

IDEALIZATION XI:
Historical Studies on
Abstraction and Idealization

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**AGENT INTELLECT AND PHANTASMS.
ON THE PRELIMINARIES OF PERIPATETIC ABSTRACTION**

Abstract. This paper discusses some aspects of the controversies regarding the operation of the agent intellect on sensory images. I selectively consider views developed between the 13th century and the beginning of the 17th century, focusing on positions which question the need for a (distinct) agent intellect or argue for its essential "inactivity" with respect to phantasms. My aim is to reveal limitations of the Peripatetic framework for analyzing and explaining the mechanisms involved in conceptual abstraction. The first section surveys developments of Aristotelian noetics and abstraction in Ancient and Arabic philosophy. The second section presents a discussion of some "positive" accounts on abstraction and the agent intellect, and some "negative" accounts.

In Peripatetic psychology intellectual knowledge arises from the interplay between the mind and sensory images. The possible intellect receives what has been isolated or abstracted from sensory representations by the agent intellect. In contrast with the direct grasp of cognitive content in the phantasms, as Aristotle had suggested in *De anima*, the majority of medieval and Renaissance Peripatetics posited a mediated assimilation of the essence of sensible reality, interpreting the Aristotelian psychology of cognition in terms of a theory of abstraction. The agent intellect plays a crucial role in conceptual abstraction. It is viewed as the active faculty of human mind or else as a separate substance which grounds empirical knowledge by illuminating or processing sensory images. The operation of the agent intellect in intellection was intensely discussed by ancient, medieval and early modern Aristotelians. These disputes regarded both the ontology of the agent intellect and its role in generating human knowledge. In this paper, I will discuss some aspects of the controversies regarding the operation of the agent intellect on sensory images.¹

¹ The following issues will not be discussed. (1) The various types of abstraction which some authors distinguish; cf. the list of six intellectual abstractions in Paul of Venice (1504), f. 155rb: (i) "actuatio phantasmatis"; (ii) "depuratio", that is, "productio speciei intelligibilis ex phantasmate tamquam ex causa effectiva"; (iii) "separatio", leading to a more general concept; (iv) "specificatio", consisting in the production of "second order" species; (v) "compositio" of concepts; (vi) "deductio". See also Castaneus (1645), 2, who distinguished between four types of

What does the agent intellect exactly do with the phantasms? Does it merely reveal their intelligible core or does it process sensory images and (re) constructs mental content? I will selectively consider views developed between the 13th century² and the beginning of the 17th century³, focusing on positions which question the need for a (distinct) agent intellect or argue for its essential “inactivity” with respect to phantasms. My aim is to reveal limitations of the Peripatetic framework for analysing and explaining the mechanisms involved in conceptual abstraction. The first section briefly surveys developments of Aristotelian noetics and abstraction in Ancient and Arabic philosophy. The second section presents a discussion of some “positive” accounts on abstraction and the agent intellect, and some “negative” accounts.

1. Aristotle, Alexander and the Arabs

Aristotle’s psychology of cognition is developed along the lines of an integrated model of perceptual and noetic activity. An object of thought (*noeton*) is made present to the mind in virtue of a thought (*noema*) and this, in turn, requires an image (*phantasma*). Aristotle did not have a full-fledged psychological or epistemological theory of abstraction. And his use of terms such as *choriston* and *aphairesis* does not entitle us to assume that he had such a

abstraction, namely, “habitualis” (through impressed and inherent species), “actualis” (through the intellectual act), “cognitiva”, and “factiva”. (2) abstraction as an act of the possible intellect (a position endorsed by, among others, Zabarella and Suarez). (3) The issue of whether the final outcome of abstraction is an individual form or species, or else a universal. Some authors distinguished between two moments in the generation of intellectual knowledge. In “first order” intellection, a concrete notion of a singular essence is generated; then the intellect is able to engender universals. See Thomas Wilton (1964), 119; Gregory of Rimini (1979-1984), *Super 1*, dist. 3, q. 1, 352; John Buridan (1518), f. 3ra; Paul of Venice (1503), 90vb, and idem (1504), 137rb; Lefèvre d’Étaples (1525), 224r; Pomponazzi (1966), 204; Fracastoro (1574), 129r-v; Castaneus (1645), 101; Collegium Conimbricense (1616), 307b; Suarez (1856), 722a-28a; Collegium Complutense (1637), 300a and 307b. (4) The doctrine of sensible and intelligible species: some opponents of the species also rejected the agent intellect; cf. the positions of Olivi and Durandus (*infra*). (5) Only marginally attention will be paid to innatistic accounts of the agent intellect.

² Early medieval authors, such as Abelard, John of Salisbury and Hugh of Saint Victor, use the term “abstractio”, resuming Boethius’ translation of *aphairesis*, but before the rediscovery of Peripatetic psychology in the West there is no systematic reflection on the role of the agent intellect in psychological conceptualisation.

³ Late 17th-century Scholastic works on psychology show an extensive but often sterile confrontation with authoritative sources; they no longer succeeded in devising fresh insights or new methods and approaches for tackling in a novel way the central questions handed down by tradition.

theory. In Aristotle, the term abstraction (*aphairesis*) is mostly used in logical contexts, indicating a method of subtraction which isolates objects for scientific study.⁴ In a mathematical context, Aristotle used the term *chorizein*.⁵ A brief analysis of three passages from *De anima*, which are often cited as evidence that Aristotle held a psychological or epistemological theory of abstraction, confirms our claim. In the first of these passages the terminology has a definite ontological sense (429b18-23). In the second (431b12-19), it refers to a set of mathematical entities that are logically isolated and grasped conceptually through the method of subtraction. In the third passage (432a3-9), the terminology of abstraction refers to a realm of intelligible entities whose mode of being is that of dependence upon sensible substances.

According to Aristotle, knowledge is the grasping of objects with a noetic status. Sensible forms become noetic objects in virtue of the agent intellect. The light metaphor for the latter's activity does not support an abstractionist or acquisitional account of knowledge. As efficient cause of thinking, the productive mind illuminates what is already there and makes possible the generation of mental representations of the external world in human thought. No preliminary abstraction is required. The agent intellect actualizes *noeta*, that is, it generates or reveals (Aristotle was not clear on this point) the intelligible core contained in the sensory information. Notice that Aristotle regarded the relation between phantasm and active mind to be quite unproblematic, even though there is an overt ontological gap between the two elements involved.

The roots of the Peripatetic theory of psychological abstraction are in Alexander of Aphrodisias. In his *De anima*, Alexander described intellectual apprehension as separating (*chorizein*) (cf. Alexander 1887, p. 90, 111) forms from any possible material circumstance (pp. 84, 87-8). In this work, Alexander concentrated on the capacities of the human (material) intellect. The latter is capable of abstracting and grasping both material and immaterial forms. He remained rather vague about the role of the active mind, identified with the supreme intelligible and first cause, and ensuring the possibility of intellectual knowledge at a metaphysical level (pp. 88-9). In *De intellectu*⁶, Alexander attributed a more precise (cognitive) role to the active mind. As an actually intelligible form the agent intellect enables the material intellect to

⁴ See Cleary (1985), pp. 13-45, in particular pp. 36-45 where *De anima*, 429b11-23 and III.7-8 are examined.

⁵ Also here, however, he spoke of "subtraction", that is, of separation of certain aspects of sensible bodies in such a way that they can serve as the primary subjects of mathematical attributes.

⁶ The authenticity of this work is challenged by Moraux (1942) and defended by Bazán (1973).

separate forms from matter. Once actualized by the agent intellect the human intellect imitates this intellect by knowing, which basically consists in making material objects intelligible (Alexander 1887, pp. 107-108, 110). At a later stage, the human intellect will also be able to capture pure intelligibles (pp. 110-1). Two Alexandrian views became crucial for further developments of Peripatetic reflection on the agent intellect: (i) the latter's activity may invest (also) the potential intellect, leading it to perform its proper activity, and (ii) abstraction is viewed as an activity of the intellect *in habitu* (see also Moraux 1942, p. 121f; Bazán 1973, p. 480).

Arabic accounts of abstraction were developed in the context of a psychology with cosmological dimensions. According to Alfarabi (870-950), conceptual abstraction is an act of the potential intellect, grounded upon the separate agent intellect's introducing forms in matter (Alfarabi 1930, pp. 117-8; cf. Dieterici 1892, pp. xxxi-ii; Hammui 1928, p. 79; Finnegan 1957, p. 142). In Avicenna (980-1037), knowledge amounts to a progressive assimilation of abstracted forms.⁷ Sensory images are a starting point for the process of genuine knowledge acquisition, rather than a source of cognitive contents. The most perfect form of knowledge is achieved by grasping the (separate) form independent of the material world. The initial degrees of abstraction can be unproblematically attributed to the human soul and provide, as it were, an impulse needed for achieving the ultimate degree of abstraction – which is basically conceived of as the reception of a form originating from the separate agent intellect.⁸ Averroes (1126-1198) rejected this view of an emanation of intelligible forms and defined the operation of the agent intellect as “*facere universalitatem in rebus*” (cf. Averroes 1953, p. 12). More specifically, the agent intellect operates on phantasms by suitably modifying and presenting them to the material intellect. The actualization of the imagination's intentions by the separate agent intellect consists in transposing them from one “level” to another (“*de ordine ad ordinem*”).⁹

⁷ Avicenna (1968), pp. 114-20. For Avicenna's doctrine of intellectual abstraction, see also G. Verbeke, “Introduction”, in Avicenna (1968), p. 46f; Mouhanna (1968), p. 88; Sharif (1963), p. 492f; Jabre (1984), pp. 281-311.

⁸ Avicenna (1972), V.5; on the active intellect in Avicenna, see Davidson (1972). Also in his logic, Avicenna presented the view that perceptual acts merely occasion the production of intelligible forms; cf. Jabre (1984), in particular on pp. 302-6.

⁹ Averroes (1953), pp. 401, 400-8. The transfer “*de ordine ad ordinem*” remains a central issue in Peripatetic psychology, also for those who do not follow Averroes; cf., for instance, Duns Scotus (1950), *Ordinatio*, liber I, dist. 3, q. 1, pp. 216-7.

2. Later accounts of the operation of the agent intellect

During the second half of the 13th century, Aristotle's *De anima* became the framework for Scholastic doctrines of perception and knowledge. From the very beginnings of the spread of Aristotelian psychology in the West, the concept of intellectual abstraction involved reflection on the agent intellect. Many psychological disputes regarded the nature and (hierarchical) position of the agent intellect, namely, whether it was (i) a part or function of the soul, (ii) superior with respect to the possible intellect or its form (cf. Alexander de Hales 1928, II, q. 69, n. 3, a. 3), (iii) a receptory of innate species or forms¹⁰, (iv) whether there were two (a divine and a human) agent intellects (Johannes Peckham 1918, q. 6, 73; Roger Marston 1932, p. 259), or else (v) whether it was to be identified with God.¹¹

The need for a distinct agent intellect was not generally accepted. Some authors blurred the distinction between agent and possible intellect, or limited the agent intellect's operation to a "pura praesentia" or else regarded it as an idle entity.

Among those who regarded the agent intellect as a faculty on its own, there was no consensus whatsoever on its precise functions. For example, the medieval master of arts John of Jandun (1285/9-1328) acknowledged his inability to pinpoint the exact role of the agent intellect¹², while other medieval and later Scholastic authors simply held that the agent intellect lays the basis for the entire range of cognitive activities.¹³ An early 13th-century psycho-

¹⁰ During the first half of the 13th century, the notion of an agent intellect, as incorporating the ideas of the things, was widely accepted at the Faculty of Arts. Cf. Gauthier (1975), p. 83f. The background for this doctrine is the Neoplatonic theory of knowledge of Arab authors such as Alfarabi and Avicenna, rather than Augustine's psychology. In some authors only moral knowledge is innate, but an extension to all intelligible forms or species was a quite natural development of this standpoint. The innatism of forms or species was rejected by Albert the Great (1890-9), vol. XXV, 459b; yet, in his *De anima*, he did not exclude the presence of innate species in the light of the agent intellect. Some Renaissance Aristotelians, such as, Marcantonio Genua, advanced an innatistic interpretation of the agent intellect in the light of the *De anima* commentary of Simplicius.

¹¹ For example, see the position of Roger Bacon.

¹² John of Jandun (1587), 359: "Omnibus ergo consideratis confiteor ad praesens me nescire aliquam necessitatem huius conclusionis, quod intellectus agens efficiat speciem intelligibilem mediante phantasmate: & vere non apparet mihi quod intellectus agens habet aliquem modum causalitatis agentis super huiusmodi speciem una cum phantasmate".

¹³ See the meticulous, though rather artificial, overview of the multifarious activities of the agent intellect in Paul of Venice (1504), 137r: (1) the abstraction of the "quidditas" from the singular thing which is thereby transformed, without separating the quidditative essence from its individual subject, into a possible object for the intellect; (2) the agent intellect lifts the phantasm from its potential status, and turns it into an actually known content; then (3) it abstracts an intelligible species from the phantasm, and delivers it to the possible intellect; (4) the agent

logical treatise attributed two operations to the agent intellect: the abstraction of species, and their ordering in the possible intellect (cf. Anonymous 1982, p. 51). This rather unusual characterization of the agent intellect's operations persisted only during the first decades of that century (see Anonymous 1952, p. 157); later authors generally assigned discursive activity to the possible intellect, and narrowed the function of the agent intellect to the illumination of phantasms and the abstraction of intelligible species (cf., for instance, Albert the Great 1968, p. 207f.). Some authors endorsed the view that the agent intellect may also be active with respect to the possible intellect. The latter was supposed to have a double potentiality: its act, in addition to being contingent on actualizing species, is dependent on the agent intellect. Thus, one type of illumination is directed towards the phantasms in order to enable them to generate the intelligible species, while the other one triggers the operations of the possible intellect once the latter is actualised by the species.¹⁴ Here I concentrate on the operation of the (human) agent intellect with respect to the sensory representations, which is usually described as the illumination of phantasms, and more specifically on the issue whether this is an "actio positiva" (possibly including an "impression" of some sort), an "actio remota" or a "sequestratio", or else whether it is simply superfluous.

Albert the Great and Thomas Aquinas were the first Scholastics to develop a full-blown account of the agent intellect on the basis of the available ancient and Arabic sources. Their view of the agent intellect as causally responsible for the representation of cognitive content sets the stage for later discussions on mental processing of sensory images. This is discussed in the first subsection. The issue of the precise activity directed by the agent intellect towards the phantasms was addressed by most authors who discussed the problem of mental representation after Thomas' death. The second subsection presents a sketchy selection of contrasting positions, ranging from attributions

intellect unifies this intelligible species with the "quidditas" and the phantasm. In virtue of the fourth operation – so Paul claimed, though without providing an argument for this remarkable conclusion – the intellect comes to know the quidditative nature of sensible reality "per se et immediate". For later Scholasticism, see Fortunio Liceti (1627), who at the outset of Book V (305b), individuated four operations of the active mind: (1) the production of an image representing the particular essence to the possible intellect; (2) the creation of a species representing the incomplex universal nature; (3) the generation of a species that lays the basis for the possible mind's propositional thought; (4) the causation of a species that grounds syllogistic reasoning.

¹⁴ Alexander Hales (1928), p. 454. Cf. Giles of Rome (1500), 66ra, 75ra; idem (1504), II, q. 22. The idea of this second type of illumination might be due to Themistius' influence; cf. Themistius (1973), 224f, in particular, 235 and 244. See also Godfrey of Fontaines (1914), pp. 251-2; Anonymous (1963), pp. 62-3, 80, 275; Capreolus (1589), 177b.

of a more or less *substantive* operation to the agent intellect, to theories of an essentially “inactive” or even non-existing agent intellect.

2.1. *Abstraction and illumination*

Albert’s and Thomas’ views of the agent intellect bear the stamp of the cosmological and metaphysical approach adopted by the Arabs in matters psychological. Albert held that the agent intellect owes its abstractive power to the first celestial intelligence.¹⁵ Accordingly, the same superior intellect is ultimately responsible for the (potential) intelligibility of sensible forms (Albert 1890-99, vol. IX, 506a). Thomas argued that by virtue of the “lumen intellectus agentis”, our soul is connected to the “rationes aeternae” (Thomas Aquinas 1952-1963, I, q. 84, a. 5), and this in turn means that the human soul owes its “virtus intelligendi” to a higher intellect, namely, to God.¹⁶ The agent intellect is capable of reconstructing the essential structure of material reality in virtue of the first principles it virtually contains.¹⁷

Albert described the role of the agent intellect as “generare esse intellectuale” or “facere universalitatem”. In his view, detaching potential intelligibles from their particular substrate amounts to reproducing them as mental contents. Also according to Thomas, the agent intellect “constructs” its own objects, that is, it represents the essential structure of material things as cognitive objects. By interpreting abstraction as production, Albert and Thomas circumvented *de facto* the problematic implications of this activity as a mere “unveiling” of the intelligible core of sensible reality.¹⁸ In Thomas, also the agent intellect’s various operations, such as illumination of phantasms and abstraction of species¹⁹, must be understood in terms of the constructive capabilities of this intellect.²⁰ By illumination the agent intellect assigns a higher actuality to the contents of phantasy, thus making available the essential

¹⁵ See also 15th-century Albertists, such as, John Hulshout of Malinas and Heymeric de Campo.

¹⁶ Thomas Aquinas (1952-1963), I, q. 79, a. 4; Thomas (1961), I, c. 68, 570 and II, c. 77, 1584; Thomas (1964), 127; *Quaestio de spiritualibus creaturis*, a. 10, in Thomas (1953); *Quodlibetum* X, q. 4, a. 7c. See also Mundhenk (1980), Anhang II.

¹⁷ The supposition that it contains the actual determinations of the intelligibles would make phantasms totally superfluous. Thomas (1959), III, lectio X, 739, and lectio XIII, 794. Cf. Thomas Aquinas (1952-1963), I, q. 84, a. 3-4.

¹⁸ Thomas Aquinas (1952-1963), I, q. 79, a. 3. In the context of an extremely hierarchized noetics, Dietrich of Freiberg stressed the agent intellect’s productive role in the generation of knowledge *and* its objects; cf. Dietrich (1957), 185-93, and Dietrich (1977), 146-7.

¹⁹ Initially, in *De veritate*, q. 10, a. 8, ad 10, Thomas did not speak of abstraction of intelligible species, but of the process of making species intelligible.

²⁰ Cf. Thomas Aquinas (1952-1963), I, q. 79, a. 3: the agent intellect actualizes the intelligibles “per abstractionem specierum intelligibilium”.

structure of sensory representations. Abstraction is not an *unveiling*; it is an *actualisation* or determination of the intelligible potential of sensible contents. Therefore, cognition is an “*assimilatio activa*” (Thomas 1959, III, lectio X, 739). The agent intellect’s productivity consists in transforming sensory representational structures into cognitive representations.²¹

2.2. *The agent intellect and the phantasms*

It is most likely that Thomas did not regard illumination and abstraction as (temporally) distinct stages in the production of intellectual cognition. However, by characterising the former as a necessary condition of the latter²², Thomas introduced a problem for the future generations, namely what the agent intellect really “does” with sensory images. Following bishop Tempier’s condemnation in 1277 many theologians under Augustinian banners sought to restrain the naturalist encroachments of Aristotelian psychology, regarding the abstraction doctrine as heterodox. In general, the illumination of phantasms was supposed to take over the role of intellectual abstraction.²³ The agent intellect processes sensory images in such a way that the possible intellect may acquire mental contents. However, within this framework, the nature of the illumination and the role of the agent intellect were highly controversial.

2.2.1 “*Actio positiva*” and formal conjunction

To the best of my knowledge, only a very restricted number of authors, among whom Jean of Goettingen and Paul of Venice (1369/72-1429)²⁴, claimed that the illumination of phantasms consisted in the agent intellect *impressing*

²¹ With a daring translation of Thomas’ cognitive psychology into a modern terminology, one might say that the agent intellect digitalizes the rich, but analog information of sense perception. See Dretske (1981).

²² Thomas (1952-1963), I, q. 85, a. 1, ad 4um. The notion of the agent intellect as engendering “*universalitatem in rebus*” is derived from Averroes; cf. *supra*. See in this context also Geach (1960), 18 and 130: the notion of abstraction in Thomas does not imply that our concepts arise from a selection of data on the basis of direct sensible experience.

²³ During the Renaissance, some authors even held that intellectual knowledge is possible without illumination. For example, Zabarella claimed that the phantasm can move the intellect by itself, too, that is, even before the illumination by the agent intellect. Unilluminated sensory images are received by the possible intellect as “*confusae conceptiones*” of individual objects. See Zabarella (1607), col. 1013-14, 1045-1054, and 1058-61, where Zabarella argued for direct knowledge of particular beings. Cf. already Agostino Nifo (1554), 16va: without illumination, the mind grasps only singulars. See also Burgersdijk (1627), 118, and Castaneus (1645), 101.

²⁴ For discussion of Jean of Goettingen (active at the turn of the 13th and 14th centuries), see Kuksewicz (1968), p. 132; cf. Paul of Venice (1504), 129va.

something unto the latter. More generally, the operation of the agent intellect is defended as an "actio positiva".

Henry of Ghent (1217-1293) was a key figure for the developments of Peripatetic psychology after Thomas. He argued that a consequence of Thomas' theory of abstraction is an intolerable determination of the intellect by the senses. He addressed the problem of intellectual knowledge in terms of a new relation between agent intellect and phantasms. Henry postulated that the only *ratio intelligendi* is the intellect's bare essence²⁵, and thus the problem of knowledge acquisition assumes a new form: "How can this bare essence grasp the sensible world?" A crucial precondition, in Henry's view, is that phantasms must be capable of moving the possible intellect. And this, in turn, means that they must be transformed into universal entities, since their singularity prevents them from becoming intelligible.²⁶ The universal phantasm is the sensory image divested of its material and particular aspects. Once purified by the agent intellect, the universal phantasm is capable of actualising the possible intellect (Henry of Ghent 1520, a. 58, q. 2, 130r; cf. Henry of Ghent 1985, p. 51).

Also Giles of Rome (1243/7-1316) argued that the agent intellect enabled the sensory representational devices to produce cognitive contents in virtue of its light (see Giles of Rome 1504, V, q. 21). The illumination of the agent intellect is seen by this Augustinian Hermit as a *positive* action, that is to say, a substantive elaboration of sensory information. Therefore, the agent intellect can be said to produce mental representations, and to contain them virtually (see Giles of Rome 1500, 74va.). In effect Giles' view deprives abstraction of its effective function in the process of knowledge acquisition.²⁷ The spiritual character conferred to phantasms enables the latter to provide the intellect with an integrated representation of sensory information.

Giles attempted a *rapprochement* of Aristotle's and Augustine's cognitive psychologies. His mediating position is adopted by other Augustinian Hermits.²⁸ It also recurred in the work of John Capreolus († 1444), in other

²⁵ Henry of Ghent (1613), q. 14, 260va: "Primo modo diximus iam, quod intellectus quicumque etiam creatus seipso est ratio intelligendi quaecunque intelligit, idest, quod essentia sua nuda est ratio intelligendi quaecunque intelligit, qua procedit ab ipsa active actus intelligendi, ita quod plus non requiritur ex parte intellectivi, inquantum intellectivum est in actu intelligens". Also in Olivi the "nuda essentia" is endowed with a similar function.

²⁶ Henry of Ghent (1613), V, q. 14, 262rb. Thomas, by contrast, merely took their material character as an obstacle towards actual intelligibility.

²⁷ See indeed, Capreolus (1589), 189a: "... ergo nullo modo intelligimus abstrahendo a phantasmatis".

²⁸ Agostino Trionfi (1270/3-1328), Thomas of Strasbourg (14th century) and Alphonsus Vargas Toletanus (ca. 1300-1366). Notice that in 1287 Giles' doctrinal thought became canonical for the Augustinian Hermits.

15th-century Thomists, and – during the 16th century – in Franciscus Sylvester of Ferrara (1474-1528). Immediate developments of Giles' views on the generation of knowledge are found in authors stressing the dependence of human knowledge on sensory representations, such as Herveaus Natalis (ca. 1250/60-1323), the 14th-century Averroist John Jandun and his followers.

Other authors endorsed a thesis already present in Thomas, namely, the formal conjunction between agent intellect and phantasm.²⁹ The 14th-century Italian master of arts Taddheus of Parma thought that the relation between agent intellect and phantasms was analogous to that between celestial intelligences and their respective bodies: the agent intellect provides sensory images with “operari”, rather than with being. Taddheus did not clarify, however, how the agent intellect can come to constitute an “aggregatum” with the phantasm – that is, how the agent intellect can be joined *qua* form to another agent, and how they can co-operate (Taddheus of Parma 1951, pp. 168-9).

Jacopo Zabarella (1533-1589) developed the thesis of the formal conjunction in combination with the central views of the Aegidian school. Zabarella removed abstraction from the capacities of the agent intellect, the sole task of which is illumination of phantasms, and he denied that the agent intellect operated in the sensory images. Rather, this intellect joins the phantasm as its form, and this formal conjunction is what the illumination of the phantasm consists in. Thus enhanced, the phantasm is the object that moves the possible intellect (Zabarella 1607, col. 1010-12). By virtue of its formal union with the agent intellect, the phantasm can impress an intelligible species; the latter, in turn, triggers intellectual abstraction, which Zabarella considered to be a discriminative judgment. The formal conjunction was also endorsed by the 17th-century Daniel Sennert, who argued that this conjunction moves the mind, generating the intelligible species and, by consequence, the mental act (Sennert 1633, pp. 659-660).

2.2.2 *Pure presence*

Godfrey of Fontaines (ca. 1250-1306/1309) disavowed the view that the agent intellect can operate on phantasms. He characterized the operation of the agent intellect on phantasms in terms which avoided any “concrete” contact between them. Godfrey rejected any positive illumination of phantasms by the agent intellect. Indeed, rather than elaborating a sensory representation, the agent intellect operates on the phantasm by removing or separating its features – not

²⁹ *De veritate*, q. 20, a. 2, ad 5: “Quod enim intellectus agens habitu non indigeat ad suam operationem ex hoc contingit quod intellectus agens nihil recipit ab intelligibilibus sed magis suam formam eis tribuit faciendo ea intelligibilia actu”.

realiter to be sure – so as to render its formal core capable of moving the possible intellect. To explain this point, Godfrey introduced a metaphor. Consider milk as possessing both colour and taste. Without the influence of light, milk cannot make itself manifest as white, but it can still manifest itself as sweet. When light is present, milk can be grasped as white without being perceived as sweet. In the same fashion, Godfrey argued, one may distinguish between the quiddity of a material thing as it is represented in a phantasm, and its designation by accidental dispositions (Godfrey of Fontaines 1914, p. 37). The interaction between intellect and sensible images in the generation of mental contents is identified with a “contactus spiritualis” or “virtualis”, by which the substantial quiddities contained in sensory representations manifest themselves.³⁰ And this “sequestratio” of the intelligible essence is the agent intellect’s “facere universalitatem in rebus” (p. 39).

Ferrandus Hispanus (*ca.* 1400) retained the traditional abstractive terminology (1977, p. 201), but he deprived the agent intellect of any effective operation to perform. The gist of intellectual cognition is a “recipere intentiones rei” (p. 203). This reception requires only the pure presence of the agent intellect, which enables the phantasm to move the possible intellect.³¹ As Walter Burley’s (1274/5-*ca.* 1346) *De potentiis animae* (Burley 1971, p. 109) seems to indicate, the same doctrinal line was generally accepted at the beginning of the 14th century: the agent intellect enables the form present in the imagination to cause the “species intelligibilis” (sometimes identified with the cognitive act³²) in the possible intellect.

The proper explanation of how sensory representations are illuminated by the agent intellect remained a central question in 16th-century Aristotelian psychology. Caietanus (1468-1534) concluded that the illumination of the

³⁰ Godfrey of Fontaines (1914), p. 38: “Hoc autem fit quodam contactu spirituali et virtuali luminis intellectus agentis, nam supponendum est quod haec est natura intellectus agentis quod sua applicatione ad objectum singulare vel phantasma quodammodo contingat illud sua virtute solum quantum ad id quod pertinet dicto modo ad eius quidditatem substantialem”.

³¹ Ferrandus Hispanus (1977), p. 216: “Et ideo non videtur esse negandum ipsa phantasmata aliquam habere dispositionem vel habilitatem ad movere intellectum possibilem in praesentia intellectus agentis, quam in eius absentia non haberent, supposito etiam quod intellectus possibilis esset summe dispositus. Hanc autem habilitatem seu dispositionem non intelligo <esse virtutem aliquam novam immersam ipsis phantasmatis ab ipso intellectu agente nec generatam, sed intelligo> quod sit quaedam vigor vel potentia naturae intelligibilis existens in phantasmate ad agendum suam similitudinem ad praesentiam ipsius intellectus agentis, in qua actione ipsa natura per se non sufficeret absque praesentia ipsius intellectus agentis”. Cf. pp. 208-9 directed against Avicenna (1972), V.5. See also the position of both Giles of Rome and Godfrey of Fontaines. According to Rist (1989), pp. 179-81, in Aristotle the presence of the active mind is sufficient for actualizing the intelligibles.

³² Ferrandus Hispanus (1977), p. 235. See also the views of Peter Olivi, Walter Burley, and especially Lefèvre d’Étaples.

phantasms is different from that of the diaphanum. He suggested that the appearance of colour may be taken as a model for the illumination of sensory representations. Now, this illumination, which is qualified as “objective”, does not apply to the whole content of the phantasm, but is exclusively aimed at releasing the “quidditas” contained in it.³³ Therefore, the illumination may at the same time be seen as abstraction.³⁴ The abstracting illumination is like the daylight that only makes visible the colours of an apple, not its flavour.³⁵ Caietanus doctrine of an “objective” illumination caused a long dispute concerning the nature of the illumination of phantasms, namely, whether the latter was “objective”, “radical” (Sylvester of Ferrara) or “effective”.³⁶

Crisostomo Javelli (1470/72-*ca.* 1538) shared with Caietanus the view that the agent intellect is unable to impress anything on phantasms. The illumination of sensory representations consists simply in the intellect’s “assistentia & praesentia”.³⁷ Javelli argued that the position of a “verè agens” does not necessarily imply an “imprimere”.³⁸ The agent intellect’s pure presence must

³³ Henry of Ghent’s alternative to the doctrine of species was based on this idea; cf. *supra*. However, also Paul of Venice presumed a similar moment in the cognitive process as preceding the production of the intelligible species: see Paul of Venice (1504), 137rb. Also John Versor (1514), 159v, emphasized that the illumination by the agent intellect regarded not the medium but the object to be known.

³⁴ Caietanus (1514), 361r: “Unde in proposito imaginor quod cum in fantasmate sit natura haec: adveniente lumine intellectus agentis fantasma illustratur non formaliter: ut diaphanum: sed obiective ut color: qua illustratione splendet atque relucet in fantasmate non totum quod est in eo sed quidditas seu natura tamen & non singularitas illius ei commista: ita quod ista illuminatio est abstractiva: quia facit aparere unum scilicet quod quid est: non apparendo aliud scilicet principium individuans: ac per hoc splendet in fantasmate intelligibile in actu: natura scilicet abstrahens ab hic & nunc & tale intelligibile in actu movet intellectum possibilem”. See also 392v-393r and Caietanus (1509), K5ra: the agent intellect actualizes the “praexistens in fantasmatis intelligibile in potentia”; and K5va.

³⁵ Caietanus (1514), 361r. Cf. Caietanus (1509), K5va: the intellectual abstraction does not consist in an “expoliatio”, but in a “reluentia unius & non reluentia alterius”. For a similar metaphor, see Godfrey of Fontaines (1914) (analyzed above) and Radulphus Brito (1973), pp. 236-7.

³⁶ Collegium Conimbricense (1616), 291a: “... non quasi intellectus agens aliquid luminis phantasmatis imprimat; sed quia tanquam externa lux radij sui consortio active elevat phantasmata ad producendam speciem intelligibilem; in qua communis natura repraesentatur exuta differentijs individualibus, manetque solo intellectu perceptibilis”.

³⁷ Javelli (1580), 688b and 690a-b. The origin of this doctrine of the impression of a quality on the phantasms by the agent intellect can be traced to shortly after Thomas; it was defended already by Jean de Goettingen, see above.

³⁸ Javelli (1580), 688b: “Ad hoc dico quod non omne verè agens habet imprimere nisi agat actione media, qua aliquid perducitur sive imprimatur. sed sufficit quod ex sui praesentia confert id, cui fit praesens, & ponit aliquid ex tali praesentia quod ex se non posset”.

be understood as an abstraction, not involving any real separation, but rather a “repraesentatio unius non repraesentando aliud”.³⁹

Also the Alexandrist Giulio Castellani (1528-1585) held that the (separate) agent intellect did not do anything with or in the phantasm. Castellani observed that the illumination by the agent intellect consists in its “sola praesentia”. By this presence the sensory representations are detached from their material conditions, and they become different in nature, that is, they become immaterial and intelligible.⁴⁰ The illuminated phantasm incites the human intellect to grasp the intelligible object (Castellani 1558, 45r-v.).

Simone Porzio (1496-1554) rejected the idea that the agent intellect is a “real”, i.e. a physical motor. In his analysis of the relation between agent intellect and phantasm, Porzio emphatically stated that terms like “motor, motum, & materia” apply to the cognitive process only “metaphorice”.⁴¹ Indeed, in contrast to what the Latins thought, the agent intellect is not an “agens reale” like heat, for example, but rather an “agens illuminans”. The agent intellect moves the phantasm “per similitudinem” (Pomponazzi 1970, 35vb.).

2.3. *The agent intellect questioned*

William of Auvergne (ca. 1180-1249) is one of the first 13th-century authors to criticise Aristotelian noetics. William challenged the notion of an intellect that is at once “agens” and “recipiens” (William of Auvergne 1674, vol. I, 318). The indivisibility of the human soul is the basic tenet of his arguments against the distinction between possible and agent intellect, purporting to show that the latter, when viewed as a faculty of the human soul, is superfluous (cf. William of Auvergne 1674, on 122a-b; 205a-210a). Subsequently, many Franciscan authors, including Bonaventura, tended to blur the distinction between possible and agent intellect in the context of Augustine’s view on *ratio*. Bonaventure neither took the agent intellect as totally actual nor the possible intellect as straightforwardly passive. Indeed, the complete act of the agent intellect depends upon sensory information, while the possible intellect

³⁹ Javelli (1580), 689a. See also the conception of illumination as proposed by Godfrey of Fontaines, which was to return in Radulphus Brito and which was also referred to by Caietanus.

⁴⁰ Castellani (1558), 45r: “... eodem sanè modo intellectus Agens universalem formam in phantasmate à singularium conditionibus adumbratam suo illustrans splendore, idque sola praesentia praestans, eam minime gignit, sed solùm intelligibilem efficit, estque ut habitus quidam phantasmatis, qui non verè agit, sed est solùm agendi ratio...”. See also 70r: “... quamquam intellectus Agens, quem Deum asserimus, in nobis inest, sui que praesentia phantasmata illuminat”.

⁴¹ See also Caietanus theory of an “objective” illumination and his exhortation to pay attention to the signification of the “vocalula” used.

may be regarded as passive only in its connection with the body.⁴² Its passivity, however, is not absolute: assisted by the agent intellect, the possible intellect processes the phantasms, thus abstracting species and ultimately grasping the essence of sensible objects (Bonaventura 1885: *In II Sent.*, dist. 24, I, a. 2., q. 4, 569).

Peter Olivi (1248-1298) pointed out that Augustine did not speak of an active mind, thereby suggesting the consistency of a cognitive psychology dispensing with any sharp distinction between active and receptive faculties of the human mind. Olivi argued that no such distinction is possible: any crisp relation between a possible and an agent intellect induces an undesirable hierarchy between them (Peter Olivi 1926, vol. II, p. 458). Before reaching this conclusion, Olivi stated a number of philosophical objections against the possibility of interactions between agent intellect and phantasm. In the production of intelligible species, the agent intellect is generally supposed to illuminate sensory images. When delivered to sensory representations, so Olivi observed, this light must either preserve or lose its spirituality. The latter case is to be excluded, because the illumination would be causally inert; only two problematic interpretations are possible of the former case. Either the illumination is ontologically detached from the subject it inheres in, or the agent intellect communicates its intellectual being to the receiving subject (Peter Olivi 1926, vol. II, pp. 457-8). To ignore these difficulties, simply accepting the illumination of the phantasms as unproblematic, is of no avail, for various thorny problems invest the causal aspects of the interaction between active mind and sensory images. The phantasm cannot be the material cause of the intelligible species, because a material cause inheres in its effect. Nor can it be the efficient cause, because the latter is to be identified with the agent intellect, and a simple effect such as the intelligible species cannot be caused by two different causes. A similar argument undermines the possibility of a synergy between agent intellect and phantasm in terms of principal and instrumental cause. Finally, one may suppose that the agent intellect introduces a disposition in the phantasm so that it can cause the intelligible species. This hypothesis does not solve the issue, for it implicitly assumes that the agent intellect is capable of producing the species on its own (Peter Olivi 1926, vol. II, pp. 459-60).

Also Durandus of Saint Pourçain (*ca.* 1270-1332) argued that there is no need for the agent intellect. The necessity of an agent intellect was generally justified on the ground that it carries out an indispensable operation regarding either the phantasms or the possible intellect (Durandus of Saint Pourçain 1571, I, dist. 3, q. 5, 27ra). Durandus argues that in both cases this operation is

⁴² It is clear that Bonaventure considered both intellects as knowing faculties.

superfluous. The agent intellect cannot perform an operation on sensory images for various reasons. (1) Being an immaterial entity, it cannot impress on phantasms what supposedly enables them to move the possible intellect, for this impression would inevitably become material upon reception by the phantasm. (2) The agent intellect cannot abstract species or forms from sensory representations, because an abstraction is either real or logical, and a contradiction follows on either account. The former type of abstraction concerns actual entities, which the intelligible species are not: in fact, accidents cannot be abstracted, "... quia forma non migrat de subiecto in subiectum". And an "abstractio secundum rationem" can be carried out only by knowing entities with respect to known things, whereas phantasms are not known, and the agent intellect is not a knowing faculty (Durandus of Saint Pourçain 1571, I, dist. 3, q. 5, 27ra-b). Moreover, there is no satisfactory explanation of how the agent intellect isolates the "quidditas" from material conditions. (3) There is no sound analogy between, for example, the light enabling colour to move the power of sight and the agent intellect enabling, by its mere presence, sensory representations to move the possible intellect: colour has in itself the capacity to move the power of sight.

During the Renaissance, Agostino Nifo (1469/70-1538) referred to Durandus. Rightly, according to Nifo, the latter played down the role of the agent intellect as indispensable cognitive faculty, because the agent intellect causes neither something in the phantasms nor a species or a notion in the possible intellect. The agent intellect is a "virtus agens" only insofar as it is "medium dispositivum quo anima recipit species universaliter repraesentativas", or, more precisely, a "dispositio qua phantasmata agant in ipsum intellectum nostrum".⁴³ Nifo discussed and rejected six opinions of "iuniores", besides that of John of Jandun, on intellectual abstraction.⁴⁴ Then he described abstraction as an operation of the possible intellect, regarding the task of the agent intellect as principally "eductio" or "translatio" (Nifo 1553, 208ra). In accordance with his approval of Durandus, Nifo denied that the agent intellect is able to do anything in or with the phantasm (208rb-va). The aforementioned

⁴³ Nifo (1553), 176rb; however, in Nifo (1554), 53rb, the species production was still attributed to the agent intellect.

⁴⁴ Nifo (1553), 207vb-208ra: (1) enabling the phantasm to move the possible intellect by purifying it; (2) production of the intelligible species from the phantasm; (3) the generation of a more general concept in base of less general ones; (4) production of second intentions; (5) forming composed concepts from simple ones; (6) knowledge of the cause in virtue of cognition of the effects. According to Nifo, Jandun postulated a double abstraction: the actualisation of the intelligibles by the agent intellect, and the possible intellect's operations regarding previously acquired information.

role of the agent intellect as "medium dispositivum" can now be specified more precisely: it prepares the soul to the reception of universal intentions.⁴⁵

There were other Renaissance authors who no longer accepted the traditional, sharp distinction between a passive, knowing intellect on the one hand, and an active, un-knowing intellect on the other. Charles Bovelles (1479-1553 or 1567) described the active intellect as a knowing faculty, and the potential intellect as a storing faculty. He thus reversed the classical Peripatetic doctrine that drew a distinction between an agent, not-knowing, intellect and of a receptive one that effectively knows.⁴⁶ Philipp Melanchthon argued that abstractive knowledge is grounded on the information stored in memory (Melanchthon 1846, p. 145). By consequence, he assigned intellectual abstraction not to the agent but to the possible intellect.⁴⁷ The former is seen as "poeta" or "inventor" (p. 148), i.e. as a creative principle that divides, composes and discovers, whereas the latter unfolds its abstractive activity on the basis of mnemonic contents already present in the soul.⁴⁸ Followers of the Simplician interpretation of Peripatetic psychology, such as Marcantonio Genua (1491-1563) and Marc'Antonio Mocenigo (*fl.* 1559), conceived of the agent and possible intellect as two moments of the self-same entity, namely as "intellectus manens" and "intellectus progressus", respectively. The intellect is agent when it actualizes intelligibles from its own potentiality and then apprehends them. The intellect is a possible intellect whenever it is not capable of representing its own contents. Julius Caesar Scaliger blurred the distinction between possible and agent intellect, regarding the cognitive act as an operation of the knowing and active intellect (Scaliger 1576, 951). Hence, it became inevitable that mind should be detached from any process of actualization conceived in terms of Aristotelian physics. Although he attributed the generation of the cognitive act to the agent mind, Piccolomini (1523-1607) held that the possible and the agent intellect or mind are essentially one (Piccolomini 1597, 1235). He believed that it is the same intellect that is touched by the phantasms and that actually judges its affections

⁴⁵ Nifo (1553), 208va: "... intellectus ergo agens non agit sed afficit animam, ut recipiat rerum universales intentiones"; see also 208vb: "ergo virtus dicitur intellectus agens: per quanto est dispositio, qua phantasmata in intellectum nostrum agant".

⁴⁶ *Liber de intellectu*, in Bovelles (1510), 9v; see also 13v and 17r. A similar position was found in some medieval authors, often combined with a hierarchical, Neoplatonically inspired, conception of the relation between possible and agent intellect, and often with a form of nativism with regard to contents; cf. in particular Albert and his followers.

⁴⁷ Already Alexander of Aphrodisias attributed the abstraction to the intellect "in habitu"; cf. *supra*.

⁴⁸ Melanchthon (1846), p. 148: "Hunc ait abstrahere a phantasmatis. Id est, hic celeriter objecta confert, signa quaerit, ex signis causas aut effectus, collationes, allusiones, et inde eligit quod est aptissimum".

(Piccolomini 1597, 1226 and 1309). The Dutch Franco Burgersdijk (1590-1635) questioned the need for an agent intellect, and concluded that the intellect may be called “agens” insofar as it generates concepts after being informed by the species (Burgersdijk 1627, 118-119).

Also Suarez relativized the distinction between agent and possible intellect, assigning to the latter the central role in the cognitive process, and regarding the former as a mere dispositional power.⁴⁹ Suarez qualified the operations of the agent and the possible intellect as “transiens” and “immanens”, respectively (Suarez 1856, IV, c. 8, 741a.). The possible intellect surpasses the agent intellect in excellence: by producing the species, the agent intellect realizes only the preliminary conditions under which intellectual cognition can take place, while this form of cognition as such depends on the possible intellect alone. The active mind provides the intelligible species: as natural agent it must repair a “defect” in the primary object of cognition, namely its materiality.⁵⁰ The agent intellect serves an indispensable instrumental function⁵¹, because in its “operari” the human intellect depends on the senses. Once it has been informed, the possible intellect may attend to the various aspects of the information conveyed by the species.

A radical dismissal of the agent intellect is found in the 17th-century schoolman Ildephonsus Peñafiel (*fl.* 1655), who argued that human cognition requires divine intervention. Peñafiel proved this as follows: if the objects are unable to produce intelligible species by themselves, then a partial cause such as the agent intellect is of no avail.⁵² Only God can repair the “improportio” of material objects (Peñafiel 1655, 591a-b; cf. 594a and 595a).

3. Conclusion

Peripatetic psychology of cognition was based on the view that the properties of things that are relevant for conceptual abstraction are not pre-given. Aristotle and most of his followers believed in the existence of a mental ability for conceptualization on the basis of sensory signals received from the

⁴⁹ Suarez (1856), IV, c. 8. However, already Thomas regarded the possible intellect as the only *knowing* intellect.

⁵⁰ Suarez (1856), 744b. In this context Suarez polemized with Nifo, *De intellectu*, tr. IV, c. 21 (containing an exposition of Averroes’ view of the possible and agent intellect).

⁵¹ According to Suarez, the agent intellect is first of all a “technician”; for the agent intellect as “artifex”, see Thomas Sutton (1977), p. 466, and Taddeus of Parma (1951), p. 145.

⁵² See Peñafiel (1655), 591b-594a, for the classic arguments against the possibility of a cooperation between agent intellect and phantasm. The various proposals for a cooperation between agent intellect and phantasm all beg the question, presupposing as they do what should be demonstrated, namely, the need for an agent intellect.

environment. The intellect can grasp the essential structures of the physical world from information that is included in the phantasms. The essences are to be isolated in virtue of an interaction of the active aspect of mind with sensory representations. In his *De anima*, Aristotle did not unequivocally state, however, whether the agent intellect generated, reconstructed or else simply revealed the intelligible core of natural reality.

The formidable difficulties that the notion of intellect as efficient cause produced, might be described as dilemmas resulting from the application of the Aristotelian theory of change and its causes to the process of intellection. In Aristotle's view, psychology was a chapter of natural philosophy, and was accordingly developed with the conceptual tools of physics, such as, matter and form, potency and act. Aristotle's naturalist approach to matters psychological, however, allowed for the possibilities of non-physical changes, the existence of matterless forms, and an immaterial intellect. Yet, the Peripatetic conceptual framework did not provide the appropriate tools for determining the precise status of mechanisms involved in the formal mediation of intellectual knowledge. Indeed, some problems resisted a satisfactory solution. One of them regarded the interaction between agent intellect and phantasms. The hypothesis that the mind processes sensory representations in order to grasp their (intelligible) content seems to involve a leap over an unbridgeable gap. How can the immaterial mind relate to sensible representations? What "does" the agent intellect exactly do with the phantasms? And what about the problematic notion of a "hidden" presence of cognitive objects in sensory representations?

Proponents of the agent intellect stressed that the role of mental agency in the acquisition of knowledge cannot be ignored. Mental content is not intrinsic. The majority of the Peripatetics conceived of cognition chiefly in terms of a *production* of the human mind, rather than the result of a progressive unveiling of physiologically embedded contents. The mind processes sensory images, rather than extracting something from them. In general, however, they failed to give a detailed account of how the active mind operates on the phantasm, and did not go beyond the claim that the co-operative effort of these two agents must be explained in terms of an "aggregatum" of form and matter.

Admitting the agent intellect did not entail that general knowledge was gained only by abstraction. Aristotle did not endorse a psychological theory of abstraction. Moreover, many of his followers thought that the illumination of phantasms was sufficient for the possible intellect to grasp the intelligible core of sensory images. In their view, the cognitive act is no longer caused by an agent intellect and received by a knowing intellect. The agent intellect merely fulfils the preconditions for mental acts. The authors who endorsed this view did not agree, however, on the nature of the illumination. After the rediscovery

of Aristotle in the West, a long series of controversies developed on the issue whether this illumination was more or less “substantive” or whether it simply consisted in the agent intellect’s “pure presence”.

Authors defending a substantive operation emphasized that the agent intellect exerts a positive action “towards” the phantasm, which is not merely “remotiva” or “sequestrativa”. They supported this view with the following claims. A purely “removing” illumination does not enable the phantasm to move the possible intellect. If the phantasms cannot receive anything from the agent intellect, then one is forced to assume that they are capable on their own, as sensory images, of moving the possible intellect. Granted that the agent intellect is an “agens per se”, then it must produce a positive effect.

The advocates of the “pure presence” view stressed the fact that in the process of illumination by the agent intellect, nothing can be impressed upon the phantasms. Indeed, it is a basic tenet of Aristotelian physics that accidents cannot be shifted from one substrate to another. Moreover, a spiritual entity cannot be received by a material entity. But even granting this possibility, the impression received in the phantasm would necessarily become material and singular, thereby dissipating its efficacy. A spiritual agent can change a material subject only by a “motus localis”, and the latter is not to be ascribed to the agent intellect. These difficulties, ruling out the possibility of impressing a form in phantasms, led many authors to the conclusion that the agent intellect’s action consists merely in its presence.

The attacks of Peter Olivi, Durandus of Saint Pourçain, and other authors against the agent intellect purported to show that the idea of an organizing system and of something out there to be organized is indefensible on philosophical grounds. Though not rejecting Aristotelian psychology of cognition *tout court*, they revealed limitations of its conceptual framework. They did not challenge the idea of an active mind as such; rather, they argued that knowledge did not presuppose the existence of a distinct active mental faculty processing sensory information. Accordingly, they held that the intellect can grasp the universal nature immediately in the phantasms or else developed an internalist (Augustinian) psychology of cognition.

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REFERENCES

Primary Sources

- Aegidius Romanus [Giles of Rome] (1500). *Expositio super libros de anima*. Venetiis.
- Aegidius Romanus [Giles of Rome] (1504). *Quodlibeta castigatissima*. Venetiis.
- Albertus Magnus (1890-99). *Opera omnia*, ed. A. Borgnet, 38 vols. Paris.
- Albertus Magnus (1968). *De anima*, ed. C. Stroick. Münster.
- Alexander Aphrodisiensis (1887). *De anima liber cum mantissa*, ed. I. Bruns. Berlin.
- Alexander de Hales (1928). *Summa theologica*, ed. PP. Collegii S. Bonaventurae, tomus II. Quaracchi.
- Alfarabi (1930). *De intellectu et intellecto*, in E. Gilson, Les sources gréco-arabes de l'augustinisme avicennisant. In: *Archives d'histoire doctrinale et littéraire du Moyen Age* 4, pp. 115-126.
- Anonymous (1982). *De anima et de potentiis eius*. In: R.A. Gauthier (Ed.), *Le Traité De anima et de potentiis eius d'un maître ès arts (vers 1225)*. *Revue des sciences philosophiques et théologiques* 66, pp. 3-55.
- Anonymous (1952). *De potentiis animae et obiectis*. In: D.A. Callus (Ed.), The powers of the soul. An early unpublished text. *Recherches de théologie ancienne et médiévale* 19, pp. 131-170.
- Anonymous (1963). *Quaestiones in tres libros De anima*. In: J. Vennebusch, *Ein anonymer Aristoteleskommentar des XIII. Jahrhunderts. Quaestiones in tres libros De anima*. Paderborn.
- Averroes (1953). *Commentarium magnum in Aristotelis De anima libros*, ed. F.St. Crawford. Cambridge (Ma.).
- Avicenna (1968-1972). *Liber de anima*, ed. S. van Riet, 2 vols. Louvain-Leiden.
- Bonaventura (1885). *Opera omnia*, vol. II. Quaracchi.
- Bovelles, Charles de (1510). *Opera*. Paris.
- Burgersdijk, Franco (1627). *Idea philosophiae naturalis sive Methodus definitionum & controversiarum Physicarum*, editio secunda. Lugduni Batavorum.
- Caietanus [Thomas de Vio] (1514). *In primam Summae Theologiae partem commentaria*. Parisiis.
- Caietanus [Thomas de Vio] (1509). *Commentaria in libros Aristotelis de Anima*. Florentiae.
- Castaneus, Henricus Ludovicus (1645). *Celebriorum distinctionum philosophicarum synopsis*. Lugduni Batavorum.
- Castellani, Giulio (1558). *Adversus Marci Tullii Ciceronis academicas quaestiones disputatio*. Bononiae.
- Collegium Complutense (1637). *Disputationes in tres libros Aristotelis de anima. Iuxta miram Angelici Doctoris D. Thomae, & Scholae eius doctrinam*. Lugduni.
- Collegium Conimbricense (1616). *Commentaria in tres libros de anima*. Venetiis.
- Durandus de Sancto Porciano (1571). *In Sententias Theologicas commentarium libri IIII*. Venetiis.
- Ferrandus Hyspanus (1977). *De specie intelligibili*. In: Z. Kuksewicz, Ferrandus Hyspanus' *De specie intelligibili*. *Medioevo* 3, 187-235.
- Fracastoro, Girolamo (1574). *Opera omnia*. Venetiis.
- Godefridus de Fontibus [Godfrey of Fontaines] (1914). *Quodlibetum V*, eds. M. de Wulf & J. Hoffmans. Louvain.
- Gregorius Ariminensis (1979-84). *Lectura super primum et secundum Sententiarum*, eds. A.D. Trapp, V. Marcolino, et altri, 5 vols. Berlin-N.Y.
- Gualterus Burley (1971). *De potentiis animae*. In: M. Jean Kitchel, The *De potentiis animae* of Walter Burley. *Mediaeval Studies* 33, 85-113.
- Guillelmus de Alvernia (1674). *Opera omnia*, 2 vols. Parisiis.
- Henricus a Gandavo (1520). *Summa quaestionum ordinarium theologiae*. Parisiis.

- Henricus a Gandavo (1613). *Quodlibeta*. Venetiis.
- Henricus a Gandavo (1985). *Quodlibetum XIII*. In: *Opera omnia*, vol. XVIII, ed. J. Decorte. Leuven.
- Javelli, Crisostomo (1580). *Quaestiones naturales super iij. libros Aristotelis de anima (...) iuxta Thomae dogmata*, in *Opera*. Lugduni, pp. 613-707.
- Johannes Buridanus (1518). In *tres libros de anima*, in *Quaestiones et decisiones physicales (...) Alberti de Saxoni (...) Buridani in Aristotelis (...)*, ed. Georgius Lokert. Paris.
- Johannes Capreolus (1589). In *libros Sententiarum amplissimae Quaestiones, pro tutela doctrinae S. Thomae*. Venetiis.
- Johannes Duns Scotus (1950-). *Opera omnia*, ed. C. Balic e.a. Città del Vaticano.
- Johannes Jandun (1587). *Super libros De anima subtilissimae quaestiones*. Venetiis.
- Johannes Peckham (1918). *Quaestiones tractantes de anima*, ed. H. Spettmann. Münster.
- Johannes Versor (1514). *Quaestiones super tres libros De anima Aristotelis*. Cracovie.
- Lefèvre d'Étaples, Jacques (1525). *Paraphrasis trium de anima complectorum*, in *Philosophiae naturalis Paraphrasis*. Parisiis.
- Licetus, Fortunius (1627). *De intellectu agente*. Patavii.
- Melanchthon, Philippus (1846). *Liber de anima*. In: *Opera quae supersunt omnia*, ed. C.G. Bretschneider, vol. XIII. Halis Saxon.
- Nifo, Agostino (1554). *De intellectu*. Venetiis.
- Nifo, Agostino (1553). *Expositio subtilissima collectanea commentariaque in III libros Aristotelis De anima*. Venetiis.
- Paulus Venetus (1504). *In libros Aristotelis de anima explanatio*. Venetiis.
- Paulus Venetus (1503). *Summa philosophiae naturalis*. Venetiis.
- Peñafiel, Ildephonsus de (1655). *Cursus integer philosophicus*. Lugduni.
- Petrus Iohannes Olivi (1926). *Quaestiones in secundum librum Sententiarum*, ed. B. Jansen, 3 vols. Quaracchi.
- Piccolomini, Francesco (1597). *De humana mente*. In: *Librorum ad Scientiam de Natura attinentium Partes Quinque*. Francofurti, 1216-1327.
- Pomponazzi, Pietro (1966-1970). *Corsi inediti dell'insegnamento padovano*, 2 vols. ed. A. Poppi. Padova.
- Radulphus Brito (1973). *Quaestiones in Aristotelis librum tertium De anima*, in W. Fauser, *Der Kommentar des Radulphus Brito zur Buch III De anima*. Münster.
- Roger Marston (1932). *Quaestiones disputatae*. Firenze.
- Scaliger, Julius Caesar (1576). *Exotericarum exercitationum libri XV de Subtilitate ad Hieronymum Cardanum*. Francofurti.
- Sennertus, Daniel (1633). *Epitome naturalis scientiae*, editio tertia. Wittenbergae.
- Suarez, Franciscus (1856). *Liber de anima*, in *Opera omnia*, vol. III, ed. nova, ed. D.M. André. Parisiis.
- Taddeus de Parma (1951). *Quaestiones de anima*, ed. S. Vanni Rovighi. Milano.
- Themistius (1973). *Paraphrasis eorum quae de anima Aristotelis*, traduction de Guillaume de Moerbeke, ed. G. Verbeke. Leiden.
- Theodoricus Freibergensis [Dietrich of Freiberg] (1957). *De origine rerum praedicamentalium*, ed. F. Stegmüller. In: *Archives d'histoire doctrinale et littéraire du Moyen Age* 32, pp. 115-201.
- Theodoricus Freibergensis [Dietrich of Freiberg] (1977). *Schriften zur Intellekttheorie*, ed. B. Mojsisch. Hamburg.
- Thomas Aquinas (1952-1963). *Summa theologiae*, ed. P. Caramello, 3 vols. Torino.
- Thomas Aquinas (1953). *Quaestiones disputatae*, 2 vols. Torino.
- Thomas Aquinas (1959). In *Aristotelis librum de anima commentarium*, ed. P.F.A.M. Pirotta. Torino.

- Thomas Aquinas (1961). *Liber de Veritate Catholicae Fidei seu Summa contra Gentiles*, ed. C. Pera, 3 vols. Torino.
- Thomas Aquinas (1954). *De substantiis separatis seu de angelorum natura*, in *Opuscula philosophica*, ed. P.Fr.R.M. Spiazzi. Torino, pp. 19-61.
- Thomas Sutton (1977). *Quaestiones ordinariae*, ed. J. Schneider. München.
- Thomas Wilton (1964). An intellectus noster possit de duobus singularibus formare duo verba, ed. W. Senko. In: *Studia Mediewistyczne*.
- Zabarella, Jacopo (1607). *De rebus naturalibus*. Venetiis.

Secondary sources

- Bazán, B. (1973). L'authenticité du *De intellectu* attribué à Alexandre d'Aphrodise. *Revue philosophique de Louvain* **71**, 468-487.
- Cleary, J.J. (1985). On the terminology of "abstraction" in Aristotle. *Phronesis* **30**, 13-45.
- Davidson, H.A. (1972). Alfarabi and Avicenna on the active intellect. *Viator. Medieval and Renaissance Studies* **3**, 109-78.
- Dieterici, F. (1892). *Alfarabis philosophische Abhandlungen*, aus dem Arabischen übersetzt. Leiden.
- Dretske, F. (1981). *Knowledge and the Flow of Information*. Cambridge (Ma.): MIT Press.
- Finnegan, J. (1957). Al-Farabi et le *Peri nou* d'Alexandre d'Aphrodise. *Mélanges L. Massignon*. Paris, pp. 133-152.
- Gauthier, R.A. (1975). Le cours sur l'*Ethica nova* d'un maître ès arts de Paris. *Archives d'histoire doctrinale et littéraire du Moyen Age* **42**, 71-141.
- Geach, P. (1960). *Mental Acts: Their Content and Their Object*. London-N.Y: Routledge & Kegan Paul.
- Hammui, R. (1928). La filosofia di Alfarabi. *Rivista di filosofia neoscolastica* **20**, 54-88.
- Jabre, F. (1984). Le sens de l'abstraction chez Avicenne. *Mélanges de l'université Saint Joseph*, tome L. vol. 1, Beyrouth, pp. 281-311.
- Kuksewicz, Z. (1968). *De Siger de Brabant à Jacques de Plaisance. La théorie de l'intellect chez les Averroïstes latins des XIIIe et XIVe siècles*. Wrocław-Varsovie-Cracovie: Ossolineum.
- Moraux, P. (1942). *Alexandre d'Aphrodise. Exégète de la noétique d'Aristote*. Liège-Paris: Université de Louvain.
- Mouhamma, Th. (1968). Théorie des intelligibles seconds chez Avicenne. *Melto* **4**, no 1, 59-89.
- Mundhenk, J. (1980). *Die Seele im System des Thomas von Aquin. Ein Beitrag zur Klärung und Beurteilung der Grundbegriffe der Thomistischen Psychologie*. Hamburg: Meiner.
- Rist, J.M. (1989). *The Mind of Aristotle. A Study in Philosophical Growth*. Toronto: Toronto University Press.
- Sharif, M.M. (Ed.) (1963). *A History of Muslim Philosophy*, vol. I. Wiesbaden: Harrassowitz.