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## ***Neither ill nor healthy***

### **The intermediate state between health and disease in medieval medicine**

Maaïke van der Lugt

#### [Abstract]

This article examines the efforts of medieval physicians to explain the Galenic notion of *neutrum*, an intermediary, indeterminate state between health and disease. In the medieval West, debate about the existence of neutral bodies developed over the course of the 12<sup>th</sup> century. Salernitan physicians were responsible for coining new terms (*neutralitas*) and for raising questions and defining approaches to answer them that shaped later debates in crucial ways. Discussions intensified from the 1240s onward, as physicians grew increasingly aware of the contradiction between Galen's relativistic concept of health and Aristotelian thought. Aristotle had cited health and disease as examples of immediate opposites. Galen's own definition of health in terms of balance and imbalance also seemed to contradict the possibility of a middle term between health and disease. His definition of the *neutrum* as both true *medium* and distinct condition proved challenging to later generations as well. The central problem for medieval physicians was not to recognize the intermediary state clinically or to devise specific treatments for neutral bodies. This does not mean, however, that medical practice was irrelevant to medieval debates about the neutral state. This highly technical question led some physicians to claim that the notion of *neutralitas* – albeit philosophically unsound – allowed the physician to respond better to the specific needs of his patients. Other physicians, however, disputed the usefulness of the notion of the neutral body for medical practice and even the concept of *neutrum* remained fragile and fraught with paradox.

Individuals and groups at risk are common figures in contemporary representations of health. Because of certain life style choices (alcohol, smoking, eating habits), physiological characteristics (hypertension, elevated cholesterol), genetic predispositions, or personal histories of disease, these groups and individuals have a significantly higher probability of developing certain pathologies. Even though people at risk may never (again) contract an illness, this heightened risk seems to make it impossible to consider them in good health. Their condition

of /14/ "being at risk" would seem to place them, rather, in a state of limbo between health and disease.<sup>1</sup>

The notion of an indeterminate or unfixed condition that lies on a continuum between health and illness undermines conventional binary representations of the normal and the pathological. Indeed, the idea of an intermediary state between health and disease is the product of modern epidemiology and the massive use of statistics, as well as the rise of genetics and biotechnology. Linked to the development of new preventive health policies, including innovative methods of screening, counseling and treatment, the notion of the human body's intermediary state is symptomatic of what, since Ulrich Beck's pioneering essay, has been termed the "risk society", and identified as a distinctive trait of modernity.<sup>2</sup>

Paradoxically, however, the notion of an intermediate state between health and disease also has a long history, harking back, at least, to the times of Galen. The question of the existence of such a state and the utility and necessity for physicians to acknowledge it, was particularly hotly debated in the Middle Ages, and clustered around the Latin concept of *neutrum* or *neutralitas*.<sup>3</sup>

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1 On the history of the notion of risk factors and their implications for the concept of health and disease, cf. L. BERLIVET, *Déchiffrer la maladie*, in J.-P. DOZON, D. FASSIN (ed.), *Critique de la santé publique. Une approche anthropologique*, Paris 2001, pp. 75-102, esp. 95-102; E. GIROUX, *Epidémiologie des facteurs de risque: genèse d'une nouvelle approche de la maladie*, phd Université Paris 1, 2006, pp. 15-18. For the notion of being at risk in oncology, cf. A. MASSON, *Contribution psychanalytique à la réflexion sur l'après-cancer: vers la conceptualisation de l'être à risque*, in "Revue francophone de psycho-oncologie", 3 (2004), pp. 91-6.

2 U. BECK, *Risikogesellschaft. Auf dem Weg in eine andere Moderne*, Frankfurt 1986 (*The Risk Society: Towards a New Modernity*, London 1992).

3 On this theme, see also P.-G. OTTOSON, *Scholastic medicine and philosophy. A study of commentaries on Galen's Tegni (ca. 1300-1450)*, Naples 1984, pp. 166-78, M. MCVAUGH, *Arnaldi de Villanova Opera medica omnia, V.1 Tractatus de intentione medicorum*, Barcelona 2000, pp. 162-9 (henceforth cited as MCVAUGH, introduction *De intentione*), and more incidentally T. PESENTI, *The Teaching of the Tegni in Italian universities in the second half of the 14th century*, in "Dynamis", 20 (2000), pp. 159-208. The most detailed study, focusing, however, on Humanist medicine, is T. JOUTSIVUO, *Scholastic Tradition and Humanist Innovation. The Concept of Neutrum in Renaissance Medicine*, Helsinki 1999 (see also Idem, *Aristotle and Galen on Neutral Bodies. Perspectives on Aristotle's and Galen's Auctoritates in late Medieval and Renaissance Medicine*, in C. LEIJENHORST, C. LÜTHY, J. THIJSSSEN (ed.), *The Dynamics of Aristotelian Natural Philosophy from Antiquity to the Seventeenth century*, Leyde 2002, pp. 289-306). For medieval discussions Joutsivuo restricts himself, like Ottoson, to Italy and the period

The circumstances, reasons and forms of the elaboration of the medieval notion of a middle term between health and disease, as well as the practical and social implications of this idea are, of course, very different from today. The modern idea of an indeterminate and intermediary bodily state *emerged* from medical practice, epidemiology, and biotechnology. The medieval *neutrum* developed, by contrast, from high theory. Debate about the human body's neutral state took place in the context of university teaching, which centered on the commentary of authoritative texts, using rigorous methods of interpretation. Discussion arose out of a textual and logical difficulty: a conflict between Galen and Aristotle (the latter denied the existence of a middle term between health and disease), as well as from internal tensions within Galen's medical thought. Medieval physicians perceived it as their task to resolve these discrepancies. One can legitimately wonder whether the debate would have even existed without Galen's prompting.<sup>4</sup>

The central problem for medieval physicians was not to recognize the intermediary state clinically or to devise specific treatments for neutral bodies. However, as we shall see, this does not mean that clinical reality and medical practice were irrelevant to medieval debates about the neutral state. On the contrary, the highly technical question of the neutral body participated in a larger debate about the specificity of medicine as a discipline with respect to natural philosophy, leading some physicians to claim medical learning as practice-oriented knowledge of the particular case. /15/ According to these physicians, the concept of the neutral body allows the physician to respond better to the specific needs of every individual patient. However, as we shall see as well, this approach to the *neutrum* did not meet with consensus. Many disputed the usefulness of the notion of the neutral

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after ca. 1300. Their view that scholastics treated the question of the *neutrum* only as a logical problem (OTTOSON, p. 167), whereas Renaissance physicians turned it into a problem of importance for the practicing physician (JOUTSIVUO, p. 109) ignores the medieval debates in other medical centers such as Montpellier studied by McVaugh. All these historians exclude Salernitan medicine.

4 Significantly, the regression and gradual disappearance of debate about the neutral state parallels the erosion of Galenism in the later 17<sup>th</sup> century. Cf. JOUTSIVUO, *Scholastic Tradition*, pp. 210-3.

body for medical practice, and even the concept of an intermediary state between health and disease remained fragile and fraught with paradox.

### ***The neutral in Greek medicine***

Medieval discussions about a neutral, intermediary state between health and disease are inspired either directly or indirectly by Galen's *Tegni*.<sup>5</sup> In the opening words of this late work, Galen described medicine as the knowledge of "health-related, disease-related, and neutral things". Within each of these categories, he further distinguished between bodies, causes and signs: Robust bodies, salubrious causes, and benign signs can all be called healthy (*Tegni* lb). Adding a temporal dimension to his classification of bodies, Galen noted that the adjectives health-related, disease-related, and neutral can be predicated "absolutely" or only "at the present moment", absolutely being divided again into "always", or only "for the most part". In Galen's description, bodies are pictured as situated on a scale between perfect health and full-blown disease, introducing the neutral state, between health and illness, as a third category and a special disposition (*Tegni* IV.1-8).

The neutral (*oudéteron*, translated as *neutrum* in Latin) can, according to Galen, be understood in three different ways: (1) *qua* not participating in any of the opposites, (2) *qua* participating in both opposites, (3) *qua* participating now in this one and then in that one. The second of these again is said in two ways: *qua* participating in each of the two extremes equally, or participating more in one of the two (*Tegni* lb).

Galen did not invent this tripartite division of medicine *ex nihilo*. In the 3<sup>rd</sup> century BCE, the Alexandrian physician Herophilus had already proposed a similar classificatory scheme. However, Herophilus applied the categories healthy,

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5 Ed. V. BOUDON, *Galien, Exhortation à l'étude de la médecine. Art médical*, Paris 2000. The introduction and notes will henceforth be cited as BOUDON, introduction/notes *Tegni*. On the neutral in Galen's medical thought, cf. BOUDON, *Les définitions tripartites de la médecine chez Galien*, in *Aufstieg und Niedergang der Römischen Welt*, vol. 37.2, pp. 1468-90.

unhealthy and neutral not to the objects of medicine (bodies, signs, causes), but to the main branches of the medical art.<sup>6</sup>

Superficially, the medical notion of *neutrum*, in conjunction with a couple of opposites, seems to have Stoic roots. One is especially reminded of the antithetical division, in Stoic ethics, of things into those /16/ that are good, bad, and "neither" (*oudétera*) or "indifferent" (*adiáfora*). Health and disease are classic examples of things that, according to the Stoics, neither benefit nor harm a person morally, just like life and death, fame and oblivion, pleasure and pain, beauty and ugliness, wealth and poverty.

It is, however, far from obvious that Stoic ethics influenced medicine, rather than the reverse. The possibility that medicine and Stoic philosophy developed the notion of neutral things relatively independently cannot be ruled out either. More importantly, for practicing physicians such as Herophilus and Galen, health and sickness are, of course, far from indifferent.<sup>7</sup> Significantly, Galen only qualified the intermediate state, between health and disease, and not the extremes, as neutral. The same is true, *mutatis mutandis*, for medieval physicians. As good Christians, they had to pay lip service to the notion that salvation of the soul takes precedence over bodily health.<sup>8</sup> However, they, too, valued health as a good thing. In the 12<sup>th</sup> century, a medieval physician went so far as to establish an explicit analogy between health, defined as balance or *medietas* between opposite qualities, and virtue, defined, in Aristotelian fashion, as the middle point between two vices.<sup>9</sup>

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6 That is, following H. von Staden, anatomy and physiology (health-related); pathology (disease-related), and pharmacology, surgery, and therapeutic dietetics (neutral). On neutrals in Herophilus, see VON STADEN, *Herophilus. The Art of Medicine in Early Alexandria*, Cambridge 1989, pp. 89-114.

7 VON STADEN, *Herophilus*, pp. 92-8 and BOUDON, *Les définitions tripartites*, pp. 1483-4.

8 On this theme, cf. J. AGRIMI, C. CRISCIANI, *Medicina del corpo, medicina del anima: note sul sapere del medico fino all'inizio del secolo XIII*, Milan 1978.

9 See C. DE MIRAMON, *Réception et oubli de l'Ethica Vetus. Salerne et Bologne (1150-1180)*, in B. D'ALTEROCHE, F. DUMOULIN-AUZARY, O. DESCAMPS, F. ROUMY (ed.), *Mélanges en l'honneur d'Anne Lefebvre-Teillard*, Paris 2009, pp. 727-46, esp. 734-6. The concept of *medietas* refers here not to the neutral state, but to the notion of the perfectly balanced complexion, i.e. perfect health (cf. below, p. 17).

What then, is the neutral body in Galenic medicine, and under what circumstances does a body merit this qualification? According to Galen, the *neutrum*, as applied to bodies, can be understood in three different ways. In the first sense, the body's condition does not participate in health, nor in disease. It represents a real intermediary (*meson akribos, vere medium*) between ideal, optimum health and full-blown disease (*Tegni* II.4). According to the second sense, in neutral bodies one or more parts are both diseased and healthy. For instance, a body may be healthy according to shape, form, or number, but unhealthy according to complexion, or vice versa. Examples of the third *neutrum* are healthy children who become ill as adolescents or unhealthy children who become healthy in adolescence, and who are, consequently, at one point in time — which must be understood as having some latitude — neither sick nor healthy (*Tegni* II.5-6).

Despite the pedagogical aim of the *Tegni*, Galen gave few clear examples of neutral bodies. Early on, however, commentators started to systematize and flesh out Galen's typology.<sup>10</sup> In the medieval West, the standard examples of the *neutrum* in the first, crucial, sense were the old and those who are becoming ill or getting better. All three groups are mentioned together in the *Tegni* as manifesting neutral *signs*, intermediary between those pointing to health and those pointing to disease (*Tegni* XXI). Convalescents and the elderly are also presented // together as the recipients of a special "restoring and fortifying" diet (*Tegni* XXXVII).<sup>11</sup> However, only bodies that are sickening are explicitly termed neutral (*Tegni* XXI.3).<sup>12</sup>

In making room for a neutral state as a particular disposition distinct from both

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10 The Arabic epitome of the *Tegni*, which reflects the post-Galenic Alexandrian tradition (cf. BOUDON, introduction/notes *Tegni*, pp. 238-41) cites old people and convalescents as examples of the first *neutrum*, paralysis of a hand or leg, for the second, and those who are healthy in winter and sick in summer, for the third sense (*ibidem*, p. 399).

11 In a short passage of his treatise on hygiene, Galen did characterize the elderly and convalescents as neutral, GALEN, *De sanitate tuenda*, VI.2 (KÜHN, vol. 6, pp. 388-9).

12 Galen stressed that the same signs can be called healthy, disease-related or neutral depending on the physician's perspective, for instance on whether signs are understood to indicate the present moment, the past or the future. The signs of bodies that are sickening are neutral with respect to the present, but disease-related with respect to the future.

health and disease, Galen implicitly contradicted Aristotle. In both the *Categories* and the *Topics*, Aristotle had, in fact, cited health and disease as exemplifying a category of opposites, where one term of each pair of contraries is necessarily present in a subject or predicated of it. Animal bodies are either healthy or sick, just as numbers are either odd or even. Consequently, these pairs of opposites cannot have a middle term. Aristotle distinguished them from other pairs of contraries, which do have a *medium*. Examples of the latter are intermediary colors between black and white, which can be present in the subject in the absence of both extremes.<sup>13</sup>

Modern scholars have suggested<sup>14</sup> — and scholastic physicians certainly made the connection — that Aristotle's choice of health and disease, as examples of immediate contraries, has some relation to his definition of health and disease as balance and imbalance. Indeed, in the *Physics* (VII.3.246b4-5), Aristotle described health as the blending (*krasis*) of hot and cold in due proportion. This notion of health does not leave any room for latitude; it is *health*, which represents a *medium*, an indivisible point of balance, equidistant between a set of extremes, the too hot and the too cold.

In Galenic medicine health is also defined in terms of mixture, *medietas* and balance. In the *Tegni*, Galen described health as the right mixture of the tissues and the right symmetry of the body parts; elsewhere he presented it as the right measure of qualities, and the right composition according to size, quantity and form.<sup>15</sup> It is the physician's task to maintain balance, keep bodies that tend to withdraw from balance from actually doing so, and help bring imbalanced bodies back to health.

Contrary to Aristotle, Galen insisted, however, on the relativity and the individuality of the notion of the balanced mixture, translated in Latin as *complexio* or

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13 ARISTOTLE, *Categories*, X.12a1-26; *Topics*, II.6.112a24-25 and IV.3.123b17-18, 34-35.

14 OTTOSON, *Scholastic Medicine*, p. 169.

15 GALEN, *Tegni*, II.1; *De sanitate tuenda*, I.1 (KÜHN, vol. 6, p. 2).



*temperamentum*.<sup>16</sup> He repeatedly stated, and Arabic commentators and scholastic physicians would follow him on this point, that the perfect complexion (*eukrasia*), and thus perfect and ideal health, is not of this world. Perfect balance can, at most, exist during a fleeting moment. However, the complexion can be called balanced as long as it allows the body to function properly. Upholding only the absolute conception of balance would lead to the absurd conclusion that no one is healthy (Galen called this "the dogma of eternal suffering"<sup>17</sup>). As such, the perfect balance is a norm, rather than a natural state, a /18/ theoretical construct allowing the evaluation of real bodies, which withdraw, more or less, from the ideal.

Among living beings, the human complexion most approaches the unattainable perfect balance, and within humanity, one can distinguish different temperaments, according to the domination of one or other quality or couple of qualities, without this yet being a pathological condition. Moreover, men and women are thought to have different complexions, and every individual to have his or her personal point of balance. Complexion is, moreover, a moving point of balance, because it varies according to age and according to external factors such as climate. As such, the Galenic notion of complexion is a highly plastic one; it is simultaneously collective and individual, stable and fluctuating.<sup>18</sup> Within Galen's medical thought, the notions of complexion, of health as a scale, and the *neutrum* serve the same purpose. They reflect Galen's individualistic and relativistic conception of health and his effort to account for the wide variety among individual patients and the continuous changes they undergo, passing from one state to the other.<sup>19</sup>

Nevertheless, there is, as medieval physicians were quick to point out, a certain incompatibility between the notion of the *neutrum* and the conception of health as

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16 Cf. D. JACQUART, *De crasis à complexio. Note sur le vocabulaire du tempérament en latin médiéval*, in G. Sabbah (ed.), *Textes médicaux latins antiques*, Saint-Etienne 1984, pp. 71-6 (repr. in D. JACQUART, *La science médicale occidentale entre deux renaissances*, Aldershot 1997).

17 GALEN, *Tegni*, IV.9.

18 Galen's ideas on complexion are most fully developed in the treatise *De temperamentis* (KÜHN, vol. 1, pp. 509-694).

19 Cf. BOUDON, *Les définitions tripartites*, pp. 1486-7, 1490.

having latitude on the one hand, and the representation of health in terms of balance and imbalance, on the other. We shall see that it was this tension within Galenism itself, more so than the conflict between Aristotle and Galen, that underlay, during the 12<sup>th</sup> and early 13<sup>th</sup> centuries, some of the first tentative discussions about the neutral state in the medieval West.<sup>20</sup>

### ***From neutrum to neutralitas. The intermediate state in Salernitan medicine***

Early discussions about the *neutrum* are found in commentaries on Galen's *Tegni* itself — which had been translated from the Greek, probably around 1150 in Southern Italy<sup>21</sup> — but also, starting several decades earlier, in glosses on the *Isagoge*. This Arabic introduction to the *Tegni* by Hunain ibn Ishâq (fl. 9<sup>th</sup> c.), known in the West as Johannitius, had been rendered into Latin by Constantine the African at the end of the 11<sup>th</sup> century. By the middle of the 12<sup>th</sup> century, both the *Tegni* and the *Isagoge* had become part and parcel of the medical core curriculum. Apart from the *Isagoge*, which gives a highly abbreviated and somewhat muddled account of Galen's ideas on the *neutrum*, the *Pantegni*, an Arabic medical encyclopedia also translated by Constantine, contains a brief reference to the "maintenance of health of neutral bodies in the /19/ process of becoming ill, to avoid that they actually do so".<sup>22</sup> Most of the commentaries we shall be discussing are associated with the town of Salerno in Southern Italy, then the hotspot for medical learning, even though there is no absolute proof that Bartholomew of

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20 The 6<sup>th</sup>-century glosses on the *Tegni* attributed to the mysterious Agnellus of Ravenna, which reflect the teachings of the school of Alexandria, are apparently chiefly concerned with counting the number of divisions of medicine. See N. PALMIERI, *Survivance d'une lecture alexandrine de l'ars medica en latin et en arabe*, in "Archives d'histoire doctrinale et littéraire du Moyen Âge", 60 (1993), pp. 57-102, esp. pp. 93-8.

21 This anonymous *translatio antiqua* is truncated at the end. It was completed by Burgundio of Pisa (d. 1193), at Bartholomew of Salerno's request. For an overview of Latin translations, cf. BOUDON, introduction/notes *Tegni*, pp. 242-52.

22 JOHANNITIUS, *Isagoge*, cap. 58-60, ed. G. MAURACH, "Sudhoffs Archiv", 62 (1978), pp. 148-74, esp. p. 164; *Pantegni*, practica, cap. 1, ed. Basel 1570, f. 58rb (see below n. 45).

Salerno, who wrote the first commentary on the *Tegni*, actually taught there.<sup>23</sup>

Early commentators accepted the idea of the *neutrum* as a third disposition between health and disease without much question. They seem to have been responsible for the introduction of a new term for this state, *neutralitas*, whereas their sources only used adjective forms (*neutrum*, *neutralis*). The term *neutralitas* occurs at least as early as 1125-1130, in an anonymous commentary on the *Isagoge*, which is usually referred to as the "Digby commentary".<sup>24</sup> The use of a noun, next to *sanitas* and *egritudo*, reinforced the idea of the neutral state as a third disposition, thereby reifying the concept.<sup>25</sup>

The extent to which Salernitan physicians were aware of Aristotle's opinion on health and disease as immediate opposites, and more generally about the difference between contraries with and without a middle term, cannot be easily established. Aristotle's logical works circulated widely at the time; the *Categories* had been available since the early Middle Ages. Moreover, several new translations of Aristotle's works are cited for the first time in works associated with the school of Salerno, especially Bartholomew's.<sup>26</sup> The fact that Aristotle's name is never mentioned in medical discussions about the *neutrum* is not, in itself, proof

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23 For references to the controversy about Bartholomew's link to Salerno, cf. MIRAMON, *Réception et oubli*, p. 733.

24 "Digby commentary", accessus, ms. Oxford, Bodleian Library, Digby 108, f.4r : "Intencio sua est [...] humani corporis alterationem secundum sanitatem egritudinem et neutralitatem cum suis significacionibus ostendere [...] Utilitas est permaxima, scilicet sanitatem custodire, egritudinem et neutralitatem ad temperantium reducere". The term *neutralitas* does not occur in the Latin *Isagoge* itself and I have not found it in what is probably the oldest known commentary on the *Isagoge*, recently discovered by Irene CAIAZZO in ms. Paris, Bibliothèque Nationale de France (henceforth: BNF), lat. 544 (cf. *Un inedito commento sulla Isagoge Iohannitii conservato a Parigi*, in D. JACQUART, A. PARAVICINI BAGLIANI [ed.], *La scuola medica salernitana. Gli autori e i testi*, Florence 2007, pp. 93-123). The accessus of the so-called Chartres commentary (slightly earlier than "Digby") does not contain the term either (cf. Caiazza, *Un inedito commento*, transcriptions, pp. 108-9, 111-2), but I have not had access to the manuscript of this text, which is kept in a private collection.

25 On the transition from adjective to noun as a process of reification in a different, but contemporary, context, that of the notion of purgatory as an intermediary state and place between heaven and hell, see J. LE GOFF, *La naissance du purgatoire*, Paris 1981 (*The Birth of Purgatory*, Chicago 1986).

26 D. JACQUART, *Aristotelian thought in Salerno*, in P. DRONKE (ed.), *A history of twelfth-century Western philosophy*, Cambridge 1988, pp. 407-28.

that physicians did not know or use him.

Starting with Bartholomew and Archimattheus, some of the formulations used to describe the *neutrum* are strongly reminiscent of passages in the *Categories* about contraries like black and white that do have a middle term. However, these expressions (*per abnegationem extremorum*, *duorum abnegativum*, *privatio extremorum*) are not exactly identical with the Aristotelian terminology.<sup>27</sup> Achimattheus' remark that "etymologically *neutrum* means that which 'negates both' (*duorum abnegativum*)" is closer to the definition of the grammatical *neutrum* as of neither male nor female gender in a popular handbook on grammar.<sup>28</sup> If physicians did find their terminology in Aristotle, they used it to defend a position contrary to Aristotle's own, since Aristotle had of course cited health and disease as an example of contraries *without* a middle term.

Physicians also called upon common contemporary distinctions in speculative grammar and logic to make sense of Galen's three kinds of *neutrum*. The specificity of the first *neutrum* only became an issue once physicians began reading the *Tegni*, around 1150. The *Isagoge* fails to clearly define Galen's categories, especially for the first sense.<sup>29</sup> /20/ Bartholomew, Archimattheus, and

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27 Boethius' translation of the *Categories* reads *utriusque vero negatione definitur* (12a24-25, ed. L. MINIO-PALUELLO, *Aristoteles latinus*, 1-5, p. 32). A widely circulated 4<sup>th</sup> century Latin paraphrase has *huic oppositorum negatione formetur* (*ibidem*, p. 170). The so-called composite version is closer to Bartholomew: *per utrorumque summorum negationem quod medium est determinatur* (*ibidem*, p. 70). MCVAUGH (introduction *De intentione*, p. 164, n. 105) links the use by scholastic commentators of the expression *per abnegationem duorum extremorum* to Averroes's commentary on the *Categories*. Given Averroes's dates and the date of the reception of his work in the West, this cannot be the case for the 12<sup>th</sup> century. The term *privatio* is used by Aristotle as a contrary of *habitus* to describe another class of immediate contraries, but Henry of Winchester (cf. below, n. 39) used it to describe contraries with a middle term.

28 ARCHIMATTHEUS, comm. *Isagoge*, ad cap. 58, ed. H. GRESEMANN, at [www.uke.de](http://www.uke.de) key-word Salerno-Projekt: "In hoc loco describit neutrum considerando ethimologiam vocabuli, quia neutrum est duorum abnegativum". PRISCIANUS, *Institutiones grammaticae*, lib. 17, ed. H. KEIL, *Grammatici latini*, vol. 3, p. 119: "[...] quomodo post masculinum et femininum eorum abnegativum neutrum. Nisi enim praepositorum partium patiamur priorem positionem, reliquum est, ut nec participium vocare possimus neque tamen neutrum, quoniam duorum praepositorum generum fit abnegativum".

29 JOHANNITIUS, *Isagoge*, 58-59, ed. cit., p. 164: "Neutrum quidem est quod nec sanum nec infirmum est. Neutralis qualitas tribus modis constat: ut si in uno corpore simul convenient infirmitas et sanitas in diversis membris, ut est in corpore senis, cui ne unum membrum

Maurus of Salerno, and, at the beginning of the 13<sup>th</sup> century, Henry of Winchester, the first known master at Montpellier — then on the rise as a center for medical learning,<sup>30</sup> — all noted that only the first *neutrum*, which participates in neither extreme, corresponds to a distinct disposition (*res*) besides health and disease. By contrast, the second and especially the third kind are only called neutral as a manner of speaking (*vox, denominatio*), even though the use of the term is improper.<sup>31</sup>

Standard examples of neutral bodies for Galen's second sense were the blind or one-eyed and the cripple,<sup>32</sup> but examples for the third and especially the first sense were less stable. Bartholomew cited those that are ill and healthy in different seasons for the third, and old people for the first kind of *neutrum*, but Archimattheus put old people in the third category, as an example of changes that occur over time, and convalescents in the first.<sup>33</sup> In an apparent effort to harmonize these accounts, Maurus made room, in the third *neutrum*, for the changes

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remanet, quod non malefiat et patiat; et si corpus hominis aliis horis sanum fuerit, aliis horis infirmum [...]."

30 HENRY OF WINCHESTER cites Bartholomew's *Tegni* commentary explicitly (ms. Oxford, New college, 171, f. 16rb), a sign of the reception of Bartholomew's work at Montpellier, or an indication that Henry studied in Salerno. Very little is known about Henry, cf. M. MCVAUGH, *An early discussion of medicinal degrees at Montpellier by Henry of Winchester*, "Bulletin for the history of medicine", 49 (1975), pp. 57-71, esp. 57-8.

31 BARTHOLOMEW OF SALERNO, comm. *Tegni*, ms. Winchester, Winchester college, Warden and Fellow's Library, 24, f. 58v: "Neutrum enim dicitur per extremorum abnegationem. Cum ergo hoc neutrum nec re nec denominatione participet, quedam reliqua vero faciunt". *Ibidem*, f. 62ra: "Neutrum enim proprie dicitur quod per abnegationem et remotionem extremorum sic appellatur, late vero id est in lata significatione dicitur neutrum quod nec sanum nec egrum appellatur utraque tamen dispositione simul vel modo hac vel modo illa participat que duo improprie dicuntur neutra". ARCHIMATTHEUS, comm. *Isagoge*, ad cap. 58, ed. cit.: "Neutrum in primo est neutrum voce et re, quia nec sanum est nec egrum, nec habet sanitatem nec egritudinem, ut corpus convalescentis. Neutrum in secundo est, quod in parte habet sanitatem, in parte egritudinem, et tamen nec sanum est nec egrum et dicitur neutrum voce et non re. Neutrum in tertio est, quod dispositum est uno tempore esse sanum et in alio egrum, quod inproprie dicitur neutrum et non propter aliud nisi quia non habet mansivam dispositionem vel ad sanitatem tantum vel ad egritudinem tantum"; MAURUS, comm. *Tegni*, ms. Paris, BNF, lat. 6956, f. 115v; Idem, comm. *Isagoge*, ms. Paris, BNF, lat. 6956, f. 35v; HENRY OF WINCHESTER, comm. *Isagoge*, ms. cit., f. 16ra.

32 The blind and the cripple do not occur in Maurach's edition of the *Isagoge*, but commentators present them as such at least since the Digby commentary (f. 22v) and possibly since the even earlier commentary in Paris, BNF, lat. 544 (f. 65r). Both gloss *ceci* as the blind in one eye only.

33 BARTHOLOMEW, comm. *Isagoge*, ad cap. 58, ms. Winchester 24 cit., f. 45v; ARCHIMATTHEUS, comm. *Isagoge*, ad cap. 58, ed. cit..

between health and disease according to the ages of life, alongside changes according to the seasons, while associating, for the first *neutrum*, the elderly with convalescents, on account of their weakness.<sup>34</sup> For the first *neutrum*, Henry of Winchester added people who are becoming ill, next to convalescents and the "flawed" (*defecti*), for which he mentioned the elderly as a concrete example.<sup>35</sup> This triad already appears in Bartholomew's commentary on the *Tegni* as representative of neutral bodies tout court, without further specification.<sup>36</sup>

These cases are all inspired in one way or another by the *Tegni*, the *Isagoge* and the *Pantegni*, but in those texts they are either not explicitly qualified as neutral, or not clearly distributed among Galen's three categories. In a chapter on diet in the *Isagoge*, the *defecti* include old people, convalescents, as well as infants, while the *Pantegni* provided specific diets for convalescents (qualified as weak) as well as young children, pregnant women, adolescents, and the elderly (qualified as *defecti*).<sup>37</sup> However, the *Pantegni* only uses the term neutral for bodies that are becoming ill — as is the case, as we have seen above, in the *Tegni* — whereas the *Isagoge* only uses it for the elderly, in the chapter on the *neutrum*.<sup>38</sup>

Occasionally, early commentators expressed some uneasiness about Galen's account of the *neutrum*. If the first neutral is, indeed, a third disposition, is it also a *vere medium*, equidistant from optimum health and actual illness, as Galen had claimed in the *Tegni*? Raising this question, Henry of Winchester reasonably remarked that a *medium* is a point, whereas *neutralitas* has latitude. However, he argued, the *vere medium* must not be understood in terms of a *distance* between two extremes, /21/ but as the *absence* of these extremes.<sup>39</sup> This interpretation,

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34 MAURUS, comm. *Isagoge*, ms. cit., f. 35v: "in primo significato [...] ut corpus convalescentis in medio existens convalescentie, corpus senis debilis. [...] in tertio significato [...] ut adveniente uno tempore sit sanitas, adveniente alio sit egritudo, ut corpus colerici; similiter de etatibus. .

35 HENRY OF WINCHESTER, comm. *Isagoge*, ms. cit., f. 16ra: "Neutrum in primo [...] est enim neutrum convalescens et neutrum decidens et neutrum defectum. [...] defectum est ut corpus senis".

36 Cf. below, n. 48.

37 JOHANNITIUS, *Isagoge*, 93, ed. cit., p. 172; *Pantegni*, practica, cap. 20-24, ed. cit., f. 62v-63v.

38 Cf. above, n. 29.

39 HENRY OF WINCHESTER, comm. *Isagoge*, ms. cit., f. 16ra: "Item videtur quod male describatur

meant to dispel an objection apparently inspired by Galen's own account, runs counter, yet again, to Aristotle's statement that contraries like health and disease cannot both be absent, but Henry seems either unaware of or at least indifferent to this fact.

Bartholomew of Salerno raised an even more fundamental objection, which set the stage for later debates. He clearly used the Aristotelian distinction between mediate and immediate contraries, but he framed the problem of the existence of the *neutrum* not in terms of a conflict between Aristotle and Galen, but in terms of the inherent contradiction, in Galenic medicine, between the notion of health as balance (*temperamentum*) and health as having latitude. If health and disease are indeed defined as balance and imbalance, as suggested by the *Isagoge* and by the *Tegni*, there can be no third disposition between the two.

To give a place to the *neutrum*, Bartholomew shifted from the definition of health and disease in terms of balance, to the more pragmatic definition of disease as damage (*lesio*) to bodily functions, a definition Galen also prominently uses in the *Tegni* and elsewhere.<sup>40</sup> The functionalist approach to health and disease and the notion of balance are complementary, because the right measure of qualities was thought to allow for good function.<sup>41</sup> Balance and imbalance, Bartholomew claimed, cannot simply be equated with health and disease. There is nothing between balance and imbalance, but there is between health and disease, namely the neutral. Both the neutral state and disease are caused by complexional imbalance, leading to functional damage. However, in the neutral body this

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neutrum in primo significato a Galeno. In *Tegni* dicit quod neutrum in primo significato corpus est quod est vere medium sanissimum (!) corporis et egerrimi, sed nonne neutralitas primi latitudinem habet? [...] Solutio: neutrum in primo dicitur vere medium non quantum ad medietatem elongationis ab extremis, sed quantum ad privationem nominis et rei extremorum. Siquidem neutrum in primo dicitur proprie neutrum quoniam abnegat nomina et res, quia nec hec nomina sanus, eger ei attribuuntur nec res".

40 The notion of *lesio* must not be understood as material damage to the organs or structure of the body. Galenic medicine describes wounds and fractures as *solutio continuitatis* and malformations as errors in the body's *compositio*.

41 See, for instance, JOHANNITIUS, *Isagoge*, cap. 58, ed. cit., p. 164: "sanitas est temperamentum perficiens res naturales secundum cursum naturae; infirmitas est intemperantia extra cursum naturae, unde fit laesionis effectus".

damage is imperceptible (*non sensibile*), that is, it is transitory or small, as opposed to disease, where it is continuous and substantial.<sup>42</sup>

Several decades earlier, the author of the Digby commentary had characterized the neutral body differently. He described *neutralitas* as a state of weakness (*debilitatio*), as in convalescents who are still weak, but no longer ill, or in old people who do not, however, suffer from any specific disease.<sup>43</sup> The *Isagoge* itself stated that old people have not "a single part in their body that does not hurt and that is not affected", but commentators criticized this description for describing old age as a form of illness, a position they could not accept.<sup>44</sup>

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42 BARTHOLOMEW, comm. *Isagoge*, ad cap. 58, ms. cit., f. 45v: "*Neutrum vero est quod nec sanum nec egrum est, etc. [...] Sed videtur hoc dicere de neutro quod nec temperatum nec distemperatum sit, cum superius dixit temperamentum sanitatem esse, infirmitatem distemperamentum. Ad quod dicitur quod hec descriptio non est data per abnegationem temperamentum et distemperanti, sed per abnegationem sani et egri, et nota quod temperamentum et distemperamentum sunt immediata contraria circa animal. Sanum autem et egrum sunt contraria mediata. Distemperamentum autem continet egrum et neutrum, et ideo omne animal corpus aut temperatum aut distemperatum, <sed> non est omne animal sanum aut egrum. Est enim inter hec duo medium, id est neutrum. [...] Potest enim et sic describi: neutralitas est dispositio corporis lesionem efficiens, non tamen sensibilem". Several lines higher Bartholomew already singled out perceptible damage to function as the differential criterion between the neutral and the sick: "*Unde fit effectus lesionis, id est cuius est effectus lesio sensibilis subintellige. Hoc addit ad differentiam neutrorum lesionis. Effectus sensibilis subintelligendum est, id est sensu determinabilis, scilicet que magna sit et constans". See also BARTHOLOMEW, comm. *Tegni*, ms. cit., f. 61ra: "Dicimus quod Galenus vocat lesionem sensibilem que manifeste subiacet sensui, id est scilicet ut sit magna et constans, quod verbis G. in tractatu neutrorum habetur. Dicit enim tortio in ventre si fuerit parva, constans tamen, vel si fuerit magna et momentanea non est lesio sensibilis ex que corpus egrotet sed ex tali tortione potius erit neutrum". See also ARCHIMATTHEUS, comm. *Isagoge*, ed. cit.: "Dicitur autem sensibilis lesio non quod sentiatur, set sensibilis, id est maxima mansiva et manifesta respectu sani lapsi et neutri".**

43 "Digby commentary", accessus, ms. cit., f. 5v: "vel neutrum est illud quid nec sanum est nec infirmum, sicut ille convalescens ab egritudine adhuc debilis permanet"; ad cap. 58, f. 22v: "*ut in corpore senis cui nullum remanet membrum quod non patiatu[m] malfactionem, id est debilitationem, licet quantum ad determinatas egritudines sanus sit".*

44 JOHANNITIUS, *Isagoge*, cap. 58, ed. cit., p. 164: "ut est in corpore senis, cui nec unum membrum remanet quod non malefiat et patiatu[m]". BARTHOLOMEW, comm. *Isagoge*, ms. cit., f. 45v: "*malfiat et patiatu[m] hec large debet accipi, scilicet quod nullum est membrum cuius operationes non sint ex parte debilitate; proprie enim egrotantibus convenit hoc autem malefieri. Et pati large accipit, scilicet non habere sanas operationes"; ARCHIMATTHEUS, comm. *Isagoge*, ed. cit.: "Et nota, quod dicit cum non remanet membrum quod non patiatu[m], non tamen passionem sensibilem debemus intelligere, que est egritudo, set dispositionem quandam mediam inter sanitatem et egritudinem"; HENRY OF WINCHESTER, comm. *Isagoge*, ms. cit., f. 16ra: "cui nec unum membrum remanet ut ait loh quod non malfiat, id est patietur. Nec est hoc totum generaliter verum, quia non quilibet senex [...] est neutrum in primo significato, sed in pluribus ita accidit".*



These efforts at characterization reveal a certain incoherence of the notion of the neutral body in Salernitan medicine. Rather than conceiving of the *neutrum* as an intermediary zone between health and disease, our commentators considered two kinds of *neutrum* for Galen's first sense: a *neutralitas* characterized by slight functional damage, for which a person who is sickening constituted the paradigmatic case, and /22/ *neutralitas* as weakness, exemplified by convalescents and the old, and more generally the *defecti*. The difference is particularly clear from the viewpoint of medical practice. Weak bodies need to be restored and fortified, whereas worsening bodies need preventive measures to avoid that they actually become sick. Both the *Pantegni* and the *Isagoge* distinguished between these two kinds of measures, even though they subsumed people whose condition is worsening and *defecti* under "maintenance of health", alongside healthy bodies, as opposed to curing the sick.<sup>45</sup>

Despite this broad conception of the maintenance of health in the *Pantegni* and the *Isagoge*, Salernitans tended, in their definitions of medicine, to class neutral bodies with disease, under cure.<sup>46</sup> Bartholomew, however, changed his position over time, somewhat reluctantly, to accommodate for these authorities. In the first version of his commentary on the *Tegni*, he defined medicine as the science of maintaining health and curing the ill and the neutral,<sup>47</sup> while describing medicine's

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45 *Pantegni*, theorica, cap. 1, ed. cit., f. 58rb: "Aut enim custodimus corpora sana vel sanitatem in corporibus sanis, aut debilia corpora in sanitatem redigimus que necesse est confortari, aut custodimus corpora que sunt neutra ventura a sanitate ad egritudinem, et repugnamus ne veniant". JOHANNITIUS, *Isagoge*, cap. 93, ed. cit., p. 172: "Regendorum sanorum triplex est modus: aegrotare parati, incipientes infirmari, defecti".

46 "Digby commentary", accessus, ms. cit., f. 4r: "Utilitas est permaxima scilicet sanitatem custodire, egritudinem et neutralitatem ad temperantium reducere"; ARCHIMATTHEUS, comm. *Isagoge*, ad cap. 1, ed. cit.: "Theorica est scientia cognoscende sanitatis et curande egritudinis et neutralitatis per contemplationem rerum naturalium et non naturalium et earum, que sunt contra naturam. Practica est scientia conservande sanitatis et removende egritudinis et neutralitatis in naturalibus". The *Isagoge* itself (46, ed. cit., p. 161) asserts that health is maintained if natural things are kept according to nature, if not, *neutrum* or disease ensues.

47 BARTHOLOMEW, comm. *Tegni*, accessus (primitive version = "Bartholomaeus 2", cited by F. Wallis, *Twelfth-century commentaries on the Tegni: Bartholomaeus of Salerno and others*, in N. PALMIERI [ed.], *L'Ars medica (Tegni) de Galien: lectures antiques et médiévales*, Saint-Etienne 2008, pp. 127-68, esp. p. 150: "Medicina est scientia conseruandi sanitatem in suo statu et curandi egros et neutros".

course of action (*officium*) and aim (*finis*) along the same lines. In the revised version, however, the general definition of medicine has been scrapped and the description of medicine's office has been modified: *neutralitas* is now part of the maintenance of health in a broad sense, even though bringing neutral bodies back to balance calls for medication rather than diet. The aim of medicine, however, is still "conservation by *regimen* of health, and healing, that is, the expulsion of disease and *neutralitas*, by therapy".<sup>48</sup> In making the distinction, Bartholomew described *neutralitas* first according to the concept of health as a scale, which only leaves out bodies that are actually ill, and then according to a binary model (presence/absence of disease or *neutralitas*).

Bartholomew's discussion, as well as those of his contemporaries, shows that the *neutrum* remained a fragile and unstable concept. Even though Salernitan physicians recognized the *neutrum* as distinct from health and disease and acknowledged treatments specifically suited for neutral bodies, this never challenged the fundamental distinction of medical practice into *conservatio* and *curatio*.

### **Neutralitas in scholastic medicine**

From the 1240s onward, debates about the *neutrum* intensified and became more technical and sophisticated. Several factors seem to have spurred the scholastic

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48 *Officium* and *finis* are standard elements in 12<sup>th</sup> century introductions to authoritative texts. BARTHOLOMEW, comm. *Tegni*, accessus (revised version = "Bartholomaeus 1"), ms. Winchester cit., fol. 52va: "Officium autem huius artis [...] duplex est, scilicet sana corpora in suo statu conservare, et egra curare. Sub sanis etiam neutra comprehendimus, quoniam et sic ea auctores comprehendunt. Unde Iohannitius in Ysagogis [*Isagoge*, cap. 93] *Regendorum sanorum triplex est modus* [ms. motus], *egrotate parati*. et cetera. Sana siquidem appellat et que vere sunt sana, et neutra egrotata et convalescencia et defectos. Regere autem sana in suo statu est eis congruam attribuere dietam secundum usum VI rerum necesariorum adhibendum, aut congruam medicinam per quam ad bonum statum reducantur; et hoc quantum ad neutra. Curare vero egra est congruam medicinam ad expulsionem egritudinis opponere. Finis quoque duplex est per regimentum sanitatis conservatio; per curationem sanatio, id est egritudinis vel neutralitatis expulsio". In the commentary on the *Isagoge* (ad cap. 93, ms. cit., fol. 50v) Bartholomew explained that the *Isagoge* and the *Pantegni* used health in a loose sense, by including reinforcing and preventive treatments of neutral and weak bodies within the *regimen sanitatis*.

*neutralitas* debate. On the one hand, the "normalisation" and homogenisation of scholastic culture. Aristotelian philosophy, and notably logic, increasingly became an integral part of the /23/ intellectual baggage of physicians, because of their initial training in the Arts within the university setting. This brought the contradiction between Aristotle and Galen on health and disease to the fore and made this problem difficult to ignore. On the other hand, physicians were confronted with newly translated medical texts that discussed the *neutrum*: the medical works of Avicenna and Averroes (both "*neutrum*-sceptics" as we shall see), and the commentary on the *Tegni* by Haly ibn Ridwan (fl. 11<sup>th</sup> c.), which had been translated, together with the *Tegni* itself, from the Arabic by Gerald of Cremona. Haly signaled the divergence between Aristotle and Galen explicitly, and tried to argue that there is, in reality, no contradiction between the two authorities.

### **Neutralitas as mixture**

Haly conceded to Aristotle that there can be no third disposition of the body that is neither health nor disease, since health and disease cannot be simultaneously absent from the body. On the other hand, Haly stated that health and disease may well *coexist* in different parts of the body or be present at different times, when a body moves from health to disease, or vice versa, "as some have argued", since it must then pass through a middle-point.

In order to bring Galen and Aristotle into accord, Haly reinterpreted the first sense of *neutrum* in his own way, by saying that Galen meant that in that state of the true medium, health and disease are not absent but *mixed*, as in the mixture of water and oil, in which both ingredients can still be distinguished.<sup>49</sup> The analogy is

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49 HALY IBN RIDWAN, comm. *Tegni*, I.1, ed. in TORRIGIANO, *Plusquam commentum*, Venice 1557, f. 176r: "Quidam autem affirmant inventionem huius dispositionis per alterationem tantum corporis ex sanitate ad aegritudinem et ex egritudine ad sanitatem; haec enim alteratio transit per medium, quod est dispositio tertia. [...] Et Gal. vult per dispositionem, quae non est sanitas neque aegritudo, dispositionem corporis, in qua inveniuntur aut sanitas et aegritudo simul, aut una earum in hora una, et altera in hora alia, aut portio cuiusque earum, aut secundum semitam permitionis aut vicinitas". I.2, f. 178r: "Significat ergo per id, quod sanitas est in eo commista cum aegritudine, sicut oleum cum aqua, et utrumque ab alio discernitur".

based on Aristotle's theory about mixture, as developed in *On generation and corruption*. True (we would say chemical) mixtures, Aristotle claimed, give rise to a new kind of substance, whereas in "false" (we would say physical) mixtures the ingredients continue to coexist without alteration and can still be separated. Haly's idea to use physical mixture as an analogy for the middle term between opposites was possibly inspired by Aristotle's account of intermediaries, especially intermediate colors in the *Metaphysics* (X.7.1057a) and *On sense and the sensible* (I.3). Whereas the *Categories* present intermediate colors in terms of the absence of extremes, the *Metaphysics* and *On sense and the sensible* describe them as *compounded* from black and white.<sup>50</sup>

Haly may also have felt that the Arabic version of the *Tegni*, by Hunain ibn Ishâq, on which he based his commentary, vindicated his interpretation of the first *neutrum*. The Latin translation of this Arabic /24/ version, claims, in fact, not that the first *neutrum* participates in *neither* of the contraries (as is the case in the original Greek and in the medieval Latin translation directly from the Greek), but that these contraries *are not fully present*.<sup>51</sup> That Hunain ibn Ishâq had had trouble understanding the first *neutrum* in terms of absence of extremes is confirmed by his *Isagoge*, in which he avoided defining the first sense of *neutrum*.

Haly's interpretation of the *neutrum* as a physical mixture fulfills Aristotle's condition that health and disease are not both absent. However, Aristotle had also strongly suggested that opposites without a middle term *mutually exclude* each other. And of course, Haly does not leave much room for Galen's idea of the first *neutrum* as a disposition distinct from health and disease.

Haly's solution nevertheless acquired considerable popularity among Latin

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50 Cf. Michael McVAUGH (introduction *De intentione*, p. 164).

51 GALEN, *Tegni* (translation from the Arabic), I.2, ed. in TORRIGIANO, *Plusquam commentum*, f. 178r: "Diximus iam, quod corpus, quod neque est sanum, neque aegrum, dicitur secundum tres modos, quorum unus est, ut non sit in eo neque una duarum dispositionum contrarium secundum ultimitatem ipsarum". Gerald of Cremona's translation of Avicenna's *Canon* (I.2.1.2, ed. Venice 1507, f. 25v) uses a similar expression: "non est sanitas in ultimo aut egritudo in ultimo".

physicians in the course of the 13<sup>th</sup> century. John of Saint-Amand, writing in Paris during the 1280s, replaced Haly's oil and water by water and wine, the parts of which, he noted, although unchanged, are so small and closely associated that they *can no longer be discerned*.<sup>52</sup> The change of example reinforces the idea that although the *neutrum* is not, strictly speaking, a third and distinct disposition of the body, halfway between health and disease, it does appear to be so. Only in this sense do physicians talk about a *medium* between health and disease. Well aware of Aristotle's distinction between true mixture and mere juxtaposition of particles, John added that if a new form *did* arise from the alteration of the miscibles, this form would be totally new; this is the kind of *medium* Aristotle had denied.<sup>53</sup>

### ***Intellectual and empirical judgment***

The distinction between that which appears to the senses and the real nature of things is also central to a different kind of solution to the contradiction between Aristotle and Galen. Building on Bartholomew of Salerno's earlier approach, this solution opposes the strict conception of health and disease in terms of balance or equality, and a broader, more pragmatic view in terms of bodily functions. The narrow view is now identified as that of the philosopher, as intellectual judgment,

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52 The example of water and wine is often used in discussions about mixture, but not in exactly the same way. The *Pantegni* describes this combination as looking like wine, although both ingredients are present in unchanged form (Theorica, cap. 5, ms. The Hague, Koninklijke Bibliotheek, 73 J 6, f. 2v, cf. <http://www.kb.nl/bladerboek/liberpantegni/index.html>). Aristotle cites water and wine as an example of a mixture of ingredients in unequal quantities, in which one ingredient is totally assimilated by the other (*De generatione et corruptione*, I.5). Peter of Spain (cf. following note) understood water and wine as a true mixture, resulting in a totally new form.

53 JOHN OF SAINT-AMAND, *Concordanciae*, s.v. neutrum, ed. J. PAGEL, *Die Concordanciae des Johannes de Sancto Amando*, Berlin 1894, p. 218. See also John's paraphrase of the *Tegni* itself: A. MÜLLER-KYPKE, *Aus dem Revocativum memoriae des Johannes de Sancto Amando (XIII. Jahrhundert). Ueber die ars parva Galeni*, Berlin 1893, p. 23. Earlier in the century, at Montpellier, Master Cardinalis also claimed that health and disease are present but cannot be observed, cf. MCVAUGH, introduction *De intentione*, p. 165, n. 107. In the 1240s, Peter of Spain, who taught medicine in Siena, also used the analogy of water and wine for Galen's first *neutrum*. However, he considered this combination as a true mixture, citing Haly's oil and water as an analogy for Galen's second *neutrum*. Peter used the analogy of mixture to explain the difference between Galen's first and second *neutrum*, rather than as a way to reconcile Aristotle and Galen. According to Peter, Haly's solution was not satisfactory. Comm. *Tegni*, ms. Madrid, Biblioteca Nacional, 1877, f. 50r.

or as knowledge of causes; the loose one as that of the physician, who considers health according to the senses, focusing on effects, rather than causes.

Taddeo Alderotti, the "founding father" of scholastic medicine at Bologna (d. 1295) admitted that according to intellectual judgment /25/ there can be no middle term between health and disease, since there is nothing between balance and imbalance. However, if we judge health by the senses, a *medium* does exist between healthy bodies — which have good functions — and diseased bodies — which have perceptibly damaged functions—namely bodies with functions that are neither optimal, nor perceptibly damaged.<sup>54</sup>

At Montpellier around the middle of the 13<sup>th</sup> century, master Cardinalis distinguished between a philosophical and a medical way of considering health and disease. The practicing physician (*medicus et artifex*) does not call the functioning body ill, even if its functionality is not entirely correct (*non recte*). In this case, Cardinalis claimed, he would qualify the state of the patient as neutral.<sup>55</sup> Arnau de Villanova, also at Montpellier, noted, around 1290, that the physician is confronted with three kinds of bodies: those with perfect, bad, and mediocre functions.<sup>56</sup> Alternatively, he characterized neutral bodies as withdrawing moderately from balance, a condition resulting in minor defects in function,<sup>57</sup> or as

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54 TADDEO ALDEROTTI, comm. *Tegni*, ed. Naples [1522], f. 6r: "Aut dicitur, et melius, quod duplex est consideratio circa has dispositiones, nam uno modo referuntur ad iudicium intellectum et hoc modo notatur sanum solum id quod est equale et egrum esse inequale, et sic cadit in dogma perpetue passionis, et sic nullum cadit medium inter sanum et egrum. Si vero referatur ad iudicium sensibile [...] iste due dispositiones differunt inter se per complementum operationum solitarum et per sensibilem earum lesionem, bene cadit medium inter eas; que dispositio neutra non habet operationes sensibiliter lesas, nec integre completas". Cf. PETER OF SPAIN, comm. *Tegni*, ms Madrid, Biblioteca Nacional, 1877, f. 53v-54r.

55 See below, n. 62.

56 ARNAU OF VILLANOVA, *De intentione medicorum*, II.3, ed. MCVAUGH, p. 119: "Cum autem medicus in operibus tres diversitates manifeste percipiat – scilicet quod quedam perfecte exercentur quantum ad iudicium sensitive cognitionis, quedam autem manifestissime a perfectione recedunt, quedam vero inter hec extrema videntur mediocriter exerceri – ideo est quod sanabilis corporis tres iudicat dispositiones existere".

57 *Ibidem*, p. 121: "Sed recessus a medio potest fieri secundum plus et minus, ita quod tam parvus poterit esse recessus quod vitium in opera cadens sensui non patebit. Cum vero maior, modicum patebit vitium, non tamen adhuc ita manifestabitur sicut si amplior recessus extiterit".

a moderate resistance to disease.<sup>58</sup>

Despite the differences between these descriptions of neutral bodies, Arnau consistently described health and disease as varying only in terms of degree: the extremes on both sides of the *neutrum* are not health and disease, but good health and bad health. As such he had no difficulty to describe the *neutrum* as a *medium*. At the same time, however, his *neutrum* is hardly neutral, because it does not fulfill Galen's description of the neutral body as partaking neither in health, nor in disease. Health, *neutralitas* and disease are ranges on a scale, rather than distinct dispositions of the body. Consequently, the *neutrum* can at most be understood as an intermediary between health and disease in terms of participation in the contraries, rather than their absence. On the latter point Cardinalis and Arnau both agreed with Haly.<sup>59</sup>

By contrast, Taddeo Alderotti did not describe health and disease in gradualist terms, but defined them both as contraries and as distinct dispositions: health is a condition of the body that allows for good function, disease is manifest damage to function. The *neutrum* is described in negative terms, with respect to both health and disease. This definition of the *neutrum* as presenting neither optimal functions, nor manifest functional damage respected Galen's definition of the first *neutrum* more closely. However, whereas Arnau created a middling space of "mediocrity", Taddeo's approach tended to split the *neutrum* into a *neutrum* of health and a *neutrum* of disease. Moreover, Galen had described the latitude of health also as the varying capacity of bodies to resist disease, a conception of health that is difficult to account for using Taddeo's definition of the *neutrum*./26/

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58 ARNAU OF VILLANOVA, *Speculum medicine*, ed. *Opera Arnaldi*, Lyons 1520, f.27rb: "Alia vero sunt corpora que causis ledentibus medio modo resistunt, quia nec ita fortiter ut parum lapsa nec ita debiliter ut egrotantia, et ideo dicuntur esse medium inter predictam comparisonem ad corpus perfecte sanum et actu egrum [...] et ideo etiam per respectum ad predicta extrema vocantur neutra [...] non in quantum neutra per abnegationem extremorum sed per participationem utriusque".

59 See above, nn. 53, 58.

## **Neutralitas and medical instrumentalism**

The differences between Taddeo's and Arnau's position do not stop here. Taddeo introduced the distinction between intellectual and empirical judgment largely to save Galen and for the sake of argument. For reasons we shall come back to later, he rejected the usefulness of the concept of *neutrum* for the practicing physician. Arnau and Cardinalis, on the contrary, defended the *neutrum* on the grounds of its importance for healthy medical practice. This position, which we may call "instrumentalist"<sup>60</sup>, is found among physicians associated in one way or another with the school of Montpellier. Jacques Despars for instance, writing in the beginning of the 15<sup>th</sup> century, was based at the university of Paris, but had also studied for a while in Montpellier.<sup>61</sup> According to the "instrumentalist" position, the difference between the philosophical and the medical position is only verbal. Physicians and philosophers say different things, so the argument goes, because their goals are different. The physician uses looser terminology than the philosopher, not because he disputes that the philosopher is right, but because the label *neutrum* allows him to tailor treatment to the needs of his patients.<sup>62</sup>

The allegiance to philosophical truth sounds somewhat disingenuous, however, since instrumentalist physicians also tend to expose its weaknesses. They pointed out — as did Taddeo Alderotti<sup>63</sup> — that the strict definition of health as balance and

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60 I use the term "instrumentalism" in the sense proposed by Michael McVAUGH, cf. introduction *De intentione*, 181-97 and Idem, "The Nature and Limits of Medical Certitude at Early Fourteenth-Century Montpellier", *Osiris*, 6 (1990), pp. 62-84.

61 Cf. D. JACQUART, *La médecine médiévale dans le cadre parisien*, Paris 1998, p. 342, 380, 429, 475; McVAUGH, introduction *De intentione*, p. 197, n. 205. Peter of Spain also distinguished between a philosophical and medical way of regarding health and disease, but he did not explicitly defend the medical way as useful for practice.

62 CARDINALIS, comm. *Tegni*, cited by McVAUGH, introduction *De intentione*, p. 166, n. 108: "Iste dispositiones possunt considerari vel quoad philosophum vel quoad medicum et artificem. Si primo modo quia philosophus veritatem magis attendit quam utilitatem et sic secundum veritatem inter sanum et egrum non est medium; sed medicus et artifex considerant magis utilitatem et aspiciunt utrum operationes procedant necne et sic non dicit quod est egritudo, et sic aut recte aut non recte. Si recte dicendum quod est sanitas, si non recte dicendum quod est neutralitas, et sic uno modo est medium, et alio modo non". ARNAU OF VILLANOVA, *De intentione*, II.3, ed. cit., pp. 119-21; JACQUES DESPARS, comm. *Canon*, I.1.1.1, ed. Lyons 1498, without folio numbers.

63 Cf. above, n. 54.



imbalance implies not only the impossibility of the *neutrum*, but also, as already noted by Galen himself, the nonexistence of health, which is absurd. Even though health is a point of balance, and there is no middle point between balance and imbalance, imbalance itself admits of degree, just like the functional damage that follows from it. As such, noted Arnau of Villanova, physicians rightfully distinguish between a complexion that withdraws moderately from equality (*mediocris recessus*), and a complexion that departs greatly from equality. The distinction is vital for success in medical practice. Bodies that depart in a middling way from equality require a different kind of diet than bodies that withdraw greatly from equality. Bodies that are simply in good health need a diet that aims at maintaining health, ill bodies need therapy. For a neutral state, a *combined* treatment, which associates the treatment of disease and the maintenance of health is called for (*partim efficiens, partim conservans*), rather than the one or the other. The necessity of mixed treatments is even clearer for neutral bodies according to Galen's second and third sense.<sup>64</sup>

To make his case, Arnau of Villanova took as his example people who are healing or sickening. Half a generation later, his colleague /27/ Bernard of Gordon argued the importance of specific treatments for neutral bodies in similar fashion, but with respect to the elderly. His *On the conservation of human life* (1308), a short treatise about the appropriate diet for the different stages in life, includes a scholastic question asking whether old people should be treated with similar things (like the healthy, i.e. with things that have a complexion similar to the patient's), or

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64 ARNAU OF VILLANOVA, *De intentione*, II.3, ed. cit., p. 119-21. See also JACQUES DESPARS, comm. *Canon*, I.1.1.1, ed. cit.: "Sufficit enim philosophis contemplantibus naturas rerum sine relationem ad opus duas distinguere dispositiones humani corporis, sanitatem scilicet quam in equalitate complexionis dicunt consistere et egritudinem que secundum eos in inequalitate consistit, sicut ergo inter equale et inequale non est dare medium, sic nec inter sanitatem et egritudinem secundum eos, immo quicquid labitur ab equali, sit parum aut multum, ab eis egrum dicitur, et sic neutralitas a medicis posita sub egritudine comprehendetur. Medicis vero considerantibus dispositiones humani corporis secundum relationem ad opus, licuit distinguere eas magis ut cuique sibi regimen proprium aptarent, aliud enim competit regimen parum lapso corpori, aliud iam egro, nec vocant medici egrum omne inequale, quoniam sic nullum esset sanum cum nullum sit perfecte equale". Jacques Despars noted that the general *regimen sanitatis* is not suitable for certain specific groups, such as convalescents, the old and children: comm. *Canon*, I.2.1.2.

with contrary things (like the sick, i.e. with things that have a complexion contrary to the patient's).<sup>65</sup> In typically scholastic fashion, Bernard's answer is based on a distinction: "similar" and "contrary" are not absolute terms, since the four primary qualities (hot, cold, humid, dry) that make up complexion can be present in different intensities. Combining the Galenic theory of medical degrees<sup>66</sup> with Galen's descriptions of different kinds of treatment in the *Tegni*, Bernard distinguishes four different kinds of diet. The curative (*reductiva*) and conservative (*conservativa*) diets apply, respectively, contrary and similar things in the same degree as the patient's own complexion, whereas both the preventive (*preservativa*) and the fortifying, restoring diets (*resumptiva et enutriens*) apply contrary things in a lower degree.<sup>67</sup>

It would be dangerous, so Bernard, to treat old people as either sick or healthy, since they are neither. Consequently, treatments that are similar or contrary in the same degree are not suitable. Instead, Bernard recommended a well-balanced (*temperatum*) and *intermediate* (*medium*) diet, verging slightly towards the hot and the humid — so as to compensate in part for the cold and dry complexion of the elderly. The neutral state of the body requires an intermediate kind of diet. This intermediate *regimen* corresponds, according to Bernard, to the fortifying and restoring diet recommended by Galen for both the elderly and those recovering from a serious illness.<sup>68</sup>

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65 On this treatise, see M. NICOUD, *Les régimes de santé au Moyen âge: naissance et diffusion d'une écriture médicale, XIIIe-XVe siècle*, Rome 2007, vol. 1, pp. 203-8.

66 Galen distinguished four degrees, the first being the lowest, the fourth the highest in intensity. For a clear description of this theory, see M. McVaugh's introduction in *Aphorismi de gradibus, Arnaldi de Villanova Opera medica omnia*, vol. 2, Barcelona 1975.

67 BERNARD OF GORDON, *Tractatus de conservatione vitae humanae*, q. 22, ed. Leipzig 1570, p. 197-8. Bernard's text, or at least the non-critical edition I have used, is somewhat muddled. One would expect conservative measures to apply *similar* things in the *same* degree as the patient's complexion, but the text talks about *contrary* things in the *same* degree, just like the curative diet. The preventive diet ("in order to avoid worse") and the *resumptiva et nutritiva* diet are both defined in terms of *contraries* in a *lower* degree. *Similar* things in a *lower* degree than the patient's own complexion are missing in this scheme.

68 *Ibidem*, p. 200: "[...] dico ad quaestiones, quod senes non debent regi per similia, nec per contraria, sed per quaedam quodammodo media. Media autem ista sunt resumptiva et enutrientia temperata, talia ergo temperata citra gradum caliditatis eis competunt. Similia enim

Bernard did not call the intermediary and balanced treatment suitable for neutral bodies neutral itself, but he came close. The notion of neutral and well-balanced medicines (*temperatis aut neutris*) is, however, used by Arnau of Villanova. Arnau attributed to them a conserving and fortifying power and recommended them for cases where the physician has not yet had time for diagnosis or where the diagnosis is difficult; for bodies, in other words, that are neutral on the epistemological rather than the physical level.<sup>69</sup>

### ***The limits of the notion of neutralitas***

We have seen that the justification of the neutral as a viable medical concept is mainly based on two related ideas: 1) the physician, judging /28/ by his senses and concentrating on function, is confronted in his practice with three types of dispositions in his patients, and 2) the physician seeks utility more than truth; the label *neutrum* allows him to adapt his treatment to the specific needs of his patients.

This line of defense is, however, not without ambiguities and not all medieval physicians accepted it. Critics of the *neutrum* drew support for their position not only from Aristotle, but also from medical sources. Avicenna and Averroes, both important authorities for scholastic physicians, had rejected the notion of *neutrum* in their *medical* works.

To be true, Avicenna's position is ambiguous. In one section of the *Canon* he seems to accept Galen's tripartition into health, illness, and *neutrum*, offering a short typology of neutral bodies (which includes children along with the elderly and

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absolute eis non competunt, quod absolute sani non sunt, nec competunt absolute contraria, quod absolute infirmi non sunt, sed quod in neutrali dispositione existunt, imo ea quae medio modo se habent, eis competunt, ista autem sunt ut dictum est, temperata, resumtiva et nutrientia et imo secundum communem modum regendi sunt senes, sicut corpora neutra convalescentiae, convalescentia inquam ex magnis morbis".

69 See M. PILEGGI, *Le medium-neutrum: une possible liaison entre la médecine arnaldienne et l'alchimie pseudo-lullienne*", in J. Perarnau (ed.), *Actes de la II Trobada internacional d'estudis sobre Arnau de Vilanova*, Barcelona 2005, pp. 413-33, esp. 416, n. 11, 419-20, 429. As shown by Pileggi, Arnau especially used the notion of intermediary and neutral medicines in describing the powers of theriac, an antidote and panacea.

convalescents for the first kind of *neutrum*).<sup>70</sup> However, in the more prominent first chapter of the same work he claimed that it is futile to fight over the existence of the *neutrum*, since the physician has no need for it. The categories of health and disease are sufficient.<sup>71</sup> Ironically, Avicenna adopted an instrumentalist position for other points of conflict between Aristotle and Galen, such as the existence of female seed or the primacy of the heart over the brain; he is the main source of inspiration behind the rise of instrumentalist positions among physicians in the medieval West. However, as far as the *neutrum* is concerned, Avicenna actively avoided the debate and implicitly followed the philosophers.<sup>72</sup>

A stricter Aristotelian, Averroes explicitly rejected the *neutrum*. His arguments would have been all the more compelling for scholastic readers since they are based on a functionalist definition of health, rather than the notion of balance and imbalance. Disease can be defined as functional damage (*nocumentum operationis*), Averroes argued, and there can be no middle term between damage and non-damage (*innocumentum*). Health and disease both only vary according to degree. As such, a mild defect (*nocumentum debile*) is part of disease, a weak function (*operatio debilis*) is part of health.<sup>73</sup>

When Jacques Despars claimed that "almost all scholastic physicians" (*pene tota medicorum schola*) agreed with Galen on the *neutrum*, he may well have considered Peter of Abano (d. 1315/16), both a philosopher and a physician, like Avicenna and Averroes, the main exception to this rule. Despite the avowed aim of the *Conciliator*, Peter did not attempt to reconcile conflicting statements on the existence of an intermediate state, but came down firmly on the side of Aristotle.

Peter accepted Averroes's reasons for rejecting the *neutrum*, but also added arguments of his own, while refuting those of his contemporaries. He rejected as

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70 AVICENNA, *Canon medicinae*, I.2.1.2, ed. cit., f. 25v.

71 *Ibidem*, I.1.1.1, ed. cit., f.1r. Avicenna also left out the *neutrum* from his definition of medicine, *ibidem*.

72 Cf. McVAUGH, "The Nature and Limits"; JACQUART, *La médecine médiévale*, p. 429.

73 AVERROES, *In Canticam Avicennae*, I.1, *Opera omnia*, Venice 1562, vol. 10, f. 220v-221r; *Idem*, *Colliget*, I.1, *Opera omnia*, vol. 10, f. 4r.

unsound the distinction between intellectual and /29/ empirical ways of tackling the problem, since both the philosopher and the physician base their knowledge on sense evidence.<sup>74</sup> He also gave little credence to the distinction between medical theory and practice, which other *moderni* had introduced to make room for the *neutrum*. According to this second view, the speculating physician admits the *neutrum* as the midpoint of motion between health and disease and vice versa (an idea Peter rejected for failing to understand that the change between health and disease is immediate<sup>75</sup>). The practicing physician, still according to these *moderni*, recommends a combined treatment for bodies midway between health and disease:

“since practice is twofold, conservative and curative, inasmuch as a body of this sort midway between health and disease shares in health it is treated by things appropriate to the healthy, conserving it with similar things, cautiously lest it be weakened by things slightly contrary; while inasmuch as they (!) share in illness it is treated with a curative regime”.

However, Peter objected, all theory must be practice-oriented. And since, according to the *moderni*, the practicing physician does not deal with the *neutrum*, the speculating physician should refrain from theorizing about it.<sup>76</sup>

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74 PETER OF ABANO, *Conciliator*, dif. 72, propter 2m, ed. Venice 1565 (repr. Padua 1985), f. 110vab.

75 Peter pointed out that Aristotle considers health and disease as states (*habitus*) or dispositions (*dispositio*). As such, health and disease cannot undergo the successive change of motion. In this respect, Peter distinguished between health and complexion. When the complexion reaches a certain threshold, the general state of the body suddenly tips. *Conciliator*, dif. 72, propter 3m, ed. cit., f. 111rab. For more on this dimension of the debate, see OTTOSON, *Scholastic medicine*, pp. 174-5 and especially JOUTSIVUO, *Scholastic tradition*, pp. 58-74.

76 *Ibidem*, propter 2m, ed. cit., f. 110va: “Fuerunt et alii dicentes sanum et aegrum posse ad duo referri, aut ad medicum speculantem, et ita erit medium inter sanum et aegrum dictum neutrum, cum is speculans attendat motum fieri alterativum de sanitate in aegritudine et econverso. Inter autem omnem huiusmodi motum cadit natura media, ut dictum prius, propter quod medium inter sanum et aegrum collacabitur. Aut possunt ad medicum practicum referri et quia practica duplex existit, conservativa videlicet et curativa, quantum ad id, quod corpus huiusmodi medium inter sanum et aegrum sanitate participat, regetur per ea, quae debentur sano, ut conservando per similia et reducendo, ne labatur per parum contraria. In quantum vero participant egritudine gubernatur regimine curativo per omnino contraria. Et hanc quidem intentionem dicunt quidam habuisse Aristoteles quando dixit non esse medium inter dispositiones. Sed hoc non valet, quoniam Aristoteles dicit non esse medium universaliter [...]. Hoc autem etiam non videtur

This passage is not easy to understand, nor is it immediately clear who were the *moderni* Peter had in mind. The description of the combined treatment may recall Arnau of Villanova.<sup>77</sup> However, Arnau justified the utility of the *neutrum* as a category for the practicing physician on the basis of these mixed treatments, whereas Peter's *moderni* claimed, on the basis of these same treatments, that there is no *neutrum* in medical practice, only in medical theory.

Taddeo Alderotti, whose work Peter certainly knew, seems a more likely source. In his commentary on the *Tegni*, Taddeo accepted the argument, first mentioned by Haly, that a body moving from health to disease or vice versa necessarily passes through a middle point. However, despite arguing, as we have seen, that the concept of *neutrum* also made sense according to an empirical and functional approach to health, Taddeo was not an instrumentalist. For the practicing physician, so Taddeo claimed, the concept of *neutrum* is of no use, because treatment is either curative or conservative. So even if the *neutrum* "is something", this is of no consequence for treatment, since the physician necessarily treats neutral bodies as either sick or healthy.<sup>78</sup>

Taddeo recognized the use of "preventive" and "fortifying" measures specifically suited for neutral bodies. However, to his mind, these measures are subsumed under conservation or cure, because they are /30/ still based on the principles of similarity and contrariety. This does not mean that Taddeo necessarily denied the

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valere, quoniam cum theorica ordinetur ad practicam, sicut ante finem ad suum finem, non est dare quod aliquid consideretur in theorica tanquam in eo quod est ante finem, quod tandem non ordinetur in finem ut in praxim. Sic igitur medicus practicus non negociatur circa neutrum, neque etiam medicus theoreticus". The translation of the passage is McVaugh's.

77 McVAUGH, introduction *De intentione*, p. 169. This interpretation supposes that the *De intentione* had reached Paris (where Peter of Abano finished his *Conciliator* in 1303) within a decade of its completion.

78 TADDEO ALDEROTTI, comm. *Tegni*, ed. cit., f. 6r: "Nam si consideretur [neutrum] per comparationem ad operationem medici non est ibi medium, quia medicus operans aut conservat aut curat. Et si conservat, tunc neutrum cadit sub regula sanorum, nam sicut sanum per similia conservatur, sic et neutrum debet preservari. Si vero medicus curat, tunc neutrum clauditur sub ego, quia corpus neutrum debet preservari et resummi [...] et talis operatio est per contrarium, sicut cura. [...]". TADDEO, comm. *Isagoge*, ad cap. 58, ed. Venice 1527, f. 392r: [...] dico quod neutra dispositio est aliquid. Quod si mihi opponis Avi. dicentem quod non est necessarium; ipse hoc intelligebat per viam curationis".

possibility of the combined treatments recommended by Arnau and described by Peter of Abano. In his later commentary on the *Isagoge*, Taddeo seems, in fact, to be alluding to just such a treatment.<sup>79</sup> The point that Peter of Abano's *moderni* and Taddeo seem to be making is, rather, that a combined treatment still constitutes no third way in medical practice, since it participates in the two branches of practice: *conservatio* and *curatio*. A combined treatment is a physical mixture, so to speak, not a true one that gives rise to a new substance.

Bernard of Gordon tried, as we have seen, to break away from this binary scheme by presenting Galen's four kinds of treatment as equivalent in importance and by distinguishing between them in terms of degree. However, even here, the intermediary diet suitable for old bodies is still described in terms of similar and contrary qualities. In their own way, all these scholastic discussions about the *neutrum* highlight the difficulty, which was already apparent in 12<sup>th</sup> century commentaries, of conceiving of a "third way" in medical practice.<sup>80</sup>

### ***Moving out of sight: neutralitas as imperceptible damage***

The evolution of the definition of the neutral body in terms of function, around 1300, also undermined the relevance and usefulness of the concept of *neutralitas*. The first instrumentalist physicians (Cardinalis, Arnau of Villanova) described the neutral body as having mediocre functions, while Taddeo Alderotti (who was not an instrumentalist, as we have seen) qualified the functions of the neutral body as neither optimal, nor manifestly damaged.

Taddeo had, however, also used a different definition, which Bartholomew of

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79 TADDEO ALDEROTTI, comm. *Isagoge*, ad cap. 93, ed. cit., f. 397r: "Ad hoc dico quod omnia ista corpora de quibus auctor modo loquitur sunt neutra et quia in neutris est quedam pars sanitatis et quedam lapsa, dicitur quod ratione partis lapse ibi est curatio, sed ratione partis sane ibi est conservatio sanitatis".

80 GENTILE DA FOLIGNO countered Taddeo's argument by saying that prevention was a different course of action from curing and conserving, but he did not develop this any further (quest. *Tegni*, q. 4, ed. in TORRIGIANO, *Plusquam commentum*, f. 223r). For TORRIGIANO prevention as a special category of medical action follows from accepting the *neutrum*, rather than being an argument in favor of it (*Plusquam commentum*, ed. cit., f. 8v-9r). See also JOUTSIVUO, *Scholastic tradition*, p. 99.

Salerno had already suggested a century earlier.<sup>81</sup> It characterizes neutral bodies not by less than optimal functions and the absence of manifest functional damage, but by imperceptible damage to function.<sup>82</sup> Taddeo's student Torrigiano popularized this definition in his highly influential commentary on the *Tegni*. Henceforward it became standard, especially in Italy.<sup>83</sup> The shift between the *absence* of *perceptible* damage to the *presence* of *imperceptible* damage may seem slight, but it had important implications.

The expression *insensibilis lesio* comes straight out of the *Tegni*. Galen, however, in describing the scale between perfect health and full-blown disease, had reserved the term for *healthy* bodies that only slightly diverge from perfect health (*parum lapsi*), arguing that these /31/ bodies must, for that reason, have some functional lesion, even though this is not apparent to the senses (*Tegni* IV.6-7). Galen distinguished the *parum lapsi* from neutral bodies that are sickening. He described the latter as already showing small premonitory signs of future illness. Some of these signs are only out of the ordinary for the particular patient (a change in appetite or in sleep patterns, the perception of a buzzing sound or a bitter taste), others, such as stomach aches or headaches, tend towards disease. However, Galen insisted, people who experience such minor complaints are not actually ill, but neutral, because they are still able to go about their usual business

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81 The extent to which scholastic physicians knew and used the works of the Salernitan masters is still little studied. Taddeo's student Torrigiano cites them explicitly: ed. cit., f. 10r.

82 TADDEO ALDEROTTI, comm. *Tegni*, ed. cit., f. 136r: "egrum est signum notius quam neutrum, quia operatio est sensibiliter lesa in corpore nunc egro, sed in neutro est lesa insensibiliter, ut infra dicitur in illo capitulo *Torsio* [*Tegni* XXI.16]". See also TADDEO, comm. *Isagoge*, ad cap. 58, ed. cit., f. 392r: "*unde fit sensibilis lesionis effectus, non ponit ad contrarium sanitati, sed ut excludat neutrum, nam in neutro est intemperantia extra naturam, tamen non leditur operatio in corpore neutro sensibiliter*". The adjective *insensibilis* does not occur in the *Isagoge*. It is a gloss (see n. 42), which got integrated into the text itself. See also PETER OF ABANO, *Conciliator*, diff. 72, propter 2m, ed. cit., f. 106v.

83 TORRIGIANO, *Plusquam commentum*, ed. cit., f. 8v: "Nam ipse [i.e. Galen] diffinit sanitatem, dicens quod est dispositio secundum naturam, perficiens operationem. De egritudine autem non dicit, quod sit dispositio praeter naturam, diminuens perfectionem operationis, sed dicit quod est dispositio praeter naturam, sensibiliter ledens operationem. Sed inter perfectionem operationis et sensibilem eius lesionem est medium insensibilis laesio in illa, non ergo dicit esse egritudinem, nisi eam que ad sensum videtur egritudo, sensibile faciens nocumentum in operationem et non qualitercumque cadat corpus a sanitate, iudicat ipsum aegrum, sed sicut dictum est". GENTILE DA FOLIGNO, quest. *Tegni*, q. 4, ed. cit., f. 223r qualifies this as the *communis opinio*.



(*Tegni* XXI).

Bartholomew of Salerno seems to be the first to use the expression *lesio insensibilis* to refer not to Galen's *parum lapsi*, but to neutral bodies as a means of distinguishing them from those with disease. He hastened to add, however, that the term *insensibilis* had to be understood not in the sense of imperceptibility, but rather as of an intermittent nature or low intensity, like the signs of the neutral body described by Galen in the *Tegni*.<sup>84</sup> Taddeo also referred to these signs. Later Italian physicians, by contrast, dropped this reference and used the expressions *lesio insensibilis* in unqualified form. As such, they conflated neutral bodies with Galen's *parum lapsi*. The term *insensibilis* came to mean "imperceptible", rather than "slight" or "unsubstantial".

Humanist commentators would point out the incompatibility between the notion of functional damage that escapes the senses and Galen's description of the signs of neutral bodies. They also objected that, according to Galen, the physician should not posit dispositions that are imperceptible,<sup>85</sup> a point already made in the early 14<sup>th</sup> century by Dino del Garbo, another of Taddeo's students.<sup>86</sup> More importantly, the idea of a hidden functional lesion undermined both the empirical and the instrumentalist claims, which center on the idea that the physician bases himself on what appears to the senses and uses certain concepts because of their utility in medical practice. If the physician has no way of discerning the neutral body — whether on the grounds of his own perception, that of the patient, or of those around him<sup>87</sup> — the recognition of such a state seems pointless. An objection along these lines may well have been in the back of Jacques Despars's mind. While arguing the usefulness of the *neutrum* for the practicing physician, in a way

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84 See above, n. 42.

85 JOUTSIVUO, *Scholastic tradition*, pp. 77-9.

86 GENTILE DA FOLIGNO, quest. *Tegni*, q. 4, ed. cit. f. 223r: "Amplius ratione Dyni. Medicus non debet ponere dispositionem insensibilem". Gentile answers "Imo parvo lapsui qui non est manifestus, neque manifeste impediens, imponit aliud nomen et vocat ipsum neutrum ut distinguit", admitting, as such, that the utility of the term is only theoretical.

87 For the different sources of knowledge about manifest damage to function, see, for instance, GENTILE DA FOLIGNO, quest. *Tegni*, q. 34, ed. cit., f. 238rv.

similar to Arnau of Villanova, Despars qualified functional damage in neutral bodies as only *quasi* imperceptible (*parum ledit et quasi insensibiliter*), describing it also as "a small impairment that is not clearly perceived" (*lesio debilis et non manifeste percepta*).<sup>88</sup> By the time of Jacques Despars's writing, the definition of the neutral body in terms of imperceptible functional damage was too firmly established to ignore. /32/ Arnau, by contrast, had actively avoided using the expression *lesio insensibilis*, preferring less ambiguous words to describe the slight but manifest functional damage of neutral bodies.<sup>89</sup>

The main attraction of the notion of the truly imperceptible lesion was not practical but theoretical. It is no coincidence that we find it in the works of the later medieval Italian physicians who treated the question of the *neutrum* mainly as a logical problem. By attributing a lesion, albeit imperceptible, to the *neutrum*, the definition drew the *neutrum* towards disease. Arnau of Villanova had done a better job of describing the neutral body as a true *medium*. However, Arnau's gradualist approach to health did not allow for the *neutrum* to be considered as a distinct disposition. Torrigiano explicitly rejected the idea that health and disease only differ according to degree. Disease is not a lower degree of health, he insisted, it is something entirely different. The same is true of the *neutrum*. Imperceptible and perceptible functional damage are different kinds of damage. Compared to Taddeo Alderotti's negative definition of the *neutrum*, characterizing it by imperceptible damage allowed physicians to suggest in positive terms that *neutralitas* really "is something" and that it is distinct from both extremes.

### ***The neutrum and the relative conception of health***

A final ambiguity of the *neutrum* in medieval medicine lay, paradoxically, in the relative concept of health. Even though Galen seems to have introduced the

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88 Jacques Despars, comm. *Canon*, I.1.1.1, ed. cit.

89 Arnau of Villanova, *De intentione*, II.3, ed. cit., p. 121: "Sed recessus a medio potest fieri secundum plus et minus, ita quod tam parvus poterit esse recessus quod vitium in opera cadens sensui non patebit. Cum vero maior, modicum patebit vitium, non tamen adhuc ita manifestabitur sicut si amplior recessus extiterit". See also above n. 58.

*neutrum* because he held that health was relative, this same concept of health weakened the notion of the neutral body from a theoretical point of view.

Following Galen, medieval physicians pointed out that too strict and absolute a concept of health implied that everybody is ill. Conceiving of health as relative provided a way out of this "dogma of eternal suffering". The notion of the neutral body in its three guises refined the idea of relative health further. Moreover, Galen had added another layer to his system by stating that the adjectives health-related, disease-related, and neutral could be predicated "absolutely" (Latin: *simpliciter*) or "at the present moment" (*ut nunc*), absolutely being divided again into "always" (*semper*), or only "for the most part" (*ut multum*). All these distinctions helped, so Galen seems to have thought, to account for the individual with all his minor defects, for the changes and fluctuations the body undergoes over time, and for the varying tendency of individual bodies to resist disease, become ill and recover.

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However, the system became so complicated that it risked being more confusing than helpful. In Italy, where the tradition to comment on the *Tegni* was strongest, physicians dutifully tried to explicate Galen's notion of the latitude of health. Some, like Gentile da Foligno, saw Galen's distinctions mostly as a way to introduce further gradations of health, disease and *neutralitas*, others, like Torrigiano, as the expression of the difference between a "basic" or "normal" individual state of health and transient conditions.<sup>90</sup>

Nevertheless, these interpretations hardly made Galen's intricate system more manageable. Moreover, the individual and relative concept of health undermined the relevance of the *neutrum* in medical theory. Old people, and to a lesser extent children were typical examples of neutral bodies according to Galen's first sense. Labeling the bodies of the elderly and children neutral avoided having to

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90 See OTTOSON, *Scholastic medicine*, pp. 178-94; JOUTSIVUO, *Scholastic tradition*, pp. 127-34, 145-8; PESENTI, *The Teaching of the Tegni*. Torrigiano studied in Bologna under Taddeo Alderotti, but later left for Paris. His *Plusquam commentum* was probably written there, but it had enormous influence in Italy.

categorize them universally as ill, because of their systemic or corporeal weaknesses. However, later medieval physicians were reluctant even to call these bodies neutral. In repeating Galen's arguments against the dogma of eternal suffering, they pointed out that even though children and the elderly are more fragile than people in the force of life, their level of health is appropriate for their respective age groups. As pointed out by Taddeo Alderotti, children and the elderly may at most be considered neutral with respect to the young and strong. Gentile da Foligno remarked that even though old bodies show functional damage, this is part of the normal aging process and Torrigiano stated that, in truth (*secundum veritatem*), old people are healthy.<sup>91</sup> In other words, being in poorer health than those in the force of life is "their normal". Consequently, only bodies that are becoming ill or getting better can truly be considered neutral; *neutralitas* appears as a transient disposition of the body, rather than a state.

### **Conclusion**

In the medieval West, debate about the existence of a neutral state, intermediary between health and disease developed over the course of the 12<sup>th</sup> century, in commentaries on the *Isagoge* and the *Tegni*. During this early period, Bartholomew of Salerno stands out as the physician who treated the question of *neutralitas* – a new term – most fully and most subtly and who was responsible for raising questions and defining approaches to answer them that shaped later debates in important ways. Bartholomew was the first to note the tension between the notion of health as balance and imbalance and the concept of *neutrum*, using the /34/ Aristotelian distinction between mediate and immediate contraries. His characterization of neutral bodies as having a *lesio insensibilis* had become the standard definition of the neutral state by the turn of the 14<sup>th</sup> century, even though Italian commentators in this later period changed the interpretation of *insensibilis* from "unsubstantial" to "imperceptible". This shift hid the neutral body from the

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91 TADDEO ALDEROTTI, comm. *Tegni*, ed. cit., f. 16ra; TORRIGIANO, *Plusquam commentum*, ed. cit., f. 166v; GENTILE DA FOLIGNO, quest. *Tegni*, q. 34, ed. cit., f. 239v.

physician's gaze, undermining the relevance of the *neutrum* for medical practice. It allowed, however, to suggest that the difference between *neutralitas* and disease was not just a matter of degree. Indeed, Galen's definition of the *neutrum* as both a true *medium* and as a distinct condition provided medieval scholars with a challenge. Defining it as a state of weakness — an approach apparently abandoned after the 12<sup>th</sup> century — tended to shift the *neutrum* towards health, whereas the notion of slight or imperceptible functional damage defined the *neutrum* in terms of disease. The standard examples of neutral bodies in Galen's first sense, and the treatments considered suitable for them (prevention or restoration) also suggested that there was a *neutrum* on the side of health, and a *neutrum* on the side of disease.

Arnau of Villanova's gradualist definition of health allowed him to conceive of the *neutrum* as an intermediary zone of "mediocrity" and to account simultaneously for health in terms of balance, function, and resistance to disease. However, this approach did not make the *neutrum* appear as a distinct disposition *per abnegationem extremorum*.

In explaining Galen's concept of *neutrum*, medieval physicians also had to take into account that Aristotle considered health and disease as immediate contraries that cannot simultaneously be absent. The contradiction between Aristotle and Galen became urgent from the 1240s onward, due to a deeper understanding of Aristotelian thought among physicians and the reception of new medical texts, notably Haly's commentary on the *Tegni* and the medical works of Avicenna and Averroes.

By the end of the century, several solutions to the contradiction between Galen and Aristotle had taken shape. Some adopted the interpretation proposed by Haly, who compared the *neutrum* to a physical mixture. In the neutral body, health and disease are not both absent, as Galen had stated, but juxtaposed so closely that they seem to form a new substance. The "instrumentalist" solution, typical of physicians associated in one way or another with Montpellier, and represented,

most fully, by Arnau of Villanova, defended the notion of the *neutrum* differently, by virtue of its alleged usefulness in medical practice. The philosopher, who concentrates on causes rather than effects, rightfully rejects the notion of *neutrum*, because there is nothing between balance and imbalance, but the physician appreciates health by looking at the bodily /35/ functions and needs looser terminology in order to respond better to the needs of his patients. At Bologna, Taddeo Alderotti similarly distinguished between an empirical and an intellectual way of conceiving of the neutral body. However, he concluded that even though judged by the senses a neutral state exists, the concept of the *neutrum* was of no importance for medical practice, because the physician must treat neutral patients either with similar things, or with contrary things, that is, either as healthy or as ill. Even combined treatments, partly curative, partly conservative, do not constitute a distinct course of action in medical practice. Peter of Abano agreed with Taddeo on this, but his criticism of the concept of *neutrum* was much more radical. Far from attempting to reconcile Aristotle and Galen, he rejected distinctions between philosophical and medical truth or between medical theory and practice, claiming, with Averroes, that health and disease both only vary according to degree. He seems, like Avicenna, to have felt that the concept of *neutrum* was not essential to Galenic medicine and that Galen did not need saving on this point.

To be true, outside the commentary tradition, and especially in texts related to medical practice, the terms *neutrum* and *neutralitas* as well as the distinctions between *simpliciter, ut nunc, semper* and *ut multum* are little used. The pivotal notion of health as individual, relative, and susceptible to change and variation apparently functioned quite well without them.<sup>92</sup> Turning the instrumentalist claim on its head, Jacopo da Forlì argued, in the later 14<sup>th</sup> century, that even though physicians treat patients who are sickening or healing with specific restoring and preventive regimens, in terms of practice the theoretical question of how to

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92 Medieval physicians seem to have preferred terms like *aptitudo* to describe the tendency of bodies to become ill or develop specific diseases.

categorize their bodies was irrelevant.<sup>93</sup>

The fragility of the *neutrum* as a concept far from stopped medieval physicians from compiling and composing individualized regimens for their patrons and elite patients, as well as special diets for convalescents, pregnant or lactating women, infants, and, especially, the elderly.<sup>94</sup> The later Middle Ages and Renaissance witnessed the proliferation of treatises and how-to books about old age, amid vivid speculation about the mechanism of aging and the possibility of slowing down this process, or even regaining youth and extending the natural lifespan. Rejuvenation and *prolongatio vitae* transcend the traditional aims of medicine. The remedies advocated in some of these texts on the border between medicine and alchemy (drinkable gold, crushed pearls, etc.) no longer parallel the mundane diets for people recovering from serious illness. Moreover, the supposed efficacy of these elixirs was, like that of the antidote and panacea theriac, proclaimed to be based not on their complexion, but on some occult "specific form", which can only be known /36/ by experience.<sup>95</sup> Here, care for old bodies truly constituted a distinct course in medical practice different from *conservatio* and *curatio*.

The relative and individualistic approach to health underlying medieval medicine is essentially optimistic and reassuring. As such, it is very different from risk-centered modern concepts of health. Pushed to its extreme — as critics have not failed to point out — the modern notion of being at risk turns everyone into potential patients. However, by stressing the individuality and relativity of health, medieval medicine did not reduce the scope of medical intervention. On the contrary, the notion of the maintenance of health implied that everyone, whether ill, healthy, or somewhere in between, is in need of medical expertise. The flourishing of

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93 Iacopo da Forlì, comm. *Canon*, I.1.1.1, ed. 1495, f. 4r.

94 On this genre, cf. NICOD, *Les régimes* and P. GIL SOTRES, introduction, *Regimen sanitatis ad regem Aragonum, Arnaldi da Villanova, Opera omnia*, vol. 10.1, Barcelona 1996.

95 A. PARAVICINI BAGLIANI, *Il corpo del Papa*, Turin 1994, p. 300-12, 334-43 (*The Pope's Body*, Chicago 2000); PILEGGI, *Le medium neutrum*; C. CRISCIANI, *Aspetti del dibattito sull'umido radicale nella cultura del tardo medioevo*, in PERARNAU (ed.), *Actes de la II Trobada cit.*, pp. 333-80, esp. 355-76, and the literature cited there; JOUTSIVUO, *Scholastic Tradition*.

regimens of health as a genre and the profile of their owners suggest that members of the late medieval elite, at least, endorsed the medical discourses about the importance of prevention and healthy lifestyles. Because of the nature and scarcity of the available sources, the actual experience of health of medieval laymen and women remains more difficult to gauge.<sup>96</sup>

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96 Cf. the article of M. Nicoud in this issue. In their letters, some late medieval aristocrats described their condition or that of their family members in terms very similar to Galen's account of relative health and neutral bodies.