Pietro d’Abano’s „Conciliorum“
and the Theory of the Soul in Paris

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Pietro d’Abano was born in 1250 or, less probably, in 1257. The sources about his life are few but so far as we can ascertain, he received his education in Italy, travelled to Constantinople to learn Greek, and moved to Paris in the last decade of the thirteenth century. Three dates connect him with Paris or at least with a French surrounding: In 1293, he completed a Latin translation of a French version of astrological treatises by Abraham ibn Ezra originally written in Hebrew. In 1295, he described himself, in his „Compilatio physonomiae“, as „Petrus de Padua in civitate Parisiensi“, and as „Parisiensis philosophiae minimus alumnorum“2. In 1303, he says in the „Conciliorum“ (if we follow the dating in the text)3 that he had been persecuted by the Jacobites — that is, the Dominican friars of the convent of St. Jacques in Paris — that he had been accused of 55 errors but rescued through the grace of God and with papal help4. Pietro returned to Padua by 1307 the latest, where he apparently revised his major works, a task that he finished in 1310. One of them, the commentary on the pseudo-Aristotelian „Problemata“, was clearly begun in Paris but completed in Padua, as stated in the Explicit: „incepta quidem Parisiis et laudabiliter Paduae terminata“5.

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3 See note 1 above.

4 Pietro d’Abano, Conciliator, diff. 48, pp. III: „Et ideo apparet hic errores intellectus Jacobitarum me persistentium tamquam posuieron animam intellectuam de potentia edui material, cum alis miti 54 ascriptis erroribus. A quorum manibus gratia et apostolica mediante laudabiliter evasi“.

5 Pietro d’Abano, Expositio ... in librum problematum Aristotelis, ed. Ioannis Herbot, (Venice) 1482, fol. ult.
In Padua, the Institution staged further trials against him. Pietro died in 1315 or 1316. If it is true what Thomas of Strassburg claims to have seen with his own eyes, then Pietro d'Abano's bones were burned in the city of Padua as a punishment for his errors.

From the Middle Ages until today, many attempts have been made to trace the reasons for his conflict with the Inquisition. One of the few facts known is that one of the propositions attributed to him — falsely, he claims — says that the intellectual soul was derived from the potentiality of matter: "nam quam possum animam intellectivam de potentia edici materiae." A very similar thesis had been condemned by the bishop of Paris in 1277. In addition, Pietro mentions in the "Conciliator" that for a long time impertinent people had accused him of derogating from divine wisdom; it may be indicative that this passage occurs after a long exposition of historical astrology (in answer to the question of whether human nature has become progressively weaker since creation). Later

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6 There is not much information on these accusations other than the 16th-century testimony of Bernardino Scapecone, who mentions that the first trial ended with a sentence of acquittal, while the second was still in progress at the time of Pietro's death. See B. Scapecone, De antiquitate urbis Patavii et claris civibus Patavinis, Basle 1560, 201: "Nam est aliquando hereses ac menoantiae a Petro Regensi medico delatus est: factus est inimicus, ex accumulatione scientiae et famae, quod illi iiciat et costeris alius in annis scientiarum generis longa praestaret. Et propteris haec contra ipsum inquisitionem est in publico iudicio per inquisitiones haereticas pronuntiata. Primum anno salubris humanas 1305: in quo iudicio si patrocin fuerant clarissimi viri Lupatii poetarum, Iacobus Alvararum, et Petrus Albichius: et cum nihil probatum eo iudicio fuisse, ab eiusmodi salutaribus liberatus est. Post novem annos annos, videlicet anno salubris nostrae 1315, rursum eiusdem crimini insinuata, pendente aulbe iudicio, mortuus est..."

7 Thomas de Argentina, Commentaria In IV libros Sententiarum, Lib. IV, dist. 39, art. IV, ed. Venice 1564 (repr. Ridgwood, N. J. 1965), fol. 163v: "Et ex hae opinione quidam haeretici, nomine Petrus de Apone, qui expeditissimus fuit medicus, accept occasionem deridendi miracula Christi, et sanctorum, quantum ad suscitationem mortuorum. Dicet enim, quod tales ressuscitati non erant vere mortui, sed informi praedicta infirmitate. Et si diebatur <simile> de Lazaro, qui erat quattuorannus in monumenta: praedicta autem infirmitates, sicut etiam ipse concessit, non potest tenere hominem utramque tres dies, ipsi respondit, quod illud dictum de Lazaro verificalitur per synonymon, ita quod parsi acceptabatur pro toto. Fuerunt enim, ut ipse dicit, solum tres dies naturales, numerabitur solum quatuor: quia erat ibi pars prima diei, et pars quaeris diei, quae divae partes aequo dettebant uni diei naturae, quam cum ab his diebus factabant tres diebus naturales. Sed isti mentita est inequalis sua, et recept mercedem erroris sui: Nam ego fui praescens, quando in civitate Paduana osse suae pro bis, et alius suis erroribus, fuerunt combusta".

8 See note 4 above.

9 See R. Hissette, Enquête sur les 219 articles condamnés à Paris le 7 Mars 1277, Louvain—Paris 1977, art. 120, 195: "Quod forma hominis non est ab extrinseco, sed educit de potentia materiae, quia aliter non est generatio unicae". For an analysis of Pietro's theory of generation in the "Compilatio physicorum" see D. Jacquart, L Influence des astres sur le corps humain chez Pietro d'Abano, in: B. Ribémont (ed.), Le Corps et ses énigmes au Moyen Âge, Caen 1993, 73—86, esp. 79: "...l'ensemble de sa démonstration n'est guère éloigné d'une des propositions condamnées à Paris en 1277. The proposition referred to by Jacquart is no. 105, page 174 in Hissette: "Quod in hora generationis hominis in corpore suoe et per consequens in anima, quae sequitur corpus, ex inutile causarum superiorum et inferiorum inest homini dispositio inclinans ad tales actiones et eventus. Error, nisi intelligatur de eventibus naturalibus et per viam dispositionis".

10 Pietro d'Abano, Conciliator, diff. 9 ("Utrem natura humana sit debilitata ab eo quod antiquitatis nece"), pp. 4, 15vB: "Sit igitur dictum sit quantum de hoc rationalibiter potest comprehendi incepta sapientium mundi versantium, nil sapientiae diviniae superiori praeceptoribus derogando, sed potius eam per omnia confirmando, cum
biographical and legendary sources claim that Pietro was persecuted for magic and necromancy. This is possible, but it has long been remarked that his extant writings contain hardly any contentious occultist doctrines. The reason may be that he revised his works, or that he was persecuted for his teaching rather than for his books. We know that he taught medicine, philosophy and astronomy in Padua after 1307, and it is difficult to imagine that he did not teach in Paris.

The Parisian years of Pietro d'Abano are not only interesting for his struggle with the authorities, but also because, in all probability, it was in Paris that Pietro wrote his most celebrated work, the „Conciliator differentiarum philosophorum et medicorum“ (or, alternatively, „Conciliator litium medicinalium“). The book is clearly that of a physician. Its three parts deal with questions concerning the principles of the entire art of medicine — the arrangement following Johannitus and Avicenna's Canon — theoretical medicine and practical medicine. As a medical summa, it was enormously influential and determined the mode and content of many subsequent works by physicians.

Here I am interested not so much in the medical sources of Pietro's book, which he may have got to know in the burgeoning faculty of medicine in Paris, but rather in the „Conciliator“'s very rich philosophical material — and the doctrines on the soul in particular. The following survey musters four differentiae of Pietro's magnum opus: those on (1) the faculty of growth, (2) the question of whether flesh is the organ of touch, (3) vision, and (4) the virtus vitalis, which contains a succinct theory of the intellect. This study therefore has a limited focus; it does not aim at a comprehensive picture of Pietro's psychology — for which one ought to pay attention also to his commentary on the Pseudo-Aristotelian

ipa sola sit veritas et vita. In hoc autem me aliqui protesi volentes aut potius impotentes audire gratis longi vexare si temporibus, a quorum manibus me queaque veritas indubialiter eripuit praefata: deumum mandato etiam supervenientis apostolico”.

11 See the testimonies of Thomas of Strassburg and Bernardino Scardone in notes 6 and 7 above.
Problemata 15 — but at characterizing the Conciliator’s theory of the soul in view of contemporary currents in psychology. Since Pietro must have worked in close proximity to the Parisian arts faculty when composing the Conciliator — even if he did not actually teach in that faculty — one would assume that his psychology did not differ much from later thirteenth-century Quaestiones de anima by masters of arts.

Unfortunately, scholarship on De anima commentaries in the thirteenth and early fourteenth centuries still has a long way to go, and one ought to keep in mind that the discovery and publication of further commentaries may alter the picture. The following treatises by Parisian masters of arts have been consulted: Anonymous (ed. Vennebusch), Quaestiones in tres libros de anima, of ca. 1260, Paris or Oxford; Siger of Brabant, Quaestiones in tertium de anima, ca. 1265; Siger of Brabant, Tractatus de anima intellectiva, early 1270s; Anonymous (ed. Giele), Quaestiones in I et II de anima, early 1270s; Anonymous (ed. Van Steenberghen), Quaestiones in De anima, early 1270s; Anonymous (ed. Bazán), Quaestiones de anima, 1270s or later; Radulphus Brito, Quaestiones super librum de anima, between 1295 and 1307, that is, exactly contemporary to the Conciliator; John of Göttingen, Sophisma de intellectu et intentione, 1305; and John of Jandun, Quaestiones super librum de anima, redaction II, 1310–18.\footnote{The Expositio (as in note 5) is particularly rich on the senses of hearing (particulas 11 and 32), smelling (part. 12–14 and 33), and on the theory of light (part. 11, problk. 33). Pietro occasionally also touches upon intellect theory (e.g., part. 14, problk. 1, part. 30, problk. 4, see note 88 below). See the recent study and partial edition of particula 11 in C. Burnett, Hearing and Music in Book XI of Pietro d’Abano’s Expositio Problematum Aristotelis, in: N. van Deussen (ed.), Tradition and Ecstasy: The Agony of the Fourteenth Century, Ottawa 1997, 153–190. For general information on this treatise see N. Siraisi, The Expositio Problematum Aristotelis of Peter of Abano, Isis 61 (1970), 321–339.}

De anima commentaries before Thomas Aquinas, Sententia libri de anima of about 1268 are listed and discussed by R. A. Gauthier, Les commentaires de la Vénus, in: Thomas Aquinas, Sententia libri de Anima, ed. Gauthier, Rome–Paris 1984, 235–273. For the 13th century, A. Thirry summarizes the state of research for 1971 by listing 40 editions and 30 manuscripts (see her Recherches relatives aux commentaires médiévaux du De anima d’Aristote, in: Bulletin de philosophie médiévale edited by the S. I. E. P. M. 13 (1971), 109–128. For the late 13th and early 14th century, see the only partially outdated table in Z. Kuklewicz, De Siger de Brabant à Jacques de Plesance, Wroclaw et al. 1968, 468–469. For further information on the commentators known by name, i.e., Siger of Brabant, Radulphus Brito and John of Jandun, see the entries in C. H. Lohr, Medieval Latin Aristotel Commenaries, in: Traditio 23–30 (1967–74), and id., Commentateurs d’Aristote au moyen-âge latin: Bibliographie de la littérature secondaire récente, Fribourg Suisse 1988. A recent contribution to the field is B. Bazán’s edition of Anonymous, Sententia super II et III de anima (ca. 1246–1248), Louvain-la-Neuve et al. 1998.\footnote{Anonymous, Quaestiones in tres libros de anima, ed. J. Vennebusch, Ein anonymer Aristoteles-Kommentar des XIII. Jahrhunderts, Paderborn 1963. Siger of Brabant, Quaestiones in tertium de anima, De anima intellectiva, De aeternitate mundi, ed. B. Bazán, Louvain-Paris 1972. The three anonymous commentaries of the 1270s (or later: as Bernardo Bazán remarked in Tübingen, the fact that there are no traces of the condemnation in the text edited by him, does not entail that the commentary was written before 1277) are published in: Trois commentaires anonymes sur le traité de l’âme d’Aristote, edd. B. Bazán, M. Giele and F. Van Steenberghen,}
There are a number of significant features common to these treatises and the "Conciliator", such as the tendency to address the same questions. In content, however, Pietro's psychology is notably different. This can be demonstrated for the various branches of the theory of the soul, to the first of which we shall now turn: the vegetative powers.

(1) *Differentia* 55 in the "Conciliator" runs: "Utrum virtus augmentativa sit altera a nutritiva, necne". Pietro first describes the theory of Aristotle, who is said to acknowledge only two activities of the vegetative faculty, nutrition and reproduction, but not growth. The opposite position is held by physicians and by natural philosophers, who recognize an additional faculty of growth. Then follow the four sections – named *propter primum*, *propter secundum*, etc. – characteristic of Pietro's *differentiae*: first, additional information on the problem, consisting in this case of quotations from Avicenna's "De anima" and from Galen on the tripartite division of the vegetative soul; second, an exposition of major lines of conflict, here: a reference to a group of people who maintain that the nourishing and growing powers are identical but differ *ratione*; third, Pietro's solution, here: the theory of the physicians and natural philosophers, who say that these powers are not identical even though they are very similar ("Propter tertium quidem sciemum quod hae duae vires unius partis sunt animae, quae licet sint multum sint affines, non tamen realiter sunt eadem, sicut medici cum physici sensere")²⁰; fourth, replies to the arguments introduced at the opening of the question.

Anonymous (ed. Vennebusch), Anonymous (ed. Bazán), Radulphus Brito and John of Jandun address the same or a very similar question, and, in principle, they come to the same conclusion as Pietro d'Abano: the three faculties are distinct. While this shows Pietro's attachment to the philosophical tradition, his approach as a whole is clearly different. He is closest to the Parisian masters

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18 Pietro d'Abano, Conciliator, diff. 55, 81vb.
20 Pietro d'Abano, Conciliator, diff. 56, ppr. 3, 82raB.
in the introductory part which presents the arguments pro and contra and in the last section propter quattuor, which counters one side of these arguments. The middle sections one, two and three, however, are without parallel in psychological works originating from the arts faculty. Here Pietro employs a wider range of authorities: not only Aristotle, Averroes and quidam medi ci, as the masters put it, but also specifically Avicenna, Galen and Averroes' Colliget. His quotations, especially those in the section propter secundum, are longer and supported by reliable references. They are not meant to prove a specific part of the argument, but to present fully-fledged doctrines on the issue and help to delineate the doctrinal differences of earlier schools. In Pietro's account, it is very clear that the solution, which insists on distinguishing the powers, is not in full accordance with Aristotle's position. The masters of arts, in contrast, arrive at the same conclusion by way of systematic argumentation; they are not interested in (or perhaps avoid) mentioning openly that they take a Peripatetic and Galenic position which departs from Aristotle — this being an exegetical technique already apparent in Averroes' comment on the passage in Aristotle.

In search of philosophers taking an approach similar to Pietro's, one has to turn to earlier decades in the thirteenth century. In the twelfth century, the doctrine of the tripartite division of the vegetative soul — or rather, in contemporary terminology, of the virtus naturalis — had not yet found full acceptance. Some, such as William of St. Thierry, distinguish between generativa, pascitiva, nutritiva, that is, between the faculties of reproduction, nutrition and growth, following the Theorica Panteogni, whereas others only mention the division of the natural power into attractive, retentive, excretory and digestive faculties. In the early thirteenth century, the discussion of the topic is dominated by the newly translated Arabic Peripatetic sources, and by Avicenna's De anima in particular: John Blund, Albertus Magnus in De homine, Petrus Hispanus and others quote Avicenna's definitions of the faculties of nutritiva, augmentativa, gene-

22 See Averroes, Commentarium magnum in Aristotelis de anima libros, ed. F. S. Crawford, Cambridge/Mass. 1953, II.42, 195. Aristotle's text runs (416a18–21): Quia igitur virtus nutritiva et generativa sunt eadem, oparet necessario prius determinare quid est nutrimentum, et distinguere ab alis virtutibus. Then follows Averroes' comment: Cum narrati prius quod velint hosti primum de virtute nutritiva, quom sit magis universalis et primum eorum quas apparent in se vel primum eorum de quibus consideratur ex hac virtute est quod est in anima et quod suas actiones sunt augmentare et nutritur et generare (i), inespuit modo determinare ...


ratis, in which the faculty of growth is clearly distinguished from nutrition as a separate faculty responsible not for the preservation but for the perfection of the individual being. However, from the 1240s onwards, that is, the time of the earliest commentaries on Aristotle's "De anima" extant today, there is an increasing awareness of the fact that Aristotle seems to subsume growth under nutrition. The anonymous "Lectura in librum de anima" (ca. 1245-50, ed. Gauthier), for example, deals with the problem by explaining that reproduction, nutrition and growth are different operations of the vegetative power, but that the first two are primary operations, whereas the third, growth, is a secondary activity.

Pietro d'Abano's exposition of the issue benefits from the commentary tradition, and is steeped in up-to-date knowledge of medical authorities, but his sympathies clearly are with the blend of Peripatetic and Galenic traditions widespread in the first half of the century. This is signaled by his long quotation from Avicenna's "De anima" which appears in John Blund, Albertus Magnus und Petrus Hispanus but is very uncommon in Pietro's time. It is apparent also in Pietro's essentialist formulation that the vegetative powers differ realiter, and in his explicit taking sides with "medici cum physicis".

(2) The second step of our analysis leads us from the vegetative faculties to the senses. Differentia 42 treats the question: "Utrum caro sit organum tactus necem". The fact that this question appears in Pietro's book shows his close affiliation to, and knowledge of, the philosophical tradition of "De anima" commentaries. For at least since Albertus Magnus's "De anima" this issue belonged to a standard set of psychological quesstiones, and continued to do so until the time of Francisco Suarez. The question of the organ of touch is a delicate one

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27 For information on Pietro's knowledge of Galen and Celsus, see note 39 below.


29 Pietro d'Abano, Conciliator, diff. 42, 63rb.

30 Albertus Magnus, De anima, ed. C. Stroich, in: Albertus, Opera Omnia, ed. Colon., vol. 7,1, Münster 1968, cap. III, 31. The question was popularized by Albertus' "De anima" (which dates 1254-57), but was current already in the 1240s; see Albertus Magnus, De homine (as in note 25), 33.3, 289b-290a, and Anonymous (ed. Gauthier), Lectura in librum de anima (as in note 26), cap. II.20.5, 395.

since Aristotle, as Averroes himself admits, did not yet know the nerves\textsuperscript{32}. Anonymous (ed. Vennebusch), Anonymous (ed. Bazán) and Radulphus Brito come to slightly different conclusions, all of which attempt a reconciliation of Aristotle’s views with the later tradition: the organ of touch is flesh together with the nerves, or a nerve originating from the heart, or a nerve extending through the entire body\textsuperscript{33}. This compromising standpoint contrasts with the approach taken by more conservatively Aristotelian commentators of the earlier thirteenth century, who do not mention nerves when discussing the faculty of touch\textsuperscript{34}.

The sensory nerves first appear in Western theories of touch in the works of William of Conches and William of St. Thierry; following the „Theorica Pantegni“, they maintain that there is no sense-perception in those parts of the body which do not have nerves\textsuperscript{35}. From 1200 onwards, the discussion is enriched by the Graeco-Arabic Peripatetic tradition which is based on the distinction between organ and medium. Aristotle says in „De anima“ that the organ of touch is located within the body — near the heart, he adds in „De sensu et sensato“ — and that the medium of touch is flesh (he thus contradicts what he had written in „De partibus animalium“ where he makes flesh the organ rather than the medium)\textsuperscript{36}. Avicenna, in contrast, argues that the organ is a combination of flesh and nerves and that there is no medium\textsuperscript{37}. In the first half of the thirteenth century, the majority of scholastic writers quote Avicenna’s theory without mentioning its non-Aristotelian character; some of them blend Aristotelian and Peripatetic theories. The situation changes when, in the 1250s, Albertus Magnus openly points to the doctrinal gulf that divides Aristotle from Galen.

\textsuperscript{32} Averroes, Commentarium magnum in Aristotelis de anima libros (as in note 22), 298, 312. On Aristotle, see F. Solmsen, Greek Philosophy and the Discovery of the Nerves, in: Museum Helveticum 18 (1961), 174.

\textsuperscript{33} Anonymous (ed. Vennebusch), Questiones, qu. 52, 235: „... necessarium est disere quod omne maxtum in animali, sive sit caro sive pars carnis alia, in quo est repertum extra talem proportionem, est organum in tactu, et sic non solus nervus sed etiam caro debeat esse organum tactus“; Anonymous (ed. Bazán), Questiones, qu. II, 31, 451: „... dico tamen quod organis tactus est quidam nervus carcis ventriculis habens se per medium reis ac cordius se per totum corpus“; Radulphus Brito, Questiones, MS Brit. Mus. Arundel 4, f. 7v: „Consequentier quœratur quid sit organis tactus et arguitur quod caro... Dico ergo omnibus istis opinionibus quod organis tactus est in quœlibet parte corporis“... John of Jandun, Questiones, qu. II, 28, 188–193, discusses the medium but not the organ of touch; he reveals his standpoint, however, by not mentioning the nerves altogether in this context (full references in note 17).


\textsuperscript{35} William of St. Thierry, De natura corporis et animae (as in note 23), cap. 41, 119; William of Conches, Degravitation philosophiae (CCCM 167), ed. I. Ronca, Turnholt 1997, cap. VI, 22, 258.

\textsuperscript{36} Aristotle, Peri psychê, 423b18–27; id., De sensu et sensato, 439a2–3; id., De partibus animalium, 653b25 (but cf. 656b34).

\textsuperscript{37} Avicenna, De anima (as in note 25), cap. 1, 5, 84–85, and II, 3, 138.
and Avicennna. He castigates the later tradition for its deviation, but reintroduces its theory by interpreting Aristotle's term *caro* as referring not only to flesh but also to something similar to flesh such as organs mixed with nerves.

Turning to Pietro d'Abano, one finds that his discussion of the issue is much more thorough and knowledgeable than that of any of his medieval predecessors. He invokes a great range of philosophical and medical authorities (Aristotle, Alexander, Themistius, Averroes, Avicenna, Algazel, Rhazes, Galen, Celsus), and admits that there is *grandis discholia* on the topic. Pietro tries to reconcile the opposing positions by distinguishing between a primary or basic organ of touch, which is the heart — thus saving Aristotle's doctrine that the organ lies close to the heart — and a secondary organ, which is the nerve. The nerve, in turn, can be understood in two ways, either with respect to its origin, that is the brain or heart, or as something independent of the central organs, which is mixed with flesh. Pietro is aware of the fact that this theory is not in accordance with Aristotle's. He has to come to terms with the fact that there are no nerves mentioned in Aristotle. In this respect, it is interesting to compare his solutions with the Parisian masters of arts who also concede the existence of sensory nerves.

Anonymous (ed. Vennebusch) takes the non-Aristotelian position that there is a double organ, a proximate one being a mixture of flesh and nerves, and a remote one being flesh only. „Hence, if Aristotle says that flesh is the medium, this is true with respect to the remote organ, because it is through the mediation of flesh that the nerve is affected. And, if he says in „De animalibus“ that flesh is the organ, this is true in the sense that he was about to understand and started to form his judgement“.

This last sentence is inspired by two passages in Averroes where the Arabic commentator claims that Aristotle had not yet known the nerves in reality, because they were discovered in later centuries, but that he had grasped the right solution in principle (*rationem*) by stating that the organ of touch lies „within“.

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38 Albertus, De anima (as in note 30), cap. 2.3.34, 147. For a history of this issue in the thirteenth century, see D. N. Hasse, Avicenna's „De anima“ in the Latin West, Warburg Institute Studies and Texts (in print), chapter „Shellfish and Nerves“.


40 Pietro d'Abano, Conciliator, diff. 42, pp. 2, 64raD: „Itaque appareat circa organum tactus grandis discholta“.

41 Anonymous (ed. Vennebusch), Quaestiones (as in note 17), qu. 52, 236: „Unde cum dixit hic Aristotes, quod caro est medium, istud verum est respectu organi extremiti, quia mediante carne immanentur nervus; et cum dixit in de animalibus, quod caro est organum, verum est, primo apprehendens et indicium indebam“.

42 Averroes, Commentarium magnum in De anima (as in note 22), 312: „Iam enim apparent post Aristotelem in tempore eius, sicci eti Alexandri, quod in animalibus sunt quaedam corpora quae dicuntur nervi
Anonymous (ed. Bazán) attributes to Aristotle the non-Aristotelian position that the organ of touch is a nerve that originates in the heart and extends from it through the entire body — taking his cue from the passage in "De sensu et sensato" on the organ of touch lying close to the heart. With regard to the medium, he adopts the position of Aristotle's "De anima" which attributes this role to flesh. The anonymous author thus rescues Aristotle by using a distinction similar to Pietro's between the primary and the secondary seat of the organ, but he does this at the expense of attributing to the Greek philosopher a knowledge of the nerves that he did not have — as he should know from Averroes or his fellow commentators. Moreover, when explaining away Aristotle's statement in "De animalibus" that the organ of touch is flesh, Anonymous (ed. Bazán), lacking in imagination, claims that Aristotle wanted to say "a flesh-like nerve" (nerve carnosus)⁴³.

Radulphus Brito is in accordance with Anonymous (ed. Bazán) for the greater part of his argument. With respect to this last point, however, he adopts Averroes' historical solution by saying "quod in illo tempore philosophus nesciebat nervos"."⁴⁴

We see here that Pietro's solution is a more refined adoption of arguments current in the arts faculty: of the distinction between a remote and a proximate organ, of the double interpretation of the term caro. What is different in Pietro — apart from the much clearer grasp of the true lines of conflict — is his usage of Averroes' statement on Aristotle not yet knowing the nerves, but smelling the right solution. He says:

Sic igitur appareat quod Aristoteles offecit, ut inquit Commentator, nervum esse instrumentum tactus, veritates quasi compulsus ipsum intelligens per id quod intutus⁴⁵.

A few lines further down, he adds that he finds it very difficult to fulfil both tasks expressed programmatically at the beginning of his solution, namely, not only to uncover the truth in this matter but also to reconcile the diverging standpoints among the authorities:

Propter secundum huic sciendum quod id difficilis est quasitum et praeципue quia Aristoteles non perfecte visus et naturam nervi cognoscore ... Nondum enim tempore suo perfecte cognita fuerat incisionis scientia (differentia 99) et ideo distanties facti sunt perpatetici in eo⁴⁶.

Because of the state of the art of anatomy at his time, Aristotle was prevented from a true understanding of the nature of the nerve. In differentia 99 on pleuresis and the lobes of the lung, Pietro again mentions Aristotle's restricted anatomical knowledge, as something he cannot be blamed for, Pietro says: even Galen, in whose time the art of medicine was truly perfected, said that it is not

⁴⁴ Radulphus Brito, Quaestiones, MS London (as in note 17), f. 7x.
⁴⁵ Pietro d'Abano, Conciliator, diff. 42, ppt. 3, 64vaD.
⁴⁶ Pietro d'Abano, ibid., 64vaE.
impossible to improve upon himself by way of new anatomical findings. While the masters of arts simply claim that Aristotle almost hit upon the right solution or actually attribute to Aristotle a theory of the nerves, Pietro refers to the history of anatomy as the ultimate source of the doctrinal problem. He thus demonstrates his superior understanding of the physiological branch of the theory of the soul.

(3) The third part of this survey is concerned with *differentia* 64 on vision. Where do we have to locate Pietro and contemporary „Quaestiones de anima“ in the history of optics? To answer this question, it seems sensible first to attempt a periodization of the history of high medieval optics and then to return to Pietro.

In the twelfth century, many authors adhered to various forms of extramission-theory, which either claim, on the basis of Plato and Calcidius, that something related to fire leaves the eye of the perceiver and with the help of external light (such as that of the sun) reaches and illuminates the object, or maintain with Galen that the *spiritus animalis* in the perceiver is sent out from the eye, eventually reaches an obstacle, is informed of its colour and then returns via the eye to the brain. Closely connected to this group of doctrines is the theory of the *tria necessaria*, which is a forerunner to the well-known thirteenth-century distinction between *lux* and *lumen*. Calcidius, Macrobius, William of Conches, the author of the Sigtuna-commentary on the „Timaio“ and other writers discuss the necessary conditions for vision, distinguishing between interior light, an illuminated medium and an illuminated object. Occasionally, this discussion already employed the terms *lux*, *lumen* and *splendor*. In the 1220s, Robert Grosseteste gave a new dimension to this theory in his treatise „De luce seu de inchoatione formarum“. *Lux* is the perfection of the first body of the universe, i.e. the firmament; it is not visible. *Lumen* is the spiritual body (or bodily spirit) which issues from the first body and creates further bodies, such as the spheres,
by multiplying itself. The focus of this theory is on creation rather than on vision. With the advent of the newly translated Greek and Arabic sources, the discussion is considerably enriched and enlarged. In the first half of the thirteenth century, the new learning is distributed mainly in Peripatetic shorthand-definitions of the faculty of vision: John Blund, Michael Scot, Jean de la Rochelle, Petrus Hispanus and others quote definitions from Aristotle, Avicenna or Algazel, and thus initiate the slow turning of Western science towards the theory of intromission, in which light enters the eye from outside. In this period, it was not realized that the new Peripatetic position was in conflict with the older medical and Platonic tradition that had been favoured in the previous century. This situation changes in the early 1240s, when a number of authors explicitly discuss the conflicting positions of extramissionists and intromissionists: Albertus Magnus and, apparently, some masters of arts commenting upon Aristotle’s ‘De anima‘ – for instance the anonymous ‘Lectura in librum de anima‘ (ca. 1245–50). At this stage, Western optics had already reached a high degree of complexity, as one can see from the handbook version of it preserved in Vincent of Beauvais’ ‘Speculum naturale‘. It was based on, and strongly influenced by, Avicenna, Averroes and Alkindi and their topics – examples being the role of the medium, seeing at night, and vision in animals.

It is after 1250 that a new and well-known chapter in the history of optics was opened with the reception of Alhazen’s (Ibn al-Haitham’s) celebrated ‘Perspectiva‘ and the optical theory of Euclid in the works of Roger Bacon dating from the 1260s, in Wierelo’s ‘Perspectiva‘ of the early 1270s and of John Pecham’s optical treatises of the later 1270s. These authors take up Alhazen’s attempt to give a mathematical foundation to intromission-theory and discuss the phenomena of reflection and refraction. The Alhazenian turn in the study of


52 Albertus Magnus, De homine (as in note 25), qu. 22, 215–228; Anonymous (ed. Gauthier), Lectura in librum de anima (as in note 26), qu. II.14, 322–324.


optics is partly a Parisian story: Roger Bacon wrote in Paris, and John Pecham must have met him there when both were residents at the Franciscan friary in the late 1260s. Witelo, however, seems to have written at the papal court in Viterbo\textsuperscript{55}.

We now come to the masters of arts in Paris in the later thirteenth century, that is, to the treatises mentioned above. The questions these authors are interested in when discussing Aristotle’s „De anima“ concern the corporeality of lumen, the function of lumen for the process of vision, the multiplication of lumen in the medium, the function of colour as the object of sight, the extension of the medium, and seeing at night. The sources of this discussion are Aristotle and Averroes, but also Albertus’s „De anima“. The theory of lumen as multiplicatio specierum derives partly from Grosseteste. Most of these masters remain untouched by the Alhazenian turn taken in optics during the 1260s and 1270s\textsuperscript{56}. What then is the standpoint of Pietro d’Abano?

The first thing to note about Pietro’s differentia 64 on optics in the „Conciliator“ is that its question runs: „Utrum visus fiat extramittendo an intus suscipiendo“. This, basically, is a question more fashionable in the 1240s than in the 1290s\textsuperscript{57}. The masters of arts of the later thirteenth century do not give prominence to the question; it is raised by the perspectivist author John Pecham, who answers by quoting Alhazen\textsuperscript{58}. Pietro, on the other hand, does not seem to use Alhazen at all in his section. The structure of his differentia is the following. After an introductory series of arguments in favour of extramission, accompanied by some Peripatetic counterarguments, Pietro goes through the four parts which are characteristic of a section of the „Conciliator“: first, definitions of pupilla, lumen, splendor and color; second, the lines of conflict: intromissionists, extramissionists and a modern combination of both positions; third, the solution: Aristotle’s intromission theory; fourth, replies to the arguments of the opposing standpoint\textsuperscript{59}.

The optical section of the „Conciliator“ is not to be grouped with Bacon’s, Witelo’s and Pecham’s perspectivist optics. But is it akin to the optics of the arts


\textsuperscript{57} For a twelfth-century discussion of this issue see Adelard, Quaestiones naturales (as in note 48), cap. 23, 134.


\textsuperscript{59} Pietro d’Abano, Conciliator, diff. 64, 94va–96vb.
faculty of the time, or to the Peripatetic optics of the 1240s or to the shorthand definitions of vision popular between 1200 and 1240 or to Grosseteste's theory of light or to the medical optics of the twelfth century? It is difficult to trace the sources for Pietro's theory as a whole, but one clue to his position is the definition of *lumen*.

The first sentence is a literal quotation from Avicenna's "De anima", chapter III.3: it states that *lumen* is a quality of a body borrowed from another body which is equipped with light by nature. The second sentence further explains this definition by giving examples for bodies with natural light: the sun or fire.

(1) *Lumen vero est qualitas, quam corpus non transluens mutuat a lucido, et efficitur ex translucens acta; (2) differt enim a luce, quia lux est in corpore per se lucido, ut sole, vel igne, lumen vero receptum est ex ipsa in medio; est enim corporis habentis lucem.*

This is not the standard definition of *lumen*. With respect to many other authors – Anonymous, "De anima et potentia eius" (ed. Gauthier), Anonymous, "De potentia animae et obiectis" (ed. Callus), Bonaventure, Thomas Aquinas, John Pecham, Anonymous (ed. Giele), John of Jandun – what David Lindberg wrote about Avicenna's distinction between *lux* and *lumen* is true: it was "widely (but not universally) employed: ... *lux* was light in the body; *lumen* was light in the medium."

One should note, however, that this is not what Avicenna said, neither in the Arabic, nor in the Latin. For Avicenna, *lux* is the natural light of bodies such as the sun, *lumen* is the acquired light in bodies such as a wall which are not translucent and hence are not a medium: "Lumen vero est qualitas quam corpus NON translucens mutuat a lucido". The distinction that became popular in the thirteenth century essentially is a misquotation that leaves out the *non*; and it is a tendentious, namely an Aristotelianized version of Avicenna's definition, since it makes this kind of light not a quality of a body but a state of the translucent medium.

The only thirteenth-century authors known to me who preserve the correct reading with *non* are Albertus Magnus (in a number of works: "De homine", "Super Dionysium de divinis nominibus", "De intellectu et intelligibili")

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60 Pietro d'Abano, Conciliator, diff. 64, ppr. I, 95rb.
63 See Hasse, Avicenna's "De anima" in the Latin West (as in note 38), chapter on optics.
de Alderotti⁶⁵ and Pietro d’Abano. Pietro’s definition, however, switches back to the Aristotelianized version immediately: in the second sentence, acquired light is identified with light in the medium. The closest parallel to this position — namely, a correct quotation from Avicenna plus an Aristotelianizing interpretation — can be found in Albertus’ “De anima”⁶⁶.

If Pietro is in partial alliance with Albertus Magnus on this point, he apparently draws directly on Albertus’ “De homine” when describing the major lines of conflict in the field of optics. In the “Conciliator” it says:

*Quidam namque priorum discerunt visionem perfici extramittendo, alii interius assumendo. Aliqui autem modernorum utrumque in unum colegentur*⁶⁷.

And Pietro adds that according to this group of modern writers vision comes about by emitting something *and* by receiving forms from outside. Albertus Magnus seems to be the only author of the thirteenth century to mention these *moderni*, once in his “De homine” (of ca. 1243), where he speaks about “quidam modernorum” who maintain that vision happens “intus suscipiendo et extra mittendo”⁶⁸, and once in the later treatise “De sensu” (dating around 1259). Here, however, the reference is not to *moderni* but to: “quaedam novella et fatua invenit <ur> non opinio sed insania quorumdam”⁶⁹. We do not know the identity of these *moderni*; the term may be relevant to a current in the arts faculty, of which the anonymous author of the “Lectura in librum de anima” (ca. 1245–50) is a witness⁷⁰.

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⁶⁵ See Taddeo Alderotti, Expositio in Isagolas Joannitanas, Venice 1527, fol. 362va: „Lumen inguit <Aviceanna> est qualitas quam acquirit aliquid corpus tenebrosum a corpore lucido mediante corpore diaphano, verbi gratia qualitas quae est in luna dictur lumen, quia ipsa mutuat ipsum a solo mediante diaphanitate coelorum et elementorum. Ex quo patet quod lumen est sicus effectus luces secundum Avicennam. Secundum autem Aristotelem non est differentia. Dixit enim quod lumen est velut color lucidi et vocat lucentem ipsum diaphanum quando suscipit in se perfectionem a lumine“.

⁶⁶ Taddeo’s optical theory is described in N. Siraisi, Taddeo Alderotti and his pupils, Princeton 1981, 217–222. For a comparison of the two authors (Alderotti lived one generation before Pietro), see Siraisi, Pietro d’Abano and Taddeo Alderotti: Two Models of Medical Culture, in: Medioevo: Rivista di storia della filosofia medievale 11 (1985), 139–162.

⁶⁷ Albertus, De anima (as in note 30), 2.3.8, 110: „Lumen autem est quad receptum est in alio corpore illuminato. Et idem lumen est receptus habitus in natura diaphani“.

⁶⁸ Albertus, De homine (as in note 25), qu. 22, 223 b: „Sunt autem quidam modernorum qui dicunt quod vius sit et intus suscipiendo et extra mittendo radiis et lumen“. ⁶⁹ Albertus, De sensu et sensato, in: id., Opera omnia, ed. A. Borgnet, vol. 9, Paris 1890, I.5, 10 b: „Quaedam autem novella et fatua invenit<ur> non opinio sed insania quorumdam dicitionis nostre videre et intus suscipientes et extra mittentes, quia dicit nos radios emittere et formae suscipere. Sed quia isti dicit sua non adaptant ad causas naturales, ideo contemnenda sunt dicta eorum“.

The impression that Pietro's optics continue a Peripatetic tradition which had reached its culmination with Albertus Magnus, but of which there is a dearth of witnesses between 1260 and 1290, is corroborated by Pietro's central argument, an argument in favour of intromission theory, which is of the type ex consequenti, as he says; it demonstrates the impossibility of extramation by refuting four possible ways of partial or complete connection between the eye and the object. This lengthy argument appears once in Albertus' "De sensu," but differences in the wording show that Pietro d'Abano was not reading Albertus Magnus but his source, Avicenna's "De anima", book three on vision. This is surprising, because book three is very tough going; it is remarkable for its length — 114 pages in Simone Van Riet's edition entirely devoted to optics — and for a very complicated line of argument. Only Albertus Magnus, the champion of Peripatetic doxography, confidently draws upon book three — and Pietro d'Abano, who had read his Albertus and his Avicenna in addition to various other authors of the Greek and Arabic tradition.

(4) After examples from the vegetative powers and sense-perception, one would now expect an analysis of Pietro's theory of the intellect, but the intellect, naturally, is of less interest to the physician than to the master of arts. Although there is no separate question on the intellect in the "Conciliator", this does not mean that Pietro was not concerned with the topic. As mentioned above, he was accused of holding that the intellectual soul was derived from the potentiality of matter. Bruno Nardi has argued that Pietro's true standpoint on this issue is conventional: the intellectual soul is given by God when the mixture of the elements has reached a high degree of purity. Less conventional, however, is the extraordinary role assigned to the stars in the process of generation: the constitution of the sperm's virtus informativa is affected by their influence.

While this topic, the creation of the souls and the causes of life, is treated in differentiae 21, 48 and 71, the most comprehensive section on intellect appears in differentia 57 ("Utrum virtus vitalis sit altera, neco"). It takes the form of a presentation of the philosophers' theory, which Pietro seems to sympathize with. It is part of a general survey of the soul's faculties, a virium animae catena:

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71 Pietro d'Abano, Conciliator, diff. 64, ptt. 3, 95vb—96ra.

72 Albertus, De sensu et sensato (as in note 69), I.7, 14 b—16 a.

73 Avicenna, De anima (as in note 25), III.5, 225—234.


the three vegetative faculties, the five external senses, the hidden senses — common sense, imagination/phantasia, imaginative/cogitative faculty, estimative and retentive faculty, i.e. the Avicennian scheme — and the intellect, divided into practical and speculative intellect, which in turn comprises the threefold potential intellect and the active intellect, described by Avicenna as something separate, by Aristotle as part of the soul, and by Averroes as the form of the intellect in habitus.76

The section on Averroes does not contain anything contentious; it is not concerned with the doctrine of the unicity of the material intellect, as presented in „Commentarium Magnum“, chapter III.5.77 Pietro instead gives a summary of chapter III.36, that is, of Averroes’ theory that the speculative intellect as matter or instrument joins with the active intellect as form, the intellect in habitu (or material intellect) serving as a basis; when this conjunction reaches perfect actuality, the person knows everything in a god-like way, says Averroes, citing Themistius78 — this being a passage of considerable importance already for Albertus Magnus’ psychological theory.79

Pietro opens his account of the theoretical intellect with a doctrine which was well-known in thirteenth-century scholasticism: the doctrine of the four intellects.80 The first intellect is bare of all intelligible forms; the second knows the primary intelligibles, an example being the axiomatic principle „Every whole is bigger than its part“, from which one reaches the secondary intelligibles; the third is able to think in actuality whenever it wishes:

Quibus quidem potentii trinplex proportionatur intellectus, ut materialis nullam habens formam, sed subiectum existens omnis, ut ipsius potentia prima. Est et alius relatus potentiae secundae, ut quando in potentia materiali habentur de intelligibiliis per se nota, ex qualibet accidit ad intelligibili secunda ex suis nota principiis; prima namque sunt propositiones prioris per se ad habentiam venientes, (quarto Metaphysicae i.e. Aristotle’s) seu de qualibet esse aut non esse, ac omnem totum minus sua parte. Eit hic intellectus est potentialis dictus, ut eius potentia. Tertius quoque est dictus perfectionis intellectus, qui postest actu quando voluerit intelligere. Eit hic trinplex potest ab Aristotele intellectus potentialis dici.81

The wording of this passage shows that Pietro draws directly on the locus classicus for the doctrine, Avicenna’s De anima, chapter I,5.82 Pietro makes two additions, the first of which is less common: He quotes the law of the excluded middle from Aristotle’s Metaphysics Γ.7 — which, just as the Omne totum example, had found its way into the medieval tradition of the Topics, the theory

76 Pietro d’Abano, Conciliator, diff. 57, ppt. 1, 83vb−84ra.
77 As stated already by Nardi, La teoria dell’anima ... (as in note 14), 12.
78 Averroes, Commentarium magnum in De anima (as in note 22), III.36, 496−501.
79 See Albertus Magnus, De anima (as in note 30), 3.3.11, 222, lines 79−84.
81 Pietro d’Abano, Conciliator, diff. 57, ppt. 1, 83vbG.
82 Avicenna, De anima (as in note 25), I.5, 96−98.
of maxims — and he equates the first three intellects with Aristotle’s potential intellect, which is an interpretation of the doctrine common since the 1220s. He proceeds by describing the fourth intellect, the intellect that is thinking in actuality and conjoining with the active intelligence. The separate nature of the latter is explained with two references to Avicenna:

Quando antem in actu intelligit intelligens se intelligere, intellectus est appellatus in effectu, et tunc sibi coniungitur et unitur intellectus dictus accomodatus ab extrinseco (Avicenna, primo de anima), vel acquisitus ut ab intelligentia, quae possit (i.e. Avicenna) agentem (Metaphysicae 9). Et ideo intellectum non posuit aliam agentem animae partem, sicut negque Plato cum posuerit fictij per se universalia subsistere.

This last sentence on the similarity in doctrine between Plato and Avicenna reveals one of the more immediate sources of Pietro’s, since the explicit linking of Plato and Avicenna is characteristic of Thomas Aquinas. The phrasing is close to Summa theologiae I,84 where Thomas mentions forms flowing upon us „quas tamem Plato dicit per se subsistere, Avicenna vero ponit eas in intelligentia agenti“ in Thomas’ psychology, however, the doctrine of the four intellects does not appear as such; remnants of the tradition are quoted in the explanation of a passage in Aristotle on different kinds of potentialities. In general, the doctrine was much less popular in the second half of the thirteenth century than in the first. The theologians and many masters of arts focused on topics such as the unicity of the possible intellect, universal hylemorphism, and plurality of forms. In the present state of knowledge, it seems that the Parisian masters of arts of Pietro’s time bypass the doctrine of the four intellects. Again, Pietro emerges as a careful reader of older sources, rather than of the writings of contemporaries, and as an author with a liking for Peripatetic theories current in the first half of the thirteenth century.

84 For an early example see Anonymous, De anima et de potentii eius, ed. R.A. Gauthier, Le Traité „De anima et de potencii eius“ d’un maître és arts (vers 1225), in: Revue des Sciences philosophiques et théologiques 66 (1982), 52–53.
85 Pietro d’Abano, Conciliator, diff. 57, ptp. 1, 83vbH.
86 Thomas Aquinas, Summa theologiae, prima pars, qu. 84, c.
88 Anonymous (ed. Vennebusch), Quaestiones (as in note 17), qu. 64, 277–278, lists three intellects (materialis/possibilis, in habuit/formalis, adoptus) but does not mention the primary and secondary intelligibles. John of Jandun, Quaestiones (as in note 17), qu. III.36, 415, gives an account very close to Pietro’s, but leaves out the intellect names. Pietro himself advances another version of the doctrine in his commentary on the „Problemata“ (as in note 5), part. 14, prob. 1: „Notandum ergo cum intellectus sit quadruplex apud philosophum ut apparat tertio de anima, puta primorum principiorum quae per se perveniant ad habendum (quarto Metaphysicae), intellectus agens de quo dictum est quod est omnia factores, ac possibile seu materialis quo est omnia fieri et qua <ret> intellectus passivus ut imaginario corruptibilis existens, hic omnis potest audiri intellectus et possibilis maximo secundum quod quantum ad ipsius actum ex intellectu dependet passivae sine enim ipso non est intelligere“. 
What does this tell us about the intellectual milieu of late thirteenth-century
Paris? On the one hand, Pietro’s difficulties with the Dominican inquisitors
remind us that intellectual freedom was seriously threatened and that it was
particularly dangerous to express one’s opinion freely on the theory of the soul.
On the other hand, it tells us something about philosophical currents: much of
the philosophical activity in the arts faculty consisted in commenting upon Ari-
sotle, using Averroes as a guide, and in developing and refining the discussion
of a standard set of questions that would continue to be raised at least until the
late sixteenth century. When put in the context of this philosophical current,
Pietro d’Abano appears almost old-fashioned when it comes to the theory of
the intellect. With respect to the vegetative and perceiving powers, however,
Pietro is exceptionally well informed of the Greek, Arabic and Latin sources,
which he usually quotes directly, rather than from an intermediate source – as
was common practice among the masters of arts. As a result, he is in a better
position to judge the weaknesses and strengths of the Aristotelian theory and
to see alternatives.

The specific standpoint chosen by Pietro in the,g„Conciliator“ is not an Aver-
roist one, as has sometimes been claimed99: Averroes is only one of several
Peripatetic philosophers used by Pietro, and by no means the leading one. The
g„Conciliator“s psychology, as has been shown, owes much more to Avicenna
than to Averroes. Marie-Thérèse d’Alverny once argued that the difference be-
tween Pietro’s natural philosophy and that of the Parisian arts faculty consisted
in Pietro being not a philosopher but a physician and an astronomer100. Of
course, this was a factor. But if Pietro had followed the advice of Avicenna’s
medical magnum opus, the,„Canon“, he would have written only one sentence
on vision, leaving the matter to the philosophers, and devoting his attention to
ophthalmology101. Rather, Pietro’s psychology is different because of a specific
philosophical choice, namely to continue the tradition of Latin Peripatetic phi-
losophy so admirably mastered by Albertus Magnus102.

99 This was maintained without much argumentation by E. Renan, Averoës et l’Averoisme, Paris
1866, 326–327. It was Ferrari who first tried to furnish evidence for Pietro’s alleged Averroism,
see his 1 temp, la vita ... (as in note 14), 347–353. Pietro as Averroist appears, for instance,
Bayerischen Akademie der Wissenschaften, Philosophisch-historische Abteilung, München 1931,
80, and in E. Troilo, Averoismo e Aristotelismo Padovano, Florence 1939, 16–21. A more
balanced account is given by M. M. Gorce, „Averoisme“, in: Dictionnaire d’histoire et de géo-
graphie ecclésiastiques 5 (1931), 1076.

100 M.-T. d’Alverny, Pietro d’Abano et les ,Naturalistes‘ à l’époque de Dante, in: V. Branca and

101 See Avicenna, Liber canonis, ed. Venice 1507 (repr. Hildesheim 1964), lib.I, fen 1, doctr. 5,
cap. 5, fol. 24 rb, and with respect to the anatomy of the eye: ibid., lib. 3, fen 3, cap. 1, fol. 203va.

102 On this tradition see K. Park, Albert’s Influence on Late Medieval Psychology, in: J. A. Weisheipl
(ed.), Albertus Magnus and the Sciences, Toronto 1980, 501–535. – I am very grateful to
Charles Burnett, Peter Godman, Danielle Jacquet and the participants of the Tübingen collo-
quium for helpful criticisms and suggestions.