<i>ma'a māddatin</i>)	« Talking about differentia, he [i.e. Aristotle] said 'since some people think that also the differentia is predicated in the <i>what is it?</i> (ἐν τῷ τί ἐστι) of [its] species' because the differentia assumed as a complex [together with genus] (ὡς συναμφοτέρος λαμβανομένη) is predicated in this manner — but not also the differentia which is separated from the matter of the complex (χωρὶς τῆς ὕλης τῆς συναμφοτέρου) — :

ar. 2346 provides significant evidence that Alexander's solution was applied to the understanding of Porphyry's *Isagoge* too: the manuscript preserves two anonymous glosses in which two passages of the *Isagoge* are commented upon, specifying the different kinds of predication that the differentia has when it is considered as a predicable in itself and when it is considered as a part of the definition⁹⁵.

from his claim that they are predicated synonymously ('alā tartqi l-tawāṭu'i) of the species and of the individuals ;	he recalled this [differentia] also in the <i>Categories</i> , where he said that the individuals and the species receive the definition (τὸν λόγον) of the differentiae [i.e. the differentiae are predicated synonymously of them].
---	[...]
but if they were predicated synonymously of what is ranged under them, they would be also predicated of the subjects they are predicated of according to the notion of quiddity (<i>bi-ma'nā l-mahiyyati</i>), as well as the genera and the species, and as the genus is predicated synonymously of the species, analogously it would [also] be predicated of the differentiae ».	The genus divided by a differentia considered as separated from matter in the substance is not predicated synonymously (συνωνύμως κατηγορεῖται) of it, since no other complex of different parts (ὅλον ἀνομοιομερὲς) is predicated in this way of each one of [its] parts and this sort of differentia is a part of what is divided by it, nor it is predicated [in this way] of the species and the individual, for the part is not predicated of the entire (τοῦ ὅλου) either ».

⁹⁵ In particular, the first of the following glosses refers to Porphyry's statement that the description of the genus can adequately distinguish it from the other four predicables, for it distinguishes genus from differentia for the fact that the differentia is not predicated in the 'what is it?' as genus is (PORPH., *Isag.*, 3.5-20 Busse). The gloss specifies that this is so only if the differentia is not considered as a part of the definition, for in that case the differentia is predicated in the 'what is it?'. The second gloss comments on Porphyry's statement that genus and differentia differ for the fact that the genus is predicated in the 'what is it?' whereas the differentia is not (PORPH., *Isag.*, 15.2-4 Busse), specifying that also the differentia is predicated in the 'what is it?' when considered as a part of the definition.

[p. 1062, n. 4 Badawī] : « It is necessary to assume [the differentia] in virtue of its being distinctive [and] distinguishing (<i>min ḥayṭu huwa mumayyizun mufarriqun</i>), and not in virtue of its being a part of the definition (<i>guz'un min al-ḥaddi</i>), for it is predicated of this totality in the 'what is it?' (<i>yuhmalu bi-mā huwa</i>) ».	[p. 1090, n. 4 Badawī] : « The differentia is predicated only in the 'what sort of thing is it?' (<i>min tartqi ayyi šay'in huwa</i>) when it is taken as [something] complete (<i>mutammaman</i>). As to when it is taken as a part of the definition (<i>guz'an min al-ḥaddi</i>), [then] it is predicated in the 'what is it?' (<i>humila bi-mā huwa</i>) ».
---	---

An aporia is raised in a quite similar way in Elias' commentary on the *Isagoge*⁹⁶ and in Ibn al-Ṭayyib's commentary⁹⁷: the aporia is based on the problem of explaining how the definition can be said to be predicated of the thing in the 'what is it?', although it is composed by genus and differentia, the latter being predicated in the 'what sort of thing is it?'. On the one hand, the answers given by Elias and Ibn al-Ṭayyib are both based on the distinction between the differentia considered in itself — and, therefore, predicated in the 'what sort of thing is it?' — and the differentia considered as a part of the definition. On the other hand, the two answers slightly differ: Elias assumes that the differentia, when considered as part of the definition, can no longer be distinguished as a predicate, but is part of the species; therefore, the differentia can no longer be considered as predicated in the 'what sort of thing is it?'. Ibn al-Ṭayyib, then, is mainly concerned with demonstrating that the species can be nonetheless predicated in the 'what is it?', despite the fact that the differentia is a part of it, and solves the problem by claiming that there is an analogy between genus and species, since the species is a substratum for the individuals just as the genus is a substratum for the species

⁹⁶ ELIAS, *In Isag.*, 56.30-57.11 Busse: « Some raise doubts because the definitions are composed by a genus and by the constitutive differentiae, but the genus is predicated in the 'what is it?', whereas the differentia is predicated in the 'what sort of thing is it?', and the genus in the definitions is one, whereas the differentiae are many: so why? Aren't the definitions as well predicated in the 'what sort of thing is it?', following not the only genus, but rather the many differentiae that have, [moreover], in themselves the principle [of the species] (τὸ κύρος ἐν αὐταῖς ἐπεχούσαις), since they even specify the definition, whereas the genus resembles a matter without form (ἄλη ἀμόρφος)? We answer to this [question] that the differentiae have not stayed differentiae in the definitions, but since they were collected with genus, they have become species ([like] rational animal, mortal animal, animal capable of receiving intellect and knowledge, that are species, as we'll learn); the species is predicated in the 'what is it?', therefore also the definitions are predicated in the 'what is it?' ».

⁹⁷ IBN AL-ṬAYYIB, *Tafsīr Kitāb Īsāgūgh li-Furfūriyūs*, 129.5-14 Gyekye: « A second objection may arise from the description [i.e. that which says that the differentia is predicated of many things differing in species in respect to what sort of a thing is of] which is of this sort: how does Porphyry allow that the differentia is predicated in the 'what sort of thing is it?' (*min ṭarīqi ayyi šay'in huwa*), in spite of his knowledge that Aristotle held that definitions are predicated of the definienda in respect of what the things are (*min ṭarīqi mā hiya*), and definition is composed of the genus and the differentia? How is it possible that the totality of the definition is predicated in the 'what is it?' (*min ṭarīqi mā huwa*), while its part is predicated in the 'what sort of thing is it?' (*min ṭarīqi ayyi šay'in huwa*)? The solution of the objection runs as follows: if the differentia is taken singly (*mufradan*) it resembles an inscriber (*nāqīš*) for the genus, and the answer to the question, what sort of species of the genus is there?, is given by its inscriber. However, when the differentia is added to the genus and a species results from the combination, the rank of the combination obtains the rank of the genus. For just as the genus is a substratum for the species, so is the species, as a whole, a substratum for the individual. And just as the genus is described in respect to what a thing is (*bi-mā huwa*), so the species is so (*described*) because the totality of the nature of species is a basis for the individual, just as the genus is a basis for the species » (English translation by K. Gyekye, p. 115, slightly modified).

(perhaps considering the species as a substratum for the inherence of individual accidents, just as the genus is a substratum for the inherence of the differentia). The analogy drawn by Ibn al-Ṭayyib aims at providing a reason for the fact that species is predicated in the 'what is it?' like the genus.

An aporia regarding the subject of the parts of the definition is raised in Philoponus' commentary on the *Posterior Analytics*⁹⁸: also in this case, the answer comes from Alexander's distinction of the differentiae considered without the genus (καθ' ἑαυτὰς λαμβανόμεναι χωρὶς τοῦ γένους) and predicated in the 'what sort of thing is it?', and the differentiae taken with the genus (and forming a new kind of genus predicated in the 'what is it?').

II.5. *The reasons for Avicenna's individuation of two levels of predication*

II.5.1. A consistent interpretation of Aristotle's views on differentia in the light of the *Posterior Analytics*

It is evident that one of the problems that Avicenna faces by introducing this articulation of two levels of predication is the proper distinction of genus and differentia. The distinction of the two predications is introduced for the first time in the context of Avicenna's reaction to Porphyry's attempt to distinguish the two predicables: it is also clear, however, from *Ġadal*, I, 6, where Avicenna deals with the division of the predicables. The passage I am referring to (T8) separates the essential predicables that Aristotle mentions in the *Topics* (namely, definition and genus) one from the other, and devotes a portion of the discussion of the genus to the problem of the proper distinction between genus and differentia. Here, Avicenna raises an exegetical difficulty: in Aristotle's *Posterior Analytics*, the differentia is said to have access to the predication in the 'what is it?'; on the other hand, there is the necessity of distinguishing genus, which is also predicated in the 'what is it?', and differentia properly:

⁹⁸ PHILOP., *In An. Post.*, 400.21-28 Wallies: « If anyone will say: 'how can you state, Aristotle, that the definition is formed by all the essential [features] (ὁ ὁρισμὸς σύγκειται ἐκ πάντων τῶν ἐν τῷ τί ἐστι)? You claimed that the definition is formed by a genus and the constitutive differentiae, but the differentiae are predicated in the 'what sort of thing is it?' (ἐν τῷ ὁποῖόν τί ἐστι)', we'll reply to him that the differentiae are predicated in the 'what sort of thing is it?', but per se taken, without the genus: if, on the contrary, they are taken together with the genus, they are no more called 'differentiae', but rather 'unnamed genera' (γένη ἀνόνομα), and genera are predicated in the 'what is it?'. An example are 'rational' and 'mortal', since rationality and mortality are differentiae and qualities predicated in the 'what sort of thing is it?', but taken together with 'animal' they are unnamed genera ».

T8: IBN SĪNĀ, *K. al-Ğadal*, I, 6 [55.10-18]

« Then, this genus is described by saying that it is predicated of many differing in species in answer to 'what is it?' (*fī ġawābi mā huwa*). And you know that the differentia, in their⁹⁹ definitions, does not distinguish itself from the genus in virtue of being predicated of different species, but it [distinguishes itself from the genus] in virtue of [genus'] being [predicated] in the 'what is it?' (*min tarīqi mā huwa*), so that, if it were among the possibilities of the differentia — as it was explained in the First Teaching¹⁰⁰, in the context of the science of the *Demonstration* — and¹⁰¹ the differentia were apt to be [given] in answer to 'what is it?' (*fī ġawābi mā huwa*), then [the differentia] would share with the genus this definition. And if the definition of genus was this one in which the differentia enters, then it would not be impossible this, [namely] that the differentia is predicated in answer to 'what sort of thing is it?' (*fī ġawābi ayyi šay'in huwa*), as far as it is divisive (*muqassim*), as it is [also] predicated in answer to 'what is it?' (*fī ġawābi mā huwa*), as far as it is constitutive (*muqawwim*)¹⁰². Then, the genus that distinguishes itself from the differentia would distinguish itself from it¹⁰³ because the genus is not apt to

⁹⁹ *Fī ħudūdihim* : the plurality Avicenna is referring to may be a wide one, perhaps all the Peripatetics; cf. *supra*.

¹⁰⁰ *Al-ta'lim al-awwal* : i.e. Aristotle.

¹⁰¹ Reading in [55.13] *wa* (with ms. Leid. Or. 4) instead of *wa-annahu*. In the apparatus of the Cairo ed. there is a reading *annahu* instead of *wa-annahu* ascribed to one of the Leiden manuscripts; however, as far as I could check, ms. Leid. Or. 4 reports *wa* instead of *wa-annahu*, and ms. Leid. Or. 84 has *wa-annahu*. There is, probably, a larger corruption of the text, since certain manuscripts (like ms. Damat Ibrahim 824, recorded in the apparatus of the Cairo ed.) omit a larger portion of text preceding the *wa-annahu*.

¹⁰² The problem is, according to Avicenna, a misconception of the differentia : the tradition of Peripatetic commentators seems to be inclined to think that a differentia may be constituted by a divisive one and a constitutive one; an example of divisive differentiae of the animal is provided by the term 'rational', and an example of constitutive differentiae is provided by the terms 'animate' and 'sensitive'. The constitutive differentiae may be seen, according to the commentators' view, as predicated ἐν τῷ τί ἔστιν because they can be considered already conjoined to matter; they are *divisive differentiae existing in a subject*.

¹⁰³ Reading in [55.17] *yubāyyinuhu* instead of *bayānuhu*. The reading *bayānuhu* printed in the Cairo edition yields a difficult meaning : we should translate the passage as follows : « and the *explanation of the genus* that distinguishes itself from differentia is in virtue of the fact that it is not apt [...] ». Ms. Brit. Mus. Or. 7500 and ms. Leid. Or. 84 both read : *mubāyana*, which does not seem to fit the syntax of our passage if we want to preserve the *bi-annahu* that follows, but in those manuscripts the complete reading is : *mubāyanatan annahu* (considering *mubāyana* as an internal object of *yubāyyinu*, we should then translate : « and the genus that distinguishes itself from differentia in a way that consists in the fact that it is not apt [...] »). The syntax of the passage has some problems with the reading *annahu* as well, so I would suggest that the reading *mubāyana* may have originated from a misunderstanding of a *rasm* that is attested by ms. Leid. Or. 4 : I found a reading in ms. Leid. Or. 4 which is compatible with the reading *yubāyyinuhu*, which would solve both the syntactical problem

be said in answer to 'what sort of thing is it?' (*fī ḡawābi ayyi šay'in huwa*) so that it is [its] primary predication. As to what concerns the genus taken here¹⁰⁴ [into consideration], it is something more common than both things ».

Since the reason of Avicenna's concern with the essential predication of the differentia is Aristotle's account of genus and differentia in the *Posterior Analytics*, one expects Avicenna to deal with the question also in his reworking of this Aristotelian book. The following passage (T9), in fact, taken from the second treatise of *K. al-Burhān*¹⁰⁵, preserves Avicenna's discussion of the topic with reference to the *Posterior Analytics*.

T9: IBN SĪNĀ, *K. al-Burhān*, II, 2 [125.9-126.2 'Afīfī; 83.4-14 Badawī]

« [(a)] It is said 'essential' (*dātī*), in a way¹⁰⁶, everything that is predicated of the thing in the 'what is it?' (*min tarīqī mā huwa*), since it enters its definition (*dāḥil fī ḥaddihī*), so that it would be equivalent if you said 'essential' (*dātī*) or 'predicated in the what is it?' (*maqūl min tarīqī mā huwa*)¹⁰⁷. This is the thing's genus, its genus' genus, its differentia, its genus' differentia, its definition and every constituent (*muqawwim*) of the thing's essence¹⁰⁸, like the line for the triangle, and the point for the limited line, since it is a limited line, and so it is said in the First Teaching¹⁰⁹ too. [(b)] Then, before turning to the goal [of this issue], it is necessary, for us, to ascertain that the differentiae are suitable to enter the answer [to the question] 'what is it?' as the genus is (*anna l-fuṣūla ṣāliḥatun fī an takūna dāḥilatan fī ḡawābi mā huwa ṣulūḥa l-ḡinsi*). Already in the First Teaching, each one among genus and differentia was put as belonging to the species as well as the other, as to what concerns its entering the species' quiddity, and as predicated in the 'what is it?' (*min*

and the difficulty in the interpretation. The reading *bayānuhu*, perhaps, simply originated from an accidental omission of the first letter of the *rasm* that, in a manuscript without diacritics, would have been identical to the second one.

¹⁰⁴ *Hāhunā* : in the *Topics* and in Avicenna's *Ġadal*.

¹⁰⁵ For a discussion of Avicenna's distinction between the two kinds of predication in the context of *Burhān*, see the aforementioned IBRAHIM, *Freeing Philosophy from Metaphysics*, pp. 47-59 and Id., *Faḥr al-Dīn al-Rāzī, Ibn al-Hayṭam and Aristotelian Science : Essentialism versus Phenomenalism in Post-Classical Islamic Thought*, « Oriens », 41, 2013, pp. 379-431.

¹⁰⁶ *Min ḡihatīn* : Avicenna is now stating a first sense in which the term 'essential' is employed, which is also the sense which can be applied in the case of *Madḥal*; how he is going to show, however, the sense in which 'essential' must be understood in the *Burhān* is a wider one. After explaining this first sense, Avicenna is going to introduce another sense, saying that the term can be understood in another way (*min ḡihatīn uḡrā*).

¹⁰⁷ Add. Badawī [B73.6]: 'and this enters its definition'; om. mss. Damat Ibrahim 822 and Leid. Or. 4.

¹⁰⁸ 'Afīfī [A125.11] and in the margins of ms. Baḥīt 331 : *li-dātī l-šay'i*; Badawī [B73.7] and ms. Damat Ibrahim 824 : *li-wuḡūdi l-šay'i*.

¹⁰⁹ *Al-ta'lim al-awwal* : Aristotle; cf. *supra* the already mentioned passage in *Anal. Post.*, 73a34-b3.

ṭarīqi mā huwa). [(c)] Then, the last differentia mentioned in genus' definition was posed, and it¹¹⁰ consists in the fact that the genus is *predicated in answer to 'what is it?'* (*maqūl fī ḡawābi mā huwa*), so that, in virtue of this, a distinction was drawn between genus [on the one hand] and differentia and what is not differentia [on the other]¹¹¹. [(d)] From this, [we must infer that] it is necessary that the predicate in answer to 'what is it?' (*fī ḡawābi mā huwa*) is different from the predicate in the 'what is it?' (*fī ṭarīqi mā huwa*) and that there are two differences between them, according to what we considered and explained in its place¹¹² ».

The passage starts by explaining the first sense of *essential*¹¹³ as *everything that is predicated of the thing in the 'what is it?'*, namely what enters into the thing's definition (section a).

In section (b), Avicenna opens a digression in order to assess whether the differentiae are apt to provide an answer to the question 'what is it?' just as the genera are; this point comes from the interpretation of Aristotle's writings, since Avicenna states that in the *First Teaching*, namely in Aristotle's *corpus*, the differentia was already considered as belonging to the species in the same way as the genus, and as predicated in the 'what is it?' (*min ṭarīqi mā huwa*)¹¹⁴. This exegetical problem is strictly linked to the issue of Avicenna's redefinition of the notion of *essential* (*dātī*) in *Madḥal*, I, 7, where he tries to refute the idea — held by some 'superficial logicians', as Avicenna says in the *Naḡāt*¹¹⁵ and in the *Iṣārāt*¹¹⁶

¹¹⁰ I read in [A125.16] *huwa annahu*, according to the reading I found attested by mss. Leid. Or. 4, Leid. Or. 84, Pococke 121, Damat Ibrahim 822 and Brit. Mus. Or. 7500, instead of *bi-annahu* (printed in 'Afifi's edition).

¹¹¹ Badawi [B73.12]/Afifi [A125.16]: 'and what is not differentia'; but cf. mss. Damat Ibrahim 822 and Pococke 121: *wa-ḡayru dālīka* ('and the rest/etcetera').

¹¹² I assume this to be a reference to *Madḥal*, II, 1 [95.15-96.3].

¹¹³ The Aristotelian background for this passage is ARIST., *Anal. Post.*, A, 4, 73a34-b3.

¹¹⁴ The precise reference of this remark is not evident; however, it is very likely to be a reference to the fact that, in the *Posterior Analytics*, both genus and differentia are considered as equally essential features of the things.

¹¹⁵ K. *al-Naḡāt*, 9 (*fī l-maqūli fī ḡawābi mā huwa*) [46.18-21 Fakhry]: « Then, from [the category of] the essential is that which is said in response to 'what is it?' (*maqūl fī ḡawābi mā huwa*) and that which is not said. The [nature of the] essential said in response to 'what is it?' is not clear. Most of the commentaries are pretty neglectful of investigating [this matter]. The opinion of superficial logicians (*al-zāhiriyyūna min al-manṭiqiyyūna*) [concerning what is said in response to 'what is it?'] pretty much reduces to [the idea] that it is the essential. But the essential is more general than that » (transl. by A. Q. AHMED, *Avicenna's Deliverance. Logic*, Oxford University Press, Oxford 2011, p. 8).

¹¹⁶ K. *al-Iṣārāt* [219 Dunya]: « When [the views] of the superficial logicians (*al-manṭiqiyyūna al-zāhiriyyūna*) are examined, they are found hardly to distinguish between the essential (*al-dātī*) and that which is said in answer to the 'what is it?' (*al-maqūlu fī ḡawābi mā huwa*) ».

— that the essential is reducible to what is predicated in answer to ‘what is it?’¹¹⁷: this position would leave the differentia out of the essential predicates, contrary to Aristotle’s way of considering it. *Madḥal*, I, 7 starts with an inquiry into the meaning of ‘signifying the quiddity’ (*al-dāllu ‘alá l-māhiyyati*): the multitude of the superficial logicians, who maintain that the *essential* is what *signifies the quiddity*, is said not to consider the differentia as signifying the quiddity. But in this way they contradict the principle of the transitivity of equivalence, because they consider the differentia as essential, without considering it as signifying the quiddity, even though the essential, according to them, is precisely what signifies the quiddity. Moreover, Avicenna shows that, considering the way in which what signifies the quiddity has been commonly understood — according to the idea that what signifies the quiddity is *what signifies the notion by which the thing is what it is* — one should conclude that, since the thing is what it is only in virtue of all its essential attributes, the quiddity of something is signified by its genus and differentia taken together in the definition¹¹⁸. So, point (b) establishes — against the belief of some superficial logicians — a common feature of genus and differentia, namely the fact that both are predicated in the ‘what is it?’, since they both enter into the answer to the question ‘what is it?’ in the same way.

The problem that Avicenna has to face at this point is the proper distinction between genus and differentia, since he cannot employ any more, as the other logicians did, the fact of being predicated in the ‘what is it?’ or not as a suitable distinctive feature. At point (c), Avicenna states that the feature that characterizes the genus and distinguishes it from the differentia is its being predicated in answer to ‘what is it?’ (*fī ḡawābi mā huwa*), solving the problem that was posed by stating that both genus and differentia are predicated in the ‘what is it?’ (*min ṭarīqi mā huwa*). So, in order not to confuse genus and differentia, there must necessarily be a difference between the predication in the ‘what is it?’ (*min ṭarīqi mā huwa*) and the predication in answer to ‘what is it?’ (*fī ḡawābi mā huwa*), as Avicenna contends in section (d).

¹¹⁷ See also *K. al-Madḥal*, I, 5 [31.15-17]: « These considerations imply that the essential (*dātī*) does not [only] encompass what is predicated in answer to the ‘what is it?’, but, [on the contrary], our saying ‘essential’, even though in virtue of a linguistic rule signifies this correlate notion, nonetheless, according to an agreement made among the logicians, signifies another notion ».

¹¹⁸ *K. al-Madḥal*, I, 7 [37.12-18]: « As to what is understood according to the common knowledge, it does not mean it, and this is so because what signifies the thing’s quiddity is what signifies the notion in virtue of which the thing is what it is. But the thing becomes what it is only by the realization of all its attributes, either the shared essential ones and those that belongs properly [to the thing]. The man, in fact, is not what it is [just] in virtue of its being an animal, otherwise the animality would realize the humanity. Of course, the animality is required [for the man] in order to be what it is, but not everything that is required for the thing to be what it is is [also] that by whose only realization the thing is realized as it is ».

The need of preserving an adequate distinction between genus and differentia is also evident in *Ġadal*, III, 4, where Avicenna implicitly recalls the distinction between the two kinds of predication. In the relevant passage (T10), Avicenna complains about the fact that the common opinion does not allow the differentia to be predicated in the 'what is it?' as the genus is, stating that this seems to be, on the contrary, a much disputed idea¹¹⁹.

T10: IBN SĪNĀ, *K. al-Ġadal*, III, 4 [201.16-202.2]

« Another place deals with the distinction between genus and differentia ; and the debate on this subject is in a way completed and reaches a good solution only when the common opinion, for instance, does not prevent from considering also the differentia as predicated in the 'what is it?', so that 'rational' [could] be, according to the common opinion, suitable to be predicated in the 'what is it?' (*fī tarīqi mā huwa*) as 'animal' is, since now this is not a commonly spread opinion, but, on the contrary, this is [an idea] sometimes much opposed in the common opinion, since it is also believed that what is [given] in answer to 'what sort of thing is it?' (*fī ġawābi ayyi šay'in huwa*) is not [given] in answer to 'what is it?' (*fī ġawābi mā huwa*). As to what concerns the truth, its state was already known in another place¹²⁰ ».

Basically, the common opinion rejects the fact that also the differentia is predicated in the 'what is it?'. On the other hand, it is clear that Aristotle considers the differentia as a predicable having access to the thing's essence in *Posterior Analytics*. Again, in the passage above Avicenna argues that the common opinion does not understand the distinction of the two levels of predication that enables him to solve the problem. Avicenna, in fact, reports that, in the common opinion, the differentia is said not to be predicated in the 'what is it?', because what is predicated in answer to 'what sort of thing is it?' cannot be predicated in answer to 'what is it?'. However, the argument is valid, according to the common opinion, because the locutions *predicated in the 'what is it?'* and *predicated in answer to 'what is it?'* are considered as interchangeable. The passage, then, amounts to a declaration of originality on Avicenna's part.

¹¹⁹ Avicenna has there in mind the aforementioned passage in ARIST., *Top.*, Δ, 6, 128a20-30, where Aristotle claims that, since some philosophers maintain that the differentia is predicated ἐν τῷ τί ἐστίν as well, it is necessary to make a clear distinction between genus and differentia according to other criteria.

¹²⁰ The truth Avicenna refers to consists in the distinction between a predication *fī tarīqi mā huwa* and one *fī ġawābi mā huwa*, so that there would be no contradiction in saying that the differentia is predicated in the 'what is it?' (*fī tarīqi mā huwa*) but, at the same time, in response to 'what sort of thing is it?' (*fī ġawābi ayyi šay'in huwa*).

II.5.2. A consistent interpretation of Aristotle's and Porphyry's views on differentia in the light of the *Topics*

Besides preserving the internal consistency of Aristotle's writings, Avicenna has to cope with the problem of the partial inconsistency between the system of predicables described in Porphyry's *Isagoge* and that of Aristotle's *Topics*.

There are, basically, two issues at stake. The first is that there is no mention of the differentia in the division of the predicables provided in the first book of the *Topics*, whereas Porphyry's definition of predicables includes the differentia. In this respect, one of Avicenna's main concerns is saving Aristotle from the charge of a defective account of predicables because of the apparent absence of the differentia. Avicenna argues that Aristotle would have failed to assign a role to the differentia in its division of predicables in the *Topics*, and would have therefore provided a defective overall account of predicables, if the genus mentioned there were not a wider notion encompassing both genus and differentia; but this is untrue. So, for Avicenna, the differentia is encompassed by Aristotle's division of predicables. Avicenna defends the Aristotelian division of predicables by arguing that Aristotle named *genus*, in the *Topics*, whatever part of the notion of the essence. This means that both the genus in the Porphyrean sense and the differentia are included in the division of the predicables 'genus' understood in this broader sense. For this contention, Avicenna may have in mind what Aristotle claims in *Top.*, A, 4, 101b18-20, in the section preceding the definition of the four predicables, about the fact that the differentia must be considered together with the genus, since it is *generic* (γενική)¹²¹.

T11 : IBN SĪNĀ, *K. al-Ġadal*, I, 6 [54.13-55.10]

« Then, inescapably, the predicable is [(i)] constitutive [and] essential, predicated in the 'what is it?' (*min ʔarīqi mā huwa*) — I am not saying in answer to 'what is it?' (*ʔt ǧawābi mā huwa*), since what is predicated in the 'what is it?' (*min ʔarīqi mā huwa*) is, as you learned [before], more common — or [(ii)] it is not. [(i)] If it is essential, then [(i.a)] it may signify a part of the essence or [(i.b)] signify the truth of the notion of the essence. [(i.b)] If it signifies the truth of the essence, then it is the *definition* (*ḥadd*) or a synonymous name (*ism murādif*), but there is no usefulness in the synonymous name, and it is not really a predicate, so it remains that [the predicable signifying the truth of the essence] is the definition. [(i.a)] And if it is a part signifying a part of the notion of the essence, then all of this is named,

¹²¹ On the possible meanings of the term in the context of ARIST., *Top.*, A, 4, 101b18-20, see A. ZADRO, *Aristotele, I Topici*, Loffredo Editore, Napoli 1974, pp. 318-319, n. 5.

in this Book¹²², *genus* (*ġins*), since all of this shares the fact of being predicated of many differing in species in the 'what is it?' (*min ʔarīqi mā huwa*), like 'animal' for the man, and like 'sensitive' for the man; 'animal' is, indeed, predicated of the man. And if the man is taken alone in the 'what is it?', even if it is not [given] in answer to 'what is it?', it does not follow, in this Book¹²³, a contradiction between genus' differentia and all what we mentioned in the first part¹²⁴, because in this division of this Book [Aristotle] does not distinguish between genus and differentia, and he didn't mention what we called in that place¹²⁵ 'genus' according to the fact that it is something different from differentia but, on the contrary, he took the notion that is common to both [the predicates] and called [it] *genus*. So did the First Master¹²⁶. And, since it is so, the genus that is here defined is more common than [both] the genus and the differentia that were defined there¹²⁷, otherwise [Aristotle's] division would be defective, but this is a false statement. But genus and differentia are, together, predicated in the 'what is it?' (*min ʔarīqi mā huwa*), as you learned¹²⁸, and it is suitable to answer by both when it is asked of something what it is. As to what concerns the fact that the answer is not complete by each one of them, there's no need for me to provide you a further explanation of that, since it already preceded¹²⁹ ».

Each part of the notion of the essence, then, is named 'genus' and is predicated in the 'what is it?' (*min ʔarīqi mā huwa*), so that the term 'genus' employed in the *Topics* has not to be understood as equivalent to Porphyry's genus. This passage is strictly related, in my own view, to that of *Madḥal*, II, 1, where genus and differentia are considered in terms of parts of the thing's essence, and are said to be both predicated in the 'what is it?' for this reason¹³⁰.

The second issue at stake is that Aristotle's definition of genus as predicated ἐν τῷ τί ἐστι in the *Topics* is rendered in the Arabic translation employed by Avicenna as predicated *min ʔarīqi mā huwa*, i.e. exactly in the same terms that characterize the predication of the genus in Porphyry's *Isagoge*, though this very

¹²² I.e. Aristotle's *Topics*.

¹²³ Again, a reference to Aristotle's *Topics*.

¹²⁴ *Al-fann al-awwal* : i.e. Avicenna's *Madḥal*, the first *fann* of the *Kitāb al-Šifā'*.

¹²⁵ *Hunāka* : i.e. in Avicenna's commentary upon Porphyry's *Isagoge*, namely in *Madḥal*.

¹²⁶ *Al-mu'allim al-awwal* : i.e. Aristotle.

¹²⁷ *Hunāka* : i.e. in Porphyry's *Isagoge*.

¹²⁸ I assume this to be a reference to *Madḥal*, II, 1.

¹²⁹ Another reference to *Madḥal*, II, 1.

¹³⁰ As it is also clear from section (i) of the passage above, Avicenna tacitly assumes the distinction between a predication in answer to 'what is it?' and a predication in the 'what is it?' he has already drawn in *Madḥal*, II, 1. For a different view, considering Avicenna's claim in *Ġadal* that the differentia is predicated *min ʔarīqi mā huwa* as the result of an evolution of Avicenna's view on this subject, cf. GYEKYE, *Arabic Logic*, p. 209.

expression apparently conveys two different meanings in the two cases (in the case of Aristotle's *Topics*, this kind of predication includes the differentia as well, whereas this is not the case in Porphyry's *Isagoge*). Avicenna faces, therefore, also the problem of interpreting in a consistent way the accounts of differentia provided by Aristotle and by Porphyry: the Porphyrean tradition comes to the conclusion that the genus is predicated in the 'what is it?' whereas the differentia is not, in evident contradiction with Aristotle's opinion on this subject. Quite evidently, the key to the solution to the *impasse* is, for Avicenna, the distinction of two levels of essential predication, which allows him to distinguish genus and differentia because of their different level of essential predication, and, at the same time, to consider not only the genus, but also the differentia, as an essential predicate. The tradition following Alexander, by contrast, instead of thinking of two levels of predication, had mainly solved the problem with a distinction of two considerations of the differentia. Avicenna's distinction is inspired by the exigencies of a consistent reading of several contrasting passages in Aristotle's logical work, and leads to a redefinition of the terminology employed by Porphyry in the *Isagoge*. Avicenna modifies Porphyry's definitions of each essential predicate mentioned in the *Isagoge* by referring to its own specific kind of predication (cf. *supra* Tab. 2): finally, the more specific predication *fī ḡawāb* replaces the more general one *min ṭarīq* in the definitions of each predicable.

CONCLUSION

The present inquiry has shown how Avicenna achieved a complete rejection of the definition of the predicable *differentia* mentioned by Porphyry and the posterior tradition. Firstly, Avicenna restated the first part of Porphyry's definition of differentia (*predicated of many items differing in species*), detaching himself from the tradition of the late antique commentators. Secondly, in order to find a consistent explanation for Aristotle's statements about the differentia, Avicenna proposed a recasting of the second part of the definition of the predicable, with a rejection of the definition of differentia as predicated of many items differing in species in the 'what sort of thing is it?' (*min ṭarīqi ayyi šay'in huwa*). As a result of this overall refutation of Porphyry's definition, Avicenna adopted new definitions of the predicable in his other logical writings, as it can be observed, for instance, in the logical section of the *Easterners* (*Manṭiq al-Mašriqiyyīna*)¹³¹, in the *Book*

¹³¹ This *summa* is only partially extant: the part that survived is a portion of the logical section of the entire work, which may be supposed lost already in 425H/1034, the year in which some books of Avicenna's (the *Easterners* included) were transported to Ghazna. However, the work is supposedly later than the *K. al-Šifā'*, probably slightly anterior to the composition of the prologue of *K. al-Šifā'*:

of Salvation (*Kitāb al-Nağāt*)¹³² and in the *Book of Pointers and Reminders* (*Kitāb al-Iṣārāt wa-l-Tanbihāt*)¹³³. In the *Manṭiq al-Maṣriḡiyyīna*, Avicenna described the differentia as « the universal by which a universal is distinguished by another with regard to its essence »¹³⁴. In the *Kitāb al-Iṣārāt* the differentia is said to be « the universal that is predicated of the thing in answer to 'what sort of thing is it?' with regard to its substance »¹³⁵. In the *Kitāb al-Nağāt*, the differentia is described as « the essential universal [utterance] that is said of a species [that falls] under a genus [being said] in answer [to the question] 'what sort of thing from [this genus] is it?'¹³⁶ ». In each of the three works, the definition of differentia does not entail any more its being predicated of many items, nor its being predicated in the 'what sort of thing is it?' (*min ṭarīqi ayyi šay'in huwa*). Seemingly, Porphyry's definition of differentia as *predicated of many items differing in species in the 'what sort of thing is it?'*, which was rejected by Avicenna in the *K. al-Šifā'*, was never adopted again in the other logical writings.

The first aim of Avicenna's theory of differentia is a consistent explanation of the Aristotelian passages about the *differentia specifica*. Though the attempt was already made by the Peripatetic tradition, Avicenna turns out to have been an original interpreter of Aristotle, who tried to improve the interpretations proposed by his Peripatetic predecessors. The effort to give a coherent exegesis of Aristotle's views on differentia — especially the doctrinal points stressed in the *Posterior Analytics* and in the *Topics* — led Avicenna to restate the definition of the predicable that he found in Porphyry's *Isagoge*, when this latter turned out to be incompatible with Aristotle's views. To conclude, Avicenna's criticism of Porphyry's position on this issue appears to stem from his role of interpreter of Aristotle: having to face two partially contrasting accounts of differentia, Avicenna chose to emend Porphyry's definition in the light of Aristotle's authority.

the two *termini* between which the composition of the work has to be placed may, then, be 1027 (the year in which the *K. al-Šifā'* was finished) and 1034. For the chronological hypothesis and the reconstruction of the contents of the work, see D. GUTAS, *Avicenna and the Aristotelian Tradition*, Brill, Leiden 1988, pp. 115-130.

¹³² Al-Ġuzġānī says, in the biography of the philosopher, that Avicenna wrote the *Book of Salvation* after completing the *K. al-Šifā'*; see GUTAS, *Avicenna and the Aristotelian Tradition*, pp. 112-114.

¹³³ This work may be ascribed to the late period of Avicenna's production and is supposed to have been written later than the *K. al-Šifā'*. (See GUTAS, *Avicenna and the Aristotelian Tradition*, p. 145).

¹³⁴ *Manṭiq al-Maṣriḡiyyīna*, 18.9 ed. Cairo: « *al-ḥaṣlu huwa l-kullīyyu llaḏī yumayyazu bihi kullīyyun 'an ġayrihi tamyīzan fī ḏātīhi* ».

¹³⁵ *K. al-Iṣārāt*, 247.6-7 Dunya: « *wa-l-ḥaṣlu yurassimu bi-annahu kullīyyun yuḥmalu 'alā l-šay'i fī ḡawābi ayyi šay'in huwa fī ḡawharihi* ».

¹³⁶ *K. al-Nağāt*, 48.18-19 Fakhry: « *wa-ammā l-ḥaṣlu fa-huwa l-kullīyyu l-ḏātīyyu llaḏī yuqālu 'alā naw'in taḥta ġinsin fī ḡawābi ayyi šay'in huwa minhu* » (English translation by AHMED, *Avicenna's Deliverance*. *Logic*, p. 12, slightly modified).

APPENDIX

IBN SĪNĀ, *K. al-Madhāl*, II, 1 [94.4-96.18]¹³⁷

[(a). *Porphyry's statement about the fourth difference between genus and differentia*]

[(a)] And the fourth difference [between genus and differentia] consists in the fact that the differentia is predicated in the 'what sort of thing is it?' (*min ʿarīqi ayyi šay'in huwa*), whereas the genus is predicated in the 'what is it?' (*min ʿarīqi mā huwa*).

[(b). *Two reasons why Porphyry's statement cannot be a valid distinction between genus and differentia*]

But this statement alone does not signify the difference [between genus and differentia], because when two things are qualified by means of two different attributes, this is not an [adequate] signification of the difference between them. If anyone said that the difference between Zayd and 'Amr consists in the fact that one is sensitive and the other is rational, or that one is a sailor and the other is a goldsmith, this amount [of information] would not be sufficient to distinguish [them], since it is sometimes possible that two attributes that differ in concept gather, so that it is not impossible that, [for example], the fact that Zayd is sensitive, although it is different in concept from the fact that 'Amr is rational, is something that does not necessarily make Zayd differ from 'Amr for it, and it is not impossible that each one of them, besides his being sensitive, is also rational, because the attributes differing in concept sometimes gather in the same thing characterized [by both], and so it is [in the case of] the sailor and the goldsmith. On the contrary, it is necessary that among the two [attributes] there is the potential for negation (*quwwatu l-salbi*), so that it is necessarily concomitant

¹³⁷ The following text is the English translation of the passage of *Madhāl*, II, 1 I took into consideration in this paper. Everything between square brackets has to be considered as absent in the Arabic text but added in the translation in order to make the text more intelligible in some points; in square brackets the reader will also find the letters that I added to distinguish the different sections of the text. For the sake of clarity, I sometimes wrote in brackets the Arabic corresponding expression, especially in the cases in which the expressions *min ʿarīqi* and *fi ǧawābi* occur, in order to avoid any possible confusion between them. Another indication the reader will find in the translation is that of the number of pages of the Cairo edition, placed between slashes at the point corresponding to the beginning of a new page. The text of the Cairo edition has been checked and compared with two other Arabic manuscripts (namely, mss. Damat Ibrahim 822 and Leid. Or. 4) and with the Latin translation of the text. The translation is probably the result of the work of Avendauth, an 'Israhelita philosophus' who was active in Toledo in the second half of XIIth century. The text is still unedited, so it is now readable only in the 13 manuscripts that preserve it and in the print edition made in Venice in 1508, but Françoise Hudry is working to an edition of it. I generally base my translation on the text provided by the Cairo edition, unless otherwise specified.

with the 'sensitive' the fact of not being 'rational' and, [viceversa, that it is necessarily concomitant] with the 'rational' the fact of not being 'sensitive'. Furthermore, the fact that the genus is said in answer to 'what is it?' (*fī ḡawābi mā huwa*) does not prevent it from being said in answer to 'what sort of thing is it?' (*fī ḡawābi ayyi šay'in huwa*) according to the principles of those [philosophers], and among the two [attributes] there is not the potential of negation, since it is not impossible that what constitutes the things' quiddity (*māhiyya*) can also differentiate the thing from what has not that quiddity, so that, with respect to what shares it, it is said in answer to 'what is it?' (*fī ḡawābi mā huwa*), and, with respect to what is distinguished by it, it is said in answer to 'what sort of thing is it?' (*fī ḡawābi ayyi šay'in huwa*), so that this amount [of things] does not prevent the genus **A95/** of something from being also a differentia for that something, according to two [different] ways of considering [it], if the difference [among them] that is required is this one and [if this] does not necessarily preclude the genus of the thing from being [also] a differentia for it. As regards the fact that the differentia of something is a genus of something else, it is one of the things that they did not consider impossible, as far as I know, and it is analogous to [the case of] 'sensitive', since it is, in a way, a genus for the [man] hearing and seeing, whereas it is a differentia for the animal.

[(c). *The philosophical frame in which Avicenna's criticism has to be considered*]

[(c.1)] If someone said that the same thing can be a genus and a differentia for one thing because, even if it is genus and differentia for one thing, the consideration of its being a genus is different from the consideration of its being a differentia, and [if he] said: « we just want to explain the distinction between the two considerations, to one of which the name of *generality* (*ḡinsiyya*) is applied, and to the second of which the name of *differentiability* (*faṣliyya*) is applied », we wouldn't contradict him, nor we would blame him [for it], nor we would raise any objection to the denomination. [(c.2)] But he is not who we are discussing with¹³⁸, since we are discussing with someone who signifies by the name of 'genus' and [that of] 'differentia' two natures that differ in such a way that the same thing is not characterized by both the natures in relation to a unique subject; on the contrary, he considers one of the two natures as suitable for one of the two answers, and the other nature as suitable for the other answer. However, the way in which we proceeded in trying to understand the predicate in answer to 'what is it?' (*fī ḡawābi mā huwa*) and the

¹³⁸ Literally, 'he is not the one our discussion is with'. I read this passage in [95.8-9] as : *wa-lākinnaḥu yakūnu ḡayra man kalāmuna ma'ahu*. The Cairo edition seems to read differently, since it vocalizes the *rasm* *ḡyr as *ḡayyara*, suggesting, perhaps, a reading as : *wa-lākinnaḥu yakūnu ḡayyara min kalāminā ma'ahu* (« but this changes our discussion with him »). I am inclined to read as I chose because, in the immediately following passage, Avicenna is describing the profile of the philosopher(s) he is addressing his criticism to : this could lead us to read the present statement as an anticipation of the following one. Moreover, also the Latin translator of the text must have understood the passage as I do, since he renders it as : '*alius est enim ab eo cum quo nobis sermo est*'. Unfortunately, since the different reading is, in this case, just a matter of vocalization and interpretation, the manuscript tradition cannot help us to choose between one and the other reading.

predicate in answer to ‘what sort of thing is it?’ (*fī ḡawābi ayyi šay’in huwa*) teaches you that the predicate in answer to ‘what is it?’ (*fī ḡawābi mā huwa*) is not [also] predicated in answer to ‘what sort of thing is it?’ (*fī ḡawābi ayyi šay’in huwa*) and viceversa, so that this difference [between the two predicates] is, in this way, valid.

[(d.). *Explanation of the distinction between the predication in the ‘what is it?’ and the predication in answer to ‘what is it?’*]

[(d.1)] But someone could say: « you have already asserted, in a number of places, that sometimes also the differentia can be predicated in the ‘what is it?’ (*min tarīqi mā huwa*), and especially in the *Book of Demonstration*¹³⁹ ». [(d.2)] Then, we say that there is a distinction [to be made] between our saying that something is predicated in answer to ‘what is it?’ (*fī ḡawābi mā huwa*) and our saying that it is predicated in the ‘what is it?’ (*fī tarīqi mā huwa*), as there is a distinction [to be made] between our saying ‘quiddity’ (*māhiyya*) and our saying ‘entering the quiddity’ (*dāḥil fī l-māhiyyati*). So, what is predicated in the ‘what is it?’ (*min tarīqi mā huwa*) is each thing that enters the quiddity (*kullu mā yadḥalu fī l-māhiyyati*) and is in such a way, even if, alone, it does not signify **A96** the quiddity, whereas what is predicated in answer to ‘what is it?’ (*fī ḡawābi mā huwa*) is what is, alone, an answer when it is asked [of something] ‘what is it?’. Then, the differentia enters the quiddity and is predicated in the ‘what is it?’ (*min tarīqi mā huwa*), since it is a part of the thing that is an answer to the ‘what is it?’, but it is not, alone, predicated in answer to ‘what is it?’ (*fī ḡawābi mā huwa*).

¹³⁹ In the Arabic text, *Kitāb al-Burhān*: this seems to be a clear reference to the section of the *Kitāb al-Šifā* devoted to the *Posterior Analytics*. This reference here in *Madḥal* is quite interesting but, at the same time, problematic: if we had to take this reference as genuine (and not, then, as a posterior interpolation), we should reconsider the relative chronology of Avicenna’s logical works, because this would testify that at least a part of *Kitāb al-Burhān* had already been written before Avicenna ended to write *Madḥal*. On the other hand, from a syntactical point of view, the reference (*wa-ḥuṣṣan fī Kitābi l-Burhān*) can be easily isolated from the context, and this is a further element that may lead to think of it as a posterior insertion. It is also quite difficult to understand why Avicenna should make reference to something he has already said in a work that he should expect to be read after the *Madḥal*; all the other references to posterior parts of the *Šifā* he makes in *Madḥal* anticipate the themes that are dealt with in other places, without supposing a previous knowledge of them on the reader’s part. However, mss. Baḥīt 331, Dār al-Kutub 894, British Mus. Or. 7500, Damat Ibrahim 822 and Leid. Or. 4 all preserve this reference to *Kitāb al-Burhān*, so that, if it has to be considered as an interpolation, it should be supposed that it entered the text at an early stage of the transmission, since all the *testimonia* known so far preserve it in the same place. Furthermore, a second argument for the authenticity of this reference is a passage in *Kitāb al-Burhān*, in which Avicenna imagines a possible objection someone could move to him and makes a clear reference to *Kitāb al-Ġadal* as a part he has already written, whereas we should expect a reader of *Burhān* still not knowing the contents of *Ġadal*: cf. *K. al-Burhān*, IV, 3 [280.6-8 ‘Afī]: « But someone could say: ‘you have already declared the acquisition of the definition of the contrary from the definition of the other contrary to be false in this Book here, but in the *Book of Dialectics* (*Kitāb al-Ġadal*) you have already employed this rule (*qānūn*) when you dealt with establishing and demolishing the definitions’ ».

[(e). Criticism towards the idea that the *differentia* is sometimes predicated in answer to 'what is it?']

[(e.1)] Someone among the excellent [philosophers] has already said that the *differentia* can be predicated in answer to 'what is it?' (*fī ḡawābi mā huwa*) too in [the case of] certain things and not in [the case of] others, whereas the genus is constantly signifying the 'what is it?'; this [is so] because the genus constantly signifies the principle of the thing's essence, whereas, as to what concerns the *differentiae*, they sometimes are references and relations to actions and passions or other things, so that for this reason the genus is considered as more suitable than the *differentia* to [signify] the 'what is it?'¹⁴⁰. [(e.2)] But in this speech there are two mistakes: (i) the first one consists in the fact that what, among the *differentiae*, is in this manner is not a constitutive *differentia*, but is one of the concomitant *differentiae*. (ii) The other one consists in the fact that, when we want to distinguish between something and another thing by means of an attribute, it is necessary that the attribute that distinguishes one thing from the other constantly belongs to it without belonging to the other [...].

¹⁴⁰ The Aristotelian background of this statement may remotely be ARIST., *Top.*, Z, 1, 139a29-31.

ABSTRACT

Avicenna against Porphyry's Definition of Differentia Specifica

The paper deals with Avicenna's polemical attitude towards the traditional definition of *differentia specifica* as predicated of many items differing in species in the 'what sort of thing is it?' that can be found in Porphyry's *Isagoge*. Two places of the reworking of Porphyry's *Isagoge* (*Madḥal*) at the beginning of Avicenna's *summa* entitled *Kitāb al-Šifā'* will be mainly considered: the original account of *differentia* in chap. I, 13; and the rejection of Porphyry's distinction between genus and *differentia* in chap. II, 1. By comparing these passages of *Madḥal* to other sections of the *Šifā'*, it will be possible to reconstruct in a comprehensive way Avicenna's refutation of the traditional account of *differentia*, in order to explain his preference for alternative definitions of this predicable in his other logical works. The exegetical problems posed by Porphyry's definition of *differentia*, and the Greek and Arabic commentators' ensuing discussions, provide the context in which Avicenna elaborates his refutation. Against this background, it will be argued that Avicenna is carrying out a refutation of the account of *differentia* first advanced by Porphyry and later adopted by the contemporary Peripatetic commentators active in Baghdad, in his effort to achieve a consistent interpretation of Aristotle's claims on *differentia*.

SILVIA DI VINCENZO, Scuola Normale Superiore, Pisa
silvia.divincenzo@sns.it

SISMEL-EDIZIONI DEL GALLUZZO