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DE PARTE OPERATIVA: A PRELIMINARY APPROACH
TO ITS DATE OF COMPOSITION AND CONTENTS

In his classic work of 1969, *El Maestro Arnau de Vilanova, médico*, Juan Antonio Paniagua described the *De parte operativa* as a late and unfinished work that Arnau might have been planning when composing the *Speculum*¹. The fact that the *Speculum* was defined in its closing words as a treatise on the first part of medicine *que dicitur theorica* suggests that Arnau might have envisioned a practical part as a sequel to his monumental mirror of medicine². Further evidence that supports this interpretation was offered by Paniagua when he brought to our attention a quotation from the *Speculum* where Arnau referred to a future discussion in a work that he described as *pars operativa*. It has been commonly accepted that this statement could refer to the *De parte operativa* that appears in all the Renaissance editions of the Arnaldian *Opera*³.

We cannot entirely rule out the question of authenticity as far as authorship is concerned, given that there is only one extant manuscript copy from the 15th century. Nevertheless, there is no doubt whatsoever that the doctrinal coherence with one of the first Arnaldian works –*De amore heroico*, with those sections of the *Speculum* that dealt with the passions of the soul, the consistent use of the concept of *proprietas* and the *auctoritates* used in the treatise all point strongly towards the likelihood of Arnaldian authorship⁴. It does not seem too risky then to venture that the composition of the *Speculum* and the *De parte* are related, and that the *De parte* is another testimony to Arnau's last years of medical production.

1. PANIAGUA, J. A. *El Maestro Arnau de Vilanova, médico*. Valencia, Cátedra e Instituto de Historia de la Medicina, 1969. 2ª ed. corr. in: PANIAGUA, J. A. *Studia Arnaldiana. Trabajos en torno a la obra médica de Arnau de Vilanova, c. 1240-1311*. Barcelona, Fundació Uriach, 1994, pp. 109-110.

2. "qui considerationes introductorias prime partis medicine que dicitur theorica adimplevit", ARNAU DE VILANOVA, *Speculum medicine, Opera nuperrime revisa*, Lugduni, 1520, f. 36ra.

3. PANIAGUA, *El Maestro*, p. 109.

4. It is not the aim of this contribution to discuss the problems of authorship of the whole work or of some of its parts; this needs to wait until the completion of the critical edition. At the moment, Michael McVAUGH and myself are working on its edition and study, and we hope that the result will form part of the *Arnaldi de Villanova Opera Medica Omnia* (AVOMO) series as vol. VII.2 (2013).

DATE OF COMPOSITION

Although agreement does exist in relation to the fact that the core of Arnau's medical writings and teaching activities were carried out in Montpellier, there is an ongoing debate concerning the dates of both such activities. García Ballester suggested the earliest date of 1288 as *terminus a quo* of his teaching⁵; Paniagua preferred 1289⁶, and McVaugh put back the probable date of Arnau's entering the university *Studium* to 1291 or 1292⁷. The time span of his writing production is also the subject of debate. It is generally agreed that 1301 marked the end of a prolific period in the production of medical works that reflected the *de facto* renewal of a medical syllabus aimed at incorporating new works by Galen⁸. This was a renewal in which Arnau was actively engaged, as was later recognised in the well-known papal bull "*Ad pascendum oves*" of 1309 that regulated the medical teaching at Montpellier⁹. McVaugh has supported the likelihood of the existence of a second working period in Montpellier, not necessarily linked to the *Studium*, between 1305 and 1308, and places the composition of the *Speculum Medicine* during these years¹⁰. This implies that the *De parte* would have been a product of the same period or immediately after.

All those who come into contact with the *Speculum* realise that, faced with a task of such a kind, its composition must have required time and tranquillity, but it is the fact that the *Speculum* is an expression of such mature thought and unhurried writing that gave Paniagua the arguments to believe that its composition must have been in 1301, the last period of relative stability in Arnau's dedication to the Montepesulan *Studium*.

Documentary evidence exists to support the fact that King Jaume II asked Arnau de Vilanova for a new piece of work entitled *Speculum medicine* in the summer of 1308. The interpretation of this request is controversial. In two documents kept in the Arxiu de la Corona de Aragó (ACA), dating from July and August 1308, the king requested a "*medicine speculum*" but, he added, he wanted it "*pro conservatione salutis nostre*". The king tried to convince Arnau to send it, reassuring him that this work would be kept secret, and that no one

5. AVOMO XV, p. 26.

6. PANIAGUA, *El Maestro*, p. 55.

7. AVOMO V.1, p. 137.

8. Although there is no firm evidence, it is assumed that the Bull of 1309 reflected an established teaching practice. On the difficulties encountered in interpreting this source, see Jacquart, D. *La médecine médiévale dans le cadre parisien (XIVe-Xve siècle)*. Paris, Fayard, 1998, pp. 161-67.

9. GARCÍA BALLESTER, L. *Arnau de Vilanova (c. 1240-1311) y la reforma de los estudios médicos en Montpellier (1309): El Hipócrates latino y la introducción del nuevo Galeno*, «Dynamis» 2 (1982), pp. 119-146.

10. AVOMO II, p. 80.

would see it except his personal physician if Arnau approved it¹¹. It is difficult to think of the *Speculum* as a self-aid handbook even if its content were mediated by the king's personal physician. For this reason, Paniagua and Gil-Sotres have suggested that Jaume II was asking for the health regime that Arnau had composed for him¹². However, McVaugh finds no reason that justified the king's mistake in naming the work and favours a literal reading of the claim¹³. Apart from the differing interpretations of the documentary evidence, there is another element that deterred Paniagua from accepting the existence of a fruitful second period for Arnau in Montpellier. This element is the expression used by the pope Clemente V in the bull of 8th September 1309 when mentioning Arnau's teaching involvement in Montpellier¹⁴. According to Paniagua, the use of the adverb *olim* would refer to an activity from the distant past and not to an absence of barely one year¹⁵. However, even if the *Speculum* was composed with a pedagogical intention in mind ("*ut sciat alumnus artis*"), this does not necessarily imply that its production is proof of any teaching involvement on the part of its author. It only required time and access to a good library; Michael McVaugh in his contribution to this volume provides us with further evidence to suggest that Arnau did find this time and the intellectual resources of his own personal library in Montpellier between 1306 and 1308 in order to compose the *Speculum*. Any conclusion concerning the composition of the *De parte* must be linked to his new findings with regards to the *Speculum*. However, the connection between the productions of the two treatises opened up some questions.

The reference contained in the *Speculum* to a *parte operativa* where the influence of neutral factors in the recovery of health and the findings of these discussions would be discussed in the *De parte* as we know it, suggests that portions of the *De parte* were already done or quite clearly envisioned when the

11. RUBIÓ Y LLUCH, A. *Documents per l'història de la cultura catalana mig-èval*. Volum I, docs. xxxvi (p. 45-46) y xxxviii (p. 49). Barcelona, 2000, Institut d'Estudis Catalans, edic. facsímil.

12. AVOMO X.1, pp. 868-870.

13. AVOMO II, pp. 79-80.

14. "in multis consiliis reperitur habitaque super hiis cum dilectis filiis Arnaldo de Vilanova et Johanne de Alesto, phisico et capellano nostro, qui olim diu rexerunt, et quibusdam aliis magistris, qui regunt ad presens in studio prelibato" Marcel FOURNIER in: *Les status et privilèges des Universités françaises depuis leur fondation jusqu'en 1789*. Paris, Larose & Forcel, 1891, Tome II, p. 22 (n° 911).

15. Paniagua is somewhat ambiguous about a second period of teaching at Montpellier. On the one hand he asserts that Arnau's "función docente pudo alcanzar el año 1308; pero, desde el 1300, se vería alterado por múltiples ausencias motivadas por intereses no profesionales" (p. 55). Later, however, he concludes that: "Actualmente me inclino a pensar que no se dio este segundo período en el que Arnau de Vilanova habría reanudado, en Montpellier, su magisterio universitario y su trabajo de redacción de tratados médicos doctrinales [...] Sigo convencido de que el *Speculum medicine* no es de 1308, sino del final del período de estabilidad docente, de 1301" PANIAGUA, *El Maestro*, pp. 59-60, n.6.

Speculum was in the making¹⁶. The *De parte* also refers to certain *tabulae* that cannot be found either in the extant manuscript copy or in the printed versions¹⁷. At a certain point I suggested that the *tabulae* could be connected with those that appeared in the manuscript tradition of the *Speculum* (for example, in mss Pincus), but, today, I think that the connection can be ruled out¹⁸. However, the self-referential nature of some of the *tabulae* in expressions such as “dicta superius in tabula signorum” suggests that some were already embedded or had a foreseen location in the treatise. This also strengthens the idea of *De parte* as a coherent project with some sections already finished and not only as a collection of disparate notes. However, it would be naïve to take for granted that Arnau was by then clear in his mind as to what such a treatise would be in terms of structure and contents, or that he did not change his mind about the *De parte* while making progress with the composition of the *Speculum*. In fact, it is puzzling that, upon concluding the *Speculum*, Arnau stated that he had finished the first part of medicine *que dicitur theorica*, but he did not mention that he was already engaged, or planned to be engaged, in writing about the second part of medicine *que dicitur operativa vel practica*. Instead, he referred with satisfaction to some other practical works which were already finished, such as a regimen on health and the aphorisms on *De ingenio sanitatis*¹⁹, and to his plans to comment on those and other aphorisms.

16. “Et hoc est tribus modis secundum quod tripliciter possunt extrema participari quia vel participantur indistincte et tunc sit neutrum quod vere dicitur esse medium sanissimi et egerri corporis quia vere amplectitur et quantum ad iudicium sensus habet extrema comixta et indistincta vel participantur distincte quod nequit esse nisi duobus modis, scilicet aut quia in diversis partibus corporis in eodem tempore vel quia in eisdem diversis partibus corporis in diverso tempore et omnes has differentias neutri considerat medicus quia saltem in inventionem causarum salubrium iuvant eum quemadmodum patebit in parte operativa” Arnau de Vilanova, *Speculum*, , ch. 88 “De rebus contra naturam”, f. 27rb.

17. “sicut tabula de vulneribus capitis et fracturis cranei plene docet” *Pars operativa*, CLM 7576 f. 43ra. All the quotations of the *De parte* [DPO] will refer to this manuscript. “que colligi possunt ex tabula cephaee” Ibid. f. 49ra; “prout docet tabula cordis et cerebri” Ibid. f. 52ra; “Tabula. Confortancia cor et cerebrum” Ibid. f. 52va; “et dicta superius in tabula signorum” Ibid. f. 54rb.

18. SALMÓN, F. *La obra médica de Arnau de Vilanova en Montpellier* in LEBLEVEC, D. (ed.) *L'Université de Médecine de Montpellier et son rayonnement (XIIIe-XIVe siècles)*. Turnhout, Brepols, 2004, p. 142.

19. “De quibus omnibus specialiter pertractare non spectat introductionum presentium forme sive tenori, Sed predictis contenti gratias referimus Iesu Christo Domino, qui considerationes introductorias prime partis medicine que dicitur theorica adimplevit et qui iam in regimento sanitatis nostro et amporismis de ingenio sanitatis abundanter inchoavit considerationes practice necessarias et speramus cum devotione quod ipse perficiet in commento predictorum aphorismorum et in aliis aphorismis particulariter exprimentibus que per medicum sapientem consideranda sunt in morbis quorundam membrorum particularium in quibus velut in exemplo seu speculo claro via recti processus in ceteris apertissime cognoscatur a cunctis amatoribus veritatis”, ARNAU DE VILANOVA, *Speculum*, f. 36ra.

We know that from 1309 until his death, Arnau entered the political arena and theological debate once more, and we can logically assume that he would not have had the time to develop a treatise on the operative side of medicine as ambitious as the one he did for its theoretical side. It seems plausible that Arnau kept a record of notes of various lengths and themes in order to construct a future treatise called *De parte* while writing the *Speculum*. However, why, in its closing remarks, is the *De parte* not even mentioned? Is it possible that he had already given up on the idea by then? Was there a complete draft of the work with gaps that just needed to be filled? How much of the *De parte* is now lost and how much of it was never in fact completed?

At this stage of the research it is difficult to offer more than just a speculative answer, but a preliminary analysis of the structure and content of the work might give us some insight into Arnau's plan.

STRUCTURE AND CONTENT OF THE *DE PARTE OPERATIVA*

Following the scheme of Iohanicus's *Isagoge*, the *Speculum* developed the classical subject of the theoretical part of medicine: knowledge of the *res naturales*, the *res non naturales* and the *res contra naturam*²⁰. As I said before, for now, I will continue to work with the hypothesis that the *De parte operativa* or *Pars operativa* as it is called in the only known manuscript of the work was a project that would develop the practical part of medicine, planned in a head-to-toe order. The work was left unfinished, and, what is more, it was left in a fragmentary state with the most coherent part dealing with the afflictions of the mind.

A description of its contents will help us to figure out an idea of the planned treatise and will illustrate Arnau's interests in his last years of medical production. The tone and content of some of the sections would also offer some insight into the audience it may have been aimed at.

The work is divided roughly into five parts. Part one offers a reflection on the nature of medicine. The second part deals with the relationship between sign and disease. The third is a semiology of brain diseases. The fourth deals with headache, and the last part is devoted to the afflictions of the mind which are studied as separate clinical entities.

Part I. The nature of medicine. In the *De parte operativa*, the investigation into the nature of medicine, a favourite topic in the pyrotechnics of scholastic medicine, is treated with a restraint that kept it separate from the heated

20. A detailed analysis of the content of the *Speculum*, in PANIAGUA, J. A. *La patología general en la obra de Arnaldo de Vilanova* in: PANIAGUA, J. A. *Studia Arnaldiana*, pp 213-284. Michael McVaugh is completing the edition of the *Speculum*, to be vol. XIII of the AVOMO.

debate on the tension between *ars* and science that flourished in the works of some of Arnau's Italian contemporaries in their expositions of the *Tegni*, *Isagogae* or *Canon*²¹. This approach would be consistent with Arnau's general attitude to the topic shown elsewhere²². However, if we assume that *De parte operativa* is a work on the practice of medicine aimed at complementing the exposition of the theory of medicine developed in the *Speculum*, one could expect to find a discussion on the different scope of medical theory and practice in its presentation. Arnald himself had carefully developed his views on the *medicina operativa vel practica* and *cognitiva vel theorica* more than 20 years earlier in his *De intentione medicorum*²³.

In the *De intentione*, Arnau explained that the purpose of medicine is the defence of the natural state of the human body, which is a healthy one (*sanitas vel temperamentum naturale*). This can be done by preserving it when already present (*finis per se*) or by restoring health if absent (*finis per accidens*). This aim is achieved by that part of medicine that is called *operativa vel practica*, which can be divided, according to these two functions, into *conservativa et curativa*. However, like any other artifex, the physician needs to know the form that he wishes to bring out, and this is why the *doctrina operativa* is complemented with another *doctrina theorica vel cognitiva*. The *doctrina theorica* precedes the *operativa* but is required for the latter to serve its purpose²⁴. The *De parte* does not quote *De intentione* directly, and does not use its argument about the nature of medicine; instead the work starts by abruptly stating that the goal of medicine is health: *Sanitas pro tanto finis dicitur medicine*²⁵. The phrasing of the *incipit* with an almost conclusive tone suggests that it could be a fragment extracted from a longer discussion that has now been lost.

Comparing this section of *De parte* with the first treatise of the *De intentione*, their line of thought seems quite similar, although in the *De parte* it is rather sketchy and undeveloped. In both cases, amongst other unmentioned sources, Arnau is using ARISTOTLE'S *Metaphysica* VII²⁶. This helps him to frame medicine as *ars*, but of some special kind, since what the artist makes – health in this case – is not only in the artist's soul but also in the matter with which he is working: the human body. A stone, as deduced from the

21. SIRAISSI, N. *Taddeo Alderotti and His Pupils. Two Generations of Italian Medical Learning*. Princeton/New Jersey, Princeton University Press, 1981, pp. 118-146; OTTOSSON, P.-G. *Scholastic medicine and philosophy. A study of commentaries on Galen's Tegni (ca. 1300-1450)*. Naples, Bibliopolis, 1984, pp. 65-126; FRENCH, R. *Canonical medicine. Gentile da Foligno and scholasticism*. Leiden, Brill, 2001, pp. 68-81.

22. M. McVAUGH, *The nature and limits of medical certitude at early fourteenth-century Montpellier*, «Osiris» 6 (1990): 62-84.

23. AVOMO VI.1, pp. 100-103 and 143-145.

24. *Ibid.*, pp. 100-101.

25. DPO, f. 39ra.

26. AVOMO VI.1, p. 143.

Aristotelian reasoning, cannot become a house without the intervention of an artifex. Before making the house, the artifex must have in his mind the idea of the house he wants to build out of stone. A human being, however, can stay healthy or recover his or her lost health *per se*, without the artifex's intervention, or partially with his help²⁷. As the tradition of commentators on the Aristotelian paragraph made clear, medicine as the art of agriculture can help nature to better express what is already in nature²⁸. This simile (art of medicine/art of agriculture) was openly taken up by the *De parte*²⁹, which also emphasized the figure of the physician as a *minister nature*³⁰, and it can be found implicitly in *De intentione* when it describes the act of the physician as that of *adminiculando vel famulando nature*³¹. However, it was the Aristotelian idea of the necessity of the form of health in the physician's mind so as to guide his right action that helped Arnau in the *De intentione* to justify the need for theoretical medical knowledge insofar as it would sustain the right practice³². This reflection is absent in the *De parte* where the argument developed in no more than twenty lines is only used to claim that health is the purpose of the physician and the end aim of medicine.

After these opening paragraphs, Part II of the *De parte* deals with the relationship between cause, symptom, alteration of the function, and disease. It is very confusing and fragmentary, and it lacks a coherent structure. Its genuine Arnaldian character is difficult to determine³³.

27. ARISTOTLE, *Metaphysica* VII, 1034^a9.

28. For example, in Averroes' commentary we can read: "Illa autem in quibus est principium naturale quo ars utitur sunt sicut ars medicine et culture et universaliter omnes artes in quibus ars iuvat naturam" *Aristotelis Metaphysicorum Libri XIII cum Averrois Cordubensis in eisdem comentariis et epitome*. Venetiis, 1562 (rpt. Anton Hain K.G., Meisenheim/Glan), f. 179r. Albert the Great's commentary went along the same lines: "Quia vero quaedam sunt quae fiunt simul a natura et arte, et non videtur conveniens a convenienti fieri, eo quod non potest idem secundum idem duobus differentibus convenire, ideo *dubitabit aliquis, quare alia sunt simul ab arte et ab automato* sive per se existente generante, *sicut sanitas et agricultura*", ALBERTUS MAGNUS, *Metaphysica Libros VI-XIII*, B. GEYER (ed.), Aschendorff, 1964, p. 352.

29. "sed in hiis quorum finis est operatum, quandoque est in partem operantis sicut est de forma omnino artificiali, quandoque vero non, sicut quando forma que finis est operis non est absolute artificialis, et talis est sanitas, nam corpus, eius principium, per se naturale est, per accidens vero artificiale. Unde sicut finis agricole qui operatur per artem agriculture est fructus qui tamen non est in partem eius, sic et medicine vel medici finis est sanitas" DPO f. 39ra.

30. *Ibid.* "medicus vel minister nature".

31. "Forma enim artificialis vel ab artifice intenta ea parte qua ab eo intenditur (et hoc dicimus propter sanitatem, que non est artificialis, tamen intenditur ab eo introduci in subiectum corpus convenienter adminiculando vel famulan/do nature) principium activum habet extra materiam; et in hoc differt a naturali, quoniam hec habet inchoationem in materia per formativam virtutem intus existentem, illa autem in anima artificis per exemplar eius in anima existens" AVOMO VI.1, p. 101, ln. 12-18.

32. *Ibid.*, p. 143.

33. It runs from fol. 39ra to 39va.

Part III of the *De parte* seems more complete. It can be divided into three sections although all of them deal broadly with signs of alterations of the brain.

Section 1 offers a general discussion of the pathological signs through which the physician can explore the disposition of the brain. This section follows the logic of the functions of the animal spirit: sensitivity, knowledge and voluntary movement. It is structured accordingly in three parts: functions of the external senses, internal senses and voluntary movement, which themselves are subdivided according to the alteration of the function: *ablatio, diminutio et permutatio*. The text offers a list of signs that appeared related to the underlying brain complexion, but without any theoretical explanation or causal justification to uphold the connection. For example: *Ablatio et diminutio odoratus sine strictura et opilatione narium, frigiditatem cerebri significat. Permutatio odoratus, fetor sive immunditia narium, humores corruptos in cerebro*³⁴. It seems as if it is just a list aimed at easy memorization to help in differential diagnosis. The usefulness of this section of the *De parte* for diagnosis is also evident when dealing with the signs of the alteration to the functions of the internal senses. However, here the scheme is less clear-cut and it also includes nosological entities as such and a topographical indication of the damage. For example: *Ablatio et diminutio estimationis, ut in amentia et stoliditate, frigiditatem et humiditatem medie partis*³⁵. The section ends in a similar mode and is devoted to voluntary movement. For example: *Ablatio vel diminutio subita motus voluntarii, humiditatem et frigiditatem cerebri. Ablatio, humiditatem replentem sicut in appoplexia. Diminutio, humiditatem infundentem, ut in paralyti et torpore et univetsali prigricia*³⁶. The usefulness of this collection of brief statements can only be real in practice if the readers have a detailed previous knowledge of the nosological entities mentioned.

The following section of this part developed a semiology of brain functioning from a different perspective. It does not focus on the functions as seen above, but more on the physical exploration of the head, face and neck. It analyses, for example, the meaning of the colour and consistency of the hair, the superfluities that come out from the nose and palate, or the general morphology of the head. It also establishes a relationship between the brain complexion and the physiological and pathological functioning of the external senses. However, in this case, it is not the triad of *ablatio, diminutio* and *permutatio* that is the analytical thread, but rather the presence of pain, the characteristics of the superfluities and the visual appearance of the vessels. The section ends by mentioning other bodily parts whose alterations can affect the

34. DPO, f. 39va.

35. DPO, f. 39vb.

36. DPO, f. 40rb.

head (brain) by *colligantiam*. As with the rest of the section the information given is rather schematic, and likely to be only intended for memorization. For example: *Matrix inanitione, repletione, dolore, precipitatione et suffocatione*³⁷.

Section 3 shows quite a different purpose. It is focused on headache. The data that the physician can obtain from the analysis of the characteristics of the pain provides evidence of the pathological complexion of the brain, and in this sense it follows the approach of the two previous sections; however, here this is not the main objective. There are strong indications in the text to suggest that it was thought of as a guide to providing some rules of action – diagnostic and therapeutic – in the case of a headache. The diagnosis implies the establishing of the causality of the pain through the investigation of the duration, periodicity, course, localization and intensity of the painful sensation. Also taken into account is its relationship with bodily functions such as coitus and ingestion. The construction of the section with such a careful description of the characteristics of the pain, and the fact that it is almost devoid of theory on pain causation shows a strong interest in differential diagnosis, the basis of daily practice. For example, *Dolor qui sentitur in profundo venire usque radices oculorum {...} Dolor qui non sentitur in profundo, sed magis extra in aliis partibus capitis {...} Dolor profundus periodicus in fronte vel prora maxime in alteri cornu {...} Dolor periodicus et profundus semper et sepius eveniens in ieiuno, maxime si acutus fuerit, vaporem acutum a stomacho procedere ad caput significat*.³⁸ Its practical scope is emphasized when the largest part of the section gives instruction on how to treat the headache with *dieta, medicatio et manualis operatio* aimed at the *correctio male complexionis, sanatio solutionis continuitatis* and *curatio apostematis*. I have not yet compared the therapeutic recommendations contained in this section with others contained in works of indisputable Arnaldian authorship, for example, in *De consideracionibus operis medicine sive de flebotomia*³⁹.

The contents of this whole part support the idea that the *De parte* is not only a testimony to Arnau's last years of medical thinking, but that it also helps us to imagine the audience that motivated his writing. In this sense, it supports the hypothesis convincingly developed by McVaugh in this volume. He suggests that, from 1306 to 1308, Arnau found in Montpellier the intellectual resources and an adequate social atmosphere to work again on his medical writings⁴⁰. It is difficult to believe that, even if Arnau had no formal attachment to the Montpellier school during this period, he lived in isolation from other medical colleagues or even young students while staying in the city. He was one of the most prestigious physicians of his age, and Montpel-

37. DPO, f. 41ra.

38. DPO, f. 41ra-b.

39. AVOMO IV.

40. See Michael McVaugh's contribution in this volume.

lier was a city with one of the most reputed medical schools. It would seem logical that some medical people there would be eager to be in contact with the master and to bolster the production of new works. The tone of this third part of the *De parte* strongly suggests the intention to share his knowledge and experience with this kind of audience. The fact that all the sections were focused on differential diagnosis supports this claim. Differential diagnosis is a central aspect of the *ars* as Arnau understood it, an important asset to be mastered in the long years of practising of medicine, and a theme cherished by Arnau from the writing of his didactic commentary on *De vita brevis* in 1301 onwards⁴¹.

In the III Trobada a call was launched for the need to investigate into the material production of Arnau's medical works and the people involved in it at various different levels. Further analysis of the contents of the *De parte* might help to shed light onto the path required in order to go in this direction.

Part IV is, by far, the more theoretical part of the work. It deals with nosological entities following a long tradition and attempts to create a coherent system for the classification and understanding of the mental afflictions⁴².

It opens with *frenesis* under the misleading heading of *Cura frenesis* and then goes on with *liturgia*. In both cases there is a discussion in relation to the terminology used among Greeks, Latins and Arabs, an account of their causes – primitive, antecedent and conjoint – symptoms and treatment. The tone is completely different to that of the previous parts, and, despite its practical orientation, the intellectual ambition of this part rather than its usefulness as summary information at the bedside is obvious. After dealing with *frenesis* and *liturgia*, it goes on to hydrocephalus, apostems of the brain and various types of somnolence and insomnia. The work continues with a general overview of the *lesio cognitionis*, that is, with an exposition of the three internal senses – *ymaginatio*, *estimatio et memoria* – and the possible alterations brought about by *ablatio*, *diminutio et permutatio*.

With the justification of the major dignity of one of the internal senses – *estimatio* – the major extension of this part deals namely with *alienatio* as an alteration caused by the corruption of this sense. It looks at five species of madness: *stulticia*, *mania*, *melancholia*, *heroyis* and *cicubus*. The treatise ends with a discussion of alterations such as *vertigine*, *schotomia* and *incubus*.

The order of this part follows AVICENNA's *Canon*. After devoting the first *maqala* of fen 1 of book III, AVICENNA devoted the second *maqala* to the

41. AVOMO XIV.

42. Arnau's attempt to create a coherent nosology of nine basic mental illnesses that built on this combination is analysed in MCVAUGH, M. *Arnau de Vilanova and the pathology of cognition*, in G. Federici VESCOVINI; V. SORGE; C. VINTI (eds.) *Corpo e anima, sensi interni e intelletto dai secoli XIII-XIV ai post-cartesiani e spinoziani*. Turnhout, Brepols, 2005, pp. 119-138; DPO f. 43va-55rb.

headache and the third to diseases caused by tumefaction such as *frenesis* and *litargia*. The following two are devoted to the alteration of the internal senses and voluntary movement⁴³. Even if the ordering is very similar, not all the diseases named by Avicenna are analysed in the *De parte* and not all of those that are dealt with here are included in the same way in the *Canon*. It is interesting to point out the parallelism with this practical book of the *Canon*, but further comparative research needs to be done in order to understand the underlying logic that guided Arnau's selection and his reformulation of some of the nosological entities offered.

The scribe of the only extant manuscript copy of the *De parte* indicates in the margin that the treatise that he is copying from is incomplete⁴⁴. In all the Renaissance editions of the *De parte*, after the discussion of the *incubus* a chapter on stomachache is included⁴⁵. The approach is quite similar to the part devoted to headache and its practical orientation is also evident. To know whether this is a genuine part of the *De parte* or not we need to wait until the completion of the critical edition and study.

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43. D. JACQUART, *Avicenna et la nosologie galénique: l'exemple des maladies du cerveau*, in A. HASNAWI; A. ELAMRANI; M. AOUAD (eds.) *Perspectives arabes et médiévales sur la tradition scientifique et philosophique grecque*. Leuven/Paris, 1997, 217-226 (218-19).

44. "Hinc unquam potui plus presentis operis invenire" DPO, f. 55rb.

45. "Dolor stomachi qui provenit ab exterioribus causis oritur..." *De parte operativa* in *Arnaldi de Villanova medici acutissimi opera nuperrime revisa*, Lyon, 1520, f. 130ra.