Metaphors of the Human Heart and Their Epistemological Shifts after 1600: A Case Study in Changes in Wittenberg Natural Philosophy and Discourses of Power*

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Abstract:
This study examines how the metaphor of the heart was used and what role it played in a political context in a particular type of text outside elite scholarly discourse, namely the relatively short occasional and student texts associated with teaching at the University of Wittenberg and other Protestant universities in the German lands. First, the ideas about the heart transmitted in the context of the teaching of anatomy at Wittenberg are analysed. The didactic poetry of Nicolaus Selnecker illustrates how the heart functioned in the metaphorical thinking of Wittenberg students and how it was related to political discourse. An analysis of the Latin poems of Tomáš Mitis shows how corporeal metaphorical thinking was adapted in the intellectual exchange between Wittenberg and Bohemia. Michael Maier's lesser-known alchemical and medical works are used to illustrate the changing functions of the heart metaphor and the epistemological shifts associated with the imagination of the heart after 1600.

Keywords: corporeal metaphors; anatomy; natural philosophy; monarchy; University of Wittenberg; Protestantism; Galenism

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The primary aim of the TOME project is to show how the study of cognitive and other kinds of metaphors, based on both close and distant readings, can be of use to early modern intellectual history and the history of philosophy. Far from being a purely linguistic matter, metaphors and figurative language in general can help us to understand how people in the past experienced and made sense of the world around them – how they used these mental images in reasoning, how they communicated them and how they acted according to them. Metaphorical thinking made it possible both to organize early modern knowledge according to existing epistemological principles[1] and to convey emotionally strong messages to readers, a powerful tool in the confessional and political struggles of the early modern period. Since metaphorical thinking is not only about understanding one conceptual domain in terms of another but also about creatively connecting different domains of knowledge and everyday experience, I have chosen to focus here on a section of early modern corporeal metaphors, metaphors of the human heart, used by Lutheran scholars associated with the University of Wittenberg, a highly influential intellectual centre in the mid-16th century, thereby adding another perspective to the existing research on the role metaphors played in the early modern transmission and reception of knowledge. Katharine Park and Lorraine Daston have previously shown that quite specific analogies and figurative language related to nature, its function or authority, developed in the early modern period.[2] Christiane Schildknecht, for example, has shown that metaphors significantly predetermined Francis Bacon's philosophy.[3] Jonathan Gil Harris has pointed to the popularity of corporeal and humorous language for describing the decline of social structures and social order in early modern English literature.[4] In my recent research on the intellectual exchange between the universities of Wittenberg and Prague, I remember being surprised at how omnipresent were images of the heart in that era's Lutheran discourse. My article thus looks at how the heart was conceptualised in the curriculum after 1540, and how cognitive images of the human

1 For more details see Lenka Řezníková's study in this special issue.

2 Daston, L., The Naturalistic Fallacy is Modern. *ISIS: A Journal of the History of Science*, 105, 2014, No. 3, pp. 579–587; Park, K., Nature in Person: Medieval and Renaissance Allegories and Emblems. In: Daston, L. – Vidal, F. (eds.), *The Moral Authority of Nature*. Chicago–London, University of Chicago Press 2004, pp. 50–73.

3 Schildknecht, C., Experiments with Metaphors: On the Connection between Scientific Method and Literary form in Francis Bacon. In: Radman, Z. (ed.), *From a Metaphorical Point of View: A Multidisciplinary Approach to the Cognitive Content of Metaphor*. Berlin–Boston, De Gruyter 1995, pp. 27–50.

4 Harris, J. G., *Foreign Bodies and the Body Politic: Discourses of Social Pathology in Early Modern England*. Cambridge, Cambridge University Press 1998.

heart were used as metaphors to describe and legitimise a social and political order based on subject-sovereign relations.

As we shall see, Lutheran scholars described political communities as bodies that obeyed their principal organs,[5] which ruled in the name of God. Metaphorical thinking based on a widely shared university medical discourse *could become a disciplinary tool that, among other things, validated the existing* social and political order*,* appealed to mass compliance with secular authorities, and helped to produce docile and obedient subjects. A metaphor of the human heart can thus be conceptualised with reference to the well-known work of George Lakoff and Mark Johnson, as one of the metaphors early modern people really "lived by".[6] There were several reasons for that. The two domains of Wittenberg knowledge – medicine and politics – intermingled or even merged: the heart and its functions were represented in terms of political power, and political discourses employed bodily metaphors and referred to the embodied experience of readers. As shall be discussed in detail, Wittenberg scholars developed a complex cosmology based on the doctrine of divine providence and its observable traces in the physical world which included not only the supralunar sphere but also all possible fields of the terrestrial world, including the human body. Unlike, for example, the astronomy taught at Wittenberg, where some historians question whether it was so strongly influenced by Lutheran theology and so different from other non-Catholic denominations,[7] in the case of the teaching of anatomy these interconnections were clearly evident. Corporeal metaphors were

5 The question arises, of course, of why not to analyse the concept of "head" in this way. Rather unsurprisingly, it has also often been involved in Protestant discourses of power, but after my first searches I decided not to select it. In addition to my previous research into 16th-century literature of Bohemian origin, I used the NOSCEMUS online database to select the texts of my case studies, which I searched for the period from 1530–1630. The NOSCEMUS online database is the output of ERC project No. 741374, conducted at the University of Innsbruck in 2017–2023 (PI Martin Korenjak), which was the first to make available Latin-language scientific texts from the early modern period (available online at www: https://www.uibk.ac.at/projects/noscemus/ [cit. 19. 5. 2025]). Even in the first searches in NOSCEMUS the term "head" proved to be too polysemantic to be analysed from our project's perspective. On the methodological challenges associated with the polysemantic nature of this metaphor in the context of the Old English thesaurus see di Paolo Healey, A., The importance of Old English *head*. In: Anderson, W. – Bramwell, E. – Hough, C. (eds.), *Mapping English Metaphor through Time*. Oxford, Oxford University Press 2016, pp. 165–184.

6 Lakoff, G. – Johnson, M., *Metaphors We Live By*. Chicago–London, University of Chicago Press 1980.

7 Methuen, C., *Science and Theology in the Reformation: Studies in Theological Interpretation and Astronomical Observation in Sixteenth-Century Germany*. London–New York, T&T Clark 2008, pp. 102–104; Almási, G., Rethinking Sixteenth-Century 'Lutheran Astronomy'. *Intellectual History Review*, 24, 2014, No. 1, pp. 5–20.

thus produced according to a post-Galenic model of anatomy that was widely shared among former students of Wittenberg and other Protestant universities. However, they also reflected the embodied experience of their writers and potential readers who were expected to observe the everyday workings of the divine providence in their bodies. The use of bodily metaphors was thus also about embodiment, i.e. the ways in which the readers of early modern texts understood the world through their bodies. Indeed, in the current research it is assumed that metaphors emerge from physical experiences, that they are "rooted" in the body and have somatic impacts; however, this is difficult to apply to research on the metaphorical thinking of the past, where one can instead explore how metaphors relate to ideas about the functioning and experiencing of the body. There are many unanswered questions about embodiment in early modern natural philosophy and science; what I present here are the cosmological and political implications of bodily metaphors and how they – together with references to the embodied experience of the audience – made knowledge of the physical world more visible or tangible and thus more persuasive as it spread to a wider readership. In particular, I focus on the epistemological shifts[8] associated with the political images of the heart in three individual case studies, illustrating how Wittenberg knowledge was tailored for students and later adapted in different intellectual environments and how it changed shortly after 1610, when the previous model of Wittenberg knowledge was finally transformed.

One of the leading Wittenberg conceptual frameworks: The heart, its structure and functioning

What was so special about the imagery of the heart as it circulated at the University of Wittenberg between the early 1540s and 1575 when the curriculum, founded by Philipp Melanchthon and his collaborators, changed? The teaching of medicine and thus the shared knowledge of the human heart, its structure and functioning, was part of the propaedeutics at the Wittenberg Faculty of Arts – students had to acquire in the first phase of their studies, in addition to the basics of Lutheran theology and the ability to express themselves fluently in Latin (and partly also in Greek), a specific knowledge of the world created and paternally controlled and governed by God – that is, of phenomena taking place in the supralunar and sublunar realms, affected by the effects of the Fall, including the human body. This framework was distinctly theological but it drew on the classical authorities of natural

8 Řezníková, L., Theatrum Historiae: The Metaphors of J. A. Comenius' Historical Theory and Narration and their Empirical Context, *Acta Comeniana*, 35, 2021, No. 59, p. 14.

philosophy. As Sandra Bihlmaier has shown, it was a mixture of Aristotelian *libri naturales*, Plato's cosmology, Ptolemy's *Quadripartita*, the doctrine of the elements, and Galen's and Hippocrates' doctrine of the temperaments.[9] The main goal of the Wittenberg approach was to know divine Providence through the study of the created world, especially through the observation of the perfect order of nature and the traces of God's action in it,[10] which point to God as *causa prima* and are accessible to all humans (within the limits imposed by the implications of the Fall upon human cognition, discussed below). Some of the lectures in the higher studies were then also devoted to knowledge of divine law and its ethical and social implications but here, too, the connection with the order of nature and its everyday observation was significant. The *ordo causarum* emanating from God to all areas of the created world was to be manifested in the whole world.[11] Because of the complex interconnectedness of the individual parts of the created world (in terms of their Creator, design, functions, and meaning for humans),[12] it was possible to use terms from different disciplines to describe this order.[13] We can therefore expect that such a complex and interconnected imagination also included shared metaphors, although this area has been rather neglected by previous research.

In any case, the teaching of medicine and anatomy was of great importance in the Wittenberg curriculum. It was a field that had such a direct influence on the students and their texts, even if only school and occasional, that it needs to be explained in detail. The theological concept of anatomy was formulated by Melanchthon in the early 1540s, with some medical topics already appearing in the curriculum from 1536.[14] At that point anatomy

9 Bihlmaier, S., Naturphilosophie. In: Frank, G. (ed.), *Philipp Melanchthon. Der Reformator zwischen Glauben und Wissen. Ein Handbuch*. Berlin–Boston, De Gruyter 2017, pp. 469–470. See also Storchová, L., *Řád přírody, řád společnosti. Adaptace melanchthonismu v českých zemích v polovině 16. století* [The Order of Nature, the Order of Society: The Adaptation of Wittenberg Knowledge in the Bohemian Lands in the Mid-16th Century]. Prague, Scriptorium 2021, p. 72.

10 Kusukawa, S., *The Transformation of Natural Philosophy: The Case of Philip Melanchthon*. Cambridge, Cambridge University Press 1995; Brosseder, C., The Writing in the Wittenberg Sky: Astrology in Sixteenth-Century Germany. *Journal of the History of Ideas*, 66, 2005, No. 4, pp. 557–576; Methuen, C., *Science and Theology in the Reformation*, p. 105.

11 *Corpus Reformatorum*, 101 vols. Ed. K. G. Bretschneider et al. Halle, C. A. Schwetschke et al. 1834–1911 (hereafter *CR*) 12,28; Hofheinz, R.-D., *Philipp Melanchthon und die Medizin im Spiegel seiner akademischen Reden*. Herbolzheim, Centaurus Verlag 2001, p. 55.

12 Meinel, C., Certa Deus toti impressit vestigia mundo. Melanchthons Naturphilosophie. In: Frikke, M. – Heesch, M. (eds.), *Der Humanist als Reformator. Über Leben, Werk und Wirkung Philipp Melanchthons*. Leipzig, Evangelische Verlagsanstalt 2011, pp. 231–232.

13 Wels, V., *Manifestationen des Geistes: Frömmigkeit, Spiritualismus und Dichtung in der Frühen Neuzeit*. Göttingen, V&R unipress 2014, pp. 99–102.

14 Helm, J., Religion and Medicine: Anatomical education at Wittenberg and Ingolstadt. In: idem – Winkelmann, A. (eds.), *Religious Confessions and the Sciences in the Sixteenth Century*. Leiden,

was one of the pillars of general education for all undergraduate students, only a small proportion of whom developed it in their master's studies at the Faculty of Medicine, and was not merely a narrowly defined area of medicine related to practical treatment.[15] The most influential textbook on medicine,[16] Melanchthon's *De anima commentarius* of 1540, published in a revised form as the *Liber de anima* in 1556, expands on Aristotelian and Galenic foundations by adding a number of theological frameworks and themes. It dealt, for example, with the human body as *exemplum Dei*, the mingling of the Holy Spirit with the bodily *spiritus*, the theological definition of the soul (the soul being proof of the existence of God), the doctrine of the immortality of the soul, the likeness of the soul to God and its disruption by the Fall (*corrupta imago*), the search for traces of God in one's own soul, etc.[17] If these theological problems fell within the realm of the Law (and not the Gospel), they could, according to the Wittenberg scholars, be examined by human reason, which is what medicine also does. On this theological basis, the human body was considered to be influenced by the four basic qualities, light and other factors, at the same time as being weakened by original sin and as the site of the healing work of the Holy Spirit.

Brill 2001, p. 60. The following passage summarizes chapter 3.4 from Storchová, L., *Řád přírody*, esp. pp. 82–90.

15 Nutton, V., Wittenberg Anatomy. In: Grell, O. P. – Cunningham, A. (eds.), *Medicine and the Reformation*. London–New York, Routledge 1993, p. 17; Helm, J., Medicinam aspernari impietas est: Zum Verhältnis von Reformation und akademischer Medizin in Wittenberg. *Sudhoffs Archiv*, 83, 1999, No. 1, p. 39. Anatomical dissections were not performed in Wittenberg until after the mid-16th century; see Helm, J., Interferenz von Theologie und Medizin in der Reformationszeit. In: Dingel, I. – Schäufele, W.-F. (eds.), *Kommunikation und Transfer im Christentum der Frühen Neuzeit*. Mainz, P. Von Zabern 2007, p. 197; Storchová, L., *Řád přírody*, p. 82.

16 About the numerous re-editions of *Liber de anima* see Hofheinz, R.-D., *Philipp Melanchthon und die Medizin*, pp. 14f.

17 Frank, G., Philipp Melanchthons "Liber de anima" und die Etablierung der frühneuzeitlichen Anthropologie. In: Beyer, M. – Wartenberg, G. (eds.), *Humanismus und Wittenberger Reformation*. Leipzig, Evangelische Verlagsanstalt 1996, pp. 317–318; Helm, J., Wittenberger Anatomie. Motive und Ausprägung einer protestantischen Wissenschaft im 16. Jahrhundert. In: Oehmig, S. (ed.), *Medizin und Sozialwesen in Mitteldeutschland zur Reformationszeit*. Leipzig, Evangelische Verlagsanstalt 2007, pp. 240f.; Angelis, S. de, *Anthropologien: Genese und Konfiguration einer "Wissenschaft vom Menschen" in der Frühen Neuzeit*. Berlin, De Gruyter 2010, p. 22f. The degree of involvement of theological arguments in the Liber de anima has been such that it has caused embarrassment among some historians of philosophy, who label it a "misinterpretation" or even "corruption" of Aristotelianism (Salatowsky, S., *De Anima. Die Rezeption der aristotelischen Psychologie im 16. und 17. Jahrhundert*. Amsterdam, Grüner 2006, p. 131). This is a partial misunderstanding. The Wittenberg cosmology was indeed deeply theologically grounded. It was based on eclectic work with older texts but what was important for Wittenberg scholars was not a question of "fidelity" or "adequacy" to the original classical texts, but the coherence of their interpretation and the social and moral function of the knowledge they taught at Leucorea. See also Storchová, L., *Řád přírody*, pp. 82–85.

Melanchthon's conception of medicine was strongly based on ancient authorities, especially Galen, but also Hippocrates.[18] These were supplemented, for example, not only by the tradition of older university commentaries on *De anima* and *Parva naturalia*[19] but also by the latest medical discussions (e.g. Alessandro Benedetti and Andreas Vesalius).[20] As in the case of astronomy,[21] these intellectual innovations were used only in a fragmentary and purposeful way to fit into the overall Wittenberg concept and models of teaching. Vesalius' influence can be seen, for example, as early as in one of Melanchthon's many university orations which dealt directly with the heart, *De partibus et motibus cordis*, delivered in December 1550, in which he mentions the invisible pores in the wall separating the chambers of the heart.[22]

The human body is a parallel to the supralunar sphere and the earthly world, and at the same time all these spheres act upon it.[23] The body is evidence of divine existence, it belongs to the *vestigia Dei*, and makes it possible to understand divine providence. It expresses the purposes for which God created it and is not a random grouping of atoms.[24] Wittenberg anatomy then gave testimony to the miraculous divine creation in the divine image and the miraculous "fabrica" of the human body, i.e. the functioning of the organs in which divinely controlled processes take place.[25] At the same time, anatomy

18 The 1525 Venetian edition of Galen's writings in Greek was highly acclaimed in Wittenberg. As Simone de Angelis has shown, a number of Latin translations of Galen were published between 1530 and 1550, as well as several translations of Hippocratic aphorisms from which Wittenberg scholars could draw (Angelis, S. de, *Anthropologien*, pp. 32–33). The nearest Melanchthon collaborators, such as Leonhart Fuchs and Joachim Camerarius, were directly involved in the preparation of the 1538 Basel edition of Galen (Kusukawa, S., Aspectio divinorum operum: Melanchthon and Astrology for Lutheran Medics. In: Grell, O. P. – Cunningham, A. /eds./, *Medicine and the Reformation*. London–New York, Routledge 1993, p. 44).

19 Bihlmaier, S., Anthropologie. In: Frank, G. (ed.), *Philipp Melanchthon. Der Reformator zwischen Glauben und Wissen. Ein Handbuch*. Berlin–Boston, De Gruyter 2017, pp. 483–484.

20 Nutton, V., Wittenberg Anatomy, pp. 16, 22; Hofheinz, R.-D. – Bröer, R., Zwischen Gesundheitspädagogik und Kausalitätstheorie: Melanchthons "Theologie der Krankheit". In: Frank, G. – Lalla, S. (eds.), *Zur Geistesgeschichte des Mittelalters und der frühen Neuzeit*. Heidelberg–Ubstadt-Weiher–Basel, Verlag Regionalkultur 2003, p. 72.

21 An obvious example is the selective treatment of Copernicus' work see recently Omodeo, P. D., *Copernicus in the Cultural Debates of the Renaissance: Reception, Legacy, Transformation*. Leiden, Brill 2014, pp. 87–89.

22 Hammond, M. L., "Ora Deum, & Medico tribuas locum": Medicine in the Theology of Martin Luther and Philipp Melanchthon. In: Greyerz, K. von – et al. (eds.), *Religion, und Naturwissenschaften im 16. und 17. Jahrhundert*. Gütersloh, Gütersloher Verlagshaus 2010, p. 42; Hofheinz, R.-D., *Philipp Melanchthon und die Medizin*, pp. 78f. See also *CR* 13,54–55; Storchová, L., *Řád přírody*, pp. 86–87.

23 On the influence of the heavenly bodies see Hofheinz, R.-D. – Bröer, R., Zwischen Gesundheitspädagogik und Kausalitätstheorie, p. 81. See also *CR* 13,331f.

24 Helm, J., Wittenberger Anatomie, p. 245.

25 Nutton, V., Wittenberg Anatomy; Helm, J., Religion and Medicine, p. 57.

was conceived in relation to Lutheran ethics, as *nutrix multarum virtutum*, allowing for reflection on moral experience and action as fully situated in the body and its postlapsarian dispositions.[26]

The main part of Melanchthon's *Liber de anima* describes the three body cavities and organs (brain, heart and liver), the bodily fluids and the spirits. The second part concerns the human soul, with its activities being related specifically to the organs and their systems. What is the role of the heart in this complex system? Blood, as the most important bodily fluid, flows from the liver into the right ventricle of the heart. One part of the blood nourishes the lungs, the other flows through the holes in the heart wall (which are assumed by Galen) into the left ventricle, where it forms *spiritus vitalis*. The latter is a necessary condition of life, since it spreads throughout the organism via the arteries and supplies it with the necessary heat. The form of the *spiritus vitalis* and its effect on the whole body varies according to how the heart moves, beyond its normal contraction.

Following Galen (and Plato), it was not only in the Wittenberg milieu that the idea of the three parts of the soul, each residing in a different bodily organ, was shared: the heart contained the spirited soul. The heart is thus where the will and appetitive action (including affects) is localized. Although the basis of the Wittenberg doctrine of the soul is Aristotelian, according to Günter Frank, it is in several respects completely outside the older university tradition;[27] Melanchthon describes the soul as *endelechia prima corporis* and the general principle of life and movement.

Another important idea is the connection of the concept of the soul with the concept of general principles residing in the heart, thanks to which people can partially participate in the divine spirit. Melanchthon described God as an eternal mind in which human minds participate to a limited extent. Humans were created in God's image, with natural law and *principia communia* (*notitiae naturales*) implanted in their hearts.[28] *Principia* are the beginnings of all knowledge, evident and unchanging. They are one of the proofs of God's existence. At the same time, they prove that God wants people to try

26 Bellucci, D., Natural Philosophy and Ethics in Melanchthon. In: Kraye, J. – Saarinen, R. (eds.), *Moral Philosophy on the Threshold of Modernity.* Dordrecht, Springer 2005, p. 239. See also Alessandro Nannini's study in this special issue.

27 The philosophical sources are discussed, e.g., in Frank, G., Philipp Melanchthons "Liber de anima", pp. 321–322. The philosophical terminology of Melanchthon's writings on the soul has been analysed by, e.g., Angelis, S. de, *Anthropologien*, pp. 43–44.

28 Bellucci, D., *Science de la nature et Réformation: La physique au service de la Réforme dans l'enseignement de Philippe Melanchthon*. Roma, Vivere In 1998, pp. 423f.; Bellucci, D., Natural Philosophy, p. 243; Frank, G., The Reason of Acting: Melanchthon's Concept of Practical Philosophy and the Question of the Unity and Consistency of His Philosophy. In: Kraye, J. – Saarinen, R. (eds.), *Moral Philosophy on the Threshold of Modernity*. Dordrecht, Springer 2005, p. 222.

to reflect on him.[29] As a result of the Fall, humans may not be able to know the world directly but the human spirit is still related to the divine spirit through the *principia communia*; it can recognize God, his work and his traces in the created world, at least in a limited way.

Melanchthon distinguished *principia* of two types: *practica* and *speculativa*. *Practica* are related to the ability to discern natural law, to distinguish between good and evil and draw consequences from moral action, while *speculativa* include the awareness of God's existence, arithmetical or geometrical axioms, the understanding of order and proportion, and the formation of syllogisms.[30] As Charlotte Methuen has pointed out, Melanchthon considered that relative to other *principia*, the *principia speculativa* were less affected by original sin and thus more reliable,[31] which had implications for teaching at the University of Wittenberg, for example in subjects such as astronomy. *Notitiae* have been infused into human minds in the form of natural light (*lumen naturale*), thus having a luminous nature.[32] They exist there as rays derived from the radiance of divine wisdom, illuminating a human mind darkened by original sin. They can also be strengthened by the effect of heavenly light or the Holy Spirit, which also strengthens the individual human capacity to reflect on God and his action in the world.

The theological argument about the influence of the Holy Spirit on the human body is further developed in the *Liber de anima* in the passages dealing with the concept of *spiritus animalis*.[33] In the doctrine of spirits in general, the heart plays a key role. As seen above, *the spiritus vitalis*, arising in the

29 *CR* 13,169.

30 *CR* 13,143f.

31 See Methuen, C., *Science and Theology in the Reformation*, p. 27.

32 According to Charlotte Methuen (*Science and Theology*, p. 106), the luminous form of *notitiae* in the human mind (described by terms such as *scintillae, igniculum, lumen*) is one of Melanchthon's distincive contributions to early modern theories of cognition. Günter Frank has pointed to the influence of Plato's metaphysics of light in this context. Melanchthon's acquaintance with Plato's writings was probably due to Simon Grynaeus' edition of *Platonis Opera omnia* (Basel 1534); according to Frank, his main influence was his reading of *Timaios*, for which written notes have survived (Frank, G., Melanchthon and the Tradition of Neoplatonism. In: Helm, J. – Winkelmann, A. /eds./, *Religious Confessions and the Sciences in the Sixteenth Century*, pp. 17–18); Storchová, L., *Řád přírody*, p. 64.

33 Angelis, S. de, *Anthropologien*, pp. 37–54; Wels, V., Melanchthons Anthropologie zwischen Theologie, Medizin und Astrologie. In: Greyerz, K. von – et al. (eds.), *Religion, und Naturwissenschaften im 16. und 17. Jahrhundert*. Gütersloh, Gütersloher Verlagshaus 2010, pp. 55f.; Wels, V., *Manifestationen des Geistes*, pp. 90–94; Helm, J., Medizin. In: Frank, G. (ed.), *Philipp Melanchthon. Der Reformator zwischen Glauben und Wissen. Ein Handbuch*. Berlin–Boston, De Gruyter 2017, pp. 511–513. For the complex model of the spiritus animalis production see Helm, J., Die "spiritus" in der medizinischen Tradition und in Melanchthons "Liber de anima". In: Frank, G. – Rhein, S. (eds.), *Melanchthon und die Naturwissenschaften seiner Zeit*. Sigmaringen, Thorbecke 1998, p. 227.

heart and moving throughout the body, is responsible for sensory perception, for the transmission of sensations to the intellect and memory, and for feeling and thinking. The sensations of objects travel through the nerves to the heart, the heart moves and its affective movements change the quality of the *spiritus vitalis* – since it is a material substance, its dryness, taste, colour, etc., can change.

Spiritus in general can be transmitted by the light of the sun or stars, so they are also part of the astrological influence on the human body. Above all, however, the vital spirits can materially mingle with the Holy Spirit.[34] The Holy Spirit comes to Christians when they listen to the Word of God, usually through preaching, by means of divine light (*divina luce*). It is poured into their hearts, as the Bible testifies (*Romans* 8,9; *2 Corinthians* 3,18).[35] In the heart, the *spiritus* and the Holy Spirit mingle and the form of the *spiritus* changes: it becomes inflamed, it becomes clearer, and with it the human knowledge of God is clearer and the movement of the heart towards God is stronger. The Holy Spirit pours new affects into the heart, bringing the human will into a state more like the situation before the Fall and more in harmony with the divine will. There is a clearer knowledge of God, a calming of the confused affects (*confusio affectuum*), and the previously lost harmony between innate principles and affects, human and divine will, is partly restored.[36] The whole process involves a moment of human activity, which is the *assensio* – the capacity to assent while listening to the Gospel, which allows the Holy Spirit to work in the body and requires the hearer to actively receive the Word.[37] The affective, joyful *assensio* to the word of God has direct impacts on human physiology.[38] The concept of the vital spirits, together with the operation of the Holy Spirit, thus gives the postlapsarian body and soul a hope of justification.[39]

Finally, the human heart is, in the Wittenberg theologically oriented concept, also the seat of affections (*affectus*),[40] which, in addition to external

34 Helm, J., Die "spiritus", pp. 297f.; Helm, J., Religion and Medicine, p. 60; Helm, J., Interferenz von Theologie und Medizin, p. 204; Storchová, L., *Řád přírody*, pp. 87–89.

35 Helm, J., Die "spiritus", pp. 299–300; Helm, J., Interferenz von Theologie und Medizin, p. 203.

36 Angelis, S. de, *Anthropologien*, pp. 45–47.

37 Eusterschulte, A., Assensio: Wahlfreiheit in Melanchthons theologischer Grundlegung einer philosophischen Ethik. In: Frank, G. – Mundt, F. (eds.), *Der Philosoph Melanchthon*. Berlin, De Gruyter 2012, p. 36.

38 Wels, V., *Manifestationen des Geistes*, pp. 91–92; idem, Melanchthons Anthropologie, p. 58.

39 Idem, Melanchthons Anthropologie, p. 61.

40 For an overview of the ways in which affections were conceptualized in the pre-Reformation period see Müller, R., *Die Ordnung der Affekte: Frömmigkeit als Erziehungsideal bei Erasmus von Rotterdam und Philipp Melanchthon*. Bad Heilbrunn, Verlag Julius Klinkhardt 2017, pp. 37f. The following passage summarizes my argument in Storchová, L., *Řád přírody*, pp. 89–94.

factors such as the radiation of the stars or individual temperament, significantly influences the functioning of the whole body. Affections are irregular and uncontrolled movements of the heart that occur in response to perceptions or ideas about objects forming in the brain; these are transmitted from the brain to the heart by the nerves and spirits.[41] The movements of the heart vary according to the type of affections: in the case of the rejection of the object observed, the heart will contract and ache; positive affections, on the other hand, expand the heart. Affections also change the form of the *spiritus vitalis* emanating from the heart: they can change its lightness, sweetness, warmth, moisture, strength, etc.[42] The spirits thus altered are thence carried into the body and cause direct physical reactions. The two basic affections are joy and sadness; the others are, according to Melanchthon, compound. While the positive affections cause regeneration, the negative ones have pathological effects on the health of the heart and the whole organism; for example, sadness or anger cause direct heartache and can even lead to death.[43] Through the physical manifestations of affections, therefore, one could also observe – similar to the structure and functioning of the body as a whole – the functioning of one's heart and produce embodied experience of it on a daily basis.

The concept of affections is closely related to human behaviour and to the Lutheran doctrine of sin and grace. Before the Fall, there was harmony between cognition, will, and affections, all of which were in harmony with divine purposes and laws. After the commission of original sin, the harmony is disturbed, the knowledge of God is obscured, and the affections move chaotically and "push" the will in different directions.[44] It is the grace of God and the pouring of the Holy Spirit into the heart that help fight against this. The Holy Spirit then ignites new affections in the heart that are in accordance with the divine will, above all the affection of love for God and neighbour. The existing affections cease to flutter aimlessly.[45] The negative affections that previously prevented the heart from *assensio,* distancing man from natural law and moral conduct, are removed. The affections, the *principia* and the will situated in the heart approach their prelapsarian harmony and help humans to follow natural law and thereby lead them to moral conduct.[46]

41 Helm, J., Die "spiritus", pp. 232f.; Hofheinz, R.-D., *Philipp Melanchthon und die Medizin*, pp. 91f.
42 For changes caused by various kinds of affections see Helm, J., Die "spiritus", p. 298. Storchová, L., *Řád přírody*, p. 91.
43 Hofheinz, R.-D. – Bröer, R., Zwischen Gesundheitspädagogik und Kausalitätstheorie, p. 84.
44 Wels, V., Melanchthons Anthropologie, p. 57.
45 Helm, J., Medizin, p. 511.
46 Eusterschulte, A., Assensio, pp. 23–24.

Thus, moral action in accordance with natural law requires the "consent of the heart." The views of Melanchthon and his colleagues on natural law changed, linking morality more firmly to the state of the human soul, heart, and affections after the mid-1530s.[47] In the following period, according to Charlotte Methuen, the distinction between natural law and ethics began to blur.[48] The main function of natural law was that it established a social order based on sovereign-subject relations and the duties derived from them.[49] The *principia communia* that discerns good and evil, located in the human heart, made it possible to fulfil the commands and prohibitions of natural law.[50] In this way, the individual was to understand obedience and their place in the community assigned to them by God and act accordingly.

The observation of the physical world as the perfect work of God, including the human body, was important in thinking about the order of society. The ideal forms and workings of society were in some way derived from natural phenomena.[51] According to the Wittenberg scholars, human society functions just like the physical world, which was created as an orderly hierarchical organism in which each part plays a specific role.[52] Martin Luther still conceived of order in nature and society separately, *de facto* assuming them rather than examining the concrete principles of how this order looks and works.[53] Melanchthon, on the other hand, repeatedly returned to the idea that, for example, the orderly movement of the stars and planets offered a model for both individual devotional and disciplined living and for the functioning of the church and secular communities.[54]

This model emphasised the idea of harmony based on "natural hierarchies" and a "natural reciprocity" of all the social and natural agents *created and sanctioned by God himself*. As earlier research has repeatedly pointed

47 Methuen, C., *Science and Theology in the Reformation*, p. 24. See also *CR* 21,388–389.
48 Ibid., p. 25.
49 Strohm, C., Zugänge zum Naturrecht bei Melanchthon. In: Frank, G. (ed.), *Der Theologe Melanchthon*. Stuttgart, Thorbecke 2000, p. 352.
50 Kern, B.-R., Philipp Melanchthon als Interpret des Naturrechts. In: Wartenberg, G. – Hein, M. (eds.), *Werk und Rezeption Philipp Melanchthons in Universität und Schule bis ins 18. Jahrhundert*. Leipzig, Evangelische Verlagsanstalt 1999, p. 152.
51 Frank, G., "Politica Aristotelis": Zur Überlieferungsgechichte der aristotelischen "Politica" im Humanismus und in der Frühen Neuzeit. In: idem – Speer, A. (eds.), *Der Aristotelismus in der Frühen Neuzeit – Kontinuität oder Wiederaneignung*? Wiesbaden, Harrassowitz Verlag 2007, pp. 325–352, esp. p. 345; Storchová, L., *Řád přírody*, p. 98.
52 Strohm, C., Zugänge zum Naturrecht, pp. 353–354. On the meanings of *ordo* in Melanchthon see Huschke, R. B., *Melanchthons Lehre vom Ordo politicus: Ein Beitrag zum Verhältnis von Glauben und politischen Handeln bei Melanchthon*. Gütersloh, Gerd Mohn 1968, pp. 105f.
53 Methuen, C., *Science and Theology in the Reformation*, pp. 9–10.
54 *CR* 21,641–642; *CR* 2,815–817. See also Meinel, C., Certa Deus, p. 252.

out,[55] natural philosophy and medicine were also tools for Wittenberg scholars to influence not only individual morality but also the politics and social life of Lutheran communities. Greater interest in natural philosophy and the study of natural law was even, according to Kusukawa, sparked at the University of Wittenberg by the very religious and civil disobediences that disturbed the social peace, namely the turmoils of the Zwickau prophets in 1521 and 1522 and riots in Thuringia in 1527.[56] In the instruction of the University of Wittenberg, knowledge of nature was an instrument of social disciplining; the study of the physical world, including the human body, was to lead to religious and social norms being inculcated in a large group of believers, so that each individual would accept their place as created by God, and shape a society based on "natural hierarchies" that had parallels, for instance, in the human body. Metaphorical thinking played a significant role in the circulation of these ideas.[57]

Metaphors and figurative language in general connected the various fields of Wittenberg knowledge and legitimised the arguments presented, making them appear self-evident. The world was created in such a way that analogies and correlations prevailed, which potentiated metaphorical thinking. Without the need for further explanation, hierarchies and power relations in society, nature and the human body were presented to the reader through metaphorical transmission. In the same way, political metaphors were used to describe celestial bodies (or just bodies).[58] Referring to the created natural world – and the human body within it – reinforces the legitimacy of patriarchal households, town communities and political life based on sovereign-subject relations.[59] In this sense, social hierarchies and inequality appeared

55 Kusukawa, S., *The Transformation*, pp. 67–74; Bellucci, D., *Science de la nature et Réformation*; Meinel, C., Certa Deus, p. 250; Storchová, L., *Řád přírody*, pp. 97–99.

56 See Kusukawa, S., Aspectio divinorum operum; Kusukawa, S., *The Transformation*, pp. 52, 71–74.

57 The idea of disharmony between bodily organs could also have various intertextual connections to classical literature – my sources do not contain direct allusions to Agrippa's notorious speech on the dangerous struggle between the stomach and other members (*Ab urbe condita* 2,32), but Livy was one of the most widely read classical authors, so it is more than likely that this story was also widely known among Wittenberg students.

58 Ludwig, W., Art und Zweck der Lehrmethode Melanchthons-Beobachtungen anläßlich der ersten Übersetzung seiner Initia doctrinae physicae. In: Huber-Rebenich, G. (ed.), *Lehren und Lernen im Zeitalter der Reformation. Methoden und Funktionen*. Tübingen, Mohr Siebeck 2012, p. 107; Barnes, R. B., *Astrology and Reformation*. Oxford, Oxford University Press 2016, p. 144.

59 The course of the heavenly bodies is described by means of political catogories in Melanchthon's earliest texts on astronomy, for example in the preface to the 1531 edition of Sacrobosco's *De sphaera* (*CR* 2,536). See also Schorn-Schütte, L., Die Drei-Stände Lehre. In: Friedrich, M. – Kürbis, H. – Kürbis, A. (eds.), *Perspectum*. München, De Gruyter Oldenbourg 2014, p. 272; Kuropka, N., *Philipp Melanchthon: Wissenschaft und Gesellschaft. Ein Gelehrter im Dienst der Kirche (1526–1532)*. Tübingen, Mohr Siebeck 2002, p. 128; Gross, D. M., Political Pathology.

as "natural", "self-evident" and "inevitable" as the physical world, perhaps as "unchanging" as the celestial sphere and in any case absolutely legitimate because of the activity of the Creator.

The human heart as part of Protestant metaphorical thinking: Adaptations of Wittenberg medical imageries

Below, I trace the transformations of metaphorical thinking in a specific type of scholarly text, one mostly sidelined by previous research. These are not texts that aped "high" scholarly culture and later became part of the canon of the history of early modern philosophy, nor were they part of any scholarly discussion or controversy of that time. Instead, often written by former students and graduates, they were a means by which Wittenberg anatomy was transmitted and adapted for new purposes and audiences. They present examples of everyday scholarly practice and the influence of corporeal metaphors upon the shared Wittenberg imagination and shared textbooks, such as Melanchthon's *Liber de anima*, the role such metaphors could play in argumentation, and how the embodied experience of readers was involved in doing so. It is also significant that a similar type of "average" literary production, which was already being written and published in abundance in the mid-16th century, can nowadays be traced at all thanks to projects such as NOSCEMUS.

The first of these is *Physiologia seu expositio septem rerum naturalium, ut medici vocant*, a didactic poem written in the typical Wittenberg poetic style that all students were expected to master in their first years of study.[60] It is part of the collection *Libellus de partibus corporis humani* (Wittenberg 1554)[61] which was written by Nicolaus Selnecker, a fresh graduate at the time, who was to become a professor of theology in Leipzig and a renowned author of religious songs. Precisely because *Libellus* is not a reflection from the pen of an already established major scholar, but a trivialized poetic ver-

In: Pender, S. – Struever, N. S. (eds.), *Rhetoric and Medicine in Early Modern Europe*. Farnham, Ashgate 2012, p. 132; Hofheinz, R.-D. – Bröer, R., Zwischen Gesundheitspädagogik und Kausalitätstheorie, p. 83; Storchová, L., *Řád přírody*, pp. 62–64.

60 For a summary of existing research on Latin poetry as part of the Wittenberg curriculum see recently Storchová, L., Creating a Nation through an Anthology of Neo-Latin Poetry: Bohemians as a Community of Honour in the mid-16th Century. *Daphnis*, 52, 2024, No. 3–4, pp. 465–467. For didactic poetry and how it related to the period's teaching and memorization strategies Kühlmann, W., *Wissens als Poesie. Ein Grundriss zu Formen und Funktionen der frühneuzeitlichen Lehrdichtung im deutschen Kulturraum des 16. und 17. Jahrhunderts*. Berlin–Boston, De Gruyter 2016; Moul, V., Didactic Poetry. In: eadem (ed.), *A Guide to Neo-Latin Literature*. Cambridge, Cambridge University Press 2017, pp. 180–199.

61 For further details available online at www: https://wiki.uibk.ac.at/noscemus/Libellus_de_partibus_corporis_humani [cit. 19. 5. 2025].

sion by a graduate student directed at other students, it very successfully illustrates the kind of metaphorical thinking that was shared by the Wittenberg university community and spread to other regions influenced by Melanchthonian educational reforms or the Protestant Reformation in general.

As Selnecker writes in his dedication to the rector Sebastian Theodoricus (Winsheim), with whom, according to the Wittenberg standard of the time, he stayed during his studies, and whom he wishes to thank for his hospitality with this collection, his aim was to present a simplified version of the larger texts. There are, in Selnecker's words, "uberiores tractatus" and "disputationes" on the subject of anatomy, which suggests that he was thinking primarily of texts written in the context of university instruction; he himself considered his poem to be an extract from more extensive writings (*eodem carminis genere pertexam, eademque ratione, qua hoc Carmen effudi, hoc est, succinta et brevi*).[62] "*Noster in exiguo pulvere sudat equus*," Selnecker adds with ironic detachment, referring to the work of the early Lutheran poet Helius Eobanus Hessus, whose works the students at Wittenberg also had to study.[63]

Selnecker himself addressed his readers as *iuventus*, encouraging them to observe their bodies and reflect on their structure and workings in order to better understand God's work in the world. The orientation towards students is also reflected in the layout, for example the marginal headings, which simplify the young readers' understanding of medical terminology. In the main poem, the theological motifs of Wittenberg anatomy recur repeatedly, e.g. man as *imago Dei* or the *splendida vestigia Dei*, which can be observed in the human body and testifies to the power and wisdom of God. Parallels are postulated between the workings of the body of the rest of nature, between the various organs and parts of nature (for example, the brain and the celestial sphere), just as the idea that the world was created "accidentally out of atoms" (*ex atomis casu*) is rejected.[64] The structure and workings of the human heart, to which a long passage in the poem is devoted, is a direct example for students to learn about the perfection of creation and the Creator himself.[65] It also encourages them to reflect on the functioning of society and their role as scholars, based on their own body and its health.

62 Selnecker, N., *Libellus de partibus corporis humani*. Wittenberg, Klug 1554, fol. Aiiv.

63 Wels, V., Der Begriff der Dichtung vor und nach der Reformation. In: Frank, G. – Lalla, S. (eds.), *Melanchthons Wirkung in der europäischen Bildungsgeschichte*. Heidelberg, Verlag Regionalkultur 2007, pp. 84–85; Fuchs, T., *Philipp Melanchthon als neulateinischer Dichter in der Zeit der Reformation*. Tübingen, Narr 2008, pp. 39–40.

64 Selnecker, N., *Libellus de partibus*, fol. Biir.

65 Ibid., fol. Civ: "Haec autem cordis tibi sit structura, Iuventus/ Consilium studeas iam bene nosse Dei."

The collection deals with the *ordo naturalium rerum*, the seven *res naturales*, of which every human body is composed when not in a state of disease. After an introductory discussion of the four elements, elementary qualities and four humours, Selnecker introduces anatomy, that is, the doctrine of the limbs and parts of the human body (*de membris et partibus corporis*). The heart is one of the main organs of the body. The linking of anatomy to political imagination is most evident in the opening section, where the role of the heart in relation to the rest of the body is characterised in general terms before moving on to its specific anatomical structure. The heart is a monarch separate from the rest of the body (*à reliquo seiunctus corpore*), responsible for running the body and controlling the other organs. It holds the life-giving sceptre (*vivida sceptra*)[66] which, in harmony with Galenic anatomy, is meant to convey to the other parts of the body the heat necessary for life (*vivificus calor*). The heart sends *spiritus* first to the brain, which, following Melanchthon, is metaphorically described as the "castle of the body", and then animates the whole body with it. The spread of heat and spirits that keep the body alive is thus analogous to the exercise of sovereign power. In this context the heart is called *rex vitae*, *fons vitae* and *fons primus*. Another function of sovereign power is related to the control of social order and individual morality. The heart deservedly enthrones itself in the midst of the body, where it has built an evolved judgement seat (*reverendum tribunal* in the main poem, *cardium* according to marginal descriptions), and dictates its laws (*iura*) to the other limbs. Selnecker pays attention to the concept of affections in the poem, distinguishing between positive and negative affections. The reactions of the heart and the feelings they cause in a person allow one to distinguish between right and wrong behaviour. Thus, the miraculous movements of the heart allow one to live more morally and in accordance with God's will and commandments.[67] The heart-controlled body is also a model of cooperation and social harmony for the students – if people cooperated as the organs in the human body do and fulfilled their tasks and obligations, i.e. if social harmony were not disturbed, evil, a result of the Devil's activity, would not manifest itself so clearly in the world.[68]

Also due to students' texts, metaphorical thinking about the human body and the body politic was transmitted from Wittenberg to other regions influenced by the Reformation and adapted to local cultural environments.

66 Ibid., fol. Biiiiv.

67 Ibid., fol. Civ.

68 Ibid., fol. Cir: "O si nos homines faceremus munera nostra,/ Unanimi iuncti pectore, mente, bonis:/ Ut faciunt inter se corporis omnia membra,/ Et socio sese foedere nexa iuvant,/ Non adeo Satanas nunc grassaretur in orbe/ Esset in hac vita vita quieta magis."

This included Bohemia, where adaptation was influenced by the local multi-confessional situation which often led to a weakening of the more radical Lutheran theological concepts, such as the key thesis of the mingling of the Holy Spirit with the bodily spirits believed to take place in the heart. As I have shown in another context,[69] authors from Bohemia, due to the expectations of the local audience, more often combined the concept of affections with less radical theological premises, for example, the doctrine of original sin and its effects on man. Metaphorical thinking may also have fulfilled slightly different political functions during the process of intellectual exchange.

The Wittenberg corporeal metaphors were elaborated in the Bohemian environment by Tomáš Mitis, who in 1562 published a Latin elegy on Divine Providence and its workings.[70] This theme was followed by a complex poetic interpretation of the natural and social order, in which the danger of disruption of the social order, specifically the rebellion of subjects against the sovereign, plays a significant role.[71] The poem is close to the Wittenberg standard, not only in terms of argumentation but also as regards concepts and metaphors. (In addition to bodily metaphors, Mitis uses the metaphor of the theatre to describe the mundane world designed for everyday observation.)[72] God's creative and supervising roles are indicated by common concepts used in Wittenberg teaching such as *faber, opifex, conservator rerum*, and *omnium rerum origo et causa efficiens*. Mitis also criticises, following the Melanchtho-

69 For a more detailed interpretation see Storchová, L., Strategies for Adapting Knowledge: Melanchthon's Natural Philosophy in the Czech Lands, 1540–1590. In: Burton, S. J. G. – Baines, M. C. (eds.), *Reformation and Education: Confessional Dynamics and Intellectual Transformations*. Göttingen, Vandenhoeck & Ruprecht 2022, pp. 185–191.

70 For more details about this collection see Storchová, L., *Řád přírody*, pp. 184–187. Tomáš Mitis (1523–1591) may have studied in Wittenberg in the late-1540s and he certainly received his master's degree from the University of Prague in 1552. He later worked as a teacher, publisher and bookseller and became one of the most prolific religious poets in Bohemia. For Mitis' life and works see *Companion to Central and Eastern European Humanism* 2/II: *Czech Lands*. Berlin–Boston, De Gruyter, forthcoming.

71 For the Wittenberg attitude to the right to resist and its impact on a wider scholarly discussion see Scattola, M., Widerstandsrecht und Naturrecht im Umkreis von Philipp Melanchthon. In: Schorn-Schütte, L. (ed.), *Das Interim 1548/50. Herrschaftskrise und Glaubenskonflikt*. Gütersloh, Gütersloher Verlagshaus 2005, pp. 460f.; Kuropka, N., *Philipp Melanchthon*, p. 192; Deflers, I., Einige Anmerkungen zur Ausstrahlung der Naturrechtslehre Melanchthons. In: Asche, M. – et al. (eds.), *Die Leucorea zur Zeit des späten Melanchthon. Institutionen und Formen gelehrter Bildung um 1550*. Leipzig, Evangelische Verlagsanstalt 2015, p. 377.

72 The metaphor of nature as a theatre created for man and his reason (*theatrum humani ingenii*) permeates Wittenberg university production and appears as early as Melanchthon's very influential textbook, *Initia doctrinae physicae*; see *CR* 13,189, and Müller-Jahncke, W.-D., Philipp Melanchthon und die Astrologie: Theoretisches und Mantisches. In: Frank, G. – Rhein, S. (eds.), *Melanchthon und die Naturwissenschaften seiner Zeit*. Sigmaringen, Thorbecke 1998, p. 126.

nian approach, the "Epicurean views" (thinkers are called *Epicuri de grege porci*) according to which the world could perhaps go on without the supervision of its creator.[73] The whole composition therefore appeals to people to observe the created world and to focus primarily on its context (*foedera mundi*, *divinus foedus*) and the harmonious arrangement of nature and its order (*modi harmonici*, *ordo*).[74] Mitis also directly mentions the concept of God's footprints imprinted in nature through which God wants to be known (*Ipse sui quoniam multis vestigia rebus / Impressit, per quae notior esse cupit*).[75]

Anatomy is one aspect of divine providence in nature. God created the human body out of the elements so that the whole world is contained within it in a small way (*fabricans hominem mundum comprendit in ipso, / Parvus et hinc mundus dicitur omnis homo*).[76] The structure of the body and its organs is miraculous and worthy of the greatest admiration.[77] The interpretation of the various organs is based on Melanchthon's *Liber de anima* or some of his many student poetic adaptations, which were similar to Selnecker's aforementioned poem. Mitis pays less attention than Selnecker to individual organs, yet he briefly mentions the *spiritus* (*vitales flatus*) in connection with the lungs and liver.[78] He describes the heart as *sedis vitae, affectibus et fons*.[79] The function of the monarch, however, is attributed to the head, not to the heart, although the whole idea of political power in relation to its subject organs works similarly (*Ergo caput retinet primas in corpore partes, / In quod subiectum ius quasi Regus habet*).[80] Although the heart does not play the role of a ruler, it has an animating function and is primarily related to moral conduct. Directly connected with the heart, however, is the human mind, which is a reflection of the divine light[81] and has the ability to observe natural phenomena and to reflect on divine wisdom, as well as to distinguish right from wrong and to act morally. More than the heart, metaphorical thinking concerns the other organs and their cooperation, a topic that was briefly mentioned by Selnecker and seems to have become a prominent part of Wittenberg discourse and its adaptations.

73 Mitis, T., *Elegia de Providentia Dei. Adhaec meditatio argumenti eiusdem in Psalmum 104…* Prague, Had, Jan Kantor 1562, fol. A4r. See also *CR* 13,213f.
74 Mitis, T., *Elegia de Providentia Dei*, fols. A3v, A5v. Storchová, L., *Řád přírody*, p. 185 (this being where the following quotations are also to be found).
75 Ibid., fol. A6v.
76 Ibid., fol. A7r.
77 Ibid., fol. Bv.
78 Ibid., fol. A7v. Storchová, L., *Řád přírody*, p. 186 (this being where the following quotations are also to be found).
79 Ibid., fol. A7v.
80 Ibid.
81 Ibid., fol. A7r.

Mitis elaborated this bodily imagination for the needs of the Bohemian environment, focusing it on a criticism of civil disobedience and rebellion against the monarch, which locally was of particular importance given the revolt of most Bohemian towns and the non-Catholic aristocracy against the Habsburgs in 1547. In this context, it is crucial that the entire collection sought to gain court patronage – it was addressed directly to Maximilian II – and Mitis adapted the providential framework and corporeal metaphors to reinforce the legitimacy of Habsburg monarchs and appeal to the obedience of their subjects in the Bohemian lands. He thus became one of those Bohemian scholars who adapted Wittenberg knowledge such as to condemn rebellion against the monarch. (Unsurprisingly, in the context of the 1547 revolt, some authors used Wittenberg learning to defend the right to resist the Habsburg rulers, whom they interpreted as tyrants.)[82]

Mitis likens the role of the individual body parts to social groups and professions whose interaction is necessary for the proper functioning of society within every monarchy. He compares the head to the monarch, the *spiritus* functions as messengers, the eyes fulfil the role of the chancellor, the tongue the vice-chancellor, the hand defends the body as an armed force, and the stomach functions as the *camera ducis*.[83] The whole idea has a clear subject-sovereign connotation, developing the classical theme of *discordia membrum* and highlighting the threat of civil disobedience: the other parts of the body are presented as subjects (*plebs subdita*) or outright stupid people (*plebs stulta*), from whom the stomach collects taxes and benefits via the nerves and transfers them to his superiors. If the subjects do not pay their dues, the whole community is weakened, and it may even perish – just as the body would suffer and die if it did not have enough food (*Sic nisi contribuat ducibus plebs subdita censum, / Hos prius enervat, mox perit ipsa simul*).[84] The weakening of the body would also be caused by the limbs disobeying the head and rebelling against their vocation (*Heu, male membra cient, ventri fera bella quieto, / Nam se, plus illo, seditiosa gravant*). The corporeal metaphor thus reinforces the idea that subjects are not to rebel against their sovereigns and are to perform the duties assigned to them by God. The basic categories of Mitis' interpretation are therefore social concord and harmony based on God-given hierarchies and the preservation of the existing order that can easily be destroyed by civil disobedience (*Membra caput servant, ab eo servata reguntur: / Heu domus, et regnum, seditione cadit. / Ah pereat,*

82 Storchová, L., *Řád přírody*, pp. 210–211, 343–346.
83 Mitis, T., *Elegia de Providentia Dei*, fol. A7v–A8v.
84 Ibid., fol. A8r. Storchová, L., *Řád přírody*, p. 187 (this being where the following quotations are also to be found).

cuicumque placet confusio rerum / Ordinis eversor publica damna serit. / Artus inter se iunctos Concordia fulcit, / Harmonicum reddunt corpora quaeque melos).[85] This metaphorical thinking also included the individual embodied experience of the "dysfunctional", weakened or terminally ill body, which further legitimised and naturalised for readers the sovereign-subject model with its immutable inequalities.

The metaphor of the heart and (epistemological) shifts after 1600

Although, according to early 21st-century research, there was a radical change in the teaching of astronomy and *physica doctrina* at the University of Wittenberg after 1575, elements of the older Melanchthonian cosmology had long been influential in the German lands and throughout Protestant-influenced central and northern Europe.[86] The teaching of anatomy was still crucial in Wittenberg in the 1580s and, according to the results of ensuing research, gave rise to a broad community of scholars who shared the basic Melanchthonian premises and incorporated them into new medical contexts long after 1600.[87] Vivian Nutton, for example, not only demonstrates elements of the Wittenberg model in much later works, such as Tobias Knobloch's *Disputationes anatomicae et psychologicae* from 1612, but also works by scholars associated with Bohemia, including Johannes Mathesius and Johannes Jessenius.[88] At the University of Wittenberg at that time (and until his death in 1637), Daniel Sennert worked as a professor of medicine. He still drew on Aristotelian natural philosophy and Galenist humoral theory, but at the same time he was known for his chemical medicine, experimental atomism, seminal ideas, and corpuscular interpretation of the origin of life.[89]

85 Ibid., fol. A8v.

86 Brosseder, C., *Im Bann der Sterne. Caspar Peucer, Philipp Melanchthon und andere Wittenberger Astrologen*. Berlin, Akademie Verlag 2004, pp. 257f., 295; Töpfer, T., Zwischen bildungskultureller Vorbildwirkung und politischer Legitimitätsstiftung. Die Universität Wittenberg in der lutherischen Bildungslandschaft der zweiten Hälfte des 16. Jahrhunderts. In: Tanner, K. (ed.), *Konstruktion von Geschichte. Jubelrede – Predigt – protestantische Historiographie*. Leipzig, Evangelische Verlagsanstalt 2012, pp. 29–52; Töpfer, T., Tradition und Authentizität. Die Selbst- und Fremdwahrnehmung der Universität Wittenberg in den Krisenzeiten um 1550. In: Asche, M. – et al. (eds.), *Die Leucorea zur Zeit des späten Melanchthon. Institutionen und Formen gelehrter Bildung um 1550*. Leipzig, Evangelische Verlagsanstalt 2015, p. 446.

87 Nutton, V., Wittenberg Anatomy, p. 25. The situation was very similar in Wittenberg astronomy after 1600; see Brosseder, C., *Im Bann der Sterne*, pp. 559f.

88 Nutton, V., Wittenberg Anatomy, p. 23. See also Nejeschleba, T., The Theory of Sympathy and Antipathy in Wittenberg in the 16th century. *AUPO, Philosophica VII, Philosophica – Aesthetica*, 32, 2006, pp. 81–91.

89 Clericuzio, A., *Elements, Principles and Corpuscles: A Study of Atomism and Chemistry in the Seventeenth Century*. London–Boston, Kluwer 2000, pp. 9–33; Newman, W. R., Experimental

However, according to Kathleen Crowther, there was another more significant change in the general conception of nature among many German Protestant writers after 1610.[90] As Anne-Charlott Trepp explains, representations of nature had ceased to be the work of theologians and scholars of the Melanchthonian type and had broken out of the all-encompassing providential and eschatological framework. Paracelsianism, mystical and spiritualist concepts linking nature to the experience of salvation, became more prominent.[91] It can be assumed, therefore, that there were parallel epistemological shifts and changes in metaphorical thinking in Protestant texts on medicine, which included corporeal metaphors. With regard to the metaphor of the heart, my final case study will focus on this hitherto understudied area.

As for the close reading of the texts contained in the NOSCEMUS database, the shifts in Wittenberg imagery and corporate metaphor can be illustrated by the late *Civitas corporis humani* (1621) by the well-known Rosicrucian alchemist and physician Michael Maier.[92] He received his basic anatomical training at the universities of Rostock and Frankfurt an der Oder, which at that time were still following the Wittenberg model, although this early phase of his studies represents a rather minor chapter in his later varied career. As in previous cases, *Civitas* stands on the fringes of the "high" scholarly literature of the time; unsurprisingly, given the time of its composition, it is no longer a didactic poem, but even so, the main interpretation in prose still has poetic paratexts.

Civitas continues a long tradition of humanist writings on gout,[93] in this case an interpretation of *tyrannis arthritica*, the tyrannical rule of arthritic

Corpuscular Theory in Aristotelian Alchemy: From Geber to Sennert. In: idem – Lüthy, C. – Murdoch, J. (eds.), *Late Medieval and Early Modern Corpuscular Matter Theories*. Leiden, Brill 2001, pp. 291–329; Stolberg, M., Particles of the Soul: The medical and Lutheran context of Daniel Sennert's atomism. *Medicina nei Secoli*, 15, 2003, No. 2, pp. 177–203; Hirai, H., *Medical Humanism and Natural Philosophy: Renaissance Debates on Matter, Life, and the Soul*. Leiden, Brill 2011, pp. 151–172; Klein, J. A., Corporeal Elements and Principles in the Learned German Chymical Tradition. *Ambix*, 61, 2014, No. 4, pp. 345–365.

90 Crowther, K., The Lutheran Book of Nature. In: Hawkes, D. – Newhauser, R. (eds.), *The Book of Nature and Humanity in Medieval and Early Modern Europe*. Turnhout, Brepols 2013, pp. 38–39.

91 Trepp, A.-C., Natural Order and Divine Salvation: Protestant Conceptions in Early Modern Germany (1550–1750). In: Daston, L. – Stolleis, M. (eds.), *Natural Law and Laws of Nature in Early Modern Europe: Jurisprudence, Theology, Moral and Natural Philosophy*. Farnham, Ashgate 2008, p. 130; Trepp, A.-C., *Von der Glückseligkeit alles zu wissen: Die Erforschung der Natur als religiöse Praxis in der Frühen Neuzeit*. Frankfurt am Main, Campus 2009; Storchová, L., *Řád přírody*, p. 369.

92 For further details available online at www: https://wiki.uibk.ac.at/noscemus/Civitas_corporis_humani [cit. 19. 5. 2025].

93 See Storchová, L., The tempting girl I know so well: Representations of Gout and the Self-Fashioning of Bohemian Humanist Scholars. *Early Science and Medicine*, 21, 2016, No. 6, pp. 511–530.

diseases, such as chiragra and podagra, over the human body. For Maier, disease is a manifestation of disorderly political power over the human body conceptualized as the city-state, the *civitas physica*. In the first part of the book, Maier develops a general parallel between the body and the state, while the second part, arguably the more significant in terms of the author's intellectual strategy, is devoted to the various treatments for gout and arthritis, including specific drugs and treatment, verging on advertising copy. In his own words, Maier follows the views of *dogmatici medici* from the German lands in the opening section,[94] and goes more into medical practice in the second part. The introductory part is interesting from our point of view, however, precisely because it develops the "basic" ideas of the human body as analogous to the state and its power relations; it is here that the corporeal metaphor is also applied. The imagination of body-as-state is developed in *Civitas* rather on the margins of the main argument, this approach legitimized by the assumption that it is universally comprehended and accepted.

In a simplified form, this imagery is summarized in the opening epigram, which speaks of the power of a single monarch (*unus rex* and *Dux*) and the ways in which he practises this power in relation to his subjects (*subdita membra*).[95] Its power extends over the whole body, its central seat (*regnum*) being the *precordia*,[96] that is, the area around the heart and the lower chest. Other bodily parts, such as the intellect, the will which requires control (*nec non frenata*), the senses, etc. are subject to the heart and serve it. They are described as a less noble state (*membrorum ignobilis ordo*) but also as townspeople (*cives, civica membra*) who perform the tasks entrusted to them, deserving protection. They are also involved in the fight against external enemies, i.e. the dreaded disease (*dira lues*).[97] In this fight, however, medicine and the specific therapeutic procedures and products, to which the main part of Maier's writing is devoted, have the main say. The physician, as if he were a courtier, helps the heart, i.e the monarch, to restore the heart's rule and restore its comfort (*solatia reddere cordi*), and to drive out enemies. The metaphor of heart-as-monarch is here adapted to a vague strategy of gaining patronage and the idea of the learned physician's position at court.

Maier developed the political metaphors of the heart more fully in the first chapter of *Quod in humano corpore sit civitas, et quae divisio utrobique officiorum*. The body, according to Maier, functions as a state ruled by the

94 Maier, M., *Civitas corporis humani a Tyrannide arthritica vindicata*. Frankfurt am Main, Lucas Jennis 1621, p. 7.
95 Ibid., p. 10.
96 Ibid., p. 11.
97 Ibid.

heart, with the individual organs and limbs acting as subjects. The heart-monarch (*potentissimus princeps*, also *Rex* and *Dominus*) resides in a fortified hall in the middle of the body (*aula munitissima thoracis*). As already expressed in the Wittenberg writings, the heart is king because it spreads the *spiritus vitalis* to all parts of the body, including the distant ones, thus giving them life-giving heat (*calor vivificus*).[98] The heat that spreads from the heart brings the ruler's justice, equality and protection to other parts of the body. Their assertion is hindered by negative affections. Spirits also spread *officia, dignitates utiles et honores*, here in the sense of the ruler's ceremonial recognition of an individual limb's merit.

The role of the heart-monarch is similar to the role of the sun in the sky. The heart is the incarnate representative of God in the corporeal state; it is the supreme sovereign and authority (*vicarius magistratus*), ruling over subjects in the name of God.[99] The other parts of the body are also subject to the heart because the heart – the organ in which life originates and ceases – receives life, like sovereign power, directly from God (*Cor primum dicitur in animali vivens, et ultimum moriens; unde vitam non ab alio membro vel viscere accipit, nisi ab anima, ut haec a Deo, caetera contra, quae cordi hac ratione assurgunt, ut Regi, et inserviunt, ut Domino*).[100] There should generally be mutual respect between the ruler and the subjects because they are dependent on each other.[101]

Maier describes the body as a small feudal state, like one of the principalities within the German Empire. A monarchical form of government can be found throughout the physical world, not just in a human body functioning according to post-Galenic principles; even in the heavens, the sun is the sole ruler and the other stars are the subject burghers.[102] It is not, however, an absolute monarchy, but a model close to the Republic of Venice, where magnates participate in the government and the monarchical power of the heart is thus partially limited (*Ad Aristocratiam itaque mixtam cum principatu referimus, quemadmodum in Republica Veneta observamus, in qua Magnates dominantur, sed sub Principe limitatae potestatis* […]).[103] The organs, blood vessels and membranes around the heart nourish and engage the sovereign, thus helping the heart to function at its best; they fulfil the role of the sovereign's court. Maier concentrates on the mechanics of exchange,

98 Ibid., pp. 30–31, 33.
99 Ibid., p. 29.
100 Ibid., p. 30.
101 Ibid., p. 29.
102 Ibid., pp. 21–23.
103 Ibid., p. 32.

i.e. what is fed to the heart and what is in turn drained from it to the rest of the body. Maier presents these organs as a dignified *senatorius ordo*, which has an important role in the functioning of the body-city: it collaborates with the sovereign, looks after the welfare of the subjects, has an advisory function and participates in the creation of laws, advice, decrees and exemptions from taxes (*consilia, iura, immunitates et senatusconsulta*).[104] The role of the aristocracy, assisting the king, is played by the lungs, thorax, brain and other *viscera principalia*.[105] The body and its proper functioning are further influenced by the four courts or councils (*aulae seu consistoria*).[106] The role of subjects and ordinary burghers (*cives, subditi* or *populus*) is then fulfilled by all the other internal and external parts of the body (*membra et viscera, hoc est, partes tàm internae, quàm externae*), which differ in their political tasks, status, order and religion, but whose common concern is to support each other.[107] Maier likens this political harmony to harmony in music;[108] it is a condition of health in the sense of a well-functioning monarchy.[109]

If the monarchical form of government is disturbed, with the heart as king and the principal organs as aristocracy, disorderly forms of government, such as oligarchy or tyranny (*tyrannis oligarchica*, *tyrannis multorum*), will arise; these will then cause disease in the body. Specifically, arthritis and its tyrannical rule are the result of the misrule of the heart, which does not supply the feet and hands with sufficient vital spirit, leading pain and weakness to the nerves, and causing the deposition of *superfluitates* in the hands and feet. The cure is to re-establish the aristocratic form of government, that is, to restore the dominion of the heart and its proper functions.

In Maier's case, the whole imagination is directed towards the idea of the defence of the city-body against a common enemy, which would not be possible without cooperation between the body parts and the fulfilment of their individual duties: Maier uses here a Wittenberg phrase, *vinculum societatis*.[110] He no longer concentrates on the question of civil disobedience; he does not discuss the right to resist. Similarly, Maier's metaphorical thinking no longer envisages the practice of everyday observation and the search for traces of divine providence in the human body and does not mention this type of em-

104 Ibid., p. 31.
105 Ibid., p. 33.
106 Ibid., p. 27.
107 Ibid., p. 25.
108 For a systematic inquiry into the semantic range and pragmatic valence of the early modern metaphor of harmony see Lenka Řezníková's study in this special issue.
109 Ibid., p. 27.
110 Wriedt, M., Bildung, Schule und Universität. In: Frank, G. (ed.), *Philipp Melanchthon. Der Reformator zwischen Glauben und Wissen. Ein Handbuch*. Berlin–Boston, De Gruyter 2017, p. 151.

bodied experience. Although the Galenic basis is still developed here, and on the level of individual terminology we can see in *Civitas corporis* a continuity with Wittenberg anatomy, more elaborate theological interpretation is lacking, especially the postlapsarian condition of the human heart, the teaching of affections, and the radical idea of the mingling of the bodily spirits with the Holy Spirit. To some extent, we can see here the effects of an epistemological shift in which the post-lapsarian state of nature and human knowledge began to lose significance.

Conclusion

All the texts through which we have illustrated the political metaphors of the heart as ruler show that the Wittenberg anatomical imagination had long continuity, even if subjected to many changes. It was a type of metaphorical thinking that was shared by a large group of scholars active in different territories in the German lands, central and northern Europe, thanks to its institutional context, i.e. direct connection with teaching at the frequented University of Wittenberg. The specificity of this type of metaphorical thinking was that, thanks to the Wittenberg cosmology linking the different domains of the physical world and their functioning, it also closely linked the source and target domains in the process of metaphorical mapping and conceptual blending. Furthermore, again as a consequence of a Melanchthonian theologically based approach to nature, it appealed to the embodied experience of the readers, especially their experience of the effects of affects on the body or, in a more general sense, of the weakening or sickness of the body as a result of "social" disorder in the body. In the process of intellectual exchange, this imagination could be adapted and transformed in different ways, as our case studies show, whether it was the simplification of anatomy textbooks in the form of didactic poems for the needs of the student community, or the use of corporeal metaphors to emphasize the discourse of civil dis/obedience in the context of the recent revolt against the monarch, or the use of these metaphors for pragmatic purposes related to the acquisition of patronage and the dissemination of certain medical products and treatments. As I mentioned at the outset, my probes show only fragments of the scholarly practices of the time, which we can glimpse thanks to recent projects based on computational humanities. They testify to the everyday use of cognitive metaphors in a specific intellectual community; distant from the intellectual elite discourses of the time in some respects, they are all the more significant for the intellectual history of the early modern period. One can also observe in them certain trends, over time there having been a change in the degree of reference to the observation and search for divine

traces in nature and the human body and thus to the embodied experience of the readers. There was also a gradual decrease in the emphasis on civil disobedience and on Wittenberg theological concepts. However, the political connotation of the heart, its structure and functions in post-Galenism still remained, as did the notion of hierarchical relationships between organs and body parts and their interactions with each other.

The question is whether, in the context of the Protestant imagination of nature and early modern Galenism, one can consider corporeal metaphors as a specific type of metaphor. Indeed, metaphors of the heart or other bodily organs and parts in the post-Galenic context do not seem to be among those that Hans Blumenberg, the founder of metaphorology, called "absolute metaphors." On the one hand, corporeal metaphors to some extent functioned as "metaphors of existence", giving expression to incomprehensible parts of reality, giving structure to the world, orienting readers and listeners within it, and providing answers to questions about their place in the universe. As Blumenberg said, their content "determined a particular attitude or conduct."[111] This is why Miglio considered the metaphors of pregnant and labouring bodies to be absolute in Blumenberg's sense.[112] On the other hand, my research does not show that bodily metaphors were in any specific way resistant to being eliminated by conceptual discourse in early modern Protestant writings, so that they could become "foundational elements of philosophical language", establishing the possibility of conceptual activity as such.[113]

Instead, corporeal metaphors, based on various medical discourses, provided an effective tool to communicate about topics related to power relations. They were able to explain very abstract and complex political ideas in an appealing way, to communicate them to a wide range of readers (and possibly even non-readers, since this imagery could easily become part of, for example, contemporary preaching and thus actually reach a large illiterate population). Bodily metaphors could also postulate the legitimacy and naturalness of these political ideas through the embodied experience of the addressees. In this sense, they could be described rather as "solid metaphors", a category related to the intersections of material cultures and metaphorical thinking and already discussed by Tilley in the 1990s.[114] Developing the connections between medical and political discourse, the meta-

111 Blumenberg, H., *Paradigms for a Metaphorology*. Ithaca, Cornell University Press 2010, pp. 14, 127. See also idem, *The Genesis of the Copernican World*. Cambridge–London, MIT Press 1987, p. 277.

112 Miglio, N., Absolute Metaphors and Metaphors of the Maternal. *Philosophy Kitchen-Rivista di filosofia contemporanea*, 2, 2022, No. 17, pp. 165–176.

113 Blumenberg, H., *Paradigms for a Metaphorology*, pp. 4–5.

114 Tilley, C. Y., *Metaphor and Material Culture*. Maiden, Blackwell 1999.

phor of the heart appears to be a solid one – preliminary probes into the NOSCEMUS corpus show that even when spiritualist attitudes to the human heart were more conceptualized after 1600 and the heart more and more often described as a place of inner certainty and spiritual experience etc., the heart still had the potential to be used as a political metaphor, even in early scientific texts. This is shown, for example, in Harvey's *Exercitatio anatomica de motu cordis et sanguinis in animalibus* (1628) and in astronomical treatises from the first half of the 17th century in which the sun is represented as the "heart of heaven". Thus, shifts in metaphorical articulation may have taken place only gradually, against the backdrop of larger social and confessional changes. The challenges for early modern intellectual historians are precisely the specific historical and epistemological contexts of bodily metaphors and the political functions they may have fulfilled.