COGNITIVE METAPHORS AND ENCYCLOPAEDIC KNOWLEDGE

EXPLORING SEMANTIC TRANSFORMATIONS IN EARLY MODERNITY

Petr Pavlas, Lenka Řezníková, Lucie Storchová (eds.)

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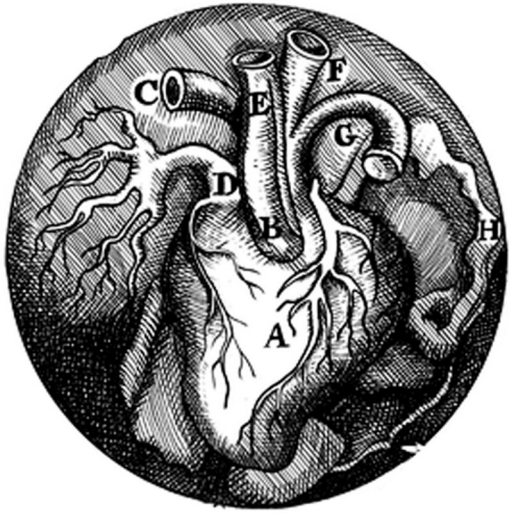
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Cognitive Metaphors and Encyclopaedic Knowledge: Exploring Semantic Transformations in Early Modernity

Edited by
Petr Pavlas, Lenka Řezníková,
Lucie Storchová

Prague 2025

This special issue is an output of MŠMT ERC CZ grant project LL 2320, "The Origins of Modern Encyclopaedism: Launching Evolutionary Metaphorology" (TOME), supported by the Ministry of Education, Youth and Sports of the Czech Republic and coordinated by the Institute of Philosophy of the Czech Academy of Sciences in Prague.

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In memoriam of
Dr. Markéta Klosová (1958–2024),
dear colleague and friend


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"Describe the aroma of coffee! – Why can't it be done? Do we lack the words? And for what are words lacking? – But where do we get the idea that such a description must, after all, be possible? Have you ever felt the lack of such a description? Have you tried to describe the aroma and failed? (I am inclined to say: 'These notes say something glorious, but I do not know what.' These notes are a powerful gesture, but I cannot put anything side by side with it that will serve as an explanation. A grave nod. James: 'We lack the words.' Then why don't we introduce new ones? What would have to be the case for us to be able to?)"
(Ludwig Wittgenstein, *Philosophische Untersuchungen*, § 610, written in 1930–1945. Translated by G. E. M. Anscombe, P. M. S. Hacker, and J. Schulte.)

"Beauty, simpler than any idea, will reveal itself with convincing power as a stepping stone and generator of ideas."
(Pierre Teilhard de Chardin, *Comment comprendre et utiliser l'art dans la ligne de l'énergie humaine*, lecture for a group of Paris artists from the Centre d'Études des Problèmes humains on 13 March 1939. Translated by P. Pavlas.)

Contents

Editorial

This special issue is one of the key outputs of a two-year research project, *The Origins of Modern Encyclopaedism: Launching Evolutionary Metaphorology* (*TOME*), which was funded through an ERC CZ grant from the Ministry of Education, Youth and Sports of the Czech Republic and coordinated by the Institute of Philosophy of the Czech Academy of Sciences (IP CAS) in Prague. The project aimed to explore how the evolution of metaphors contributed to the rise of modern encyclopaedism, a philosophical and intellectual programme of universal, open, and equitable science and education. Drawing on a close, distant, and hybrid reading[1] of early modern philosophical, theological, scientific, and alchemical texts, TOME tested the possibility of harnessing together fine-grained philological attention and computational scale. In so doing, it offered a pilot model for research that moves fluidly between textual detail and systemic pattern.

Between September 2023 and August 2025 an international multidisciplinary IP CAS team[2] led by Petr Pavlas carried out the TOME project. The work was organized into three groups, distinct in focus yet closely connected in practice. The Digital-Philological Group, led by Georgiana Hedesan (University of Oxford), curated, cleaned, annotated, and managed the EMLAP corpus (*Early Modern Latin Alchemical Prints*),[3] a collection of 100 alchemical and Paracelsian printed books from 1500–1650. The Computational-His-

1 For hybrid reading see Hedesan, G., Fire, *Vulcanus*, *Archeus*, and Alchemy: A Hybrid Close-Distant Reading of Paracelsus's Thought on Active Agents. *Ambix*, 71, 2024, No. 3, pp. 271–300, here pp. 274–276. Available online at www: https://doi.org/10.1080/00026980.2024.2367396 [cit. 29. 5. 2025].

2 Available online at www: https://tome.flu.cas.cz/people/ [cit. 30. 5. 2025].

3 Hedesan, G. – Huber, A. – Kodetová, J. – Kříž, O. – Kubíčková, J. – Kaše, V. – Pavlas, P., EMLAP [Data set]. *Zenodo*, 2025. Available online at www: https://doi.org/10.5281/zenodo.14765293 [cit. 29. 5. 2025]. For a graphical user interface see https://emlap.flu.cas.cz [cit. 29. 8. 2025].

torical Group, led by Vojtěch Kaše (CCS-Lab),[4] developed vector representations of word meanings[5] across early modern scholarly text corpora such as EMLAP and NOSCEMUS,[6] with the aim of designing an automatic metaphor detector. The Intellectual-Historical Group, led by Lucie Storchová (IP CAS), prepared a wide range of exploratory, analytical, and synthetic studies, six of which are presented in this special issue.

Alessandro Nannini opens the issue with a synoptic study presenting the fascinating prehistory of the modern idea of culture (pp. 16–34). He traces its semantic foundation in the agricultural metaphors of field, ground, and seed, following their transformations from Cicero, Seneca, and Philo of Alexandria, through the Augustinian and Thomistic traditions to Renaissance humanism and the Reformation (Erasmus, Luther, Calvin, Timpler, Keckermann, Alsted, and Comenius). Against the backdrop of Hadot's and Foucault's reflections on philosophy as a spiritual exercise, Nannini shows how the metaphor of cultivation marked philosophy as a regimen of self-formation rather than a system of propositions. For the further development of the early modern period, Bacon's motif of the "georgics of the soul" proves to be crucial. Adopted in the German lands by Placcius, Wesenfeld, and Pufendorf, it culminates in Alexander Gottlieb Baumgarten, who makes the "georgics of the mind" a precondition of the encyclopaedia, understood as a territory of disciplines to be cultivated. Thus, in Baumgarten, the metaphor no longer refers solely to the care of the individual soul but also to the scholarship itself. In this way, Baumgarten "helps set the stage for the social dimension of culture" (p. 32). Nannini concludes by suggesting that the agricultural imagery of cultivation, with its emphasis on tilling the soil, eradicating weeds, and planting seeds of virtue, gradually gave way to the artistic imagery of *Bildung*, which came to dominate 18th century pedagogy and aesthetics.

4 For CCS-Lab. Available online at www: https://ccs.zcu.cz/ and https://ccs-lab.zcu.cz/ [cit. 31. 7. 2025].

5 Kaše, V. – Tvrz, J. – Švadlenková, J. – Hedesan, G. – Pavlas, P., WEEMS: Word Embeddings for Early Modern Science. *Zenodo*, 2025. Available online at www: https://doi.org/10.5281/zenodo.14626411 [cit. 29. 8. 2025]. For the visualisation application see Kaše, V. – Tvrz, J. – Švadlenková, J. – Hedesan, G. – Pavlas, P., iWEEMS: Interactive Word Embeddings for Early Modern Science. *Zenodo*, 2025. Available online at www: https://doi.org/10.5281/zenodo.15591589 [cit. 19. 6. 2025]. For a graphical user interface see https://ccs-lab.zcu.cz/ [cit. 29. 8. 2025].

6 Akopyan, O. – Barton, W. – Baumgartner, F. – Berrens, D. – Kirchler, U. – Korenjak, M. – Luggin, J. – Tautschnig, I. – Zathammer, S., Noscemus Wiki [Data set]. *Zenodo*, 2023. Available online at www: https://doi.org/10.5281/zenodo.7855321 [cit. 19. 5. 2025]; Zathammer, S., Noscemus Digital Sourcebook [Data set]. *Zenodo*, 2025. Available online at www: https://doi.org/10.5281/zenodo.15040255 [cit. 19. 5. 2025]. For graphical user interfaces see https://wiki.uibk.ac.at/noscemus and https://www.uibk.ac.at/projects/noscemus/ [cit. 31. 8. 2025].

Petr Pavlas (pp. 35–55) examines the emergence of the modern idea of the encyclopaedia from the metaphors of circle, cycle, sphere, and book. He begins his study with an extensive methodological introduction; his approach to the historiography of metaphors and ideas is inspired by the theory of nonconceptuality (*Unbegrifflichkeit*) proposed by the German philosopher Hans Blumenberg (1920–1996). In addition to cognitive metaphors, Pavlas considers "absolute metaphors" to be key both to intellectual history and the history of philosophy, which – following his teachers and leading Czech interpreters of Blumenberg's *Metaphorologie*, Břetislav Horyna and Daniel Špelda – he understands as expressions whose metaphoricity is not yet or no longer recognized: "The difference between cognitive and absolute metaphors lies not in their verbal (linguistic) form, but in the actual mental (ideational) content. The same expression can function as either a cognitive or an absolute metaphor, depending on the perceiving subject and circumstances such as time, place, etc." (p. 42). Building on this framework, Pavlas demonstrates how the conceptual-metaphorical blending of circle and book marked a turning point, giving rise to the modern cultural idea of encyclopaedia.

Lenka Řezníková investigates (pp. 56–84) the metaphor of harmony in the early modern organization of knowledge. Her article stands in creative tension with Pavlas', both methodologically and in its conclusions. Drawing on the influential framework of Conceptual Metaphor Theory (CMT), complemented by Fauconnier and Turner's theory of conceptual blending, Řezníková's analysis reveals that the early modern metaphor of harmony cannot be reduced to a single source – be it musical, mechanical, or cosmological – precisely because these domains themselves overlapped and intermingled in the intellectual landscape of the time. While the transfer of meaning from one domain to another has been recognized since Aristotle as the very foundation of metaphor, modern metaphor historiography cannot ignore the fact that these domains are historically fluid, often overlapping, and should be situated within the cultural experience of their time. Řezníková's careful examination of the concept of harmony in Comenius' encyclopaedic and pansophic writings culminates in a conclusion that both complements the findings and picks up the threads of Pavlas' study. Indeed, Řezníková starts where Pavlas ends: "By adopting the concept of harmony, he [Comenius] was trying to surpass the concept of an encyclopaedia, which no longer fully suited the syncretic experience of his Pansophic period. […] the medium of textuality may have been a significant obstacle to realizing the pansophic ideal […]. While the metaphor of harmony was successful in articulating Comenius' ideas of how to organize knowledge, Pansophy failed to embody them in any material manifestation" (p. 80).

While the first three studies in this issue focus on figures who occupy a more or less prominent place in the wider history of European thought, the fourth turns to a phenomenon of particular significance to Central Europe: Protestant humanism. **Lucie Storchová**'s study shifts attention away from elite knowledge towards the broader social and educational contexts of early modern learning (pp. 85–111). She examines how metaphors of the heart and other corporeal images were employed in shorter occasional and student texts at the Protestant University of Wittenberg and elsewhere during the 16th century. Using the poetry of Nicolaus Selnecker (1530–1592) and Tomáš Mitis (1562–1621) as examples, Storchová demonstrates that students and graduates of Leucorea not only adopted but also adapted Wittenberg knowledge, particularly the Galenic natural philosophy and providential natural theology associated with it. The study concludes by highlighting shifts in epistemology within the Wittenberg discourse and imagination regarding the heart and political bodies during the 17th century. Particular attention is given to the understudied work *Civitas corporis humani* (1621) by the renowned Rosicrucian alchemist and physician Michael Maier (1568–1622). Maier's *Civitas* is an example of early modern fringe science that departs from Lutheran-Melanchthonian orthodoxy. In Maier's natural theology, "the post-lapsarian state of nature and human knowledge began to lose significance" (p. 109).

The extensive and elaborate contribution by **Martin Žemla** (pp. 112–139) explores the multi-layered history of metaphors of sensory perception, with a particular focus on taste and tasting. Combining advanced corpus searches across digital libraries and databases of machine-readable texts with his deep knowledge of Neoplatonism and Western mystical and esoteric thinking, Žemla traces both cognitive patterns and semantic transformations in the metaphors of seeing, hearing, smelling, tasting, and touching. The article begins with a brief overview of how these metaphors were used by ancient biblical, Platonic, and Neoplatonic authorities through medieval thinkers such as Dionysius the Areopagite, Bernard of Clairvaux, Hugh and Richard of St. Victor, Meister Eckhart, Marguerite Porete, John of Rupescissa, John Tauler, and up to Cusanus. The core of the study, however, lies in the analysis and interpretation of early modern authors (Ficino, Luther, Calvin, Paracelsus, Croll, V. Weigel, Khunrath, Andreae, Comenius, Bacon, Fludd, Mersenne, Descartes, Hobbes, and Locke). Žemla concludes with the hypothesis that although proponents of the new philosophy and science of the 17th century *in verbis* rejected the ornamentation and figurativeness of language, they in fact privileged visual metaphors over sonic, olfactory, gustatory, and haptic ones: "The early modern raid against 'misleading' and overly emotional and 'disturbing' metaphors, however, was directed against everything but the

fundamental visual metaphors, which were used rather uncritically. 'Hearing', 'smell' and 'taste' as privileged experiential ways to the truth remained episodic and marginal, reserved for poetry and personal religiosity where they can open the door to another 'reality' – which mainstream science, driven by visual metaphors, does not consider real at all" (p. 139).

The concluding study by **Márton Szentpéteri** (pp. 140–154) expands the scope of this special issue on cognitive metaphors and encyclopaedic knowledge by introducing the perspectives of early modern architecture and design. His theoretical framework broadens the concept of the cognitive metaphor beyond language and discourse, showing how architecture itself can acquire metaphorical functions. Opposing the linguistic turn and logocentric conception of metaphor, he considers the unique Bethlenszentmiklós/Sânmiclăus palace to be not only "the best and most beautiful example of Late Renaissance country house architecture in Transylvania" (p. 141) but also a kind of metaphor. This palace was built by Chancellor Miklós Bethlen between 1668 and 1683, based on his own architectural plans. Szentpéteri demonstrates the importance of the archetypal "Temple of Solomon", as it was internalised by the young Bethlen through the "encyclopaedic" theory of universal architecture of his teacher Nicolaus Goldmann (1611–1665), who followed in the footsteps of the Jesuit Juan Bautista Villalpando (1552–1608). This youthful conception contrasts sharply with Bethlen's later self-fashioning, as he styles himself in his autobiography as the *Kohelet/Ecclesiastes* – the elderly and disgraced King Solomon, for whom all worldly architecture and human construction are merely *vanitas vanitatum*. Szentpéteri illustrates how Bethlen's verbally discursive and architecturally embodied metaphors permeate and illuminate one another.

Taken together, the studies gathered herein demonstrate how a historical analysis of metaphors can provide new insights into the intellectual history of early modern encyclopaedism, revealing the deep entanglement of language, knowledge, and culture. The outcome is a richer understanding of early modern encyclopaedism, a fabric woven from metaphors that sought to make the world intelligible, and whose legacy continues to inform our reflections on knowledge today. From the solidity of corporeal metaphors, such as the heart, to the architectural and cosmic figures that framed universal schemes of learning, these contributions show how metaphor actively structured early modern ways of knowing and imagining knowledge itself.

Benevole lector, we wish you a pleasant and inspiring experience.

Petr Pavlas, Lenka Řezníková, Lucie Storchová
Editors

Georgics of the Mind: Cultivation of the Self as Agriculture in the Early Modern Age*

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Abstract:
In this essay I explore the metaphorology of the cultivation of the mind in the early modern period, with special regard to the image of the "georgics of the mind". To this end, I first intend to briefly go over the ancient background of the soul as a soil to till, with a focus on Cicero's image of "*cultura animi*" and Philo of Alexandria's use of "ψυχῆς γεωργική". I then turn to Bacon, who regards the georgics of the mind as a fundamental part of ethics, and analyse how the idea of "georgics of the mind" was received in the German lands in the late 17th century (Placcius, Wesenfeld, Pufendorf), up to Alexander Gottlieb Baumgarten. In Baumgarten, the "georgics of the mind" constitutes the subjective precondition for the emergence of a body of arts and sciences (the encyclopaedia), which in turn is conceived as a horizontal map of fields to be cultivated within the territory of erudition. In this way, the georgics of the mind helps lay the groundwork for the modern conception of culture as a collective endeavour.

Keywords: *cultura animi*; Francis Bacon; Alexander Gottlieb Baumgarten; idea of culture; early modern studies; intellectual history

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Introduction

As has been widely known since the classical studies of Hadot and Foucault, the conception of philosophy as a regimen and a cultivation of the mind dates back to ancient philosophy.[1] The crucial element in this perspective is not the construction of a theoretical system but an itinerary of self-reformation leading to the transformation of one's mode of perceiving and being in the world. From this point of view, philosophy is not merely a declarative or explanatory discourse but also entails a set of practices aimed at a performative change in the inquiring subject.

One of the most debated challenges in recent intellectual history has been to investigate to what extent this perspective of philosophy as a practice for the mind influenced the genesis of modern thought. As is known, Hadot and Foucault viewed the crisis of the practical conception of philosophy before the modern age, the former in the emergence of Christianity, which progressively downgraded philosophy to be the servant of theology, and the latter in the "Cartesian moment" in which access to truth is opened by evidence rather than by a personal route of ascesis.

However, this discontinuist conception of early modern philosophy has been partially reconsidered over time by Hadot and Foucault themselves. With reference to Juliusz Domański's studies about philosophy as a way of living between the Middle Ages and the Renaissance,[2] Hadot concurs in acknowledging, in figures such as Petrarch and Spinoza, the permanence of the ascetic ideal of the ancient philosopher;[3] likewise, Foucault sees in the early modern search for a method of thinking and a "reformation of the mind" the demand for a therapeutic route for the subject, which thus still needs to be healed, purified and cultivated in its own being by philosophical practice.[4]

Developing this approach, a number of historians of philosophy and science have recently argued, albeit with diverse emphases, for the opportunity to interpret the pursuits of the scientific revolution and early modern philosophy not as neutral sets of propositions but as practical regimens for shaping the inquiring subject on the basis of specific spiritual exercises and experiments. In this context, the imagery of "*cultura animi*" has enjoyed great success, an imagery which cuts across different disciplines of the early modern age, from consolation treatises to educational reform projects, from ho-

1 Hadot, P., *Philosophy as a Way of Life: Spiritual exercises from Socrates to Foucault*. Engl. transl. Malden, Blackwell 1995; Foucault, M., *The Hermeneutics of the Subject*. Engl. transl. New York, Palgrave 2001.

2 Domański, J., *La Philosophie, théorie ou mode de vivre?* Paris, Cerf 1996.

3 Hadot, P., *Philosophy as a Way of Life*, p. 271.

4 Foucault, M., *The Hermeneutics of the Subject*, p. 27.

listic medicine to philosophy as a treatment for the soul.[5] In the present contribution, my purpose is to focus on a specific aspect of this metaphorology, the problem of the "georgics of the mind".

This expression, made famous by Bacon, refers to the ancient and later Christian idea of the soul as a soil to be cultivated. To this end, I intend first to briefly go over the basis of this metaphor and then dwell more specifically on the expression, "georgics of the mind". After discussing the origin of this concept in its Greek formulation in Philo of Alexandria, I turn to Francis Bacon, who regards the georgics of the mind as a fundamental part of ethics, and analyse for the first time how the idea of the "georgics of the mind" was received in the German lands between the late 17th century and the first half of the 18th century. The reason for this focus lies partly in the fact that the concept of the "georgics of the mind" gained some traction in the German lands, although it has never been thoroughly investigated as such. Moreover, an analysis of this tradition sheds new light on the moment when "culture" ceased to refer solely to the process of individual cultivation and gradually began to take on the modern meaning of a collective effort of refinement within a society.

In this regard, I examine Arnold Wesenfeld, author of *Georgica animi*, and Samuel Pufendorf, who contributed to the dissemination of agricultural metaphors in German philosophy at the turn of the 18th century. In the final part, I look at the significant development of the metaphor of the "georgics of the mind" in the Enlightenment philosopher Alexander Gottlieb Baumgarten. With Baumgarten, the "georgics of the mind" becomes the subjective precondition for the emergence of a body of arts and sciences (the encyclopaedia), which in turn is conceived as a horizontal map of fields to be cultivated within the territory of scholarship. In this way, Baumgarten – perhaps the last thinker to articulate the concept of the georgics of the mind – signals a decisive moment in the development of the collective idea of culture.

Ancient and early modern background of "*cultura animi*"

The cultivation of the soul is an image probably coined by Cicero. In his *Tusculanae disputationes*, Cicero claims that "*cultura animi philosophia est*" (II,5,13). Faced with the objection that philosophy was painted in false colours, since

5 See, for example, Davies, R., *Descartes: Belief, Scepticism and Virtue*. London, Routledge 2001; Hunter, I., *Rival Enlightenments. Civil and Metaphysical Philosophy in Early Modern Germany*. Cambridge, Cambridge University Press 2001; Cottingham, J., *Philosophy and the Good Life: Reason and the Passions in Greek, Cartesian and Psychoanalytic Ethics*. Cambridge, Cambridge University Press 1998; Corneanu, S., *Regimens of the Mind: Boyle, Locke, and the Early Modern Cultura Animi Tradition*. Chicago, Chicago University Press 2011.

many so-called philosophers lived in a discreditable manner, Cicero responds with an agricultural metaphor: "That, indeed, is no argument at all, for as not all the fields which are cultivated are fruitful (and this sentiment of Accius is false, and asserted without any foundation: 'The ground you sow on is of small avail; To yield a crop good seed can never fail'), it is not every mind which has been properly cultivated that produces fruit; and, to go on with the comparison, as a field, although it may be naturally fruitful, cannot produce a crop without cultivation (*sine cultura*), so neither can the mind without education (*sine doctrina*); such is the weakness of either without the other. Whereas philosophy is the culture of the mind: this it is which plucks up vices by the roots; prepares the mind for the receiving of seeds; commits them to it, or, as I may say, sows them, in the hope that, when come to maturity, they may produce a plentiful harvest".[6] If in Greek, philosophy means "love of wisdom", in the Latin of Cicero philosophy is often connected with the semantic field of the cultivation of the soul.[7] In this sense, philosophy, before being a contemplative activity, proves to be a technique or practice.[8] More specifically, it is a kind of technique that is ingrained in human nature as its companion and collaborator (*comes et adiutrix*).[9] Although it cannot change the nature of the soil, that is, the givenness of natural gifts, philosophy can, however, take care of the mind through education, *"doctrina"*, either by ridding it of weeds/vices or by preparing the soil for the seeds of philosophical training. Crucial in this cultivation is the example set by great men, particularly those drawn from history, together with the study of academic and peripatetic philosophers (see *De finibus*, V,7,43.48–49 and passim).[10]

6 Cicero, *Tusculan Disputations*. Engl. transl. New York, Harper & Brothers 1877, p. 69.

7 In the semantic field of "Pflege", "Bebauung", and "Kultur", Heidegger sees a typical Roman element that breaks with the Greek conceptual language, see Heidegger, M., *Nietzsche*, vol. 2. Frankfurt am Main, Vittorio Klostermann 1997, pp. 412–424.

8 Cicero famously also compares philosophy with a medicine of the mind (*Tusculanae disputationes*, III,3,6), thus confirming his practical view of philosophy.

9 Cicero, *De finibus*, IV,16. See also ibid., V,39. On the image of the self-cultivating vineyard, expounded in Cicero, *De finibus*, IV,38–39, see Novara, A., Cultura: Cicéron et l'origine de la métaphore latine. *Bulletin de l'Association Guillaume Budè*, 1986, No. 1, pp. 51–66, here pp. 55–58.

10 Another important example is Quintilian, who uses the agricultural metaphor to highlight the importance of both the good soil of the soul and the perfection of cultivation in the orator's education (*Institutio oratoria*, II,19,2. Engl. transl. Cambridge, MA, Harvard University Press 1920–1922): "I think we shall find that the average orator owes most to nature, while the perfect orator owes more to education. We may take a parallel from agriculture. A thoroughly barren soil will not be improved even by the best cultivation, while good land will yield some useful produce without any cultivation; but in the case of really rich land cultivation will do more for it than its own natural fertility". The application of the metaphor in oratory is also found in Cicero's *De Oratore* (II,30,131), where natural talent (*ingenium*) is compared to a field that must be ploughed not just once, but renewed and worked repeatedly – "ut agro non semel arato, sed novato et iterato" – while cultivation consists in practice, listening, reading, and study – "usus, auditio, lectio, litterae".

As well as the poet Accius, openly quoted, Cicero's metaphor may have referred to the idea of Cato the Elder, author of *De agri cultura* (On Farming). In the preface to this treatise, Cato, after praising the figure of the "*bonus agricola*", writes that "From farmers arise both the bravest of men and the most vigorous soldiers".[11] In this way, Cato implicitly suggests that the very cultivation of the fields constitutes the best preparation for cultivating oneself as a citizen and soldier. On the other hand, the figure of Cato himself as a "*bonus agricola*" is very dear to Cicero, who praises him in the *Cato Maior* (51–56). Cicero, as just mentioned, takes the image one step further, and makes the metaphor explicit. While agriculture is in itself a way to strengthen the character of men, philosophy can be compared to agriculture insofar as it allows, with its exercises in attention, self-care and self-mastery, the cultivation of the mind. The cultivation of the mind is thus no longer just a derivative effect of the exercise of real agriculture but the direct effect of philosophy as spiritual agriculture.

In this context, it is not surprising that Seneca, a few decades later, again adopts the agricultural metaphor, insisting in particular on the presence of "seeds of virtue" within us. The *semina virtutis* thesis, so important to the conception of the soul as soil to be cultivated, is indebted, as is well known, as much to the Stoic cosmology of the *logos spermatikos*, aimed at explaining the emergence of the living cosmos from the *archai*, the genetic principles acting upon matter, as to the idea already evident in Heraclitus and Plato, that virtue exists by nature and we are all born according to virtue.[12] In this sense, the philosopher must cultivate the germs of virtue like plants that must be tended until they ripen: "Many things, when sown with great care, are brought to harvest; nothing bears fruit unless it is tended with consistent cultivation from beginning to end".[13] This mechanism of plant growth applies not only to virtue but also to the *sapientia* contained in the words of the philosophers, which are scattered like seeds (*"seminis modo spargenda sunt"*), to science, and in general to all human abilities.[14] Again, the figure of the *"bonus agricola"* is instrumental in providing a model for the philosopher, insofar as the good farmer does not cultivate only trees that are tall and straight, but also applies props to straighten the crooked ones.[15]

11 Cato Maior, *De agri cultura*, "Prooemium": "ex agricolis et viri fortissimi et milites strenuissimi gignuntur".

12 See Horowitz, M. C., *Seeds of Virtue and Knowledge*. Princeton, Princeton University Press 1998, ch. 1.

13 Seneca, *De Beneficiis*, II,11,4: "multa cura sata perducuntur ad segetem; nihil in fructum pervenit, quod non a primo usque ad extremum aequalis cultura prosequitur".

14 Seneca, *Epistulae ad Lucilium*, 38,2.

15 "Agricolas bonos imitabitur, qui non tantum rectas procerasque arbores colunt; illis quoque, quas aliqua depravavit causa, adminicula, quibus dirigantur adplicant, alias circumcidunt, ne proceritatem rami premat." Seneca, *De clementia*, II,7,4.

This idea of the cultivation of the soul, widespread in antiquity, is taken up in the Christian sphere. This is not surprising given the wealth of plant metaphors in the gospels, particularly in the parables. In this case it is the word of God rather than virtue that is the content of the seed, while the soil is again the soul. Should the seed be cultivated with care and persistence, the soul will produce fruit (see *Matthew* 13,3–43, *Mark* 4,3–32, *Luke* 8,4–15).

It is not possible here to follow the route of the image of the cultivation of the soul from Augustine[16] through the medieval and Renaissance reception of the idea, when the Senecan and later Thomist conception that the mind grows like a plant from seeds of virtue and knowledge enjoyed a wide reception (*"principia iuris communis dicuntur esse seminalia virtutum"*, Aquinas, *Summa Theologiae*, 1–2, qu. 51, art. 1).[17] I merely point out that with the rise of Protestantism, the question of seeds becomes a battleground. The total destruction of the image of God advocated by the mature Luther makes the idea of the permanence of the seeds of virtue and their cultivation impossible; only grace, in this condition, is considered a means powerful enough to work any improvement and renew our nature.

Luther's negative conception of human potency is expressed in multiple metaphorical networks; the most important of these concern medical and agricultural imagery, hence the two matrices that constituted the idea of philosophy as a technique for the self-cultivation of natural gifts in authors such as Cicero and Seneca. Regarding *semina virtutis*, Luther rails against this metaphor in his dispute with Erasmus, who had instead mentioned it as support for his thesis of free will. Erasmus, referring to the Church Fathers who had accepted the doctrine of seeds to be cultivated, states that "there are certain seeds of virtue implanted in the minds of men by which they in some sense see and search after virtue".[18] The soul is once again a soil to till; while God is certainly the main actor in the cultivation, humans are not

16 Augustine reflects on the semantic ambiguity of the verb "colere", which can refer as much to the thing on which we are dependent, as in the worship of the deity, as to the things that are dependent on us, such as the products of the earth that depend on our labour (*De civitate Dei*, X,2) or on the fact that we inhabit a certain place ("coloni" derives from "colere"). In this sense, "colere" conveys the meaning of honouring or loving something, whether by cultivating it or worshiping it ("sic ergo Deus non colitur: hoc enim colitur quod diligitur"), *Enarrationes in Psalmos*, LXXVII,20. See Rigotti, F., *Cultura Animi, Cultura Dei*: Worship as Agriculture in Early Christianity. In: Bisschops, R. – Francis J. M. M. (eds.), *Metaphor, Canon and Community*. Bern, Peter Lang 1999, pp. 61–76; Jaroszyński, P., *Culture: A Drama of Nature and Person*. Leiden, Brill 2024.

17 On the way the metaphor of the seeds influenced the spread of two different models of natural right, the Augustinian and the Thomist, see Horowitz, M. C., *Seeds of Virtue and Knowledge*, pp. 45–56.

18 Rupp, E. G. – Watson, P. S. (eds.), *Luther and Erasmus. Free Will and Salvation* (includes Erasmus' *De libero arbitrio* [1524], pp. 35–97, and Luther's, *De servo arbitrio* [1525], pp. 101–334). Philadelphia, Westminster Press 1969, p. 76.

powerless. On the basis of cooperating grace, the human being can be seen as a *synergos*, God's fellow worker. In stark contrast to this doctrine, Luther dismisses the doctrine of the seeds of virtue as an illusion, regardless of the authorities defending it, insofar as it is only Christ who can achieve good works, thus excluding cooperating grace.[19]

However, the total antithesis to the cultivation of innate seeds of virtue does not last long in Protestantism: Calvin himself adopts a more balanced position. In fact, Calvin claims in his *Institutio religionis christianae* that the Fall certainly extinguished the supernatural gifts of grace; as for the natural gifts, including the natural faculties of the soul, Calvin speaks rather of corruption, a corruption which reduces the intellect to "misshapen ruins" and binds the will to wicked desires. Corruption undoubtedly withdraws the integrity of the mind, but does not prevent humans from making profitable use of the surviving remnants of their powers, at least in the management of earthly things.[20] This means that already for Calvin the foundation of natural law is inherent in the human soul, insofar as the soul contains "seeds of laws", implanted "without legislator or master".[21]

On this basis, a number of early 17th-century philosophers influenced by Calvinism considered the possibility of readmitting the role of the arts into the process of cultivating natural human capacities. Bartholomäus Keckermann (c. 1572–1609), for example, embraces the idea that corruption consists in a *privatio* which inclines nature to evil (*privatio male disponens*) rather than a change of substance; hence, it is not impossible to consider logic, and in general the disciplines, as possible remedies and imperfect instruments for the restoration of the image of God in us. Keckermann writes, "The highest glory of logic consists in the fact of bringing the twilight of the divine image still present in us to a clearer light and to cure (*mederi*) the defects of our mind as far as possible in this life, and to restore (*restituere*) rectitude to the intellect. As it is difficult and arduous, it requires arduous training".[22] The possibility of being able to contribute through philosophical self-cultivation to the restoration of the image of God in us is then present in Bacon's grandiose project of an "*instauratio magna*". At the end of the *Novum*

19 Ibid., p. 277. For more detail see Horowitz, M. C., *Seeds of Virtue and Knowledge*, pp. 136–142.

20 Calvin, J., *Institutio Christianae religionis*. Geneva, Gerard 1550, p. 24 (ch. 2).

21 Ibid., p. 39 (ch. 2). On natural law in Calvin, J., see Backus, I., Calvin's Concept of Natural and Roman Law. *Calvin Theological Journal*, 38, 2003, pp. 7–26.

22 Keckermann, B., *Gymnasium logicum*. London, Bill 1606, p. 10. Márton Szentpéteri rightly points out the importance of frequent mental exercises as the main way to naturally restore the image of God in us in this context, see Szentpéteri, M., The Theory of Cognition in Transylvania (1629–1658): The Herborn Tradition and the Influence of Dutch Cartesianism. *Acta Comeniana*, 36, 2022, No. 60, pp. 9–35, here pp. 17–20.

organum, Bacon writes: "For man by the fall fell at the same time from his state of innocency and from his dominion over creation. Both of these losses however can even in this life be in some part repaired (*reparari*); the former by religion and faith, the latter by arts and sciences".[23]

To indicate the form of such a restoration, which should bring the mind to be a faithful mirror of nature, not distorted by the passions as it is now (*Novum organum*, I,41), Bacon uses metaphors drawn both from the semantic fields of medicine and agriculture, thus taking up the two domains Cicero used to define philosophy. The reference to spiritual agriculture is evident in Bacon's ethics as it is discussed in the *Advancement of Learning* (1605; book II, 20) and then in the *De augmentis scientiarum* (1623; book VII), in which he deals with the nature of the good and the way to attain it. Precisely to indicate the latter, Bacon speaks of the "georgics of the mind".

Philo of Alexandria and Bacon on the georgics of the mind

The Grecizing phrase "georgics of the mind" goes back to antiquity, although it is later than Cicero's "*cultura animi*". It is Philo of Alexandria who first used the expression "ψυχῆς γεωργικήν" (georgics of the soul) in his treatise *De agricultura*, with regard to a verse in *Genesis* (9,20), on the basis of earlier Platonizing sources: "And Noah began to be a husbandman, and planted a vineyard." Philo makes a distinction between husbandry (γεωργία) and cultivation of the ground (γῆς ἐργασία): "For what man is there who is at all hasty in forming an opinion, who would not think that the being a husbandman (γεωργία), and the occupying one's self in cultivating the ground (γῆς ἐργασία), were the same thing? And yet in real truth, not only are these things not the same, but they are even very much separated from one another, so as to be opposed to, and at variance with one another" (*De agr.* 1).[24] The point is that the worker of the land, such as Cain, aims only for immediate gain, while the husbandman would be glad "to spend in addition some of his private resources for the sake of improving the soil" (*De agr.* 5).[25] On this basis, Philo conceives of education, *paideia*, as a georgics of the soul, a means of eradicating, as already seen in Cicero, the weeds of vices: "By means of this husbandry, all the trees of the passions and vices, which shoot forth and grow up to a height, bringing forth pernicious fruits, are rooted up, and cut

23 *The Works of Francis Bacon.* Ed. J. Spedding – R. L. Ellis – D. D. Heath. Vol. IV: Translations of the philosophical works 1, new edition. London, Longmans & Co. 1870, pp. 247–248.

24 Philo Judaeus, On the tilling of the earth by Noah [De agricultura]. In: *The Works of Philo Judaeus*, vol. 1. Transl. C. D. Yonge. London, Bell & Sons 1800, p. 379.

25 Ibid.

down, and cleared away, so that not even the smallest fragment of them is left, from which any new shoots of evil actions can subsequently spring up".[26]

The Greek expression, at any rate, does not stand out as the Latin counterpart of *cultura animi*, and is temporarily revived by Francis Bacon, albeit without referring to Philo.[27] Bacon distinguishes ethics into two parts: first, the discussion of the image of the good; second, "Regiment or Culture of the Mind" (*regimen et cultura animi*), which Bacon also calls "Georgics of the mind".[28] Such a distinction is made to take distance from those authors who only provide exemplary models of virtue, happiness, duty, and so on, without showing how to reach these noble goals. These are similar to those who want to teach how to write and just provide examples of handwriting, without explaining the technique of handwriting itself.[29] Precisely to remedy this shortcoming, Bacon resorts to the notion of the georgics of the mind.[30]

Making reference to Virgil's poetry, Bacon notes that Virgil wrote not only the *Aeneid*, where examples of virtue abound, but also agricultural poetry, hence *Georgics*. What is needed in practical philosophy is precisely a kind of georgics of the mind, where virtue is not only described but also appropriated by the practitioner. In fact, the difference between the first section on ethics, on the exemplary good, and the second section on the georgics of the mind, is compared by Bacon to the difference between the fruit of life and its cultivation.[31] The georgics of the mind thus brings to the fore the practical vocation of philosophy, which is to implement a transformation in the subject and its way of being. Therefore, although it is "Sacred Divinity" which should take care of human souls and thereby restore the image of God, philosophical ethics might also make a contribution to this task, provided that it stays within its limits and takes guidance from theology itself.[32] In this way,

26 Ibid., p. 380.

27 For a reading of this issue see Sharpe, M., Georgics of the Mind and the Architecture of Fortune: Francis Bacon's Therapeutic Ethics. *Philosophical Papers*, 43, 2014, No. 1, pp. 89–121; Anfray, J.-P., Les Géorgiques de l'esprit: pouvoir de la rhétorique et faiblesse de la volonté selon Bacon. In: Cassan, É. (ed.), *Bacon et Descartes. Genèses de la modernité philosophique*. Lyon, ENS 2014, pp. 49–68.

28 *The Works of Francis Bacon.* Ed. J. Spedding – R. L. Ellis – D. D. Heath. Vol. IX: Translations of the philosophical works 2, new edition. London, Longmans & Co. 1864, p. 194.

29 Ibid., pp. 191–192.

30 For Bacon, it is no coincidence that logic – the doctrine concerning the intellect – and ethics – the doctrine concerning the will – are closely joined as "twins by birth"; logic enables reason to defend itself against argumentative fallacies, and ethics leads the affections to fight on the side of reason rather than against it. Both contribute to the "government of reason" or *regimen rationis*. See Box, I., Bacon's Moral Philosophy. In: Peltonen, M. (ed.), *The Cambridge Companion to Bacon*. Cambridge, Cambridge University Press 1996, pp. 260–282.

31 *The Works of Francis Bacon*, vol. IX/2, p. 214.

32 Ibid., p. 215.

the natural and supernatural dimensions of soul cultivation find a possible agreement. The georgics of the mind, in their philosophical and immanent dimension, must first address the problem of understanding what is in our power and what is not, so as to determine what can be changed and what can only be used.

Here again, the georgic dimension is evident: the farmer cannot change the nature of the soil and the cycle of the seasons, just as the physician cannot change the organism he must cure. In the face of these circumstances, however, the farmer is not entirely powerless; in fact, if he knows his domain well, he can adapt his actions to circumstances, dependent on luck. That is why it is necessary to devote the first section of the georgics of the mind to the analysis of human characters and the moods of their temperaments, as they emerge in daily life, in history, and in poetry, with special attention to the inner or outer elements that influence them (age, place, sex, conditions of wealth or poverty, etc.). Human characters are thus the different kinds of soil of spiritual agriculture (*diversitas soli et glebae*), that is, the given element that the philosopher must investigate and then manipulate.[33]

Along with characters, another element that we cannot master, the passions, is crucial. While characters represent the physiological dimension of ethics, passions, the winds that disturb the human soul, represent infirmities from the medical point of view and weeds from the georgic point of view.[34] In this regard, it is important to consider not so much the academic definitions of the passions, but rather the poets and story writers who have described over time the outburst and control of the passions, their mutual opposition, and generally how they function.

Finally, it is necessary to consider the aspects over which humans have power, namely customs and habits. Against the idea that habits cannot change what is given by nature, Bacon believes that proper exercises can allow some room for manoeuvre to restore the soul, making its soil more fertile. Among these exercises, Bacon suggests not to aim for things beyond one's reach, so as to avoid the resulting discouragement; to always tend toward the vice which is the opposite of that vice toward which our nature inclines; to turn the soul to things almost by doing something else, in order to circumvent its reluctance to compulsion; and to choose the hours of the day when the soul is disposed to the most virtuous actions.[35]

In this way, Bacon believes that he has outlined, in a more systematic form, that set of guidelines which others before him had discussed as a mat-

33 Ibid., pp. 215–219.
34 Ibid., pp. 219–221.
35 Ibid., pp. 221–230.

ter of mere experience. As evident from this subdivision, Bacon makes the three parts of the georgics of the mind correspond to the three parts of medicine, namely physiology, pathology, and therapeutics.[36] Regimen and culture, as mentioned above, must go hand-in-hand in an effort to free the mind from idols and passions, so that the "commerce between the mind of man and the nature of things" may "be restored to its perfect and original condition".[37]

Early reception of Bacon's "georgics of the mind" in the German lands

The cultivation of the mind undoubtedly appeared as an urgent task to Bacon; in fact, at the end of the actually published part of the *Instauratio magna*, Bacon places *"Georgica animi, sive de Cultura Morum"* on the list of desiderata entrusted to future researchers.[38] Many scholars in the following decades take up the attempt at a *"cultura animi"* proposed by Bacon to free the intellect from idols and the power of the passions, albeit with different emphases; an articulate program of experimentalism as the medicine of the mind of the inquiring subject is developed within the Royal Society (Sprat; Glanvill; Hooke; etc.).[39] Another important strand is that which promotes a large-scale educational reform, with the aspiration to extend *cultura animi* and education to all people not only through theoretical study, but also through practical exercises and engagement with material objects – a tradition that may have contributed to the extension of culture from the cultivation of the individual to a social phenomenon, as typified by the projects of Jan Amos Comenius and Erhard Weigel, which come to influence the centrality of *cultura animi* in August Hermann Francke's Pietist pedagogy.[40] The discussion on the georgics of the mind also has a development more related to the moral realm in which Bacon conceived it. In what follows, I focus on this aspect, particularly in late17th- and early18th-century Germany.

36 I discussed these issues in relation to the early modern medicine of the mind in Nannini, A., Ways of Self-Healing. Philosophical Therapies in Early-Modern Germany. *CAS Working Paper Series*, 13, 2023, pp. 1–26.

37 *The Works of Francis Bacon*, vol. IV/1, p. 7.

38 *The Works of Francis Bacon.* Ed. J. Spedding – R. L. Ellis – D. D. Heath. Vol. I: Novus orbis scientiarum, sive desiderata. London, Longmans & Co. 1857, p. 839.

39 On this aspect Corneanu, S., *Regimens of the Mind*; Jalobeanu, D., *The Art of Experimental Natural History: Francis Bacon in Context*. Bucharest, Zeta Books 2015, ch. 3.

40 See Rydberg, A., August Hermann Francke and the early modern *cultura animi*. *Pietismus und Neuzeit*, 44, 2018, pp. 31–49. On Comenius' encyclopaedic project see also Petr Pavlas' and Lenka Řezníková's studies in this special issue.

One early author who grapples with this issue is the Hamburg jurist and philosopher Vincentius Placcius (1642–1699). Bacon is admired by Placcius for the fact that, unlike the Aristotelians, Bacon includes in his ethics a part devoted to the therapy of the passions. An ethics without therapeutics, Placcius claims, is like a medical handbook with no treatment recommendations.[41] In writing a detailed commentary to the seventh book of Bacon's *De augmentis*, where the georgics of the mind is discussed (*De morali scientia augenda*, 1677), Placcius goes as far as to criticize Bacon himself for using the term "georgics" rather than "*medicina animi*" or "*medicina morum*" to designate the second part of his ethics, thus neglecting some essential parts of the ethical discipline (for example, semiotics): "There are many things in which this cultivation of the mind agrees with medicine and that do not have anything similar in the cultivation of the land".[42]

If, in this way, the georgic metaphor seems to give way to the medical metaphor, Bacon's attempt to develop the two metaphorical references together can be found in another author of the period, Arnold Wesenfeld (1664–1727), a professor of logic and morals at the University of Frankfurt an der Oder. Spearheading the project of a *georgica* of the mind in the German lands, Wesenfeld wrote *Georgica animi et vitae, seu pathologia practica* (1696).[43] In the absence of total mastery (*absolutum imperium*) of the motions and passions, owing to the sinful state of postlapsarian humanity, Wesenfeld claims that humans need a special discipline that can help them lead the motions of their mind toward private and public happiness. This discipline is the georgics of the mind or practical pathology, which outlines a series of remedies to attain an orderly regulation of the passions. Wesenfeld splits them into prophylactic remedies (one should, for example, investigate one's own actions daily and become familiar with one's passions) and therapeutic remedies, such as the attempt to pit a passion against its opposite. In this way, Wesenfeld takes up one of the main aims of Bacon's georgics of the mind, the regulation of unrestrained passions and the direction of our corrupt nature towards a better state, but does not further develop the metaphor in his work. Rather, following in Placcius' steps, Wesenfeld seems to prefer the medical imagery, preserving the metaphor of georgics in the title of his work.

A German author who is often credited with a more substantial role in propagating the Baconian motif of the cultivation of the soul in the Ger-

41 Placcius, V., *Die Sitten-Artzney-Kunst*. Frankfurt, Zunner 1668, pp. 2–3.

42 Placcius, V., *De morali scientia augenda*. Frankfurt, Zunner 1677, pp. 223–231, here p. 224. It is likely that the evocative power of the therapeutic imaginary is precisely what makes it preferable to medical metaphorics.

43 Wesenfeld, A., *Georgica animi et vitae, seu pathologia practica*. Frankfurt, Volcker 1696.

man lands is the theorist of natural law, Samuel Pufendorf (1632–1694). In the second edition of his *De Jure Naturae et Gentium* (1672; 1684[2]), Pufendorf devotes a whole chapter to *cultura animi* (*"De praestationibus hominis adversus seipsum tam circa culturam animi, quam curam corporis et vitae"*, Book 2, ch. 4).[44] Pufendorf starts from the idea that the care of human minds derives from the tendency to self-preservation that we share with animals; and yet, the greatest gifts that humans have received from the creator require greater cultivation, all the more so since self-cultivation is essential in order to fulfil all other duties. Such cultivation, necessitated once again by the misery of the postlapsarian condition, concerns both opinions about things, which are often fallacious and susceptible to prejudice, and passions, and requires the help of fellow humans. On the other hand, it is only through the cultivation of ourselves that we can provide the greatest benefits to humankind. Hence, while social life is the *sine qua non* of the cultivation of oneself, the improvement of social life can happen only as a consequence of that very cultivation. Precisely because of such a strong emphasis on the social dimension of culture, resulting from a collective effort of mutual assistance among humans, Pufendorf has been pointed out as one of the most important authors in the shift of the notion of "culture" from the individual plane of self-cultivation to the collective plane of culture as the character of a society. One example of this shift, possibly, is the contrast between cultivated and barbarian peoples, *gentes cultae* and *gentes barbarae*,[45] where the "cultivation" that makes a population *culta* in opposition to (the state of) nature includes such aspects as the arts and sciences, manners, laws, and comforts.[46]

Baumgarten between the georgics of the mind and the georgics of the disciplines

Pufendorf does not use the notion of *georgica animi*, but his mediation is essential for the Enlightenment philosopher Alexander Gottlieb Baumgarten, more famous as the coiner of the modern term "aesthetics", who combines in his thought elements from his Pietist background with other aspects closely related to Wolffianism.

44 Pufendorf, S., *De jure naturae et gentium libri octo*. Frankfurt, Knoch 1684 (1st edition 1662), pp. 232–267.

45 Pufendorf, S., *Eris scandica*. Frankfurt, Knoch 1706, p. 184.

46 The question is not uncontroversial. The idea that Pufendorf is the inventor of the modern social concept of culture was formulated by Niedermann, J., *Kultur*. Firenze, Bibliopolis 1941, who follows the evolution of the concept of "cultura animi" from antiquity onward, see pp. 132–170. Today the thesis has been challenged, e.g., by Hochstrasser, T. J., *Natural Law Theories in the Early Enlightenment*. Cambridge, Cambridge University Press 2004, pp. 95–96. See also Carhart, M. C., *The Science of Culture in Enlightenment Germany*. Cambridge, MA, Harvard University Press 2007, pp. 22–23.

The metaphor of the georgics of the mind explicitly emerges in Baumgarten's *Sciagraphia encyclopaediae philosophicae* (1739–1740), coeval with his treatise on ethics (*Ethica philosophica*, 1740), but published posthumously only in 1769. In his *Sciagraphia*, Baumgarten defines the doctrine of the duties toward the soul as "the georgics of the mind, of which practical pathology is just a part".[47] On the one hand, Baumgarten here views self-cultivation as the crucial notion in one's duties toward one's soul, thus applying Pufendorf's lesson.[48] On the other hand, Baumgarten claims that the georgics of the mind does not include practical pathology alone, hence the doctrine of the affections, but the whole soul. In this way, Baumgarten levels an implicit criticism at Wesenfeld, a former professor of the same university in which Baumgarten was appointed in 1740, Frankfurt an der Oder. While Wesenfeld believed, reworking Bacon's metaphorical use of georgics, that cultivation should deal with the unrestrained passions, Baumgarten, closer to Pufendorf, believes that georgics coincides with the cultivation of the whole soul.

It is not surprising that the duty to perfect oneself, thus also one's soul, has at its basis the idea of *cura*, care: "Know your soul experientially, rationally and mathematically so much as you can; do not just know it but, so much as you can, also take care of and emend its cognitive faculty, both the inferior and the superior, and the faculty of desire, both the inferior and the superior".[49] If in the state of corruption in which we find ourselves after the Fall the sinner must first emend the soul, such emendation takes the form of "self-cultivation".[50]

Clearly, such cultivation is also crucial to Baumgarten's own main innovation, aesthetics as an independent branch of philosophy, the science of sensible knowledge.[51] If the georgics of the mind includes the cultivation of the whole soul, aesthetics represents a specific branch of this spiritual agriculture. As early as *Meditationes philosophicae de nonnullis ad poema pertinentibus* (1735), where the word "aesthetics" first appears, Baumgarten states that the task of directing the lower faculties rests with logic, but logic ne-

47 Baumgarten, A. G., *Sciagraphia encyclopaediae philosophicae*. Halle, Hemmerde 1769, § 166.

48 On the continuity and distinction between Pufendorf's and Baumgarten's practical philosophy see Scattola, M., Die Naturrechtslehre Alexander Gottlieb Baumgartens und das Problem des Prinzips. *Aufklärung*, 20, 2008, pp. 239–265.

49 Baumgarten, A. G., *Philosophical Ethics* (1740). Engl. transl. London, Bloomsbury 2023, § 202.

50 Baumgarten already speaks of "cultura rationis" in his *Metaphysica* (§ 646). The term "cultura" referring to the cultivation of the different faculties of the soul was widespread in Baumgarten's closest sources, from Buddeus to Wolff.

51 Baumgarten, A. G., *Aesthetica*. Traiecti cis Viadrum, Kleyb 1750, § 1. I refrain from listing literature about the origin of aesthetics, as it is not the main point here.

glects this task. Therefore, this domain of logic remains an *incultus ager*, an uncultivated field ("he who knows the state of our logic will not be unaware how uncultivated this field is").[52] Aesthetics, Baumgarten suggests, proposes itself precisely as this cultivation. If this is the case, then the agricultural metaphor does not refer here directly to the refinement of the soul, but to the establishment of a discipline itself.

The two sides of the metaphor are obviously linked: in fact, authors such as the Calvinist metaphysician Clemens Timpler (1563–1624) and the encyclopaedist Johann Heinrich Alsted (1588–1638) were already pointing out in the early 17th century that disciplines can be understood either as internal arts, and presuppose their assimilation into the soul in the guise of *habitus*, or external arts, and refer to sets of rules, and thus as systems.[53] Baumgarten, influenced by such authors in his own attempt to reconstitute and expand a philosophical encyclopaedia,[54] uses the agricultural metaphor for both moments, as much in reference to the refinement of the soul as to the refinement of erudition.

In his *Philosophia generalis*, a course of lectures given in 1740 in Frankfurt an der Oder based on Theophilus Gale's *Philosophia generalis* (1676), Baumgarten considers the whole of erudition, understood in an objective sense as a complex of disciplines, as a territory (*territorium*).[55] The image was not new. Alsted, for example, resorted to the image of the fields to indicate the disciplines of the encyclopaedia.[56] However, whereas in this case the metaphor was intended in a primarily geographical sense – the point was to determine the boundaries between the various fields so as to increase mutual order – Baumgarten develops the metaphor in a more properly georgic sense. In fact, within the territory of erudition there are different soil conditions. The cultivated parts of the territory of erudition (*territorium cultum*; *das gebaute Land der Gelehrsamkeit*) correspond to the sets of propositions that have already been methodically brought into the form of disciplines; the parts of the territory that have not yet been cultivated constitute the uncultivated territory (*territorium incultum*; *das ungebaute Land der Gelehrsamkeit*).[57]

52 Baumgarten, A. G., *Reflections on Poetry* (1735). Engl. transl. Berkeley, University of California Press 1954, § 115.

53 On this distinction see for example Timpler, C., Technologia. In: idem, *Metaphysicae systema methodicum*. Antonium, Hanoviae 1606, pp. 1–36 (separate pagination), here p. 27.

54 See Dierse, U., *Enzyklopädie. Zur Geschichte eines philosophischen und wissenschaftstheoretischen Begriffs*. Bonn, Bouvier 1977, pp. 41–44.

55 Baumgarten, A. G., *Philosophia generalis*. Halle, Hemmerde 1770, § 152.

56 Alsted, J. H., *Encyclopaedia Cursus philosophici*. Herborn, Corvinus 1620, col. 79; Alsted, J. H., *Encyclopaedia septem tomis distincta*. Herborn, [without indication of publisher] 1630, vol. 1, p. 63. See also ibid., p. 120: "cultura disciplinarum practicarum".

57 Baumgarten, A. G., *Philosophia generalis*, § 152.

To emphasize the possibility of further extending the cultivated area, Baumgarten warns against confusing the inhabited and habitable world.[58] Within cultivated territory, Baumgarten distinguishes between ancient fields (*avita rura*), which have been cultivated since time immemorial, and *rura novalia*, which have been cultivated more recently.[59] In the articulated classification advanced by Baumgarten, uncultivated territory is either known or unknown; known territory is either a derelict field, because it has not been cultivated for some time, or has never been cultivated. Indeed, there are fields that are impossible to cultivate, because they are beyond our powers of cultivation (*culturae moraliter impossibilis*), and there are some that, because of the unimportance of their subject, must be left to the desert of erudition: those who cultivate disciplines that do not deserve cultivation, Baumgarten contends, are only ploughing sand.[60] However, Baumgarten warns against seeking easy pretexts for not cultivating fields that are just difficult to cultivate; there is a difference, Baumgarten brings this image further, between the habitable world and the comfortably habitable world.[61] In Baumgarten's eyes, then, aesthetics amounted to an *incultus ager*, and perhaps even among the most difficult ones to cultivate, since no one had yet dared to bring such a part of erudition into a discipline. Certainly, the task was well worth it.

Baumgarten's georgics of the mind must be considered against the backdrop of this georgics of the disciplines. The image of *georgica animi* is used as a metaphor by Baumgarten with special regard to the emendation of wit in a broad sense, hence of the cognitive faculties: "Wit is emended through culture or the intensity of the proficiencies (*habitus*) for the same, and hence through exercise".[62] Culture or cultivation here is the emendation of wit as the ascetic acquisition of higher degrees of its *habitus*. This can take place through experience alone, through the cognition belonging to disciplines, or by either method: scholarship (*eruditio*) in the subjective sense is the cultivation of a wit that takes place through disciplines,[63] hence through erudition in the objective sense.

58 Ibid.
59 Ibid., § 153.
60 Ibid., § 154.
61 The same division into cultivated and uncultivated territory can also be predicated of philosophy, although the uncultivated territory in philosophy is broader than the uncultivated territories in general erudition, ibid., § 162. On the different internal classifications of the territory of erudition in this period see Grimm, G. E., *Literatur und Gelehrtentum in Deutschland*. Tübingen, Niemeyer 1983, in particular pp. 477ff.
62 Baumgarten, A. G., *Philosophical Ethics*, § 403.
63 Ibid., § 404.

The cultivation of the still-uncultivated territory of aesthetics, which deals with the lower cognitive faculties, is thus preparatory to the cultivation of the part of the soul that this discipline promotes and that results in the acquisition and intensification of a specific *habitus*, the *habitus* of beautiful thinking.[64] Baumgarten warns at the beginning of the *Aesthetica* that those who object that aesthetics should not exist, because the cultivation of the lower cognitive faculties is detrimental to the territory of rational soundness, fail to consider the general benefits of such cultivation and the obstacles that uncultivated lower cognitive faculties might cause.[65] Thus, the georgics of the lower cognitive faculties of the soul is evidence in favour of the necessity of the cultivation of aesthetics as a discipline; and aesthetics as a discipline finds its fulfilment in the cultivation of the lower cognitive faculties of its practitioners.

Baumgarten thereby elaborates the georgics of the mind in a more accomplished way than Wesenfeld not only because he broadens his purview from practical pathology, thus from the cure of the passions, to the cure of the whole soul, but also because he systematically applies the agricultural imagery to the objective meaning of scholarship. In the sense of the georgics of the mind, the soil to be cultivated is the soul and the farmer is the individual subject; in the sense of the georgics of the disciplines, the soil to be cultivated is the territory of erudition and the farmer is a collective or social subject, for example the Republic of Letters.

By applying georgic metaphors to the well-established distinction between internal and external arts, Baumgarten thus consolidates the duality of culture: culture is not only the effort of an individual to acquire and strengthen the *habitus* of their mind but also the collective effort to expand the domain of erudition, resulting in the establishment of new disciplines and in their subsequent refinement. The two aspects are interdependent, since only cultivated individuals can contribute to the expansion of collective culture, and only collective culture makes available the disciplinary and ascetic tools for the advancement of individual culture. Beginning with the metaphor of georgics, Baumgarten helps set the stage for the social dimension of culture that represents the most significant evolution of this concept of *cultura* between the early modern age and the early Enlightenment.

64 On aesthetic cultivation and *habitus pulchre cogitandi* in Baumgarten see Nannini, A., "Ars pulchre cogitandi". On an Early Definition of Aesthetics from Bouhours to Herder. *Intellectual History Review*, 35, 2025, No. 3. Available online at www: https://doi.org/10.1080/17496977.2025.2536337 [cit. 21. 8. 2025].

65 Baumgarten, A. G., *Aesthetica*, § 9.

Conclusion

I have examined a specific image linked to the more general idea of the soul as a soil to till – the image of the georgics of the mind. While this metaphor dates back to Philo of Alexandria, it experiences a significant revival in the early modern period, thanks in particular to Bacon and his reception in the German lands up to Baumgarten. While appropriating the idea of the georgics of the mind through the mediation of Wesenfeld and Pufendorf, Baumgarten extends the metaphorical network in which it is embedded. The georgics of the mind becomes the subjective side of a social development of the disciplines composing the territory of erudition. In this way, the interdependence between the social and individual dimensions of "cultura" already highlighted by Pufendorf finds a more systematic basis and makes a contribution to the establishment of culture as both an individual and a collective phenomenon.

If it is the collective meaning of culture that will soon prevail, the individual dimension of *cultura animi* as the cultivation of the various faculties of the soul does not simply evaporate but flows into a new metaphorical network that precisely in the mid-18th century was agglutinating around the image of *Bildung*. On closer inspection, this is not surprising, since, as we have seen, from the early 17th-century Protestantism the cultivation of the self was already part of the process of the restoration of the image (*Bild*) of God in us, and such a restoration of the *Bild* of God amounts to one of the main sources of *Bildung* as a pedagogical concept.[66] However, in the semantic framework of *Bildung* the soul is no longer perceived as a field to cultivate but as an image or sculpture to restore, or even to shape or fashion, when the idea of *Bildung* forgets the link with its theological root. The task is then

66 On the influence of the doctrine of the "imago Dei" on the pedagogical idea of *Bildung* see Dohmen, G., *Bildung und Schule*. Weinheim, Beltz 1964, in particular pp. 133ff.; Schaarschmidt, I., Der Bedeutungswandel der Worte "bilden" und "Bildung" in der Literaturepoche von Gottsched bis Herder. In: eadem – Rauhut, F. (eds.), *Beiträge zur Geschichte des Bildungsbegriffs*. Weinheim, Beltz 1965, pp. 25–87. Niedermann sees the first coincidence of "culture" with "Bildung" in Pufendorf, S., see Niedermann, J., *Kultur*, p. 150; he, however, does not problematize the historicity of the concept of "Bildung" itself, which is taken in the modern sense. More generally on the development of the concept of "Kultur" (not only in the sense of "cultura animi") and "Bildung" in the course of the German Enlightenment see Bollenbeck, G., *Bildung und Kultur*. Frankfurt, Insel 1994, see pp. 102 and 109. On the Humboldtian concept of "Bildung" as a continuation of Pufendorf's jusnaturalistic doctrine of "cultura sui" see Fiorillo, V., *Politica ancilla juris. Le radici giusnaturalistiche del liberalismo di Wilhelm von Humboldt*. Torino, Giappichelli 1996, ch. 3. On the reception of the motif of "cultura sui" in the following tradition of "Bildung" see Bruford, W. H., *The German Tradition of Self-Cultivation*. Cambridge, Cambridge University Press 1975.

no longer primarily associated with the work of the husbandman but rather suggests a proximity to the work of a painter or sculptor, hence of the artist, thus paving the way for an aesthetics of existence. This is a matter for another metaphorological investigation.

From Circle to Book: The Evolution of Metaphors and the Birth of Early Modern Encyclopaedism*

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Abstract:
This study explores the evolution of encyclopaedism as an early modern intellectual movement, distinct from the traditional philosophies of rationalism and empiricism. It reveals its relation to pansophism, and presents a theoretical framework for researching what I generally call the "history of cultural ideas", specifically the history of the cultural idea of encyclopaedia. To depict this history, the study further provides a concise survey on the ideas of "circle", "cycle", and "sphere" in ancient Greek cosmology, Roman rhetorics, and Transalpine Renaissance Humanism. The contributions of figures such as Johann Heinrich Alsted and Jan Amos Comenius, culminating in Alsted's 1630 *Encyclopaedia septem tomis distincta*, mark a critical shift from metaphorical "circular knowledge" to a comprehensive embodiment of knowledge in one book on all that can be known (*omne scibile*). In conclusion, the study argues that the conceptual-metaphorical blending of "circle" and "book" was decisive in this process, shaping the modern understanding of the cultural idea of encyclopaedia.

Keywords: encyclopaedism; encyclopaedia; early modern philosophy; pansophism; cognitive metaphor; absolute metaphor; cultural idea

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What is *encyclopaedism*?

There is no clear answer to this historical-philosophical question, let alone a generally accepted definition. A historically informed answer could be something like this: it is an early modern philosophical-pedagogical movement which (unlike Aristotelianism, Cartesianism and, to some extent, Baconianism) was not centred around one distinctive figure of a "master" whose original ideas were further developed within a philosophical school and subsequent "apostolic succession". Important stimuli for it came from, among others, the reformed scholastic metaphysics of Clemens Timpler (1563–1624), the methodological peripateticism of Bartholomäus Keckermann (c. 1572–1609), and above all the Ramism of the successors of Peter Ramus (1515–1572); Howard Hotson therefore rightly calls the encyclopaedic movement "post-Ramist eclecticism".[1] Although the core of early modern, pre-Enlightenment encyclopaedism was located in the Herborn circle around Johann Heinrich Alsted (1588–1638), the encyclopaedic idea of knowledge, scholarship, science and education itself not only penetrated the Central European Protestant intellectual space within its reach but was also intensely received in the far-reaching reformist, intellectual and correspondence network known as the Hartlib Circle.[2] Then, at the end of the first decade of the Thirty Years' War, under the pressure of battles, the advances of armies, and the civil war breaking out in Germany, Hungary became a haven for such encyclopaedism, especially Alba Iulia (Gyulaféhervár) in Transylvania, where Alsted and his son-in-law and close associate Johann Heinrich Bisterfeld (1605–1655) took refuge in 1629.

1 Hotson, H., *The Reformation of Common Learning: Post-Ramist Method and the Reception of the New Philosophy, 1618–1670*. Oxford, Oxford University Press 2020, pp. 305–405; see also idem, *Commonplace Learning: Ramism and its German Ramifications, 1543–1630*. Oxford, Oxford University Press 2007. The most recent and innovative treatment of Ramism and post-Ramism in the broader context of medieval and early modern intellectual history is Burton, S. J. G., *Ramism and the Reformation of Method: The Franciscan Legacy in Early Modernity*. Oxford, Oxford University Press 2024. Another excellent and now classic study is Schmidt-Biggemann, W., *Topica universalis. Eine Modellgeschichte humanistischer und barocker Wissenschaft*. Hamburg, Felix Meiner 1983. From the perspective of pre-modern information overload, the essential work is Blair, A. M., *Too Much to Know: Managing Scholarly Information before the Modern Age*. New Haven, CT, Yale University Press 2010. A broader historiography on medieval and Renaissance encyclopaedism exists, tracing different trajectories. This article focuses specifically on the birth of the early modern tradition of methodological, thematically structured, and combinatorial encyclopaedism, rather than the encyclopaedic tradition as a whole.

2 Alsted and the other professors of the Herborn Circle chose Transylvania, i.e. the Eastern European periphery, as a place of refuge, although they had a choice: they were invited, for example, to Deventer in the Netherlands. See Hotson, H., *The Reformation of Common Learning*, p. 110.

Jan Amos Comenius (1592–1670), Alsted's student and Bisterfeld's colleague and correspondent, anchored in 1628 first in Leszno, Poland. Later, in 1650, he also took an engagement in Hungary, specifically in Sárospatak, where he created a didactic theatre play, *Schola ludus seu Encyclopaedia viva*,[3] written 1654–1656; also when there, from 1652 to 1654 he wrote the important, pedagogically groundbreaking textbook, *Orbis sensualium pictus*,[4] also referred to by Comenius as the "Encyclopaedia of Sensual Things" (*Encyclopaedia sensualium*).[5] Yet this "incomparable Moravian"[6] and last bishop of the "old" Unity of the Brethren is sometimes considered a pansophist rather than an encyclopaedist. The contrast between pansophism and encyclopaedism is, however, based on a misunderstanding. Pansophism is nothing other than encyclopaedism,[7] only clothed in a more intensely theological, eschatological, millenarian, even theotic garb.[8] This understanding corresponds with what Comenius says when he uses the term "omniscience" (*omniscientia*) as

3 1st edition: Comenius, J. A., *Schola ludus seu Encyclopaedia viva*. Sárospatak, Rhenius 1656. On Comenius' theatrical works in the wider contemporary Central European and European context see Klosová, M., *Divadelní svět J. A. Komenského* [The Theatre World of J. A. Comenius]. Prague, Academia 2016; eadem, *Dramatické dílo J. A. Komenského* [Dramatic Works of J. A. Comenius], dissertation. Prague, Charles University 2012.

4 Latin-German edition: Comenius, J. A., *Orbis sensualium pictus*. Nuremberg, M. Endter 1658. Historical-critical edition in: *Johannis Amos Comenii Opera Omnia* 17. Ed. J. Červenka – S. Králík. Prague, Academia 1970, pp. 54–301.

5 The *Encyclopaedia sensualium* was a concept of Samuel Hartlib (1600–1662) and his circle, inspired by the Westminster educator John Brooke, who first used the term, as well as by Post-Ramism and Baconianism, but not directly caused by Comenius' reading of Bacon, as previously thought. See Hotson, H., *The Reformation of Common Learning*, pp. 254–258: "A large quantity of documentation shows that the project of an *Encyclopaedia sensualium* was discussed for a quarter century in the Hartlib circle before the *Orbis* finally appeared in 1658, and that the basic proposal for the work passed from Hartlib to Comenius, not the other way around. Moreover, although Baconian commitments doubtless influenced the development of this proposal implicitly, the writers explicitly associated with it and the language in which it was discussed were those of the post-Ramist pedagogical tradition. Bacon was a philosopher, not a pedagogue."

6 Spinka, M., *John Amos Comenius, That Incomparable Moravian*. New York, Russell & Russell 1967.

7 The terms "pansophia", "encyclopaedia", pleonastic "pansophical encyclopaedia", "Christian pansophy", "encyclopaedia of Christian pansophy", etc., are used more or less synonymously in Comenius' work and differ only in connotation; in this respect, Comenius' terminological preference fluctuates in the course of his intellectual development, and it is significantly influenced by the general shift in meaning of the word "encyclopaedia" during the years 1620–1630 and afterwards, especially by Alsted's publication of his major work, *Encyclopaedia septem tomis distincta* in 1630. On the intellectual development of Comenius' *pansophia* towards a general reform see Čížek, J., From Pansophia to Panorthosia: The Evolution of Comenius' Pansophic Conception. *Erudition and the Republic of Letters*, 4, 2019, No. 2, pp. 199–227. Available online at www: http://doi.org/10.1163/24055069-00402002 [cit. 19. 5. 2025].

8 The adjective "theotic" is derived from the Greek noun θέωσις/*theōsis*, which refers to the Christian doctrine of deification. For more on the topic, see Finlan, S. – Kharlamov, V. (eds.), *Theōsis: Deification in Christian Theology*, 2 vols. Eugene, OR, Wipf and Stock Publishers 2006–2011.

a synonym for the term "encyclopaedia/pansophy", i.e. for the maximum of humanly possible knowledge extracted from the "triple book of God", i.e. Nature, Mind, and Scripture, even though it is only human omniscience (*omniscientia humana*), not divine in the absolute sense (*omniscientia Dei*).[9]

If early modern encyclopaedism before the Enlightenment is considered, then high tide was undoubtedly reached by Gottfried Wilhelm Leibniz (1646–1716). This ingenious polymath had a lifelong fascination with the project of Alsted, Bisterfeld, Comenius, and their wider circle of collaborators. In Leibniz's vision, the eschatological, millenarian and theotic dimension was weakened, sometimes seemingly eliminated altogether, yet Leibnizian encyclopaedism is the culmination of the same encyclopaedism and the same pansophism, not a precursor of the later Enlightenment encyclopaedism, which was uncritically adored by the secularist ideology of our recent past.[10] Enlightenment encyclopaedists from Ephraim Chambers (c. 1680–1740) to Denis Diderot (1713–1784) and Jean le Rond d'Alembert (1717–1783) to the *Encyclopaedia Britannica* project (1768) – to borrow a subtle metaphor from the leading contemporary historian of encyclopaedism, Howard Hotson – "turned the encyclopaedia inside out":[11] instead of a unified, semantically ordered, organically connected and dynamic science of "all that can be known" (*omne scibile*), the encyclopaedia became a compilation and popularization project. While Alsted, Comenius, and Leibniz attempted a kind of "squaring the circle" not unlike the search for a unified science and scientific method in the 20th-century philosophy of science, the Enlightenment was driven by a more socially engaged concern. Perhaps this is why their encyclopaedia was a dictionary of entries whose formal structure had a completely random rationale in terms of subject matter, namely, the order of the initials

9 Comenius, J. A., Panaugia 4, 14. In: idem, *Johannis Amos Comenii Opera Omnia* 19/1. Ed. M. Steiner – V. Balík – D. Čapková – V. Schifferová – M. Klosová – L. Storchová. Prague, Academia 2014, p. 201: "Hunc ergo trinum Dei Librum si intelligeremus, omniscii essemus, omniscientia nempe humana, qualem permittit, aut etiam a nobis requirit, Deus." Engl. transl.: Thus, if we understood this triple Book of God, we would be omniscient, but through human omniscience, which God permits and even requires of us.

10 In relation to my emphasis on deification (*theosis*) as an idea crucial to understanding 17th century encyclopaedism and pansophism see Burton, S. J. G., *Ramism and the Reformation of Method*, pp. 241–274; Hotson, H., The Instauration of the Image of God in Man: Humanist Anthropology, Encyclopaedic Pedagogy, Baconianism and Universal Reform. In: Pelling, M. – Mandelbrote, S. (eds.), *The Practice of Reform in Health, Medicine, and Science, 1500–2000: Essays for Charles Webster*. Aldershot, Ashgate 2005, pp. 1–21. Pavel Floss considers the process of the "divinization of the secular" to be a fundamental feature of the development of modern thought. See e.g. Floss, P., Mezi sekularizací božského a divinizací světského [Between the Secularization of the Divine and the Divinization of the Secular]. In: Hanuš, J. – Vybíral, J. (eds.), *Evropa a její duchovní tvář* [Europe and its Spiritual Face]. Brno, CDK 2005, pp. 262–268.

11 Hotson, H., *The Reformation of Common Learning*, pp. 379ff.

of words in the alphabet. Whereas the pre-Enlightenment encyclopaedia regarded the index as a study aid, and the theme-driven construction as the organizing, metaphysically based principle of its arrangement, the Enlightenment encyclopaedia – driven not only by a struggle with the "spirit of the system" (*Esprit de Système*) but above all by practical considerations – was itself (structurally speaking) an index, an alphabetical list, supplemented by cross-references or, at most, overview diagrams.[12]

Leibniz aimed at something very different: he wanted to complete the Herborn circle's project with a "demonstrative encyclopaedia" (*encyclopaedia demonstrativa*), which would not only provide all available empirical (i.e. in the terminology of the time, "historical") and theoretical (i.e. through induction and deduction) knowledge, but which would also be immediately able either to rigorously prove such knowledge or provide evidence in its favour. Up to and after Leibniz's death, however, the *Encyclopaedia demonstrativa* would remain a hope and a *desideratum*, not a finished project. Yet its intended combinatorial and relational character shows an extraordinary intellectual affinity with the Herborn encyclopaedism, which was a phylogenetic ancestor and evolutionarily inferior stage to the further implications of the encyclopaedism proposed by Leibniz. However, Leibnizian encyclopaedism is not in the same respect an ancestor of the encyclopaedism of Chambers, Diderot or d'Alembert.

What *is* encyclopaedism?

If exclusively cultural history were discussed in this article, the question might seem to have been already answered descriptively, albeit very briefly. The intellectual historian, however, cannot be satisfied with a purely externalist description of outer conditions and must ask about the internal, ideational context of the historical phenomenon of "encyclopaedism". The standard historical method is to describe *how* something came into being, evolved, changed, or disappeared.[13] However, this also means explaining *why*: historical science is almost exclusively idiographic, that is, it does not formulate general laws on the basis of an examination of the empirical record; it does not seek a philosophy of history, let alone a "logic of history";

12 This does not mean that alphabetically arranged dictionaries with the ambition to encompass all knowledge did not exist before the Enlightenment. See Beyerlinck, L., *Theatrum vitae humanae*, 7 vols. Cologne, Antonius & Arnoldus Hieratus 1631. It simply means that the ambition of methodological, thematically structured and combinatorial encyclopaedism of the Herborn scholars and Leibniz was abandoned.

13 See Windelband, W., *Geschichte und Naturwissenschaft*. Strasbourg, Heitz 1894.

it does not insert its own constructions into the past – or at least it should not do so if it wants to be a science rather than an ideology – and it is very sparing in its ethical judgements. Instead, it describes how contingent phenomena are related – how they influence and condition one another. In historiography, such an account is description and explanation at the same time.

The discipline of intellectual history occupies a special position among the historical disciplines: the subjects it must relate and, if possible, indicate some of their causes (i.e. necessary and/or sufficient conditions) and consequences are not merely external *bruta facta*, such as the births or deaths of persons, the local and temporal determinations of political events, the number of university graduates, the number of dissections performed and volumes of books printed, the average salary, or perhaps the frequency of an expression in scholarly correspondence. The subjects of intellectual history (*Geistesgeschichte*) are primarily internal entities, emerging from these "hard data": the contents and forms of thought of a period – expressed both by public cultural representations, which in the case of the early modern period are primarily texts and artifacts, and by emergent and intersubjectively shared cultural ideas – and even more ephemeral and private mental entities such as motives, intentions, wishes and desires. Friedrich Schleiermacher (1768–1834), Wilhelm Dilthey (1833–1911) and the following hermeneutic tradition therefore distinguished two scientific approaches: explanation (*Erklären*) and understanding (*Verstehen*).[14] There is no doubt that understanding, by definition subjective, enters significantly into historiographical work, complementing and co-creating historical explanation. Some prominent thinkers even believe that empathising with the rational agents of the past is a key approach in the investigation of human history.[15]

14 A concise summary is given by Boehm, R., "Erklären" und "Verstehen" bei Dilthey. *Zeitschrift für philosophische Forschung*, 5, 1951, No. 3, pp. 410–417.

15 See Sousedík, S., Pojem "přirozenosti" v současné filosofické a teologické diskusi [The Notion of "Nature" in Current Philosophical and Theological Discussion]. *Christnet*, 24. 4. 2020. Available online at www: https://www.christnet.eu/clanky/6390/pojem_prirozenosti_v_soucasne_filosoficke_a_teologicke_diskusi.url [cit. 29. 5. 2025]: "[…] two aspects of past events can be distinguished: first, their exterior, i.e. everything that can be described in terms of bodies and their movements. Thus, for example, in such an event as the crossing of the Rubicon, its exterior is the movement of Caesar and his legions across the named river. The interior of the event is then the invisible mental events that accompany this exterior, in our example Caesar's decision not to heed the Senate's decision to disband his army, the reasons that prompted him to act thus, the goals he intended to achieve by doing so, etc. The historian searches for both, for the exterior, but always also for the interior of events. This is how he differs from a naturalist, e.g. a geologist. The latter also investigates the past of the Earth, but he necessarily confines himself to the exterior of events, because geological events have no interior. How does the historian proceed to know the interior? He proceeds by empathising with the persons under

However, such empathy must obviously involve the cognitive, volitional, emotional and social aspects of human personality: both the "empathised" historical actors (the object of research) and the empathising historian-interpreter (the subject of research).

What is encyclopaedism?

Before the question can really be answered satisfactorily, it will be necessary to ask first: *what* is encyclopaedia? To maintain consistency in intellectual-historical research, a form of non-conceptual (*unbegrifflich*) essentialism cannot be avoided – which, however, unlike conceptual essentialism, does not fall into ahistoricism or presentism.[16] By "non-conceptual essentialism" is meant working with transhistorical mental contents (i.e. ideas) which, although not historiographically definable because their definition changes over time, nevertheless retain a certain transhistorical unity.[17] This unity, however, is not constituted by a logical concept that precisely denotes its referent but by an intuitive mental image, which only connotes and is expressible in language through cognitive or absolute metaphor.[18] By "cognitive metaphor" is understood the entity at the intersection of this mental image itself and the linguistic expression that expresses it, whose metaphoricity is recognised and whose rethinking may imply new knowledge (for example "encyclopaedia as circular knowledge"). By "absolute metaphor"[19] (also "dor-

investigation, starting from the tacit assumption that his hero has the same nature as himself, and imagines how he himself would think in the situation in which the historical person under investigation is. To do this, however, he needs precisely the assumption of human nature, as can be seen from the above. Human nature, then, seems to be a necessary condition for historical work." Generic masculine is in the Czech original. Translated by P. Pavlas. See also Sousedík's study on the theory of historiography: Sousedík, S., *Dějiny, dějepis, filosofie dějin* [History, historiography, philosophy of history]. Prague, OIKOYMENH 2019.

16 The *Unbegrifflichkeit* is the key interpretive tool of Hans Blumenberg's historical-philosophical method known as "metaphorology", which significantly inspires me here. See Blumenberg, H., *Theorie der Unbegrifflichkeit*. Frankfurt am Main, Suhrkamp 2007; Horyna, B., *Teorie metafory. Metaforologie Hanse Blumenberga* [Theory of Metaphor. Hans Blumenberg's Metaphorology]. Olomouc, Nakladatelství Olomouc 2007.

17 Throughout this study, I consider mental image to be what is usually called "mental representation" or "mental content": it is not necessarily visual, but can also be sonic, haptic, etc. (See also Martin Žemla's study in this special issue.) "Mental image" is thus a synecdoche *pars pro toto* (token) for the phenomenal experience coming from the senses (*qualia*).

18 Unlike mental images – which are always necessarily subjective and even private in their concrete instances – cognitive and absolute metaphors are intersubjective and cultural: they produce emergent mental images in the minds of the recipients that are non-identical but similar to the original image. In this study I will be using the term "mental image" generically to refer to both the original image and the emergent images.

19 The term was first coined by Blumenberg, H., Paradigmen zu einer Metaphorologie. *Archiv für Begriffsgeschichte*, 6, 1960, pp. 7–142, with a more complex meaning. My semantic reduc-

mant" or "dead" metaphor) is meant an expression which in ordinary discourse does not itself bring new knowledge and whose metaphoricity is not yet or no longer recognised (for example "encyclopaedia as a genre of educational literature").[20] Both cognitive and absolute metaphors, however, have only a connotation, not a denotation. In this they differ both on the mental level from concepts and on the linguistic level from terminological metaphors (also "dead" metaphors). Concepts and terminological metaphors are ontologically distinct because the former are mental entities and the latter linguistic entities. However, semantically they merge: for instance, "arm of an angle" and "magnetic field" are (logically) concepts and (etymologically) terminological metaphors.

In the end, mental images and the cognitive and absolute metaphors representing them make the history of ideas possible at all. After all, how could a cultural idea, in this case the idea of encyclopaedia, be both historically and meaningfully studied if it were completely amorphous and inconsistent over time? In order to investigate it, it is necessary to somehow point to its apparent transhistorical semantic unity, which the idea of the encyclopaedia has maintained and still maintains despite its development and transformation. The history of ideas is not reducible to the history of discourse, language or words (*Diskursgeschichte*, *Sprachgeschichte*, *Wortgeschichte*). Yet neither can it be described as a purely conceptual history or history of concepts (*Begriffsgeschichte*): in a strict sense, to consider a concept is to consider its content (i.e. intension), which – unlike its scope (i.e. extension) – cannot change if the concept is to retain its identity and if it is not to undergo substantial change. A concept is a logical function and an ahistorical entity: if it remains the same concept, it is in principle not subject to change in its content.

tion and clarification follow the interpretation of the leading Czech scholar of Blumenberg's metaphorology, Břetislav Horyna. See Horyna, B., *Teorie metafory*, p. 16, where absolute metaphors are described as "výrazy, které užíváme jako regulérní pojmy, a buď jsme si ještě vůbec neuvědomili, že jde o metafory, nebo jsme na to již zapomněli" (expressions that we use as regular terms and either have not yet realised that they are metaphors, or have forgotten that they are). For the reception of Blumenberg in Czech philosophy see also Špelda, D., Sekularizace, eschatologie a idea pokroku podle Hanse Blumenberga [Secularisation, Eschatology, and the Idea of Progress in Hans Blumenberg]. *Studia philosophica*, 59, 2012, No. 1, pp. 27–47. Available online at www: http://hdl.handle.net/11222.digilib/118298 [cit. 19. 5. 2025]; idem, Teologický absolutismus a lidské sebepotvrzení: Blumenbergovo pojetí novověku [Theological Absolutism and Human Self-Affirmation: Blumenberg's Conception of the Modern Age]. *Filosofický časopis*, 61, 2013, No. 2, pp. 181–205. Available online at www: http://kramerius.lib.cas.cz/uuid/uuid:c185623d-cf99-4df1-b0d4-53ee972a8b79 [cit. 19. 5. 2025].

20 The difference between cognitive and absolute metaphors lies not in their verbal (linguistic) form, but in the actual mental (ideational) content. The same expression can function as either a cognitive or an absolute metaphor, depending on the perceiving subject and circumstances such as time, place, etc.

Therefore, the core of my study lies in approaching the history of ideas as historical semantics (*Historische Semantik*)[21] or the history of meanings (*Bedeutungsgeschichte*) contextualized within cultural history. In order to distinguish the history of ideas so conceived from the traditional, purely internalistically understood history of ideas,[22] which has already come under the heat of justified criticism,[23] this perspective is referred to as a *history of cultural ideas*. The attribute "cultural" indicates that these are not Platonic ideas or ideas "floating in the air" but historically originated and culturally determined semantic entities: meanings.[24] These meanings, i.e. cultural ideas, are monads: after they emerge, they retain their identity as mental images and their public verbal representations, i.e. cognitive and absolute metaphors. They do not disappear in the course of further development, although they may take on different verbal and non-verbal (e.g. artifactual, musical or other) expressions.[25]

The very fact that such an idea does not cease to exist is a specific defining feature of a cultural idea: an idea is cultural if and only if it does not cease to exist. By implication, an idea that ceases to exist is necessarily an idea that is not cultural, for if a cultural idea were to cease to exist, that is, to lose its meaning, a logical contradiction would arise: not only would such an idea not be cultural but it would not be an idea at all, since the identity of an idea is

21 See generally Koselleck, R., *Vergangene Zukunft: Zur Semantik geschichtlicher Zeiten*. Frankfurt am Main, Suhrkamp 1995. See also Rothacker, E., *Das "Buch der Natur". Materialien und Grundsätzliches zur Metapherngeschichte*. Ed. W. Perpeet. Bonn, Bouvier 1979, pp. 40–41.

22 Arthur Oncken Lovejoy is considered their founder and paradigmatic representative. See Lovejoy, A. O., *The Great Chain of Being*. Cambridge, MA, Harvard University Press 1936, reprinted in New York, Harper & Row 2005.

23 The most important so far remains the criticism by Quentin Skinner, John Pocock, and their followers. See e.g. Skinner, Q., *The Foundations of Modern Political Thought*. Vol. 1: The Renaissance. Cambridge, Cambridge University Press 1978, pp. x–xv. It has been posited by some scholars that Skinner's widely celebrated polemic against the free-floating Platonic ideas is, in fact, a straw man. They argue for more responsible approaches to intellectual history, approaches that recognise the unity of an idea in time and space while paying close attention to its contextual expression. This can be achieved without recourse to metaphors or metaphor theory. See Oakley, F., *Politics and Eternity: Studies in the History of Medieval and Early-Modern Political Thought*. Leiden, Brill 1999. See also a very recent discussion in Palti, E. J., *Intellectual History and the Problem of Conceptual Change*. Cambridge, Cambridge University Press 2024. Available online at www: http://doi.org/10.1017/9781009461245 [cit. 19. 5. 2025].

24 The question whether some of them are also determined physically, biologically and psychologically, i.e. by our body structure (*embodiment*) and its evolutionary history, is left aside here. This is primarily a problem of cognitive science, not of human history. For corporeal metaphors, above all metaphors of the heart, see Lucie Storchová's study in this special issue.

25 It is imperative to emphasise here that the history of cultural ideas does not constitute the only and exclusive methodological strategy for the study of intellectual history. Intellectual historiography represents a concerted array of methodologies that coexist and complement one another.

precisely its meaning.[26] Quite in the spirit of the conclusion of the early Ludwig Wittgenstein (1889–1951), "What cannot be talked about must be kept silent."[27]

The cultural idea of encyclopaedia: An evolution

The circle and sphere as simple concepts are necessary prerequisites for the emergence of the complex and non-conceptual cultural idea of ENCYCLOPAEDIA from the cognitive metaphor of CIRCULAR KNOWLEDGE.[28] According to Cognitive Metaphor Theory (CMT),[29] the concept of CIRCLE/SPHERE is the source semantic domain; the target semantic domain is KNOWLEDGE.

CMT, first formulated by linguist George Lakoff and philosopher Mark Johnson, posits that metaphor is not merely a linguistic expression, rhetorical device, or literary ornament, but a fundamental aspect of human thought and understanding. According to CMT, metaphors shape our worldviews by enabling us to understand one domain of experience in terms of another,

26 Ideas in my conception can be distinguished into concepts (defined and communicated), cultural ideas (widely understood and communicated), subcultural ideas (not publicly communicated) and private ideas (completely uncommunicated). Concepts emerge but neither change nor disappear. Cultural ideas emerge and change but do not disappear. Subcultural and private ideas emerge, change, and either disappear and vanish without trace, as if they had never arisen, or become cultural ideas or even concepts. Only concepts and cultural ideas can be scientifically investigated, because scientific investigation itself makes private and subcultural ideas into cultural ideas or concepts. For the sake of completeness and to justify the thesis of the "immortality" of concepts and cultural ideas, let me add that the possibility of the extinction of thought as such cannot naturally be taken into account, even hypothetically, for this would lead to a contradiction: to think that thought does not exist is impossible. See Descartes, R., *Meditationes de prima philosophia*, *AT* VII. For an English translation see idem, *Meditations on First Philosophy: With Selections from the Objections and Replies*. Ed. and transl. J. Cottingham. Cambridge, Cambridge University Press 2017 (1st edition 1996).

27 Wittgenstein, L., *Tractatus logico-philosophicus*. Transl. D. F. Pears – B. F. McGuinness. London, Routledge 2001, § 7, p. 89: "What we cannot speak about we must pass over in silence." It should be added that, just as the phrase "extinct cultural ideas" would be a *contradictio in adjecto*, because speaking about the cultural ideas is itself a proof that they are not extinct, so too one cannot speak about the concrete instances of any subcultural and private idea. In the previous note, therefore, I define them exclusively in general terms: it is not possible to give an example, let alone a list of them. Yet they are not fictitious, but hypothetical. We experience them exclusively internally and incommunicably.

28 In the following text, I will be distinguishing between language (statements about things) and two meta-languages (statements about words and statements about ideas). I will use quotation marks to designate the instances where I speak about words, capital letters to designate the instances where I speak about ideas (i.e. concepts, cultural ideas, cognitive metaphors, and absolute metaphors), and I will leave statements about things unmarked.

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

often more familiar, embodied, and concrete one. For example, metaphors such as MIND IS MACHINE influence our perception of the mind through expressions like "turning mental gears" and "being hardwired."

A significant contribution of Gilles Fauconnier and Mark Turner's Conceptual blending theory is the insight that the process also works in reverse, with multiple conceptual inputs operating simultaneously.[30] As a result, we speak not only of "machine learning" and "computer vision," but, drawing on the metaphor MIND IS TEXT, also of information being "written into" or "erased from" both human and computer memory.

These examples illustrate how cultural ideas such as MIND or KNOWLEDGE are understood through more familiar and embodied source domains. In the case of ENCYCLOPAEDIA, the metaphor of CIRCULAR KNOWLEDGE draws on the concept of CIRCLE/SPHERE to structure our understanding of what is KNOWLEDGE. However, earlier than the metaphor of CIRCULAR KNOWLEDGE, the idea of SPHERICAL WORLD emerged, having the same source domain: the concept of CIRCLE/SPHERE. In the history of European philosophy, the SPHERE was first used as a metaphor for totality (i.e. the universe, the world) by the Presocratics. Pythagoras (c. 570–after 510 BC), who according to Aetius (c. 100 AD) first called the whole of the universe COSMOS,[31] according to Diogenes Laertius (3rd century AD) also claimed that the world is "animate, intelligent, and spherical, with the earth (which is also spherical and widely inhabited) at its center."[32] According to contemporary scholars, however, it was probably Parmenides who first proclaimed the sphericity of the world.[33]

The opinion of Empedocles (490–c. 430) is summarized by Vojtěch Hladký as follows:

> The origin and transformations of living beings are tied to the course of the cosmic cycle. The world is made up of four elements, on which two other cosmic forces, Love and Strife, act. The elements are first separated from each other. When Love begins to act, they gradually merge and form an ordered world in which different things and organ-

30 Fauconnier, G. – Turner, M., *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities*. New York, Basic Books 2002.

31 Aetius, *DK* 14 A 21, according to Svoboda, K., *Zlomky předsokratovských myslitelů* [Fragments of the Presocratics]. Prague, Academia 1962, p. 42.

32 See Diogenes Laertius, *DK* 8 25–26, cited according to idem, *Lives of Eminent Philosophers*. Transl. P. Mensch. Ed. J. Miller. Oxford, Oxford University Press 2018. Book 8, ch. "Pythagoras", § 25.

33 I would like to thank Vojtěch Hladký for his advice on this issue. See Diogenes Laertius, *DK* 9 21.

> isms come into being. The action of Love culminates in the formation of a perfect round Sphairos, which contains within itself all the mass of the four elements.[34]

According to Plato (427–347 BC), more precisely according to the figure of Socrates in the dialogue *Timaeus*, the world was made by God, the creator (*demiurgos*):

> […] in the all-containing form of a sphere, round as from a lathe and every way equidistant from the centre, as was natural and suitable to him. […] All that he did was done rationally in and by himself, and he moved in a circle turning within himself, which is the most intellectual of motions […].[35]

Finally, even Aristotle (384–322 BC) contends in *On the Heavens*:

> The shape of the heaven is of necessity spherical; for that is the shape most appropriate to its substance and also by nature primary.[36]

Ancient philosophical cosmology, which had been based on the idea of the SPHERICAL WORLD at least since the classical period of ancient Greek philosophy, thus – literally – determined the shape of ancient astronomy and, through the bottleneck of Ptolemy's (c. 85–c. 168) *Almagest*, even the whole of medieval Arabic and Latin astronomy.[37] It determined the shape to the extent that the Platonic principle of "saving the phenomena" (*sózein ta fainomena, salvare apparentias*)[38] was a guiding astronomical imperative not only for

34 Kratochvíl, Z. – Hladký, V. – Kočandrle, R., Od Darwina k Empedokleovi a Anaximandrovi. Předdarwinovské koncepty evoluce [From Darwin to Empedocles and Anaximander. Pre-Darwinian concepts of evolution]. *Vesmír*, 88, 2009, No. 544, pp. 544–548, here p. 545. For more details see the monograph: Hladký, V. – Kočandrle, R. – Kratochvíl, Z., *Evoluce před Darwinem. Nejstarší vývojová stadia evoluční nauky* [Evolution before Darwin. The Earliest Stages of Evolutionary Science]. Červený Kostelec, Pavel Mervart 2013.

35 Plato, *Timaeus*, 33b–c. Transl. B. Jowett. Available online at www: https://standardebooks.org/ebooks/plato/dialogues/benjamin-jowett/text/timaeus [cit. 19. 5. 2025].

36 Aristotle, *On the Heavens*. Book II, part 4, 286. Transl. J. L. Stocks. Available online at www: https://classics.mit.edu/Aristotle/heavens.2.ii.html [cit. 29. 5. 2025].

37 For a historical-philosophical and anthropological reflection on the turn in modern astronomy see Špelda, D., *Člověk a hvězdy v raném novověku* [Man and the Stars in the Early Modern Period]. Prague, Togga 2019.

38 See Tolsa, C., Ptolemy's Savior God, "Saving the Phenomena" and Plato's "Timaeus". *Museum Helveticum*, 74, 2017, No. 2, pp. 144–157; Goldstein, B. R., Saving the Phenomena: The Background to Ptolemy's Planetary Theory. *Journal for the History of Astronomy*, 28, 1997, No. 1, pp. 1–12.

Ptolemy and later Averroes (1126–1198), but also, for example, for Andreas Osiander (1498–1552), the (in)famous author of the preface to Nicolaus Copernicus' (1473–1543) work "On the Revolutions of the Heavenly Spheres" (*De revolutionibus orbium coelestium*) of 1543.[39] Spherical bodies, circular trajectories and cyclic motions became the basic premise of all astronomical models of the cosmos, first geocentric, later heliocentric, and in the case of Tycho Brahe (1546–1601) even geo-heliocentric. Even Johann Kepler's (1571–1630) groundbreaking discovery that the orbits of the planets are in fact slight ellipses, not perfect circles, does not shake Kepler's distinctly Platonic belief in the perfect harmony of the created universe based on mathematical ratios, nor can it weaken the belief in the circle and sphere as perfect forms.[40]

Thus, the sphere was not only a neutral, secular, philosophical-mathematical concept, but also a source of theological metaphorics and religious connotations, not only for the ancient Greeks, who considered the sphere and the circle as divine forms, but also for some medieval Christian authors, who considered God as an infinite sphere.[41] The anonymous "Book of the 24 Philosophers" from the 12th century, long before Giordano Bruno (1548–1600) and Blaise Pascal (1623–1662), says: "God is a sphere whose centre is everywhere and whose circumference is nowhere."[42] Furthermore, Nicholas of Cusa, in his essay "On Learned Ignorance" (*De docta ignorantia*), expands on the idea:

> […] the center of the world coincides with the circumference. […] Therefore, since it is not possible for the world to be enclosed between a physical center and [a physical] circumference, the world – of which God is the center and the circumference – is not understood. And although the world is not infinite, it cannot be conceived as finite, because it lacks boundaries within which it is enclosed. […] Therefore, just as the earth is not the center of the world, so the sphere of fixed stars is not its cir-

39 Koyré, A., Nicolas Copernicus. *Bulletin of the Polish Institute of Arts and Sciences in America*, 1, 1943, No. 4, pp. 705–730. See also Duhem, P., *Sozein ta Phainomena: Essai sur la notion de théorie physique de Platon à Galilée*. Paris, Hermann 1908.

40 On Kepler see Michalík, J., *Robert Fludd a Johannes Kepler. Dvě podoby platónské tradice* [Robert Fludd and Johannes Kepler. Two Forms of the Platonic Tradition]. Olomouc, Palacký University 2014; idem, *Astronom v Hermově zahradě. Johannes Kepler a paracelsiánská alchymie* [The Astronomer in Hermes' Garden. Johannes Kepler and Paracelsian Alchemy]. Červený Kostelec, Pavel Mervart 2020.

41 See in detail Mahnke, D., *Unendliche Sphäre und Allmittelpunkt. Beiträge zur Genealogie der mathematischen Mystik*. Halle and der Saale, M. Niemeyer 1937.

42 [Anonymous], *Liber XXIV philosophorum*, § 2, see Wikisource. Available online at www: https://la.wikisource.org/wiki/Liber_viginti_quattor_philosophorum/II [cit. 19. 5. 2025]: "Deus est sphaera infinita cuius centrum est ubique, circumferentia nusquam."

> cumference. […] He who is the center of the world, viz., the Blessed God, is also the center of the earth, of all spheres, and of all things in the world. Likewise, He is the infinite circumference of all things.[43]

The Christian God is one in essence (i.e. substance), but, at the same time, three in persons (i.e. hypostases). The term "perichoresis" (περιχώρησις/*perichōrēsis*, Lat. *circumincessio*), which literally means MOVING AROUND, has been used since the patristic period to describe the living relationship between the divine persons. Thus, a divine circularity and rotation is found in Christian Trinitarian theology; and a cultural universality of divine circularity confirms the Aztec Sun Stone, the Taoist Taijitu, the Far-East Mandalas, and the Near-East Ouroboros, to give just a few examples.

In addition to the ideas of SPHERICAL WORLD and SPHERICAL GOD, antiquity already presents, notably again in the *Timaeus*, the concept of the CIRCULAR WORLD SOUL. This is an original blend of both cognitive metaphors:

> Such was the whole plan of the eternal God about the god that was to be, to whom for this reason he gave a body, smooth and even, having a surface in every direction equidistant from the centre, a body entire and perfect, and formed out of perfect bodies. And in the centre he put the soul, which he diffused throughout the body, making it also to be the exterior environment of it; and he made the universe a circle moving in a circle, one and solitary, yet by reason of its excellence able to converse with itself, and needing no other friendship or acquaintance. Having these purposes in view he created the world a blessed god.[44]

Timaeus speaks about the world soul, not the individual soul, which at most participates in the world soul. The important thing is, however, that it is the principle of "acquaintance", i. e., a cognitive principle: the circular world soul

43 Nicholas of Cusa, On Learned Ignorance II. Transl. J. Hopkins, ch. 11, 156–157. For the Latin original see *Nicolai de Cusa Opera omnia* 1. Ed. E. Hoffmann – R. Klibansky. Hamburg, Meiner 1932, pp. 100–101: "Centrum igitur mundi coincidit cum circumferentia. […] Cum igitur non sit possibile mundum claudi intra centrum corporale et circumferentiam, non intelligitur mundus, cuius centrum et circumferentia sunt Deus. Et cum non sit mundus infinitus, tamen non potest concipi finitus, cum terminis careat, intra quos claudatur. […] Sicut igitur terra non est centrum mundi, ita nec sphaera fixarum stellarum eius circumferentia […]. Qui igitur est centrum mundi, scilicet Deus benedictus, ille est centrum terrae et omnium sphaerarum atque omnium, quae in mundo sunt; qui est simul omnium circumferentia infinita." Available online at www: https://cusanus-portal.de/ [cit. 19. 5. 2025].

44 Plato, *Timaeus*, 34a–36e. Available online at www: https://standardebooks.org/ebooks/plato/dialogues/benjamin-jowett/text/timaeus [cit. 19. 5. 2025].

gets perfectly acquainted with itself. CIRCULAR KNOWLEDGE, and therefore ENCYCLOPAEDIA, seem not so far from here. The term "circular knowledge" retains its metaphorical character to this day, whilst "encyclopaedia" does not. In 16th-century Transalpine Renaissance humanism, ENCYCLOPAEDIA was still a cognitive metaphor with its source domain in geometry – the Circle of Knowledge (*circularis scientia*, *orbis doctrinarum*) was mentioned.[45] In the 17th century, the cognitive metaphor had changed to an absolute metaphor: the "book on all that is known" (*omne scibile*). French *philosophes* made it a symbol of the Enlightenment, and today it is almost exclusively a specific genre of educational literature. The metaphorical nature of the term "encyclopaedia" is therefore not perceived now. ENCYCLOPAEDIA and encyclopaedias are usually discussed in terms of their literal meaning. Yet it is still not a precisely defined concept, but a quasi-concept: unless defined *ad hoc* for a specific purpose, it remains a cultural idea understood intuitively on the basis of the mental image it evokes in us. Here, too, there has been a conceptual-metaphorical blend: in this mental image, since the 17th century, CIRCLE and SPHERE have not dominated completely (although they are still present) and the BOOK has come to the fore; in the digital age, COMPUTER, NETWORK and INTELLIGENCE have also come to the fore.

In the history of European thought, ENCYCLOPAEDIA first appears in ancient Greece and Rome. As Howard Hotson puts it: "By the age of Augustus, the collocation '*enkyklios paideia*' commonly referred to a cycle of standard disciplines which constituted the basic educational curriculum."[46] Thus, the *enkyklios paideia* was in fact analogous to the later medieval *septem artes liberales* or the modern "curriculum framework". This ancient, Greek-derived absolute metaphor was, however, due to a misreading of Quintilian[47] by 15th-century authors, transformed into *encyclopaedia* (in various spelling variants[48]) and in Erasmus (1466–1536), Ramus and Rudolph Goclenius the Elder (1547–1628) it acquired a new cognitive power – from the ancient quasi-concept it became a cognitive metaphor again:

> To close the circle is to make a thing perfect in every respect and part. Hence the expression κύκλιοπαιδεία [*cyclopaedia*] means the completion of all disciplines as if in a circle. This metaphor is probably taken

45 See, for example, the passages cited from Ramus, P., and Goclenius, R., below, footnotes 50 and 51.

46 Hotson, H., *The Reformation of Common Learning*, p. 379.

47 Quintilian, *Institutio oratoria*, I,10.1. Ed. E. Bonnell. Leipzig, Teubner 1854, vol. 1, p. 46.

48 See Henningsen, J., "Enzyklopädie": Zur Sprach- und Bedeutungsgeschichte eines pädagogischen Begriffs. *Archiv für Begriffsgeschichte*, 10, 1966, No. 20, pp. 271–362.

> from the mathematicians, among whom the circular form is considered the most perfect and complete.[49]
>
> Orators call such perfection of spirit perfect eloquence; philosophers, better and more correctly, call it perfect philosophy for perfect scientific interpretation and perfect training in the sciences; some even call it a sort of circle of doctrine, *encyclopaedia* [*enkyklopaideía*].[50]
>
> The circular science or the circle of the doctrines is *encyclopaedia*, i.e. a complete knowledge of all the sciences.[51]

One extremely inventive and influential medieval innovator of CIRCULAR KNOWLEDGE was Raimund Lull (c. 1232–1316). According to his own testimony, the universal "Art" (*Ars Lulliana*), also called *Cyclognomica* by the modern Lullists and encyclopaedists,[52] was revealed to him by divine illumination, and his goal was the conversion of Jews and Muslims to Christianity. It was based on philosophical combinatorics and the mechanical rotation of three concentric discs, by means of which, according to Lull, it was possible to combine categorial concepts into propositions and propositions into judgments (i.e. syllogisms), thus potentially arriving at the production of all theological and philosophical truths.

Lullism – along with the intellectually parallel Jewish and Christian Kabbalah[53] – is one of the key movements leading to the emergence of the cul-

49 Erasmus, D., *Adagia*, II,6,86, cited according to idem, *Adagiorum chiliades tres*. Venice, Aldus Manutius 1508, adage No. 1586: "Circulum absolvere est rem omnibus numeris omnibusque partibus perfectam reddere. Unde et *κυκλοπαιδεία* dicta, quae disciplinarum omnium velut orbe absolverit. Metaphora sumpta videtur a mathematicis, apud quos circularis figura perfectissima, absolutissimaque judicatur." On Erasmus in a broader context see Nejeschleba, T. – Makovský, J. (eds.), *Erasmovo dílo v minulosti a současnosti evropského myšlení* [Erasmus' Work in the Past and Present of European Thought]. Brno, CDK 2012.

50 Ramus, P., *Pro philosophica Parisiensis Academiae disciplina*. Paris, Davidus 1551, p. 52: "Hanc animi perfectionem rhetores eloquentiam perfectam, Philosophi melius et verius Philosophiam perfectam ex perfecta artium explicatione, ex perfecta artium exercitatione, nonnuli completum quendam veluti orbem doctrinae, *ἐγκυκλοπαιδείαν* vocant."

51 Goclenius, R., *Lexicon philosophicum*. Frankfurt am Main, Beckerus 1613, p. 363: "[…] Circularis Scientia seu orbis doctrinarum est encyclopaedia, id est, absoluta cognitio omnium scientiarum […]."

52 For instance see Gemma, C., *De arte cyclognomica*. Antwerp, Christophorus Plantinus 1569.

53 On Jewish Kabbalah see Scholem, G., *Kabbalah*. Williston, VT, Meridian 1978. On Christian Kabbalah see Schmidt-Biggemann, W., *Geschichte der christlichen Kabbalah*, 2 vols. Stuttgart, Frommann-Holzboog 2012–2014. On the relationship between Lullism and Kabbalah see Idel, M., Ramon Lull and Ecstatic Kabbalah: A Preliminary Observation. *Journal of the Warburg and Courtauld Institutes*, 51, 1988, pp. 170–174; Hames, H., *The Art of Conversion: Christianity and Kabbalah in the Thirteenth Century*. Leiden, Brill 2000.

tural idea of ENCYCLOPAEDIA in the 17th century. Despite thinkers such as Heymeric de Campo (1395–1460), Nicholas of Cusa (1401–1464), Johannes Trithemius (1462–1516), Ulrich Pinder (?–1519),[54] Bernard de Lavinheta (?–1530), Agrippa of Nettesheim (1486–1535), Jacques Lefèvre d'Étaples (1455–1536), and Giordano Bruno, late medieval, Renaissance, and early modern Lullism gets substantially imprinted on the thought-world of the Herborn encyclopaedists Alsted, Bisterfeld, and Comenius. A turning point in this respect is 1598, when Lazarus Zetzner (1551–1616) published Lull's *Opera* in Strasbourg, containing a representative selection not only of Lull's writings but also of the Lullist tradition, since it also includes pseudo-Lull and interpretive works, such as three texts attributed to Giordano Bruno and one to Agrippa of Nettesheim (1486–1535).[55]

Conclusion: The conceptual-metaphorical blending of circle and book

Let me briefly reiterate that while ENCYCLOPAEDIA in Greek and Roman antiquity functioned as an absolute metaphor or quasi-concept that denoted a basic educational cycle, ENCYCLOPAEDIA in Transalpine Renaissance humanism was no longer an absolute metaphor but a cognitive metaphor. The quasi-concept showed its non-conceptuality (*Unbegrifflichkeit*), "bared itself" and became a pure mental image that connoted CIRCULAR KNOWLEDGE but denoted nothing.

My thesis is that, in the 16th and 17th centuries, a blending occurred between the CIRCULAR KNOWLEDGE metaphor and the BOOK metaphor.[56] The key element was the metaphor of the TRIPLE BOOK OF GOD – Scripture, Nature, and Mind – as formulated by Heinrich Khunrath in 1595,[57] building on medieval homiletics and early modern Lutheran-mystical speculation, which in some versions identified Christ Himself as the BOOK OF GOD.[58] This

54 On Pinder's Lullism see Burton, S. J. G., Pansophic Mirrors of the Soul: Comenius, Pinder and the Transformation of Cusan Optics. *Acta Comeniana*, 34, 2020, No. 58, pp. 9–48, here p. 23.

55 Lullus, R., *Opera*. Ed. L. Zetzner. Strasbourg, Zetzner 1598. On Bruno see more closely Blum, P. R., *Giordano Bruno: An Introduction*. Leiden, Brill 2012; on Agrippa see more in Michalík, J., *Cornelius Agrippa mezi magií a humanismem* [Cornelius Agrippa between magic and humanism]. Olomouc, Palacký University 2019.

56 While CIRCLE is a concept, BOOK and KNOWLEDGE, due to their time-fluid denotation, are absolute metaphors, i.e. quasi-concepts.

57 Khunrath, H., *Amphitheatrum sapientiae aeternae, solius verae*, [Hamburg?, s. n.] 1595.

58 See Pavlas, P., Lex secundum quam disponuntur omnia: Trichotomic Trees in Jan Amos Komenský's Pansophical Metaphysics and Metaphorics. *Journal of Early Modern Studies*, 9, 2020, No. 1, pp. 9–31, here pp. 16–23. Available online at www: https://zetabooks.com/2587/open-access-petr-pavlas-lex-secundum-quam-disponuntur-omnia-trichotomic-trees-in-jan-amos-komenskys--pansophical-metaphysics-and-metaphorics-in-journal-of-early-modern-studies-volu [cit. 19. 5. 2025]; see also idem, Up to Five Books of God: The Metaphorical and Theological Background of

Trinitarian-Christological cognitive metaphor served as a model of universal knowledge, wherein the truth of the Triune God is revealed in the trinity of the BOOKS OF GOD.

In his 1610 work *Vier Bücher vom wahren Christentum* (Four Books on True Christianity), Johann Arndt distinguished FOUR BOOKS OF GOD and assigned each to a separate volume:

> Contents of the four books. I. *Liber Scripturae*. How a true Christian should die daily, but Christ should live in him, and how he should be renewed daily in the image of God and live in the new birth. II. *Liber vitae Christus*. How Christ's incarnation, love, humility, gentleness, patience, suffering, death, cross, shame and death are the medicine and healing fountain for our souls: a mirror and book of our life. And how a true Christian should overcome sin, death, the devil, hell, the world, the cross and all tribulation through faith, prayer, patience, God's word and heavenly consolation: And all this in Jesus Christ, through his power, strength and steadfastness in us. The III. *Liber Conscientiae*. How God has placed his highest treasure, his kingdom, in the heart of man, as a hidden treasure in a field, as a divine inner light of the soul. IV. *Liber Naturae*. How the great book of nature testifies of God and leads to God.[59]

What had originally been a cognitive metaphor and a "mere" inspirational model was now fixed in a concrete, material, printed reality. This semantic shift prompted Johann Heinrich Alsted to extend the metaphor further. In *Theologia naturalis* (1615) – almost as though he sought to outdo Arndt by

Herborn Encyclopaedism. *Reformation & Renaissance Review*, 24, 2022, No. 3, pp. 188–207, here pp. 196–200. Available online at www: http://doi.org/10.1080/14622459.2022.2160686 [cit. 19. 5. 2025]; on German mysticism from the Middle Ages to Valentin Weigel see Žemla, M., *Proměny německé mystiky* [Transformations of German Mysticism]. Olomouc, Palacký University 2014.

59 Arndt, J., *Vier Bücher von wahrem Christenthum*, 4 vols. Magdeburg, Böel & Francken 1610, no pagination: "Inhalt der vier Bücher. Das I. Liber *Scripturae*. Wie in einem wahren Christen Adam täglich sterben / Christus aber in ihm leben soll: Und wie er nach dem Bilde Gottes täglich ernewert werden / und in der newen Geburt leben müsse. Das II. Liber *vitae* Christus. Wie Christi Menschwerdung / Liebe / Demut / Sanftmut / Gedult / Leiden / Sterben / Creutz / Schmach und Todt / unser Seelen Artzney und Heilbrunnen: Spiegel und Buch unsers Lebens sey. Und wie ein wahrer Christ / Sünde / Todt / Teuffel / Helle / Welt / Creutz und alle Trübsal durch den Glauben / Gebet / Gedult / Gottes Wort und himmlischen Trost überwinden soll: Und dasselbe alles in Christo Jesu / durch desselben Krafft / Stercke und Steg in uns. Das III. Liber *Conscientiae*. Wie Gott den höchsten Schatz / sein Reich / in des Menschen Herz gelegt hat / als einen verborgenen Schatz im Acker / als ein Göttliches innerliches Liecht der Seelen. Das IIII. Liber *Naturae*. Wie das grosse Weltbuch der Natur von Gott zeuget / und zu Gott führet." For more on the topic see Geyer, H., *Verborgene Weisheit. Johann Arndts "Vier Bücher vom Wahren Christentum" als Programm einer spiritualistisch-hermetischen Theologie*. Berlin, De Gruyter 2001, reprint 2015.

sheer number – he distinguished FIVE BOOKS OF GOD, whose authorship may be ascribed to God, "albeit anthropomorphically":

> 1. The book of providence, which is a book of divine decisions and decrees, that is the foreknowledge of God itself, by which God has seen everything before it is (*Psalm* 136,16). And it is twofold: [the book of providence] of the world and of the church. The book of the world is on governing the entire universe (*Revelation* 5,1), the book of the church is on governing the whole church. The former may be called the book of creation, the latter the book of redemption. 2. The book of Sacred Scripture (*Isaiah* 34,16). 3. The book of divine judgement, where all deeds are reported of those people already born, in order to be judged according to that book (*Daniel* 7,10; *Malachi* 13,17). *Revelation* 20,12 calls it the book of remembrance. 4. The book of life, wherein all of those chosen for eternal life were recorded (*Exodus* 32,32–33; *Psalm* 69,29; *Daniel* 12,2; *Philippians* 4,3; *Revelation* 3,5, 13,8, 20,12–15, 21,27, 22,19). 5. The book of nature. Although this name does not occur in the Sacred Scriptures explicitly, it is bequeathed there implicitly.[60]

However, among these FIVE BOOKS, God reserves the BOOK OF PROVIDENCE, the BOOK OF DIVINE JUDGEMENT, and the BOOK OF LIFE for Himself. Only the BOOK OF SCRIPTURE and the BOOK OF NATURE are communicated to man:

> But just as the book of Scripture or grace is both internal, namely the Scripture written into the heart of renewed man (*Jeremiah* 31,33–34, *2 Corinthians* 3,3), and external, namely the prophetic and apostolic Scripture containing the Law and the Gospel – in the same way the book of nature is also twofold, internal and external. The internal [book of nature] is our conscience, which has remarkable power in both parts, excusing and accusing (which pertain to our innate prin-

60 Alsted, J. H., *Theologia naturalis*. Frankfurt am Main, Antonius Hummius 1615. Book I, pp. 11–12: "1. Liber providentiae, qui est liber consiliorum et decretorum divinorum, hoc est, ipsa Dei praescientia, qua Deus vidit omnia, antequam essent (*Psalmus* 136,16). Estque duplex: Mundi et Ecclesiae. Liber Mundi, est de totius huius universitatis gubernatione (*Apocalypsis* 5,1). Liber Ecclesiae, est de totius Ecclesiae gubernatione. Ille potest dici liber creationis, hic redemptionis. 2. Liber Scripturae Sacrae (*Isaias* 34,16). 3. Liber iudicii divini, in quo perscribuntur omnium hominum iam natorum facta, ut secundum ea quisque iudicetur (*Daniel* 7,10; *Malachi* 13,17). Hic *Apocalypsis* 20,12 dicit liber memorialis. 4. Liber vitae, in quo omnes electi ad vitam aeternam sunt consignati (*Exodus* 32,32–33; *Psalmus* 69,29; *Daniel* 12,2; *Philippis* 4,3; *Apocalypsis* 3,5, 13,8, 20,12–15, 21,27, 22,19). 5. Liber naturae. Quanquam autem hoc nomen non occurit in sacris explicite, implicite tamen ibi traditur."

> ciples), so that it is a judge, a witness, an advocate, a culprit as well as a clerk (*Romans* 1,19). The external [book of nature] is the arrangement of the world, which exhibits the works of God in nature, of what sort are the heavens, the earth, and all their things (*Romans* 1,20).[61]

Despite this proliferation and confusing inflation of the BOOKS OF GOD in Alsted's *Theologia naturalis*, he ultimately affirms the fundamental triadic division – as published by Khunrath in 1595, although Alsted does not cite him:

> The universal book of God is triune, namely the Sacred Scripture, nature and our mind. In the first part above we mentioned the double, triple, quadruple and quintuple book of God. The double book is of nature and grace. The triple book is of nature, grace and glory. The quadruple book is of scripture, life (that is Christ), nature and conscience. The quintuple book is of providence, scripture, divine judgement, life and nature. These divisions do not diverge but beautifully agree. The "book of God" is used metaphorically in two ways: either for a book that He himself has and solely reads or for a book that He gives us to read. The books of providence, divine judgement and life are of the first kind, the books of nature and grace are of the second kind where these two words are taken broadly, and so the book of nature includes the book of conscience, and the book of grace the book of glory, inasmuch as glory is consummated grace. But since in the following, man and other creatures will be treated distinctly, we distinguish the book of nature from the book of conscience as we did in the present axiom. But we said that this triple book of God, namely the Scripture, nature and conscience, is catholic (*catholicus*), that is universal, because God did not put them under-the-counter to let them circulate from one person to another, but he placed them in an open and sunny place for countless people: the book of Scripture for all who are called into the kingdom of grace, the book of nature and the book of conscience or our mind for every single man.[62]

61 Ibid., book I, p. 12: "Sicut autem duplex est liber Scripturae seu Gratiae internus, videlicet Scriptura cordi hominis regenerati inscripta (*Jeremiah* 31,33–34, *2 Ad Corinthos* 3,3), et externus, videlicet Scriptura Prophetica et Apostolica, continens Legem et Euangelium, ita Liber Naturae etiam est duplex, internus et externus. Internus est conscientia nostra, cuis mira est vis in utraque partem, ad excusandum et accusandum (quo pertinent principia nobis naturaliter insita), ita ut sit iudex, testis, actor, reus et scriba (*Ad Romanos* 1,19). Externus, est fabrica mundi exhibens Dei opera in natura, cuiusmodi sunt coelum et terra et omnia quae in eis sunt (*Ad Romanos* 1,20)."

62 Ibid., book I, p. 42: "Liber Dei Catholicus est Triunus, videlicet Sacra Scriptura, Natura et Mens nostra. Supra parte prima fecimus mentionem libri Dei duplicis, triplicis, quadruplicis et quintuplicis. Duplex ille liber est naturae et gratiae. Triplex est naturae, gratiae et gloriae. Quadruplex

To conclude: the TRIPLE BOOK OF GOD – Scripture, Nature, and Mind (with Christ as the supernatural unity of the triad) – is a Trinitarian-Christological cognitive metaphor whose prehistory dates back to late antiquity (Augustine). It developed further in the Middle Ages and the early Renaissance (notably in Hugh of St. Victor, Bonaventure, and Nicholas of Cusa), and reached a pivotal stage in Central European Lutheran heterodox mysticism. There, it culminated in its absolutisation in Arndt's *Vier Bücher vom wahren Christentum* (1610) and its subsequent inflation into dyad, triad, tetrad and pentad of the BOOKS OF GOD in Alsted's *Theologia naturalis* (1615).

In 1630, Alsted did not publish a new BOOK OF GOD, nor did he produce a new BOOK OF BOOKS (*Liber librorum*), or HUMAN OMNISCIENCE (*Pansophia*) – which his Herborn student Comenius wished to achieve and continued to advocate until his death in 1670.[63] Instead, Alsted published the *Encyclopaedia septem tomis distincta*, or simply The Encyclopaedia. With this, he no longer meant an EDUCATIONAL CYCLE, a CIRCLE OF KNOWLEDGE or a CIRCLE OF DOCTRINES, but the new book of his own making.[64] The ENCYCLOPAEDIA thus became a book, the cognitive metaphor became absolute again, and 1630 marks the emergence of encyclopaedism as a modern tradition. While it continued to evolve, this moment represents a turning point: from 1630 onward, CIRCULAR KNOWLEDGE became associated with BOOK, giving rise to the modern idea of ENCYCLOPAEDIA: a totality of text encompassing "all knowable things" (*omne scibile*), accessible, searchable, and readable by anyone.

From "mere" metaphors, in 1630 one of the most important cultural ideas of the modern and contemporary era was born.

est scripturae, vitae (puta Christus), naturae et conscientiae. Quintuplex est providentiae, scripturae, iudicii [divini], vitae et naturae. Hae divisiones non pugnant, sed pulchre conveniunt, hoc modo: Liber Dei *κατὰ μεταφοράν* sic dicitur duobus modis: vel quem ipse habet et solus legit, vel que ipse nobis dat legendum. Priori modo liber Dei est vel providentiae, vel iudicii, vel vitae […]. Posteriori modo liber Dei est vel naturae, vel gratiae: ubi haec duo vocabula late accipiuntur, ita quidem ut liber naturae complectatur etiam librum conscientiae, et liber gratiae librum gloriae, quatenus gloria est consummata gratia. Sed quoniam deinceps distincte agendum erit de creaturis aliis et de homine, librum naturae distinguemus a libro conscientiae, ut et in axiomate praesenti factum. Diximus autem hunc triplice librum Dei, videlicet Scripturae, Naturae et Conscientiae, esse Catholicum, hoc est universalem, quia Deus non in angulis proposuit hos libros uni atque alteri pervoluendos, sed in propatulo et aprico innumeris: librum quidem Scripturae omnibus vocatis ad regnum gratiae, librum vero naturae et conscientiae seu mentis nostrae omnibus et singulis hominibus."

63 See Pavlas, P., Up to Five Books of God, pp. 202–204.

64 Marketing considerations certainly played a major role in the choice of name. For the inherent limitations of realising the encyclopaedic/pansophic project in book form see the conclusion of Lenka Řezníková's study in this special issue.

The Metaphor of Harmony in Early Modern Knowledge Organisation: Comenius' Pansophy Caught between Aesthetics and Mechanics*

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Abstract:
Johann Amos Comenius is often regarded as a "thinker of harmony." He systematically implemented the metaphor of harmony into his epistemological framework to articulate the natural "consonance" of all things, emulate the divine order, and regulate the coherence of contemporary knowledge. This "complex" metaphor, rich with musical, mechanical, mathematical, and cosmological connotations reflects his advanced intellectual inclination toward order and exposes the key sources shaping his conceptual thought. This study explores how Comenius uses this conventional metaphor within an innovative framework, introducing it into the domain of knowledge organisation. It integrates both semantic and cognitive approaches to metaphor analysis. From a semantic standpoint, it conceptualizes harmony as a multifaceted metaphor that drew on a variety of source domains during the early modern period, incorporating not only musical elements but also rich mechanical connotations. From the perspective of cognitive theory, this study examines how Comenius uses this metaphor to articulate his epistemological ideas on the syncretic structure of knowledge. By utilising digital tools developed within the TOME project, Comenius' use of the harmony metaphor is situated within the broader context of early modern scholarly discourse.

Keywords: Harmony; Musical Metaphor; Mechanical Metaphor; Cognitive Metaphor Theory; Early Modern Culture of Knowledge; Comenius

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Introduction: Scholarly metaphor between experience and intertextuality

"*Harmony was the most loaded term in baroque thought*,"[1] musicologist Michael Spritzer wrote in his seminal book, *Metaphor and Musical Thought*. During the early modern period, the metaphor of harmony functioned as a widespread cognitive, therapeutic, and political instrument circulating extensively and efficiently across diverse fields and disciplines. It served as a language and conceptual response to the key challenges of early modern culture: the reconciliation of contradictions and the resolution of towering problems both in society and in the sphere of knowledge.

This study focuses on the link between this metaphor and the ambitious pansophic agenda as pursued by one of the foremost early modern theorists of knowledge, Jan Amos Comenius (1590–1672). This Moravian scholar, who studied under Johann Heinrich Alsted and became actively involved in Samuel Hartlib's correspondence network, used the concept of harmony extensively in his works and is often referred to as a "philosopher of harmony".[2] Beginning in the 1630s, he included this metaphor in his pansophic vocabulary to articulate the ontological "consonance" of all things and establish a systematic epistemological framework of human knowledge. Drawing upon the corpus of Comenius' writings, this paper engages with two interrelated inquiries.

The first investigates the degree to which the metaphor of harmony can be classified as a musical metaphor within Comenius' works. Although previous scholarship has predominantly highlighted the musical aspects of Comenius' use of the metaphor, this study argues that his conceptualisation of harmony in fact drew upon multiple source domains, including mechanics, theology, and natural philosophy. It was precisely this semantic layering that amplified the metaphor's versatility and explanatory power. The second investigates the broader ramifications of this metaphor for his ideas on knowledge organisation, particularly within the context of the early modern encyclopaedic movement.

Among the various domains mentioned above (mechanics, theology, and natural philosophy), this study places particular emphasis on the mechanical register of the metaphor. By foregrounding the interplay between musical and mechanical domains, it aims to offer a more balanced account by reconsidering the prevailing view that Comenius' use of the harmony metaphor stems primarily from musical influences, particularly those associated

1 Spitzer, M., *Metaphor and musical thought*. Chicago, University of Chicago Press 2004, p. 142.
2 Schifferová, V. – Prázný, A. – Šolcová, K. – et al., *Idea harmonie v díle Jana Amose Komenského* [The Idea of Harmony in Jan Amos Comenius' Work]. Červený Kostelec, Pavel Mervart 2014.

with the rich musical culture of the Unity of Brethren. This does not mean that the study dismisses the musical dimensions of the metaphor. Rather, it seeks to avoid the automatic identification of harmony as a musical metaphor, a tendency shaped by modern conceptual paradigm.

The decision to focus specifically on the mechanical domain among the various contexts is motivated by two main reasons. First, it takes use of the close conceptual and terminological interplay between music and mechanics in early modern thought. Second, it takes into account that mechanical reasoning offered particularly fertile ground for Comenius' broader metaphorical elaborations on knowledge and education. Therefore, the combination of musical and mechanical connotations within the harmony metaphor gains particular significance in the second part of this study, which examines how Comenius employs this metaphor to articulate his ideas on the comprehensive organisation of knowledge.

Although this research is rooted in a close reading of Comenius' texts, situating his figurative reasoning within the broader context of early modern scholarly discourse greatly benefits from distant reading methods. By employing digital tools developed within the TOME project,[3] his use of the harmony metaphor can be preliminarily analysed in comparison with the broader scholarly operationalization of the term "harmony" during his era, tracing its semantic evolution throughout the 16th and 17th centuries. To this end, the study concludes with several tables and charts that make use of the computational methods developed within the aforementioned project.

The interplay of domains: Musical mechanics and mechanical music

Knowledge about knowledge is highly abstract, fluid, and historically situated. To navigate such intricate complexity, authors frequently employ metaphors – dual-domain constructs that reflect both bodily and cultural experiences. These metaphors draw upon the prevailing analogies of a given era, such as machinery, networks, or ecosystems, to make abstract epistemological concepts more intelligible. As articulated in Cognitive Metaphor Theory (CMT) by Lakoff and Johnson, metaphors function through the interplay of two separate domains: the target domain, which represents the abstract concept being elucidated, and the source domain, which offers a framework for understanding the target.[4] The systematic mapping between these se-

3 For more details on TOME see the editorial of this special issue and the project's website – available online at www: http://tome.flu.cas.cz [cit. 19. 6. 2025].

4 Lakoff, G. – Johnson, M., *Metaphors We Live By*. Chicago–London, University of Chicago Press 2003 (1st edition 1980), passim.

mantic fields constitutes the core mechanism of metaphors, rendering them indispensable tools for shaping and applying abstract thought.

While often associated with modern approaches, the roots of this double-domain thesis can be traced back to Aristotle, who regarded the essence of metaphor as the transfer of meaning.[5] During the 20th century, this long-standing idea, which draws critical insights from the interaction between these two domains, gained renewed significance and emerged as an explicitly articulated tenet of CMT. From a historical perspective, which the cognitive approaches have largely overlooked, it is important to note that both semantic domains are subject to historical change and correlate with the cultural experience of their respective periods.

In the context of this study, the target domain refers to the early modern sphere of knowledge, while the term "harmony" belongs to the source domain. When the aim of a metaphor is to elucidate a complex or abstract concept through a more tangible one, it presupposes that the target domain represents a less familiar or intricate idea, while the source domain is more familiar or simpler to understand. Thus, harmony is expected to be the more concrete concept, whereas knowledge is the more abstract. However, the concept of harmony itself was not entirely straightforward. It was typically associated with music. However, the metaphor of harmony was a kind of complex or telescoped metaphor[6] and its primary meaning was grounded in ancient material culture and experience. In what follows, I argue that harmony in Comenius was situated in the overlap of music and mechanics. These ties of musical and mechanical principles enhanced the metaphor's versatility, extending its potential application beyond the realm of music.

Comenius on harmony: *Fundamentum ergò rerum omnium*

Comenius' emphasis on harmony is striking and has already attracted considerable attention from scholars. Existing studies, however, have primarily focused on how the principles of harmony manifest in his philosophy and educational theory, while the metaphorical nature of this concept has largely escaped deeper reflection. The researchers have concentrated on Comenius'

5 Aristotle, *On the Art of Poetry*. Transl. I. Bywater. Oxford, Clarendon Press 1920, ch. 21,1457b6: "Metaphor consists in giving the thing a name that belongs to something else; the transference being either from genus to species, or from species to genus, or from species to species, on the grounds of analogy." See Alharbi, A. N., Theoretical Evolution of Metaphor. *Studies in Literature and Language*, 26, 2023, No. 3, p. 1: "By this definition, all metaphors involve some kind of transference of qualities from one semantic domain to another [...]."

6 For the concept of primary metaphors see Grady, J., Primary Metaphors as Inputs to Conceptual Integration. *Journal of Pragmatics*, 37, 2005, No. 10, pp. 1595–1614.

ideas promoting social and political consensus without acknowledging that it is actually a target domain of the harmony metaphor, leaving an important dimension of Comenius' intellectual framework – the figurative power of his language – largely unexplored. When the metaphorical nature of the concept of harmony was mentioned at all, it was typically taken for granted that harmony functioned as a musical metaphor. For instance, Vojtěch Balík, a renowned expert on Comenius' work, cites two passages from *Prodromus Pansophiae* and *Lexicon reale pansophicum* in which Comenius defines harmony. In both instances, as Balík notes, Comenius explicitly underscores that he uses *harmonia* as a metaphor, intentionally borrowed from the domain of musical theory:

> In both cases, Comenius explicitly reminds us that the term harmony (and associated terms such as *consonantia*, *dissonantia*, *concentus*…) is a metaphor taken from music theory […].[7]

Similarly, the musicologists Přívratský and Přívratská believe that the inspiration for Comenius' ideas about the harmonious order was derived from music widely cultivated in his church, the Unity of the Brethren.[8]
The connections between harmony and music cannot be denied. Comenius explicitly mentions harmony in several texts; also, in the Unity of the Brethren, music was a major feature. At least a few passages deserve attention. In his 1639 *Pansophiae Prodromus* he defined harmony as follows:

> *Fundamentum ergò rerum omnium ut condendarum, sic cognoscendarum* harmonia *est. Harmoniam musici vocant multarum vocum consonantiam jucundam. Talis verò est virtutum aeternum in Deo, virtutum creatarum in natura, virtutum expressarum in arte per omnia concordans concentus, quia tum in se unumquodque illorum harmonia est, tum in invicem, quoniam harmoniae divinae imago est natura, huius imago ars*.[9]

7 Balík, V., K interpretaci pojmu harmonia u Jana Amose Komenského [On the interpretation of the concept of harmony in Jan Amos Comenius]. In: Schifferová, V. – Prázný, A. – Šolcová, K. – et al., *Idea harmonie v díle Jana Amose Komenského*, p. 58. Unless otherwise indicated, all translations into English are my own.

8 Přívratský, V. – Přívratská, J., Hudba jako inspirace Komenského konceptu harmonické společnosti [Music as Inspiration for Comenius' Concept of a Harmonious Society]. *Historia Scholastica*, 2, 2020, pp. 100–104.

9 Comenius, J. A., Pansophiae praeludium, quo sapientiae universalis necessitas, possibilitas facilitasque… demonstratur. In: *Dílo Jana Amose Komenského / Johannis Amos Comenii Opera omnia* (hereafter *DJAK*) 15/II. Prague, Academia 1989, p. 38. Engl. transl: Comenius, J. A., *A Reformation of Schooles*. London, Michael Sparke 1642, p. 39: "Therefore, the ground as of the framing, so of the knowledge of all things is Harmony. That which the Musicians call harmony, is a sweet

In further passages, he provides the reader with even more detail:

> *Harmoniae primum requisitum est, ne quid sit dissonans. Harmonia musica conflatur ex vocibus dissimilibus atque adeò contrariis, et tamen contrarietas ad consonantiam reducitur.* […] *Ut enim qui in musicis tonorum et modorum rationes cognovit, satis quasvis melodias et canere, et componere novit: imò excogitata est ratio, quâ organici ex intuitu unici bassi generalis, quem vocant, omnes melodias ita canere possunt, ut quamvis centenis vocibus symphonia constet, nulla tamen disharmonia prodire queat.*[10]

He explicitly addresses music and uses it as a basis for the explication of harmony. Another passage mentioning the musical aspects of harmony is found in his (unfortunately unfinished) *Lexicon Reale Pansophicum*:

> *Harmonia, vox Graeca, Graecis rerum quarumcumque congruentiam, 2. musicis in specie vocum suavem consonantiam (qualem cithara vel aliud instrumentum edit) significat. 3. Quod philosophi ad sublimiora transferentes, virtutum aeternarum in Deo et virtutum creatarum in natura, virtutumque expressarum arte vel prudentiâ concordantes ad invicem rationes aptè quoque harmoniam vocant*.[11]

In *Panaugia*, the second part of his *Consultatio catholica*, Comenius develops the idea of harmony into the more comprehensive concept of *panharmony*. He distinguishes three hierarchical levels of harmony: the most elementary, composed of nine components; a higher level, consisting of three compo-

consonacie of divers tones: the like exact agreement is to be found in the eternal perfections of God, with those which are created in Nature, and those which are expressed in Art: for each ot them is harmonious in it selfe, as also in mutuall respect one to the other. Nature is the image of divine Harmony, and Art of Nature."

10 Ibid., pp. 38 and 40. Engl. transl.: Comenius, J. A., *A Reformation of Schooles*, pp. 39 and 41: "The first thing required in Harmony, is that there be nothing dissonant. Musical Harmony is composed od most different, and contrary tones, and yet there is a certaine consonancie to be found in their contrariety […]. For as in Music, he that knows the nature of the several tones, and moods, will easily be able both to sing, and compose any kind of melody, yea, such a way is found out, that players on Instruments, are able by looking upon one onely generall Base, to play many parts at once without any kind of discord […]."

11 Ibid., p. 38. Engl. transl.: Harmonia, a Greek word, signifies for the Greeks the congruence of any things whatsoever; secondly, for musicians in particular, the pleasant consonance of sounds (such as that produced by the lyre or another instrument). Thirdly, when philosophers transfer the notion to more elevated matters, they also aptly call 'harmony' the concordant relations of eternal virtues in God, of created virtues in nature, and of virtues expressed through art or prudence.

nents; and the highest, governed by a single unifying principle, all framed by the notion of musical consonance:

> *Harmoniam vocant musici svavem vocum plurium consonantiam, sive fuerint voces vivae, sive pulsu aut inflatu organi alicujus musici editae. Res tantô auribus et animis svavior, quantô psallentium chori plures plurave organa musica adfuerint. Atque pan-harmoniam, hoc est plenam et universalem omnium ad omnia consonantiam, dici convenit*.[12]

It can be concluded that Comenius employed musical references in a way that supports the assumption that he regarded harmony as a musical metaphor. For instance, the verb *transferre*, used in the above passage from *Prodromus pansophiae*, concerns the transfer of meaning – the very essence of how metaphors work (μεταφέρω = I transfer). At the same time, however, we encounter certain doubts that constrain the functionality of musical elements within the metaphor of harmony. First and foremost, music itself constituted a highly complex discourse requiring specialised expertise. In *Panaugia* Comenius himself states that only "*Ubi per intervalla tria perpetua, primae, tertiae et quintae (norunt musici extra tria haec sonorum intervalla non dari consonantiam ullam), omnia ubique in concentum veniunt*."[13]

Moreover, music was not the sole domain from which Comenius derived his explanation. In order to explain harmony, he also evokes other analogies, such as the organic analogy with a tree and a human body and the analogy with Scripture, which brings into harmony all apparent contradictions:

> […] *multa in speciem pugnantia habet: omnia tamen ad concordiam in se redeunt et in animo nostro reducenda sunt* […].[14]

Although the social significance of music undoubtedly expanded during the 16th and 17th centuries reinforcing musical connotations within the discourse of harmony, this did not necessarily mean that harmony was self-evidently understood as a musical metaphor in the modern, aesthetic sense. In

12 Comenius, J. A., De rerum humanarum emendatione consultatio catholica (hereafter Consultatio catholica). Pars II: Panaugia. In: *DJAK* 19/I. Prague, Academia 2014, p. 231. Engl. transl.: Musicians call harmony a pleasant consonance of several voices, whether these be living voices or produced by striking or blowing into a musical instrument. And it is fitting that this be called 'pan-harmony,' that is, a complete and universal consonance of all things with all things.

13 Ibid., p. 234: Engl. transl.: … musicians know that apart from three intervals of sounds – of the first, third and fifth – there is no consonance…

14 Ibid. pp. 38–39. Engl. transl.: It contains many things that appear to be in conflict; yet all return to concord within themselves and must be brought back into harmony within our mind.

both the scholastic and Renaissance traditions, music was part of the *quadrivium* (comprising arithmetic, geometry, astronomy, and music), meaning it was understood as a science of numerical proportions closely connected to mathematics and cosmology.

In his pivotal *Istituzioni harmoniche* (1558), Gioseffo Zarlino builds upon the Pythagorean tradition, viewing harmony as an expression of universal mathematical proportions that govern not only music but also nature and the cosmos and could be observed – rather than heard – in planetary motion (*harmonia mundi*) or the structure of the human body. From this perspective, harmony, music, mathematics, and cosmology were so inextricably intertwined that it becomes difficult to determine which is the source and which the target domain.[15]

The same applies to Comenius. He employed musical semantics when addressing the fundamental principles of harmony, such as consonance. However, when he sought to elaborate further on the subject, he turned to other types of metaphors that were more familiar to his audience, metaphors with which they had closer personal experience. In addition to the metaphor of the body,[16] through which he illustrated the harmonic interplay of parts forming a whole, he predominantly used mechanical metaphors.

Particularly in the context of learning and knowledge, Comenius frequently employs mechanical and technical terminology. For instance, analysis is depicted as a 'telescope', synthesis as a 'microscope', syncrisis as a 'mirror', school as a 'machine', and books as 'instruments'. In his educational writings, Comenius mechanizes knowledge to demonstrate to his audience that learning is an accessible and almost self-initiating process – especially when students use his innovative didactic methods. This mechanical vocabulary extends to expressions such as 'repairing a machine', which signifies correcting 'shortcomings' and 'malfunction' in teaching and improving the functioning of the educational system.

15 In this context, it may be useful to compare the concept of *harmonia mundi* with a related notion, *musica mundana*. While the latter appears more explicitly musical, having been formulated within Boethius's theory of music, the former can be understood as a broader metaphysical construct in which music is but one among several structuring principles. In other words, *harmonia mundi* may be seen as the ontological content, while *musica mundana* represents its musical form or expression. A more detailed investigation of a wider corpus of pertinent texts would, however, be necessary to substantiate this distinction. See Boethius, *Fundamentals of Music*. Transl. C. M. Bower. New Haven–London, Yale University Press 1989, esp. Book 1, ch. 2, pp. 6–7. Here, Boethius distinguishes three types of music, *musica mundana*, *humana* and *instrumentalis*.

16 For a more detailed discussion on the early modern bodily metaphors see Lucie Storchová's study in this special issue.

Among the metaphors employed by Comenius, several terms from the field of agriculture can be found.[17] Notably, these are either associated with cultivation or refer to tools used during the harvesting process. The second type included, for example, the terms *tribulum* (threshing sledge pulled by oxen that farmers used to separate the corn from the husk) or *ventilabrum* (winnowing pan), an instrument with a similar function:

> *Ventilabrum est agricolarum instrumentum, quô frumenta in area ventilando paleas à grano separant. Nempe quia frumenta (unde panis paratur) non sic agris innascuntur ut pura nobis grana dent, sed adnascentibus glumis et aristis, unde flagellis exteri, et ventilabrô depurgari, necesse habent.*[18]

Also, the 'funnel' (infundibulum) proves to be a metaphor with a strong depictive efficacy in the field of knowledge.[19] Wilhelm Schickard used it in his Hebrew textbook, *Der Hebraische Trichter*, claiming that with this book, learning is so easy that even a child can master this language without Latin. Familiar with Schickard's work and possibly inspired by it, Comenius also employs this metaphor in the context of language acquisition. He envisions the creation of a new universal language that would be easy to learn, claiming that the process of mastering it is as simple and efficient as pouring liquid into a vessel through a funnel. Alongside this language – which was intended to be harmonious and pansophic (i.e. perfectly regular, internally coherent, and precisely reflective of the external world) – individuals were to simultaneously acquire knowledge about reality itself. Mastery of the language would thus go hand in hand with a deeper understanding of the world, proving Comenius' idea that linguistic proficiency and comprehensive knowledge are intrinsically linked. In this sense he wishes:

17 For a comprehensive historical treatment of the metaphor of agricultural cultivation see Alessandro Nannini's study in this special issue.

18 Comenius, J. A., Ventilabrum sapientiae sive sapienter sua retractandi ars. In: idem, *Opera didactica omnia* (hereafter *ODO*) II/4. Prague, Academia 1957, col. 42. Engl. transl.: The *ventilabrum* is a farmer's tool by which, on the threshing floor, grain is separated from the chaff by fanning. For grain (from which bread is made) does not grow in the fields so as to give us the pure kernels, but comes along with husks and awns, from which it must be freed by the flail and cleansed by the *ventilabrum*.

19 Based on data obtained from the NOSCEMUS online database, we can preliminarily conclude that during the 16th century, this term also became a medical metaphor, denoting funnel-shaped body parts. The NOSCEMUS online database is the output of ERC project No. 741374, conducted at the University of Innsbruck in 2017–2023 (PI Martin Korenjak). Available online at www: https://www.uibk.ac.at/projects/noscemus/ [cit. 19. 6. 2025].

> […] *ut habeamus linguam totam realem, facilem, harmonicam, verbô, pansophiam sonantem, aut pansophiae infundibulum* […].[20]

Of his mechanical metaphors, Comenius' favourite was the metaphor of the clock. In his didactic writings, he explains harmony using this image. It is composed of huge wheels and cylinders that fit one into the other and thus allow movement. This is the basic idea behind the concept of harmony as Comenius uses it, a mechanism which involves different elements working together, flawlessly and without much effort. A proper encyclopaedia should organise knowledge in the same effective, user-friendly way and thus facilitate learning:

> *Quas adhuc vidi encyclopaedias, etiam ordinatissimas, similiores visae sunt catenae annulis multis eleganter contextae quam automato, rotulis artificiosè ad motum composito et seipsum circumagente. Et lignorum strui, magna quâdam curâ et ordine eleganti dispositae, similiores quam arbori, è radicibus propriis assurgenti, spiritûs innati virtute se in ramos et frondes explicanti et fructus edenti.*[21]

Comenius extensively uses figurative language drawn from the realm of mechanics when discussing the domain of knowledge, while musical metaphors are rarely, if ever, applied for this purpose. If, as it is argued, "metaphors and metonymies are not random but instead form coherent systems in terms of which we conceptualize our experience",[22] it follows that the metaphor of harmony, when applied to the sphere of knowledge, carries with it mechanical connotations. In Comenius, as will be shown below, it forms a consistent semantic cluster that ties together the conceptualization of knowledge with the principles of order and interconnection characteristic of mechanical systems.

While these analogies with mechanics might be viewed negatively today, in Comenius' time they were considered an outstanding and highly desirable

20 Comenius, J. A., *Consultatio catholica*. Pars V: Panglottia. Prague, Academia 1966, p. 170. Engl. transl.: So that we may have a language that is entirely real, easy, harmonious, in a word, resounding pansophy: a funnel of pansophy.

21 Comenius, J. A., Pansophiae praeludium, p. 28. Engl. transl.: The encyclopaedias I have seen so far, even the most carefully arranged, have seemed more like a chain whose many links are elegantly interwoven than like an automaton, skillfully constructed with wheels for motion and moving by itself. And they have seemed more like a pile of logs, arranged with great care and elegant order, than like a tree rising from its own roots, unfolding into branches and leaves by the force of an innate spirit, and bearing fruit.

22 Lakoff, G. – Johnson, M., *Metaphors We Live By*, p. 41.

novelty. Mechanics, as the quintessence of efficiency, represented maximum performance with minimal effor – precisely what was required for the process of knowledge acquisition.

Considering the nature of the musical component, the harmony metaphor seems to have played two roles. The first is the heuristic role. The heuristic function of a metaphor can be understood as its role in the initial phase of understanding, where it ignites a spark of understanding of a complex subject. At this stage, the metaphor serves as an entry point, offering a preliminary insight. However, once this initial understanding is established, other metaphors may be employed to further refine, structure, or clarify the concepts, thereby extending the metaphor's role beyond the heuristic to include structural or explanatory functions.[23]

The other role of musical aspects embedded within the harmony metaphor is aesthetic. Although the term *aesthetic* only emerges as a systematic philosophical category with Alexander Gottlieb Baumgarten's *Aesthetica*,[24] this study uses the term in a broader and historically sensitive sense, referring to culturally and rhetorically shaped modes of sensorial engagement and affective resonance. Rather than applying the (post-)Enlightenment notion of beauty or artistic judgment, *aesthetic* here designates the ways in which sensory experience and forms of presentation were mobilised to support, frame, or communicate intellectual content in early modern contexts. This understanding aligns more closely with *aisthesis* as perception and sensation, rather than with later normative theories of taste or beauty.

Comenius does not provide a systematic definition of beauty. He does not reflect on what is beautiful and why. However, what he intuitive consider beautiful, exerts a binding force. This is not because it conforms to aesthetic criteria, but because it aligns with divine order. The recognition of beauty thus entails an ethical obligation. One is not merely invited to admire harmony, but called to desire it, to seek it, and to live in accordance with it. In this way, harmony takes on a normative force. Who could reject or resist a harmonious order that is not only effective, like a machine, but also divinely beautiful?

Music possesses a considerable capacity to shape social norms, as asserted by Richard Lepper in *Music, Representation, and Social Order in Early Modern Europe*.[25] This also offers one of the reasons why music held such importance

23 For this typology see Stambovsky, P., Metaphor and Historical Understanding. *History and Theory*, 27, 1988, No. 2, pp. 125–134.

24 For more detailed discussion on Baumgarten see Alessandro Nannini's study in this special issue.

25 Leppert, R., Music, Representation, and Social Order in Early-Modern Europe. *Cultural Critique*, 12, 1989, Discursive Strategies and the Economy of Prestige, pp. 25–55, esp. p. 22: "Music

for the Unity of the Brethren. The community was grounded in a fixed, hierarchical order that demanded strict discipline. It restricted the activities of its members, directed their behaviour, and regulated family life and business affairs. The seniors decided who would study and where and even had the authority to relocate brothers for disciplinary reasons, such as when rules were violated. Normativity was a dominant feature of the Unity, and musical culture played a key role within this system of discipline. It served as a means of communication with God and as an expression of acceptance of the established order.

In the writings of Comenius, several instances can be found where harmony is associated with positive aesthetic values. Harmony is described as beautiful and sweet – not only in terms of sound, but also in relation to taste.[26] Harmony brings pleasure, as expressed in the following passage:

> *Harmoniâ hominem delectari eamque cupidè persequi patet. Nam quis non formosô homine, eleganti equô, pulchrâ imagine, picturâ venustâ delectetur? Unde verò id, nisi quòd et partium, et colorum proportio jucunditatem affert? Haec oculorum illecebra et naturalissimè.*[27]

These are also qualities attributed to perfect knowledge, aesthetic values that elicit pleasure. Knowledge, therefore, is something that must be desired. It is a normative programme which utilizes aesthetic categories to promote understanding. To know is to embrace beauty; it is not power, but aesthetics.

Music in the Unity of the Brethren: The power of cultural experience

As previously noted, significant emphasis is placed on Comenius' social and religious background when discussing his use of the metaphor of harmony.

functions as a site where power is both signified and reproduced; its practices inscribe and naturalize social hierarchies," and p. 40: "Musical representation is never innocent; it is always implicated in the discourses of social order, shaping as much as reflecting them."; Gouk, P., Music as a Means of Social Control: Some Examples of Practice and Theory in Early Modern Europe. In: Cochrane, T. – Fantini, B. – Scherer, K. R. (eds.), *The Emotional Power of Music: Multidisciplinary Perspectives on Musical Arousal, Expression, and Social Control*. Oxford, Oxford University Press 2013.

26 For a detailed historical analysis of the metaphors of taste see Martin Žemla's study in this special issue.

27 Comenius, J. A., Didactica magna. In: *DJAK* 15/I. Prague, Academia 1986, p. 64. Engl. transl.: It is evident that man delights in harmony and eagerly pursues it. For who is not pleased by a handsome person, an elegant horse, a beautiful carving, or a charming painting? And whence comes this, if not from the proportion of both parts and colors bringing delight? Such is the allurement of the eyes, and most natural indeed.

However, it remains to be examined to what extent this specific environment may have influenced his conceptualization of harmony.

Comenius was a member (and since the 1630s a senior) of a particular Reform church, the Unity of the Brethren. His membership of this community was crucial for him in many respects, including his ties to music. This community, well aware of the power of music, emphasised its role in the spiritual life of believers, encouraged them to sing, and intentionally cultivated musical practices, both individual and collective. Singing was not only a part of formal services: a precise time was allocated for singing within the daily schedule, especially in educational facilities.[28]

In the 16th century, two members of the Unity of the Brethren wrote a couple of the oldest Czech theoretical treatises on music. A Unity senior, Jan Blahoslav (1523–1571), wrote the textbook, *Musica, that is, a book containing appropriate advice for singers* (1558).[29] His colleague, known under the pseudonym Jan Josquin, compiled the treatise, *Music, that is, a message suitable for singing (1561)*.[30] Also symptomatic of this reverence for music was the great attention paid to hymnals. This church created an impressive series of hymnals in Czech and German. According to the musicologist Olga Settari, the hymnal published by the Unity in Prague in 1501 is the earliest known hymnal printed in Europe.[31]

For all these reasons, historians usually explain Comenius' rich references to harmony to his belonging to this music-loving community.[32] However, despite the privileged position of music within this community, harmony was not a significant topic in its musical discourse. The Unity of the Brethren strongly focused on the textual message of the songs. It is not surprising that both of the above music books, by Jan Blahoslav and Jan Josquin, were considered prosody textbooks until the 1890s,[33] at which point the founder of Czech aesthetics, Otokar Hostinský, pointed out that it was a big misun-

28 *Řád cýrkewnj Gednoty Bratřj Českých* [A Collection of Teachings and the Ecclesiastical Rule of the Czech Unity of the Brethren]. Lissa, The Unity of the Brethren 1632, p. 133.

29 Blahoslav, J., Musica to jest Knížka zpěvákům náležité zprávy v sobě zavírající. In: Hostinský, O., *Jan Blahoslav a Jan Josquin: Příspěvek k dějinám české hudby a theorie umění XVI. věku* [Jan Blahoslav and Jan Josquin: A Contribution to the History of Czech Music and Art Theory of the 16th Century]. Prague, Česká akademie císaře Františka Josefa pro vědy, slovesnost a umění 1896, pp. 3–63.

30 Josquin, J., *Muzyka, to jest zpráva k zpívání náležitá* [Musica, that is, Information Needed for Singers]. In: Hostinský, O., *Jan Blahoslav a Jan Josquin*, pp. 67–104.

31 Settari, O., The Czech sacred song from the period of the Reformation. In: *Sborník prací filozofické fakulty brněnské univerzity. H, Řada hudebněvědná*, 43, 1994, H29, pp. [5]–11.

32 Přívratský, V. – Přívratská, J., Hudba jako inspirace.

33 Blahoslav's *Musica* was understood as a supplement to his *Gramatika česká* [Czech Grammar].

derstanding to study them as works about poetry when, in fact, they were works about music.[34] Nevertheless, this spontaneous reading of the musical textbooks in terms of poetics reflects the strong emphasis placed by their authors on the textual, metric and literary components, downplaying the role of melody. For the same reason – to foster communication with God – the Unity, even more than other Protestant churches, avoided polyphony. Polyphonic settings were suspected of distracting attention from the words to a sensual enjoyment of the artistic performance. Instead, the members of the Unity preferred simple unison performances to maximise the understanding of the words being sung.

It is telling that when Jan Blahoslav employed the term 'harmony' in his *Musica*, he saw it necessary to clarify its meaning through metaphors drawn from semantic domains more immediately accessible to his contemporaries in terms of experience, visuality, and materiality. Notably, he relied on medical knowledge and visual art, as exemplified in the following passage:

> […] through frequent practice in singing, you will come to understand when and how much you need to release your voice – whether more or less – so that there is good *symphonia*, *harmonia* or *proportio* among all those singing with you. Just as a good physician knows, when preparing a potion, how much of one herb or ingredient should be taken and when less of another, and just as painters do when mixing colours – otherwise, the former would cause certain harm, while the latter would create ugliness.[35]

The same goes for instrumental music. It was not prohibited but discouraged because communication without words was considered limited and questionable. With the same motive, the Unity of the Brethren insisted on the use of vernacular languages in their hymnals and psalters. That is also why they provided them in Czech and German. Jean Calvin recommended a similar practice. He opposed the use of harmony in congregational singing of the Psalms because it violated the unity of the body.

Comenius himself participated in this long and rich musical practice. In 1659 he published a hymnal in Amsterdam containing his own pre-

34 Hostinský, O., *Jan Blahoslav a Jan Josquin*, Preface, pp. III–IV.

35 Blahoslav, J., Musica, p. 36: "Nebo z častého se v zpívání cvičení srozumíš tomu, kdy jest a jak potřebí tobě hlasu tvého mnoho neb málo vypustiti, aby byla všech zpívajících s tebou dobrá *symphonia*, *harmonia* neb *proportio*, jako dobrý lékař ví, když traňk skládá, kterého koření neb zeliny jak mnoho se vzíti má, a kterého a kdy méně, a jako též i maleři, když barvy skládají: jinak by tento nepěknost a onenno jistou škodu způsobil."

face.[36] In this text, he praises music for its theological and social functions. He mentions the history of singing, starting with angels and Moses (*Exodus* 15,20), and onto King David, who composed psalms and introduced instrumental music into the temples, and praised singing as a practice that gives wings to the soul. He ruminates about singing in a mystical language. Singing is not of human but angelic origin. It provides an opportunity to leave the body and soar up to God, makes work more pleasant, and helps soothe children. People can sweeten their spiritual lives by singing. However, the musical theory he provides does not mention harmony. Comenius neither calculates nor deals with intervals; he refers neither to Zarlino[37] nor other early modern musical harmony theorists. He writes only about the poetic quality of the songs and their metric structure, without much attention paid to their melodies. Musicologist Petr Daněk likewise corroborates this conclusion, asserting that:

> In this tradition [of the Unity of the Brethren – LŘ], the value of a song is primarily determined by its text […]. The melody plays a subordinate role, functioning as a medium that enhances the song's significance […]. When considering the authorship of a song, the originality of its literary component is always meant first and foremost.[38]

Comenius' formulations reveal that the Unity in the mid-17th century still preferred unison performances without costly musical instruments.[39] At the time of Comenius, as he himself states, accompanied singing could be practiced only in wealthy church communities with sufficient financial means to afford those instruments, not in a small church struggling for life in exile.

He briefly mentioned figural, i.e. polyphonic singing, in his *Schola pansophica* (1651), a programmatic treatise outlining his reform plans for the Sároszpatak school. He vehemently advocates the cultivation of religious singing and adds as one of the points to improve:

36 Comenius, J. A., *Kancyonál. To gest, Kniha Žalmů a Pjsnj duchownjch* [Hymnal. That is, the Book of Psalms and Spiritual Songs]. Amsterdam, Kryštof Kunrád 1659, p. [2]. The preface is dated March 28, 1659, Comenius' 67th birthday.

37 Zarlino's systematically comprehensive treatise, *Le istitutioni harmoniche* (1558), is considered a revolutionary work on harmony. It combines musical theory and practice, and deals in detail with consonance and dissonance.

38 Daněk, P., J. A. Komenský: Kancionál, tj. Kniha žalmů a písní duchovních (Amsterdam 1659). Komentář k faksimilovému vydání původního tisku [J. A. Comenius: Hymnbook, i.e. Book of Psalms and Spiritual Songs, Amsterdam 1659. Commentary on the facsimile edition of the original print]. In: Blahoslav, J., *Musica. Faksimile vydání z roku 1569* [Musica. Facsimile edition from 1569]. Ed. P. Daněk – J. K. Kroupa. Prague, KLP – Koniasch Latin Press 2016, pp. 2–3.

39 Comenius, J. A., *Kancyonál*, p. IV.

Sed et figurali musicae assignandae erunt horae certae, ut sic etiam harmoniae studium pleniùs in schola harmonica vigeat.[40]

The emphasis on the communicative function of singing does not imply that the musical components were entirely disregarded in the Unity of the Brethren's choral practice. Comenius surely acquired substantial musical experience not only in his church but also at universities where music was an integral part of the quadrivium. Nevertheless, if music played such a prominent role in Comenius' thinking, one might reasonably expect his language to exhibit profound traces of this influence. However, this expectation is not fully met. Beyond the metaphor of harmony, his writings contain only a limited range of other musical metaphors. The metaphors of a trumpet and clarion appear in the titles of his *Bazuine des genaden jaar* (The Clarion of a Year of Grace, 1632) and *Letzte Posaun uber Deutschlandt* (The Last Trumpet over Germany, 1663). Although they refer to the musical instruments, their function is generally acoustic rather than specifically musical. In *Letzte Posaun*, the trumpet's task is to wake people and "die Seelen vor ewigen Untergang zu erhalten."[41]

The task of the trumpet is more to make noise than to spread aesthetic feelings; similarly, in *Bazuine des genaden jaar*, the clarion serves to communicate rather than to play. Just like people when singing, when sounding, the clarion bears a message. Thus, Comenius did not deviate from the older tradition, which saw the trumpet as "a signal instrument with little musical capacities by itself".[42] In this respect, he significantly differs from his colleague and correspondent Marin Mersenne, who systematically drew his own findings on harmony from his musical experiences. He devoted a substantial part of his *Harmonie universelle* (1636) to musical instruments – with particular interest in the trumpet – and let musical instruments play an important role in his epistemology.[43]

Another example which speaks against the strong position of musical concepts in Comenius' thinking is the title of his *Praeludium pansophiae*. The term *praeludium*, derived from the Latin *praeludere* ('to play beforehand', 'preface'), signalled that the text was intended neither as a definitive nor a comprehensive articulation but as a preliminary exposition of his pan-

40 Comenius, J. A., Schola Pansophica. In: *DJAK* 15/III. Prague, Academia 1992, p. 211. Engl. transl.: But certain lessons will have to be devoted to figurative music, so that in this way the study of harmony may flourish more fully in the harmonic school.

41 Comenius, J. A., Letzte Posaun über Deutschland. In: *DJAK* 13. Prague, Academia 1974, p. 101.

42 Miesen, L. van der, The Trumpet as Nature's Voice: Marin Mersenne and the Nature of Music. In: Rasch, R. (ed.), *Music and Science from Leonardo to Galileo*. Turnhout, Brepols 2022, p. 320.

43 Ibid., passim.

sophical ideas. According to etymological sources, the term's musical connotations became dominant around the mid-17th century,[44] and so it can be considered a musical metaphor. However, this title was probably assigned by Samuel Hartlib, who had solicited the manuscript from Comenius and enthusiastically published it under the title *Conatuum comenianorum praeludia* (1637) in Oxford without the author's consent. This metaphor was not one Comenius himself favoured, as evidenced by the second edition, which he personally oversaw and approved. In this subsequent edition, published as *Pansophiae prodromus* (1639), the term *praeludium* was replaced by the term *prodromus* – derived from the Greek *πρόδρομος* (*prodromos*) and figuratively meaning 'forerunner' or 'precursor'. This modification marks a deliberate departure from the original Hartlib choice.

Comenius' rejection of the musical connotations inherent in the earlier title is further underscored by another work written in defence of his pansophical endeavours: *Conatuum pansophicorum dilucidatio* (1638).[45] In this case, Comenius chose to draw on the metaphor of light, which recurs prominently throughout his works. This shift reflects his broader metaphorical preferences and underscores his alignment with imagery that conveys clarity and enlightenment rather than the performative associations of music.

Harmony in the scholarly discourse: The power of intertextuality

The reference to Marin Mersenne introduces us to another, even more pivotal circle of sources that may have acquainted Comenius with the concept of harmony. In addition to musical culture and direct musical experience, the dissemination of this concept within the early modern learned community was shaped by intertextual practices, which stimulated the spread of ideas. Comenius was not only a member of his confessionally confined church; he also operated within a broad intellectual milieu that encompassed several prominent 'thinkers of harmony,' including his eclectic teacher Johann Heinrich Alsted, the author of *Logicae systema harmonicum* and *Physica harmonica*; Johannes Kepler, author of *Harmonices Mundi*; Marin Mersenne, known for his *Harmonicorum libri XII*, and others.

Even basic computational analyses support the assumption that during the 16th and 17th centuries – particularly between 1601 and 1660 – the term *harmonia* became both widespread and deeply integrated into European in-

44 *Online Etymology Dictionary.* Available online at www: https://www.etymonline.com/word/prelude [cit. 9. 6. 2025].

45 Comenius, J. A., Conatuum pansophicorum dilucidatio in gratiam censorum facta. In: *DJAK* 15/II, pp. 57–79.

tellectual discourse (Fig. 2). The rich early modern harmony discourse contained three main components: universality, proportionality and beauty. All these principles can be found in exceptional authors, such as Cusanus, Zarlino, Cardano, Ficino, Kepler, Fludd, Mersenne, and Kircher, plus many others whose works on harmony have been previously studied in detail.

For these outstanding early modern scholars, harmony was understood as a universal metaphysical principle underlying the workings of the world, i.e. as an ontological principle. Yet harmony was not limited to this metaphysical role; it also functioned as a principle for organising knowledge. This was manifested in a rather playful way, for example, by the German poet Nikolas Bär (1639–1714), who published an extensive poetic 'encyclopaedia' of songbirds at the end of the 17th century, *Ornitophonia sive Harmonia melicarum avium*.[46] This extensive poetic composition linked the concept of harmony with birdsong and, in this sense, showed references to music. At the same time, however, the concept of harmony implied here an encyclopaedic approach bringing birds into a specific orchestra and collecting knowledge about them into one book.

In a significantly more rigorous manner, this metaphor worked as a structuring principle within the eponymous genre of Gospel harmony. The tradition of Gospel harmonies dates back to the 2nd century with the pioneering work of the Assyrian Christian theologian and apologist, Tatian. His *Diatessaron*, meaning 'out of four' or 'composed of four', sought to synthesize the four New Testament Gospels into a single, cohesive narrative of Jesus' life. Given the differences among the four Gospels – differences that critics of Christianity have pointed to as evidence of its inconsistency and lack of validity – Tatian's objective was to demonstrate that the evangelists did not, in fact, contradict one another.

The authors who followed his model and crafted their own 'diatessarons' during the next centuries often likened the Gospels to the "voices" of the four Evangelists, which this textual genre sought to attune. The standard designation of *harmony*, however, only became firmly established in the 16th century. Until that time, the titles of these works varied, often incorporating terms such as *Concordia* or *Symphonia* to convey the fusion of four voices. This development was largely influenced by key works such as Andreas Osiander's *Harmonia evangelica* (1637), Jean Calvin's *Commentary on the Harmony of the First Three Gospels* (1551), and similar works by Gerhard Mercator, Martin Chemnitz and others. Some works published under other titles in the first half of the 16th century were retitled *Harmony* when repub-

46 Baer, N., *Ornithophonia: Sive Harmonia melicarum avium*. Bremae, Joh. Wesselius 1695.

lished in the second half of the century. This points out that it was around the middle of the 16th century that the Gospel genre designation "harmony" was standardised.

In 1559, Calvin devised a plan for another work on harmony, *Harmony of the Law*, which presented thematically arranged commentaries on the last four books of Moses (*Exodus*, *Leviticus*, *Numbers*, and *Deuteronomy*). For this project, he departed from the conventional structure of his commentaries, which typically followed the sequential order of biblical chapters and verses. Instead, in alignment with the conventions of the harmony genre, he juxtaposed passages from these four books according to thematic correspondence. This work can serve as an exemplary case of the cognitive theory of genre, demonstrating how an established formal structure – here, the concept of harmony – organises and shapes knowledge.

Another example of how the metaphor of harmony spread as a label for this inherently comparative mode of writing arose in 1536 when the Czech humanist Sigismundus Gelenius (1497–1554) published his comparative etymological dictionary of Latin, German, Greek, and 'Slavic' words. Explicitly drawing on the *Diatessaron*, he called his work a *Symphony*. By the second half of the century, however, Jan Blahoslav, a senior figure in the Unity of the Brethren and the aforementioned author of the *Musica* theoretical treatise, referred to it as a *Harmony*. This shift in terminology further underscores the increasing dominance of the concept of harmony in describing this literary and theological genre.

During this period, other works followed a similar principle. For instance, *Harmonia humorum* and the later *Harmonia mensurarum* exemplify this approach. A notable member of the Unity of the Brethren, Václav Budovec of Budov (1551–1621), crafted a harmony of the Old and New Testaments, while his close associate Amandus Polanus (1561–1610) entitled his theological reflections *Symphonia catholica, seu consensus catholicus et orthodoxus dogmatum*, blending Patristic and contemporary sources into a cohesive synthesis.[47]

In a similar vein, Johann Heinrich Alsted (1588–1638) produced two works following this model: *Systema physicae harmonicae* (1612) and *Physica harmonica* (1616). His aim was to harmonize four distinct branches of natural philosophy: the Mosaic, Hebrew, Peripatetic (Aristotelian), and chemical. In doing so, he created a *Diatessaron* of four physical schools – a harmony of four voices. It is precisely this formal literary structure that shapes deeper cognitive frameworks. From this perspective, the connection between the

47 Han, B. S. (ed.), *Symphonia Catholica: The Merger of Patristic and Contemporary Sources in the Theological Method of Amandus Polanus (1561–1610)*. Göttingen, Vandenhoeck & Ruprecht 2015.

formal structure of writing and the mind is crucial. However, scholars of natural philosophy often overlook this aspect when studying Alsted's work, tending instead to focus on the content of his ideas rather than the manner in which they were blended.[48]

It is important to emphasize in this context that, while many philosophical, cosmological, and even musical writings on harmony were primarily intended for an educated audience, the harmonization of the life of Jesus reached a much broader Christian public. This not only reinforced the presence of the term *harmony* in the contemporary discourse but also helped to solidify clear techniques for organising knowledge, techniques designed to unify disparate facts and eliminate any potential contradictions within them.

Comenius made two notable contributions to this genre, *Harmonia evangelistarum, pulcherrimo concentu mundo salutem applaudens*, lost in the fire that destroyed Leszno in 1656, and the lesser-known Czech *Harmonia. Historie o vzkříšení Páně, též ze všech čtyr evanjelistů sebraná* (A History of the Resurrection of the Lord, drawn from the Four Evangelists) published in Lissa in 1631 and later reissued in Amsterdam in 1663. In addition, he also envisioned harmonical lexicons and harmonical grammars.[49]

All these texts increased the presence of the concept of harmony in the scholarly discourse, not only as an ontological principle – viewing the world as an entity organised through harmonious relations – but also as an epistemological one. There were many metaphors available for knowledge organisation.[50] Using this one in particular, Comenius articulated his strong belief that the structure of knowledge should mirror the structure of the world which, however, is hidden and invisible and also much more sophisticated than the usual encyclopaedias suggested. Unlike his earlier encyclopaedic projects,[51] which were structured around distinct disciplines, Comenius' pansophic project aimed to promote a higher, more harmonious arrangement of knowledge. It entailed three key assumptions: first, that individual

48 Čížek, J., 'Physica Mosaica' Johanna Heinricha Alsteda (1588–1638). *Teorie vědy / Theory of Science*, 42, 2020, No. 1, pp. 111–139.

49 Comenius, J. A., *Consultatio catholica*. Pars V: Panglottia [V/12], [1966] p. 164.

50 For a more general discussion on the role of metaphors in the field of the knowledge organisation see, for example, Bies, W., Thinking with the help of images: On the metaphors of knowledge organization. *Knowledge Organisation*, 23, 1996, No. 1, pp. 3–8. For the early modern period specifically see, for example, Pavlas, P., Up to Five Books of God: The Metaphorical and Theological Background of Herborn Encyclopaedism. *Reformation and Renaissance Review*, 24, 2022, No. 3, pp. 188–207; Řezníková, L., Theatrum Historiae. The Metaphors of J. A. Comenius' Historical Theory and Narration and their Empirical Context. *Acta Comeniana*, 35, 2021, No. 59, pp. 9–33.

51 Comenius, J. A., Theatrum universitatis rerum. In: *DJAK* 1. Prague, Academia 1969, pp. 97–181; idem, Amphitheatrum universitatis rerum, ibid., pp. 185–194.

facts would not contradict one another; second, that they would be interconnected within a network of mutual relations; and third, that from a very small number of principles, a large number of variations could be achieved through combinations:

> *Tertia harmoniae proprietas est, ut quanquam infinita sit sonorum et melodiarum varietas, illa tamen è paucis principiis certisque differentiarum modis exsurgat. Omnes enim harmoniarum differentiae, quotquot excogitatae sunt et excogitari possunt, exsurgunt è septem vocibus et tribus consonantiis. Omnia corpora, quotquot mundus habet, exsurgunt è paucissimis illis elementis et aliquot qualitatum differentiis*.[52]

According to Comenius, the harmonic structure requires more than a simple linear progression, such as the straightforward succession of the numbers 1, 2, 3, 4, etc. Instead, it sought to uncover a universal invisible order – one that lay hidden behind seemingly random phenomena. In such a framework, the harmonic principle of organization was supposed to reflect a deeper and more intricate interconnectedness of all things, embodying the concept of syncretism, where everything is related to everything else. To explain and manifest this syncretic experience within a broader, unifying principle, Comenius employed a well-known visual diagram of harmonical order (Fig. 1) used by Peter Appian, Robert Fludd, and other prominent early modern intellectuals. It resonated with the Pythagorean concept of musical harmony, where numerical ratios governed the structure of both sound and celestial motion. This diagram served Comenius as a model of a deeper order that governs both the cosmos and human understanding – a syncritic system where music, chronology, astronomy, and cosmology reflect the same fundamental principles:

> Astronomiae coronis est Computus temporum, per dies, menses, annos numerandorum. Superstitiosum est, sed ingeniosum, dies hebdomadae à Planetis denominari; non quô illi ordine in Coelis sunt, sed harmonicè, ceu in Musica, per quartas descendendo, et per quintas ascendendo sic:[53]

52 Ibid. Engl. transl.: The third property of harmony is that, although the variety of sounds and melodies is infinite, it nevertheless arises from a few principles and from fixed modes of difference. For all the varieties of harmonies, as many as have been devised and as many as can be devised, arise from seven notes and three consonances. In the same way, all the bodies the world contains arise from those very few elements and from certain differences of qualities.

53 Comenius, J. A., Atrium. In: *ODO* II/3, col. 634. Engl. transl.: The completion of astronomy is the computation of time to be reckoned in days, months, and years. It is a superstitious but

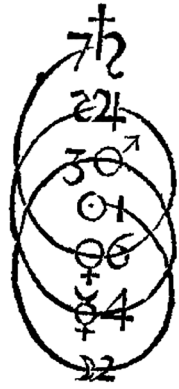

Figure 1. Comenius, J. A., Atrium.
In: *ODO* III/2, Prague 1957, col. 634.

In this scheme, the planetary cycles correspond to the days of the week (Sunday to the Sun ☉, Monday to the Moon ☽, Tuesday to Mars ♂, Wednesday to Mercury ☿, Thursday to Jupiter ♃, Friday to Venus ♀ and Saturday to Saturn ♄), creating a temporal structure shaped by celestial harmonies. Thus, the numbers do not follow a simple ascending sequence (1, 2, 3, etc.) Instead, they form a seemingly arbitrary sequence 7, 5, 3, 1, 6, 4, 2.[54]

It is surely no coincidence that within this framework, the progression *per quintas* upward and *per quartas* downward, creates the ratio of 5:4, which corresponds to the major third, an interval traditionally associated with a joyful affect, in contrast to the minor third (6:5), historically linked to melancholy or sadness.

Through this scheme, Comenius articulates a universal principle of order that governs the natural world and which, precisely for that reason, ought to serve as the structuring framework for human knowledge. What is postulated is a conceptually intricate structure. Now, his goal is not an encyclopaedia that places disciplines side by side in an additive manner, but a mode

ingenious thing that the days of the week are named after the planets, not in the order in which they are in the heavens, but harmonically, as in music, by descending through fourths and ascending through fifths, as follows.

54 It is worth noting that the number 5 corresponding in the diagram to both the fifth day of the week and the planetary position of Jupiter ♃ is printed in mirror image. This inversion may have resulted from a mistake made by the artisan responsible for preparing or cutting the diagram for printing. Given the conceptual complexity of the schematic, it is possible that its symbolic structure was not easy to understand, which could have contributed to the error. Such irregularities were not uncommon in early modern print production, particularly in cases involving specialised or non-standard content.

of organising knowledge that reflects the deep internal interconnectedness of all insights. As Umberto Eco stated:

> The world knowledge provided by an encyclopedia has nothing to do with our direct, physical, and frequently idiosyncratic experience of the world; it has, on the contrary, to do with other semiotic phenomena, with intertextual knowledge, with a chain of interpretants.[55]

Conclusion: Mechanical music and the aesthetics of mechanics

This study started with the question of to what extent music could be a source domain of Comenius' figurative thought. In this regard, music is a tricky field with specific limits. As Michael Spitzer wrote, "Music theory is admirably poor at describing how music is composed or heard, and even more suspect when it attempts to prescribe these practices."[56] In order to explain them, authors tend to resort to other non-musical metaphors. So, what made harmony so effective in articulating even more complex problems? It was not only its musical basis, but the very lucky combination of a set of aspects.

Firstly, it was the significance of material culture. While harmony is often perceived as a highly intricate concept with sophisticated mathematical implications, the word originated from an entirely different source domain: ancient material culture. The root of the word referred to all kinds of joining things together or making them compatible: typically, the fastenings of a door, or in shipbuilding joining planks together with joints – *harmoi*.[57] In ancient cultures, harmony already held a strong position, as it bridged the abstract notion of connecting things, people, or ideas with tangible aspects of material culture. This dynamic also applied in the early modern period, when the metaphor retained its mechanical connotations.

Secondly, harmony embodied sensory perception. This connection to the bodily experience is another factor strengthening its figurative power. Harmony was not merely a musical but also an acoustic metaphor. It encompassed not only music – understood as aesthetically produced sound – but also sound and noise in general. While not everyone joins planks on a daily

55 Eco, U., Metaphor, Dictionary, and Encyclopedia. *New Literary History*, 15, 1984, No. 2, p. 255.
56 Spitzer, M., *Metaphor and Musical Thought*, p. 2.
57 According to Morrison, in ancient Greek shipbuilding the words harmos, harmodzein, and harmonia implied fastening of one plank to another. Morrison, J. S., Names and Things in Greek Maritime Contexts. *Mediterranean Language Review*, 4–5, 1989, pp. 58–60.

basis, nearly everyone has the ability to hear. During the early modern period, sound became a subject of widespread scientific inquiry across Europe: 17th-century scholars studied not only musical instruments but also animal sounds, echoes, vibrations, and frequency, leading to new theories about hearing.[58] Harmony was integral to this discourse, not only because of its musical associations but also due to its connection to broader debates on the audibility and inaudibility of the 'music of the spheres'.

As cognitive linguistics teaches us, metaphors typically originate from concepts firmly anchored in our minds, often through embodiment or cultural familiarity. Harmony's direct connection to material culture on the one hand and to hearing on the other was instrumental in establishing it as a strong, complex metaphor. Firstly, the popularity of the metaphor of harmony lay in the flourishing of musical culture during the early modern period. Secondly, its appeal was reinforced by the fact that it carried not only musical but also mechanical connotations. In fact, many early modern authors perceived music itself as a domain closely intertwined with mechanics or even as an integral part of it, dealing with ratios, vibrations, and the physics of bodies in motion.

This blending of mechanical and musical meanings was the basis for establishing harmony as a complex metaphor for another target domain, in Comenius' case for the domain of knowledge and its structure. The concept of harmony became crucial to him, not only in the social but also in the epistemological sense. By adopting the concept of harmony, he was trying to surpass the concept of an encyclopaedia, which no longer fully suited the syncretic experience of his Pansophic period. Harmony was a complex metaphor and a model example of conceptual blending. The combination of musical and mechanical meanings enables the articulation of both aesthetic and operational roles.[59] Its function was strongly heuristic, offering a framework for communicating his ideas about proper knowledge organisation.

Unlike the widely popular metaphor of the book,[60] which was frequently employed to conceptualize knowledge in the early modern period, harmony was a metaphor of a strikingly nonlinear nature. It presupposed a profound interconnectedness of all individual segments of knowledge, challenging the

58 Miesen, L. van der, Studying the echo in the early modern period: between the academy and the natural world. *Sound Studies*, 6, 2020, No. 2, pp. 196–214.

59 For the Theory of Conceptual Blending see Fauconnier, G. – Turner, M., *The Way We Think: Conceptual Blending and The Mind's Hidden Complexities*. New York, Basic Books 2002. According to this theory, distinct domains can be under certain conditions co-activated and create new cross-domain associations.

60 For the metaphor of the book see the conclusion of Petr Pavlas' study in this special issue.

principles of a culture fundamentally rooted in textuality. The concept of organising knowledge in such a way that all individual facts are interconnected fundamentally exceeds the principles of textuality. While textual forms impose a linear structure – words, sentences, and ideas unfold sequentially, which inherently limits the ability to represent non-linear relationships, multidimensional connections, and dynamic interdependencies – Comenius envisioned such a comprehensive organisation of knowledge in his *Pansophia*, aiming to reflect the harmonious interconnectedness of all things. However, achieving this goal within the constraints of a textual medium was rather utopian. As the dominant mode of early modern scholarly communication, the medium of text lacked the capacity to stage the intricate web of relationships he imagined. While he could describe these connections conceptually, the linear and static nature of text could not effectively simulate the fusion of disparate elements of knowledge.

In other words, the medium of textuality may have been a significant obstacle to realizing the pansophic ideal, as it was inherently connected with the ambitious goal of representing universal harmony. The limitations of text in conveying non-linear systems underscore the utopian nature of such an ambitious endeavour. While developing *Pansophia*, Comenius experimented extensively with its generic structure. However, he was unable to devise a singular genre capable of fully encapsulating his goal. Instead, *Pansophia* remained a hybrid of various genres (including dialogues). While the metaphor of harmony was successful in articulating Comenius' ideas of how to organise knowledge, *Pansophy* failed to embody them in any material manifestation.

The very fact that Comenius turned to the metaphor of harmony suggests not only a commitment to the idea of internal coherence and cosmic consonance, but also a deeper epistemological impulse to conceive of knowledge as structurally integrated and non-linear. Yet this vision came into conflict with the constraints of the medium through which it had to be expressed. Early modern textuality, sequential writing, typographic uniformity, and fixed structure imposed a linear logic. The resulting dissonance between the conceptual virtuality of Comenius' pansophic thinking and the materiality of the medium available to him constitutes an unsolvable tension in his work. While the metaphor of harmony encouraged him to imagine a model of knowledge that transcended disciplinary and temporal fragmentation, the alphabetic text remained his only viable tool for its articulation.

This is not to suggest that Comenius subscribed to a reductive or exclusively linear conception of textuality in the modern sense. On the contrary, his intellectual formation was deeply informed by theological traditions, particularly Trinitarian and Neoplatonic metaphysics, that recognised lan-

guage, thought, and mediation as fundamentally relational and potentially non-sequential. However, whatever alternative models of meaning and structure he may have envisioned, he nonetheless had to operate within the medial framework of his time. From this perspective, the unfulfilled promise of Pansophy might be seen not as the failure of an intellectual project, but as a symptom of a historical moment in which the structures of thought exceeded the structures of mediation. Comenius thus stands at a threshold between two regimes: the metaphysical ideal of participatory knowledge, and the material reality of print culture.

Appendix

The following figures and table have been generated as a part of the WEEMS (Word Embeddings for Early Modern Science) software.[61]

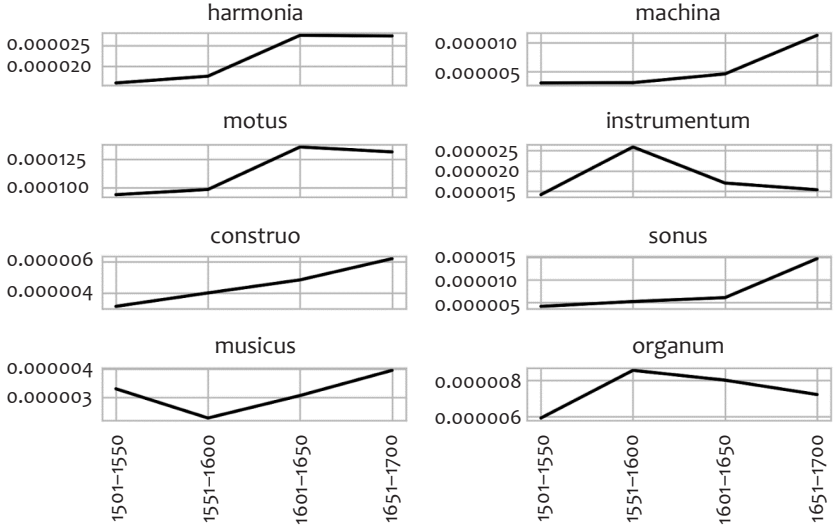

Figure 2. Frequencies of 8 selected target terms over time. Frequency is calculated as the number of instances of the term's lemma divided by the number of word tokens within the respective half-century subcorpus. Note that the *y-axis* limits are for each term determined independently based on the minimal and maximal value.

61 Kaše, V. – Tvrz, J. – Švadlenková, J. – Pavlas, P., WEEMS (v0.2.2). *Zenodo*, 2020. Available online at www: https://doi.org/10.5281/zenodo.14626412 [cit. 19. 5. 2025].

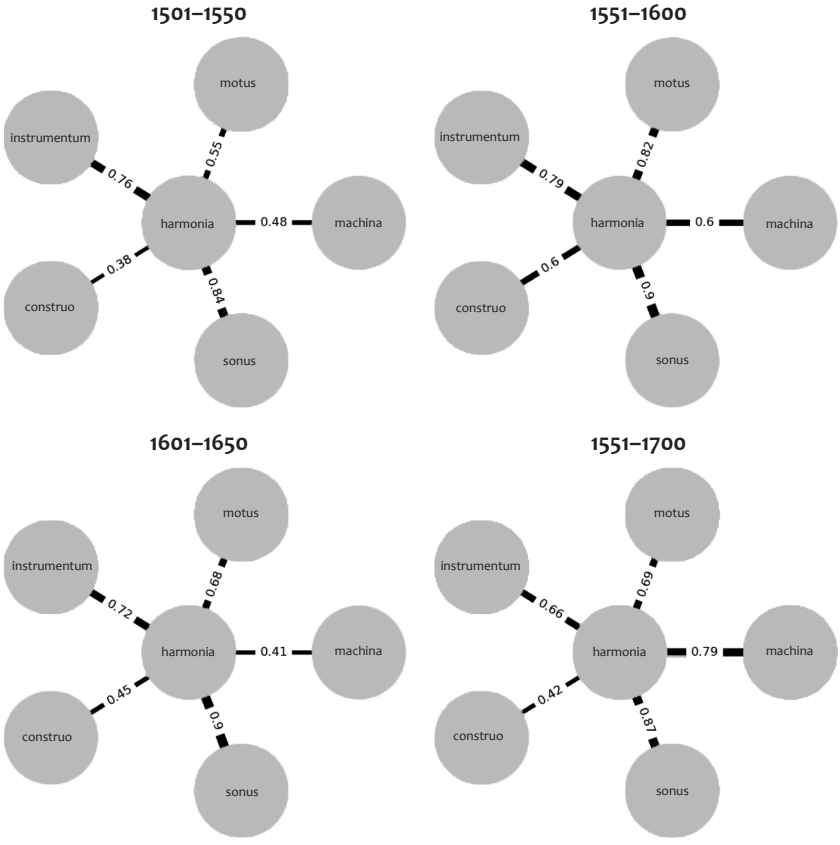

Figure 3. Cosine similarity of selected pairs of word vectors across four models trained on four corresponding subcorpora, covering the periods 1501–1550, 1551–1600, 1601–1650, and 1651–1700. Higher similarity values indicate a stronger semantic relatedness between the word pairs within each subcorpus. Notable fluctuations in similarity across periods suggest semantic shifts in the meaning or usage of at least one of the terms. For example, the relationship between *harmonia* and *sonus* remains relatively stable, fluctuating by no more than 6 percentage points across the four periods. Conversely, the pair *harmonia* and *machina* displays a significant increase in similarity, particularly from the third to the fourth period, indicating a possible semantic shift in one or both terms over time.

Figure 4. Multidimensional scaling (MDS) visualization of word vector similarities across four models trained on corresponding subcorpora (1501–1550, 1551–1600, 1601–1650, 1651–1700). Words placed closer together share higher semantic similarity, while greater distance suggests lower similarity within each period. The terms *harmonia*, *sonus*, *instrumentum*, and *organum* consistently cluster, reflecting their stable conceptual link in musical contexts. However, *machina* (machine) shifts further away over time, indicating a semantic drift towards more technical meanings. *Construe* (*construo*) remains consistently distant, emphasizing its conceptual separation from musical discourse. These changing proximities reflect subtle semantic shifts in early modern Latin vocabulary across the studied periods.

1501–1550	1551–1600	1601–1650	1651–1700
concentus	concentus	concentus	concentus
organum	consono	musicus	musicus
musicus	concino	musica	musica
concino	musicus	consono	dissonus
musica	musica	concinnus	consono
vox	concinnus	compositio	organum
communio	sonus	sonus	dispositio
immortalitas	dissonus	decanto	modulus
corporeus	concors	ordo	chorda
imitatio	resulto	auctor	sonus
compono	compositio	theologus	compono
fabrica	cithara	hymnus	admirabilis
politia	cantus	attendo	dulcissimus
communitas	compositus	attentio	chorus
sonus	compono	compono	mirus
functio	actio	cantor	difficillimus
concinnus	mundanus	consentio	ordo
copula	accommodatus	oratio	ordino
inviolatus	cithara	adiungo	suavis
immortalis	motio	numerus	concinnus

Figure 5. Table of the 20 nearest neighbours (terms with the highest cosine similarity) to *harmonia* across four subcorpora (1501–1550, 1551–1600, 1601–1650, 1651–1700). Each column lists the most semantically related words in decreasing order of cosine similarity for the corresponding period.

A notable semantic shift can be observed in the relationship between *harmonia* and terms associated with musical practice versus abstract concepts. Early in the 1501–1550 period, *harmonia* is closely associated with terms like *organum*, *musica*, and *sonus*, emphasising a connection to musical theory and sound. By the period 1651–1700, however, terms such as *dispositio* (arrangement), *modulus* (measure), and *ordo* (order) gain prominence, reflecting a broader conceptual shift where *harmonia* appears to be increasingly linked to structural or theoretical order rather than just musical performance. Additionally, terms like *cithara* and *hymnus* in the mid-periods reflect a continued but narrowing focus on musical instruments and compositions, while later associations like *difficillimus* (most difficult) and *admirabilis* (admirable) suggest a more evaluative or rhetorical use of *harmonia* in the later corpus. This progression points to a semantic drift where *harmonia* gradually expands from its core musical meanings toward more abstract notions of order, structure, and conceptual harmony in early modern Latin discourse.

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.

See, Hear, Taste: Sensory Metaphors and Their Use before and in Paracelsianism*

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Abstract:
This paper discusses and tentatively contextualises the use of sensory metaphors in 16th- and 17th-century Paracelsianism, mainly the metaphor of taste. Before turning to Paracelsus, Weigel and Khunrath, it begins with the more general question of why sight became the main sensory metaphor in Western thought, especially in Platonism. It had an influence on Christian thought but metaphors of taste also played an important role in the Bible, in medieval mysticism and beyond. The later approach to sensory metaphors is exemplified in two 15th-century authors, Cusanus and Ficino. The Lutheran emphasis on hearing as a major cognitive metaphor is then discussed. Finally, it is hypothesized that the rejection of figurative language in 17th-century Cartesianism and empiricism may have been rather a removal of non-visual metaphors.

Keywords: Paracelsus; Weigel; Khunrath; Cusanus; Ficino; Lutheranism; Tauler; Platonism; light; eye; mysticism

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Foreword: Objectives and limits

This paper discusses and tentatively contextualises what has yet to be explored on a larger scale: the use, meaning, possibilities, limits, and influence of sensory metaphors in 16th- and 17th-century Paracelsianism. Such a contemplated study would make use of the EMLAP online database, a digi-

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tal corpus of alchemical and Paracelsian texts[1] under construction at the TOME project,[2] aimed at the role of metaphors in early modern thought. This article, in a way, sets the stage. It seeks to search for the broader context of sensory metaphors, especially metaphors of taste as opposed to metaphors of sight, and to consult those several searchable texts and databases currently available, thereby providing future research with firm foundations and clear orientation and, by alternating distant and close views and focusing more precisely on certain authors, introducing new aspects, tones, and flavours – to start with a few metaphors.

Introduction: Why metaphors?

Before we deal with the more specific issue of sensory metaphors in the 16th and 17th centuries, it will be beneficial to begin with more general questions and to delve somewhat into history. Naturally, the very first question is – what is a metaphor? The rather outdated Cambridge Dictionary definition says it is "an expression, often found in literature, that describes a person or object by referring to something that is considered to have similar characteristics to that person or object".[3] Correct as it may be, this definition presents metaphors as something rather artificial and exclusive. However, Hans Blumenberg in 1960,[4] and George Lakoff and Mark Johnson in 1980, have conclusively shown the omnipresence and crucial role of metaphors in our thought. As Lakoff and Johnson say, "the way we think, what we experience, and what we do every day is very much a matter of metaphor".[5] It is a "myth of objectivism" that "figurative language can always be avoided in speaking objectively".[6]

In the meantime, the essential importance of metaphors in the cognitive process has been widely accepted. Interesting insights were brought about, for example, by the Canadian-American linguist and psychologist Steven

1 Hedesan, G. – Huber, A. – Kodetová, J. – Kříž, O. – Kubíčková, J. – Kaše, V. – Pavlas, P., EMLAP [Data set]. *Zenodo*, 2025. Available online at www: https://doi.org/10.5281/zenodo.14765293 [cit. 19. 5. 2025]; The graphical user interface is currently under construction see http://emlap.flu.cas.cz [cit. 19. 6. 2025].

2 For more details on TOME see the editorial of this special issue and the project's website – available online at www: http://tome.flu.cas.cz [cit. 29. 5. 2025].

3 Available online at www: https://dictionary.cambridge.org/dictionary/english/metaphor [cit. 19. 5. 2025].

4 Blumenberg, H., Paradigmen zu einer Metaphorologie. *Archiv für Begriffsgeschichte*, 6, 1960, pp. 7–142.

5 Lakoff, G. – Johnson, M., *Metaphors We Live By*. Chicago–London, University of Chicago Press 1980, ch. 1, p. 4.

6 Ibid., p. 188.

Pinker[7] and by the American linguist Eve Sweetser. The latter presented the general mind-as-body metaphorical system pointing out that, as the Hungarian linguist Zoltán Kövecses put it, "words denoting various psychological phenomena, such as knowing, emotion, and judgment, derive historically from words denoting bodily sensations, such as sight, touch, and taste".[8] Specifically, metaphors of knowledge and mental vision are derived from sight, metaphors of internal receptivity from hearing, metaphors of emotions from our feelings, and metaphors of personal preference from taste. Thus, taste appears, quite obviously, as something very subjective while sight is the most objective among the senses. However, as Kövecses reminds, metaphors are not only cognitive instruments but also motivators, they both motivate and constrain the way we think.[9] This is a position advocated, among others, by the American psychoanalyst A. H. Modell. For him, metaphor is a medium between body and soul/mind, something between psychology and physiology.[10] "Metaphor is rooted in the body" because "it rests on the border between mind and brain" and its purpose is "to organize bodily sensations cognitively, especially affects".[11] As Modell emphasizes, there is "a privileged connection between affects and metaphor".[12] Metaphors enable us "to organize otherwise inchoate experiences" so that "metaphoric thought is a fundamental way of knowing" which probably evolved before language itself.[13]

Thus, there are two essential aspects of metaphors: they serve cognition and influence affects. This makes them both appealing and problematic in philosophy.

7 Pinker, S., *The Stuff of Thought: Language as a Window into Human Nature*. New York, Viking 2007.

8 Sweetser, E., *From Etymology to Pragmatics: Metaphorical and Cultural Aspects of Semantic Structure*. Cambridge–Peking, Cambridge University Press – Peking University Press 2002, pp. 32–48; Kövecses, Z., *Metaphor. A Practical Introduction*. Oxford, Oxford University Press 2010, p. 256. See also Ibarretxe-Antuñano, I., The Power of the Senses and the Role of Culture in Metaphor and Language. In: Caballero, R. – Díaz-Vera, J. E. (eds.), *Sensuous Cognition. Explorations into Human Sentience: Imagination, (E)motion and Perception*. Berlin–Boston, De Gruyter 2013, pp. 109–133.

9 Kövecses, Z., *Metaphor*, p. 52.

10 Modell, A. H., The Synergy of Memory, Affects and Metaphor. *Journal of Analytical Psychology*, 42, 1997, No. 1, pp. 105–117, here p. 106.

11 Ibid. (abstract).

12 We could reference here also Jaak Panksepp's studies on emotions and their symbolic expression, see Panksepp, J., *Affective Neuroscience. The Foundation of Human and Animal Emotions*. Oxford, Oxford University Press 1998; idem – Biven, L., *The Archaeology of Mind: Neuroevolutionary Origins of Human Emotions*. New York–London, W. W. Norton & Company 2012.

13 Ibid., p. 107.

Platonic tradition: The primacy of sight

Consider Plato (c. 427–347 BC). He was certainly a master of metaphorical and allegorical language, and so were his followers. One need only mention the famous parable of the cave in the *Republic* (514a1ff.), the passage in the *Cratylus* (407a8–b2), the allegorical interpretations of Homer in the *Phaedrus* (229c6ff.) with its criticism of the rationalization of myths, as well as other allegories, such as the interpretation of the origin of men and women from an originally androgynous being in the *Symposium* (189d–191d) and the interpretation of the creation of the cosmos in the *Timaeus*. On the other hand, poetic interpretations are regarded by Plato as potentially dangerous to the administration of the community (*Constitution* 378d).[14] However, instead of looking into Plato's texts, let us read what the great Platonist of the Quattrocento, Marsilio Ficino (1533–1588), has to say on him:

> Plato's words are not only intellectually stimulating but they purify the soul from excitement, separate the mind from the senses, and turn the mind to God to be enlightened by Him; all this with the help of simile and dialogue, which have a powerful persuasiveness and are capable of moving us deeply.[15]

Here, Ficino clearly recognises that metaphors, for Plato and the Platonists, have mainly an emotional value: they can *move* us.[16] This, Blumenberg remarks, was the main reason why metaphors were *purposely* accepted and used in antiquity.[17]

But there is no metaphor like metaphor. Here we are about to deal, primarily, with metaphors of sensory perception in an epistemological context. I have mentioned the hierarchy of senses according to Sweetser and others. It seems that the epistemological primacy of metaphors of sight is indeed a given, as if philosophy *per se* tended to privilege sight.[18] As the German-

14 For broader social contexts of metaphors, above all their role in maintaining civil obedience, see Lucie Storchová's study in this special issue.

15 Ficino, M., In commentaria Platonis [...] Prooemium. In: idem, *Opera omnia*. Basel, Heinrich Petri 1576, p. 1129. Unless otherwise stated, all translations are mine.

16 However, for Aristotle, metaphors seem also to have an epistemological value: "the greatest thing by far is to be a master of metaphor. ... Through resemblance, metaphor makes things clearer" (*Poetics* 1459a); "ordinary words convey only what we know already; it is from metaphor that we can best get hold of something fresh" (*Rhetoric* 1410b).

17 Blumenberg, H., Paradigmen zu einer Metaphorologie, pp. 8f. Ancient rhetoric, generally, made extensive use of metaphors.

18 Kambaskovic, D. – Wolfe, C. T., The Senses in Philosophy and Science. From the Nobility of Sight

American philosopher Hans Jonas suggests, only sight provides the sensual basis on which the mind may conceive of the idea of the eternal, that which never changes and is always present; sight alone can distinguish between the changing and the unchanging.[19] At the same time, as others have put it, "taste, so far as it is ever considered, is thought [in philosophy] to abide at the brink of non-Being".[20] Or, to quote another author:

> Metaphors of sound and smell, of taste and touch, are tied so firmly to the play of motion, change, and degree that there can be no question of their being able to approximate for thought its proper object. Thus, thought is restricted by criticism to metaphors of light and fixed place.[21]

Thus, sight is understood as the sense that can grasp and fix essences, it can "see" the unmoving, and thus can serve as a metaphor for (the highest) knowledge, the knowledge of truth that since time immemorial (at least, since Parmenides, c. 510–450 BC) was considered in Western thought to pertain to what is unmoving and unchanging.

Let us again open Plato's *Phaedrus* to see how deeply the metaphors of light penetrated his fundamental epistemology:

> [the souls before entering their bodies] saw beauty shining in brightness, when […] they saw the blessed sight and vision […] the sight of perfect […] apparitions, which we saw in the pure light […] beauty […] shone in brilliance among those visions; and since we came to earth we have found it shining most clearly through the clearest of our senses; for sight is the sharpest of the physical senses […] beauty alone […] is most clearly seen […] (*Phaedrus* 250b–d)

For Plato, it is "the eye [that] receives the effusion of beauty" (*Phaedrus* 251b). Although he remarks, somewhat enigmatically, that "wisdom is not *seen* by it" (250d), sight is presented not as a *metaphor* of knowledge but rather as an actual sensory perception that can carry us up the *ladder* of knowledge

to the Materialism of Touch. In: Roodenburg, H. (ed.), *A Cultural History of the Senses in the Renaissance*. London, Bloomsbury Academic 2018, p. 110.

19 Jonas, H., *The Phenomenon of Life. Toward a Philosophical Biology*. New York, Harper & Row 1966, p. 145, quoted in Kambaskovic, D. – Wolfe, C. T., The Senses in Philosophy and Science, p. 110.

20 Cameron, W., Philosophy, Metaphor, and Taste. *The Journal of Value Inquiry*, 12, 1978, pp. 241–257, here p. 251.

21 Ibid.

to the higher, metaphysical, "vision". Here, metaphysics and the physics of light intersect.[22]

Not surprisingly, Plotinus (c. 205–270) follows Plato down this path. He also emphasizes the primacy of sight while recognizing the nobility of hearing among the other senses: "beauty addresses itself chiefly to sight; but there is a beauty for the hearing too".[23] At the same time, smell and taste are "mere accessories, distractions of the soul".[24] As distracting as they may be to the soul, their metaphorical use still makes sense to Plotinus: we can meaningfully say that some sounds are "sweet, harsh, soft"[25] and that what is "sweet" is beneficial while the "bitter" is injurious,[26] a standard stance in medieval medical and alchemical texts.

We can take Dionysius the Areopagite (5th–6th century) as a third example of the Platonic position. In his *Celestial hierarchy*, he addresses the symbolic value of our senses:

> It is possible […] to find within each of the many parts of our body harmonious images of the Heavenly Powers, by affirming that the powers of vision denote the most transparent elevation towards the Divine lights […] reception, free from all passion, of the supremely Divine illuminations. Now the discriminating powers of the nostrils denote the being able to receive, as far as attainable, the sweet-smelling largesse beyond conception, and to distinguish accurately things which are not such, and to entirely reject. The powers of the ears denote the participation and conscious reception of the supremely Divine inspiration. The powers of taste denote the fulness of the intelligible nourishments, and the reception of the Divine and nourishing streams. The powers of touch denote the skilful discrimination of that which is suitable or injurious.[27]

For the metaphor of sight and light, we can also peruse *On divine names* where Dionysius explains:

> He, the Good, is called spiritual Light, on the ground that He fills every supercelestial mind with spiritual light, and expels all ignorance and

22 For this topic see Burton, S. J. G., Pansophic Mirrors of the Soul: Comenius, Pinder and the Transformation of Cusan Optics. *Acta Comeniana*, 34, 2022, No. 58, pp. 9–48.
23 Plotin, *Enneades* I,6,1. All translations of Plotinus are by S. McKenna. Available online at www: https://ccel.org/ccel/plotinus/enneads/enneads [cit. 19. 5. 2025].
24 Plotin, *Enneades* IV,4,25.
25 Plotin, *Enneades* VI,3,7.
26 Ibid. VI,3,18.
27 Dionysius the Areopagite, De cœlesti hierarchia 15,3. In: idem, *The Celestial and Ecclesiastical Hierarchy*. Transl. J. Parker. London, Skeffington & Son 1894, p. 45.

> error from all souls […] cleanses their mental vision from the mist […] from ignorance, and […] darkness, and imparts, at first, a measured radiance; then, whilst they taste, as it were, the light, and desire it more, more fully gives Itself, and more abundantly enlightens them, because 'they have loved much', and ever elevates them […].[28]

What is interesting in these two quotations is that "taste" appears here alongside "sight" in connection with reception (i.e., knowledge) and desire (i.e., emotion), two aspects we have already met.

The Bible and medieval mysticism: The essentiality of taste

With Dionysius we entered the Christian world. Given how much Christian theology was influenced by Platonic thought, we can expect light and sight to play a significant role in early Christian texts. But what about sensory metaphors in the Bible in general? The motif of light certainly occurs many times in the Bible, too many to dwell upon, especially since our task is primarily to follow the metaphors of taste (and smell). Using search engines, one arrives at very preliminary but telling results: visual and auditory metaphors seem greatly to exceed metaphors of taste and smell. The situation changes, however, when considering a broader context, words such as "sweet", "bitter", "wine" and "drunk", which are from the same semantic domain.[29] As one might expect, there is a stronger representation of these metaphors in the *Song of Songs*.[30] However, this all omits the most fundamental fact. At the beginning of the Bible, we read the famous words: "And God said, Let there be light… And God saw the light, that it was good" (*Genesis* 1,3–4).[31] Next to the metaphor of light,[32] however, in the second report of creation in *Genesis*, we find these ominous words:

28 Dionysius the Areopagite, De divinis nominibus 4,5. In: idem, *The Works*. Transl. J. Parker. London, James Parker & Co. 1897, vol. 1, p. 38.

29 The results of my rather primitive search in Davar 4 (*King James Version*): "touch-" 177 results; "taste-" 35 in the Bible (New Testament 12), "sweet-" 142 (*Song of Songs* 10, *NT* 8), "bitter" 96 (*NT* 12), "wine" 240 (*NT* 30), "drunk-" 88; "smell-" 30 (*NT* 3), "hear-" 1626 (excl. results like "heart", "hearts" and "hearted"), "ear" + "ears" 286; "see" + "seen" + "saw" 1450, "sight" 343, "eye" + "eyes" 686 results. I have ignored whether these keywords are used in a literal or figurative sense. Of course, we would have to add more search terms and refine the search to get more reliable results.

30 See *Song of Songs* 5,13; 4,10; see also *Psalmus* 34,8; 119,103; *Ezekiel* 3,3.

31 All biblical quotations are *King James Version* (*KJV*).

32 The metaphoricity of the word "light" in the first day of creation, as understood within the Augustinian exegesis of this passage, lies in the following interpretation: since the stars are created on the third day, and the Sun and Moon only on the fourth day (see *Genesis* 1,14–19), the

> And when the woman saw that the tree was good for food, and that it was pleasant to the eyes, and a tree to be desired to make one wise, she took of the fruit thereof, and did eat, and gave also unto her husband with her; and he did eat. And the eyes of them both were opened, and they knew that they were naked […] (*Genesis* 3,6–7)

Here, the fundamental role of "eating" is confirmed, that is, also of "tasting": it can produce specific seeing ("the eyes of them both were opened") and hearing ("they heard the voice of the Lord", as the text follows), that is, a specific *knowledge*. The crucial New Testament parallel comes in the words of Jesus:

> Take, eat: this is my body, which is broken for you: this do in remembrance of me. After the same manner also he took the cup […] saying, this cup is the new testament in my blood: this do ye, as oft as ye drink it, in remembrance of me (*1 Corinthians* 11,24–25)

Again, eating and tasting involves or implies specific knowledge, i.e. the remembrance of Jesus Christ.[33]

This is the ground on which the metaphors of "taste" could develop in medieval mysticism between the 12th and 14th centuries. Consider the words of Bernard of Clairvaux (1090–1153):

> When will we experience this kind of love [*huiuscemodi experitur affectum*], so that the mind, drunk with divine love [*divino debriatus amore animus*] and forgetting itself […] should throw itself wholly on God and, clinging to God (*1 Corinthians* 6,17), become one with him in spirit […] To love in this way is to become like God. As a drop of water seems to disappear completely in a quantity of wine, taking the wine's flavour and colour [*saporem vini induit et colorem*]; as red-hot iron becomes indistinguishable from the glow of fire, and its own original form disappears; as air suffused with the light of the sun seems transformed into the brightness of the light, as if it were itself light rather than merely lit up […].[34]

initial *fiat lux* and the separation of light from darkness should be understood as the creation and fall of angels.

33 For the taste as a metaphor of experiencing in English, Basque and Spanish see Ibarretxe-Antuñano, I., The Power of the Senses and the Role of Culture in Metaphor and Language, p. 114.

34 Bernard of Clairvaux, De diligendo Deo 10. In: *Patrologia Latina*. Ed. J.-P. Migne. Paris, Migne 1841–1865, vol. 182, pp. 990C–991B.

Or Richard of St. Victor (d. 1173), Bernard's contemporary:

> To undergo such an action is to be deified, when the spirit, drunk with divine love, forgets everything and passes completely into God, tasting what no one knows except the one who receives it [*gustans illud quod nemo novit, nisi qui accipit*] […].[35]

Here, tasting is linked to emotion ("drunk with love"), leading to a new way of "knowing" that involves an essential transformation of the cognitive subject. Later protagonists of mysticism can attest to this. For Meister Eckhart (d. 1327), the "father of German mysticism", tasting God and seeing God go hand-in-hand for those who "have God".[36] Yet the importance of "taste" is, perhaps, best illustrated in the writings of female religious authors, such as in the *Mirror of Simple Souls* by the French Beguine Marguerite Porete (d. 1310), also an important source for Eckhart. A search in Czech translation for the Czech equivalents of English "tast-" in her text yields only 7 results; "drunken", "inebriated", "intoxicated" together yield 17 results; and "wine" 3 results; however, the keyword "sweet-" amounts to about 60 results (e.g., sweet Love, sweet Soul…).[37] Here is an example of the author's intriguing language:

> What makes her [the Soul] drunk […] [is that] her lover drank […] for thanks to the transformation of love [*muance d'amour*] there is no difference between him and her, whatever their natures. […] He intoxicates her with that 'more' of His drink […] most intoxicating wine […] This is the sovereign drink, which no one drinks but the Trinity. And with this drink, without having drunk it, the Annihilated Soul, the Liberated Soul, the Forgotten Soul, is intoxicated, yes very intoxicated, more than intoxicated, with what she has never drunk and never will drink.[38]

Obviously, tasting[39] and becoming intoxicated by the divine drink serves as a metaphor for experimental knowledge of God (*cognitio Dei experimen-*

35 Richard of St. Victor, De gradibus caritatis. In: *Patrologia Latina*, vol. 196, p. 1198B.

36 Eckhart of Hochheim, Die rede der underscheidunge 6. In: Meister Eckhart, *Predigten. Traktate*. Stuttgart, Kohlhammer 2008, p. 348: "He who has God thus in his being (*im wesenne*) receives God divinely, and God shines (*liuhtet*) to him in all things; all things taste of God to him (*alliu dinc smeckent im götlîchen*), and in all things he sees the image of God."

37 As searched in Porete, M., *Zrcadlo prostých duší* [Mirror of Simple Souls]. Transl. M. Žemla. Prague, Malvern 2013.

38 Porete, M., *Lo specchio delle anime semplici* [Italian-French]. Milano, Edizione San Paolo 1994, ch. 23, p. 202.

39 The tasting is confirmed by ibid., ch. 121, with an allusion to the *Song of Songs* 2,14.

talis),[40] precisely because it is, unlike seeing, far from creating fixed concepts. It is about intimacy and "un-knowing". Such language is typical for the tradition of negative theology, which traces back to Dionysius the Areopagite. Thus, we can presuppose that it will be in this apophatic context that we may find evaluation of the metaphors of taste.

Another example I have examined in detail is John Tauler (1300–1361), a follower of Eckhart, who had a great impact in the 16th century. In his 81 authentic sermons,[41] we find a total of 97 occurrences of the Middle High German stems *"-smak-"* and *"-smack-"* (i.e., taste), demonstrating their relative importance as metaphors.[42] Similarly impressive are the results for the search terms *"sus-"* and *"su^{e}s-"* (sweet), which yield 115 results.[43] In contrast, the word *"ro^{v}ch-"* (smell) appears only 11 times[44] while *"oge-"* (eye) 89 times – which is obviously important, but not decisive on closer inspection, being limited to the theological motif of the *visio beatifica* or "blessed eyes"[45] and the "inner eye" capable of seeing the "true light".[46] Tauler, however, tends to associate the symbolism of light with intellect, which as a proponent of an anti-intellectualist position he tries to avoid. Significantly, his anti-intellectualism also manifests itself in his use of metaphors of taste. For example:

> There are many poor people who have for some forty years renounced their goods, and yet have not tasted a drop of this [*dis nie einen troppfen gesmachtent*]. They understand it well, and they certainly have it in their minds and in their reason, but it is fundamentally alien to them and far removed in taste […].[47]

> Just so does our Lord: when He sees that the temptations and persecutions are already too great and heavy for man, He delays them a little and lets a little drop of the sweetness of divine things flow into the mouth of man's heart [*ein troppfe in den munt des hertzen, ein smag von*

40 For this expression see Thomas Aquinas, *Summa Theologiae* II–II, q. 97, a. 2, ad 2. Generally see Geybels, H., *Cognitio Dei experimentalis: A Theological Genealogy of Christian Religious Experience*. Louvain, Peeters 2008.

41 Tauler, J., *Die Predigten Taulers*. Ed. F. Vetter. Berlin, Weidmann 1910. Available online at www: http://www.mhgta.uni-trier.de [cit. 19. 5. 2025].

42 E.g., Tauler, J., *Die Predigten Taulers*, p. 46, line 2; p. 65, line 24; p. 164, line 8; p. 237, line 21; p. 355, line 24; p. 159, line 12; p. 173, line 20; p. 105, line 11f.

43 E.g., ibid., p. 47, line 36.

44 E.g., ibid., p. 377, line 23.

45 Ibid., Sermon 45 "Beati oculi qui vident quod vos videtis", pp. 194–201, passim.

46 Ibid., p. 195, line 19.

47 Ibid., Sermon 10 "Ego sum lux mundi dicit dominus", p. 50, line 13ff.

> *su*[e]*ssekeit von go*[e]*ttelichen dingen*]. And this strengthens him so much that he no longer tastes [*smackent*] anything that is not God, and he feels that he has overcome all his weakness. […] he is driven to God and begins to thirst [*turst*] for that in which all peace, truth and comfort truly reside. He does so in order that the drink which will satisfy his thirst may be all the sweeter, more pleasing, and more delicious, both here in time and hereafter in eternity. There, man will drink from the sweet spring with full draughts from its very source.[48]

We can find a similar approach in the *Theologia Deutsch*, an anonymous mystical treatise from around 1400. It was classified as "Taulerian" by Martin Luther (1483–1546), its first publisher and promoter in the 16th century: we do not know exactly why, but we can speculate that Luther may have had in mind its emphasis on non-intellectual cognition and affectivity. As in Tauler, taste comes here as a metaphor for the experimental knowledge of God which always avoids fixed concepts.[49]

Cusanus and Ficino: "Tasted wisdom" and the "rage" of taste

There is still another author whose ideas should be considered before entering the 16th century – Nicholas of Cusa (1401–1464). As the most philosophically minded reader of Eckhart and a pupil of the *Devotio Moderna*, imbibed with the somewhat melted ideas of German Mysticism, Cusanus presented his negative theology as early as his first major work, the dialogue *Idiota de sapientia*. Despite his emphasis on "unknowing knowledge", he is in many ways a Platonist and makes much use of light metaphysics. However, primarily in that dialogue, he explains how the highest experience of God, "unknowing knowledge", can best be described in terms of "taste". Cusanus is fond of using Latin etymology to substantiate his claims:

> Wisdom is what tastes [*Sapientia est quae sapit*], than which nothing is sweeter to the intellect […] But those who speak from the taste of wisdom are those who know that it is all things in such a way that it is nothing of all things […]. […] it dwells in the highest places, it is not tastable by all tastes. It is tasted untastably [*Ingustabiliter ergo gustatur*], being higher than all that can be tasted, sensed, rationalized, and

48 Ibid., Sermon 11 "Si quis sitit, veniat et bibat", pp. 52f., line 24ff.

49 For "taste" see, e.g., *Theologia Deutsch*, ch. 1, 7, 8, 11. Available online at www: https://www.evangelischer-glaube.de/theologia-deutsch/ [cit. 19. 5. 2025].

> intellectualized. To taste untastably and from afar is like a certain fragrance, a kind of untastable foretaste. […] eternal and infinite wisdom, while shining in all things, entices us from a kind of foretaste of effects, to be carried to it with a wonderful desire.[50]

Thus, according to Cusanus, there is "a certain innate foretaste" of the divine source of life without which it would be impossible to have a "desire" or "such great zeal" to find it, because "it is sweet for every spirit to continually ascend to the fountain of its life, however inaccessible".[51] Although the source is inaccessible to the intellect, it still holds true that its "understanding is to be nourished [*pasci*] by wisdom and truth" and that "the intellect that does not taste [*degustans*] clear wisdom is like an eye in darkness".[52] Here we have a nice unity of metaphors of taste and seeing. It is not enough to have knowledge, Cusanus says in *De venatione sapientiae*, but "we are urged by the appetite [*appetite*] deep in our nature to seek not only knowledge, but to have wisdom or tasted knowledge [*sapientiam seu sapidam scientiam*]".[53] This "tasted knowledge", *sapida scientia*, is the highest achievement we can hope for.

Another influential 15th-century author is Marsilio Ficino (1433–1499). Not surprisingly for a Platonist, in his *De amore* (1484) we find many metaphors of seeing in connection with recognizing beauty and achieving knowledge – yet we cannot overlook his ideas on "taste". For Ficino, seeing is the "door of the soul"[54] which is drawn to beauty, and beauty in itself is a kind of "brightness".[55] As Ficino emphasises,

> […] the light emanating from the body is perceived neither by the ears, nor by the sense of smell, nor by taste, nor by touch, but by the eye. […] Therefore, the eye alone enjoys the beauty of the body […].

That is, only the eye can lead our knowledge towards its proper goal, Beauty itself.[56] The only other sense that can participate in beauty is hearing. Just like seeing, it can "remain longer empty" while "other senses are quickly

50 Nicholas of Cusa, Idiota de sapientia 1,10,8f. and 11–14. For the standard Heidelberger *Opera omnia* edition of Cusanus (and for English and German translations) available online at www: http://cusanus-portal.de [cit. 19. 5. 2025].
51 Ibid., 1,11,1–9 and 15.
52 Ibid. 1,13,1–6.
53 Ibid., dedication.
54 Ficino, M., De amore VII,2. I have used the Latin-German edition, idem, *Über die Liebe oder Platons Gastmahl*. Ed. P. R. Blum. Transl. K. P. Hasse. Hamburg, Felix Meiner 1994.
55 Ibid., II,9.
56 Ibid.

filled".[57] Also, smell, taste and touch are "simple forms" but beauty requires the "conformity of diverse members", that is, harmony,[58] and this is accessible only to hearing and seeing. The perception of these two senses prompts love while the other senses evoke "lust and rage".[59] That is why touch, taste and smell belong to the body and matter while "reason, sight and hearing belong to the spirit [*ad spiritum*]".[60] So, Ficino can say:

> Love […] does not crave the sweets of taste and touch, which are so violent and fierce that they throw the mind out of balance and throw us into confusion […] they are the opposite of beauty because of their intemperance. […] we enjoy beauty by recognizing it, and that by mind, sight, and hearing. […] Through the other senses […] we enjoy […] a need of the body. Through these three faculties, then, we will hunt for beauty, and the beauty of voices and bodies will lead us like a trace to the dignity of the soul.[61]

This "hunt for beauty", an expression alluding to the *venatio sapientiae* of Cusanus, can become more effective by means of seeing and hearing, the senses which, together with reason, "comprehend things most distant".[62] In contrast, "touch, taste and smell perceive only what is near them" and this perception, as Ficino comments, "has a strong effect on them"[63] – stronger than other perceptions but, we may assume, less harmonious, beautiful and virtuous.

Still, it would be unfair to conclude that Ficino does not attribute any use to taste. In fact, the context in which senses have been debated above is that of real bodily senses, not a metaphorical one. When we switch to a metaphorical context things seem to change, as when Ficino speaks of God as the "hidden taste" (*sapor occultus*) that infuses into things the "sweetest fragrance [*odorem*] that excites and attracts us".[64] This attraction is important: it is, as it were, a cognition before real knowledge, a sort of the lowest *docta ignorantia* that, however, causes love to arise. It is an indiscriminating love that seeks its object, rather an unformed "craze" or "rage", as we have heard, but

57 Ibid., VI,9.
58 For this aspect of harmony see Lenka Řezníková's study in this special issue.
59 Ficino, M., De amore I,4.
60 Ibid., V,2.
61 Ibid., I,4.
62 Ibid., V,2.
63 Ibid.
64 Ibid., II,6.

it already pulls us in the right, more discriminate, more harmonious, more "loving" direction. And, in its turn,

> [love] continually evokes new pleasures in the soul, as it were, and thus makes it blissful with delicious and sweet pleasure.[65]

Thus, one becomes "inflamed with love" and feels "thirst for beauty", so that they "must take the sweet juice of beauty [*dulcissimum pulchritudinis huius humorem*] which inflames this thirst in them".[66] The sweet "taste" is something that both ignites and accompanies love and desire for God. As Ficino puts it elsewhere,

> […] the nature of beauty itself, i.e., the highest beauty […] draws to itself, as it were, the sweetness of all desire […].[67]

Thus, for Ficino, sight (and hearing)[68] can bring us to God by means of the ladder of beauty – which is also a trace of the Beauty in the world. Sight is quick and can reach very far; it is the highest sense that follows right after reason, or rather, reason follows what seeing presents. On the other hand, taste as a sensory perception is practically useless in terms of its cognitive value: it does not perceive at a distance, it recognizes no harmony, it cannot perceive what is immaterial, that is, light and beauty, both of divine origin. However, taste as a metaphor for the unspeakable presence and attraction of God in nature and its experience retains its true importance. In this way, "tasting" has its irreducible value just because it is irrational and causes a "formless" emotion.

Martin Luther: Hearing and tasting

Entering the 16th century, we cannot but begin with Martin Luther (1483–1546) and his theology of the *fides ex auditu*. Indeed, this is one of the crucial aspects of his theological thinking which was intentionally aimed against the standard scholastic emphasis on the metaphysics of light, and therefore on seeing as the main cognitive metaphor. At the same time, Martin Luther's

65 Ibid., IV,6.
66 Ibid., V,3.
67 Ibid., VI,10.
68 The power of music, i.e., of hearing, is emphasised in Ficino's *magia naturalis*, see his *De vita coelitus comparanda*.

concept of "hearing the Word" is used as "a counterpoint to both the idealism of the scholastic theologians and the naïve 'touch' empiricism of the humanists."[69]

If we try a quick search for the string "*höre-*" ("hear") in Luther's works, we get 145 results. This is, perhaps, not very impressive, given the scope of Luther's oeuvre. Much more telling, however, is what he says about "hearing" right at the beginning of his literary career. In his early *Lecture on the Epistle of St. Paul to the Romans*, Luther interprets *John* 3,8: "[…] you must always and everywhere be ready to hear and to go your way with a willing ear, your whole duty is to listen humbly and to be taught".[70]

Just a little later, in his *Lecture on the Epistle of St. Paul to the Hebrews*, we can read:

> God […] demands of all people, namely to hear his voice […] Truly, nothing is heard more often by the prophets than 'hear!', 'listen!', 'they did not hear', 'they did not want to hear'.[71]

As important as the emphasis on hearing, faith and will may be relative to seeing, knowing and intellect/reason, this is not paramount to us here. Yet taste also plays some role for the Reformer. This is not surprising, as he was an avid reader of Tauler and *Theologia Deutsch*. A good example, still an early one, is his *Foreword to the Epistle of St. Paul to the Romans* (1522). Right at the beginning, Luther assures the reader that "the more one deals with it, the more delicious it is and the better it tastes [*schmecket*]".[72] It is not easy, however, because the epistle says that "everyone finds in himself a disgust [*unlust*] for good and an appetite [*lust*] for evil"; that is why "the foundation of the heart is not at the law of God", and the appetite [*lust*] for it can come only through the Holy Spirit.[73] Luther also remarks that a false or historical faith is a human invention, as opposed to a true faith of the Holy Spirit, and the foundation of the heart (*des hertzen grund*) can never experience (*erferet*) it.[74]

69 Kambaskovic, D. – Wolfe, C. T., The Senses in Philosophy and Science, p. 109.
70 Luther, M., Vorlesung über den Römerbrief (1515/1516), ch. 3. In: *Luther Deutsch. Die Werke Martin Luthers in neuer Auswahl für die Gegenwart*. Vol. 1: Die Anfänge. Ed. K. Aland. Göttingen, Vandenhoeck & Ruprecht 1982, p. 162.
71 Luther, M., Vorlesung über den Hebräerbrief (1517/1518). In: *Luther Deutsch*. Vol. 1: Die Anfänge, p. 304.
72 Luther, M., Vorrede auf die Epistel S. Pauli an die Römer. In: *D. Martin Luthers Werke. Die Deutsche Bibel*, vol. 7. Weimar, Hermann Böhlaus Nachfolger 1931, p. 3.
73 Ibid., pp. 5 and 7.
74 Ibid., p. 11.

We can say that Luther's almost proverbial disdain for intellectual reasoning on matters of faith opens the door not only to metaphors of hearing but also to metaphors of taste. Taste, as always, suggests intimate experiential cognition as opposed to intellectual knowledge from a distance. This "supposed" knowledge was what Luther criticised in most of the mystical tradition. In short: intellectual eyes are wrong; hearing is blind but true; taste is the ultimate witness of God's workings yet difficult to prove.[75]

Paracelsus: Taste and smell as "signatures"

Now, let us finally enter the specific world of Paracelsus (1493–1541). A quick search in the THEO database[76] turned up the following results: *"schmeck-"* (taste) 140 hits, *"schmack-"* 20 hits, *"geschmack"* 239 hits, *"gust-"* 187 hits; *"auge-"* 1708 hits. It seems a lost cause for "taste", yet this is not the case. As a follower of both Ficino and German mysticism in its Lutheran reformulation, Paracelsus bears witness to both the light metaphysics/epistemology and the pre-eminence of taste and, thus, direct experience.

Besides being an alchemist, natural philosopher and lay theologian, Paracelsus was a physician. This indicates that his use of "taste" would often have been non-metaphorical. Moreover, there is an ambiguity in his use of the word *"geschmack"*, which sometimes means "taste"[77] but very often "smell".[78] At any rate, the two meanings are closely related for Paracelsus in the specific context in which he uses them. By the "specific context" I mean the theory of *signatura rerum*, which connects something's invisible inner forces/powers with its outer form and sensory qualities. Here, taste plays an important role, as it reveals that thing's hidden powers (*virtutes occultae*). Of course, shapes and colours visible to the eye, as well as qualities and structures such as softness, roughness, harshness, etc., also tell us something about the inner powers. However, it seems that Paracelsus emphasizes taste as the most intimately connected to the invisible powers, and thus the most reliable. This

75 This is, frankly, a simplification of Luther's position. Given the subjective nature of taste, it is difficult to judge whether what one is tasting is truly God, or a demonic illusion. Luther very soon limited his original insight that the work of the Holy Spirit can be directly perceived by anyone.

76 This database, as a part of the Zurich Paracelsus Project run by Urs Leo Gantenbein, covers the Johann Huser edition of Paracelsus, published 1589–1591, plus his surgical writings, printed in 1605 and 1618. Available online at www: https://www.paracelsus.uzh.ch [cit. 19. 5. 2025].

77 E.g., Paracelsus, Philosophia de Generationibus et Fructibus quatuor Elementorum. In: idem, *Bücher und Schrifften*. Ed. J. Huser. Basel, Conrad Waldkirch 1589–1591 (hereafter *HE*), vol. 8, p. 111.

78 E.g., Paracelsus, Das Buch von der Geberung der Empfindlichen dingen in der Vernunfft, *HE* 1,355; idem, Von den natürlichen Dingen, *HE* 7,157; idem, Eilff Tractat, *HE* 4,191; idem, Opus Paramirum, Liber quartus de Matrice, *HE* 1,233; idem, Das Buch Paragranum, *HE* 2,23.

is especially important for a physician who needs to know the medicinal effects of a plant or substance. As Paracelsus says, "from the image and *gustus* [of a thing] proceeds a recognition of its medicine".[79]

This is implied when Paracelsus says that as everything "has its taste from its root (*nach seiner wurtz schmecket*)" so also a disease "remains united with that out of which it grows".[80] Similarly, as "the roses bring their smell [*geschmack*] with them out of the earth" so we bring all our qualities "from our mother's womb".[81] Thus, generally,

> […] nothing should be attributed to the body in itself but only to the powers that proceed from it, just as the smell [*geschmack*] from musk […] The many experimental results with *mumia* should be assessed on this basis.[82]

As for the "invisible powers", Paracelsus says elsewhere:

> In the same way that the power of the lily is expressed, so does the invisible body express its virtue. If there is such a wondrous thing in the body […] as the eyes prove and the tongue and ears can testify – then there resides in the microcosmic body something in fixed form from all those things so that great things can also be elicited from the *mumia*.[83]

The recurrent Paracelsian term "mumia"[84] in the two last quotations brings us, in the context of the *vires occultae*, to hidden animating powers which Paracelsus calls by various names: *mumia*, *Balsam*, but also *quintessence*. In 1536 he published his most important book of those to have appeared in his lifetime, *Die grosse Wundarzney* ("The great Surgery"). Here he invites physicians to follow nature and empirical knowledge instead of theoretical concepts.[85] Medicine's task is to foster the vital principle in the body, not to

79 Paracelsus, Liber Paramirum, *HE* 1,90. In: idem, *Essential Theoretical Writings*. Ed. and transl. A. Weeks. Leiden, Brill 2008 (hereafter *ETW*), p. 365; see also idem, Prologus in Librum de Herbis, *HE* 7,409: "die Süsse […] der Geschmack / die Krafft / Tugendt: Was do heyle […]."

80 Paracelsus, Liber Paramirum, *HE* 1,199; *ETW*, p. 639.

81 Paracelsus, De origine morborum invisibilium, *HE* 1,303; *ETW*, p. 877.

82 Ibid., *HE* 1,305; *ETW*, p. 883.

83 Ibid., *HE* 1,292; *ETW*, p. 849.

84 A search in the THEO database has shown 726 occurrences of "mumia"/"mummia" in the works of Paracelsus. See also Žemla, M., A balsamic mummy. The medical-alchemical panpsychism of Paracelsus. *Intellectual History Review*, 34, 2024, No. 1, pp. 75–90.

85 Paracelsus, Die Große Wundarznei. In: idem, *Sämtliche Werke. I. Abteilung. Medizinische, naturwissenschaftliche und philosophische Schriften*, vol. 10. Ed. K. Sudhoff. München, R. Oldenbourg 1929 (hereafter *SE*), p. 30: "du mußt ir nach und sie dir nit".

secure a harmony of bodily fluids as in the traditional humoral medicine. The vital principle, responsible for healing processes in the body, is the "inborn balsam" (*angeborener Balsam*).[86] Similar ideas had previously appeared in his *Das Buch Paragranum* (1529/1530) and a number of his other books where he uses the term *mumia*: "mumia is the balsam that heals the wounds".[87] *Quintessence* sometimes appears as just another term for such a reality, as in the early book *Archidoxis* where we read:

> Quintessence is a matter which is corporally drawn from all plants and all in which there is life, separated from all impurities and mortality […] quintessence is only the nature, power, virtue [*tugent*] and medicine […] It is a spirit like the spirit of life […].[88]

This is attested by the Paracelsian Oswald Croll (1563–1609) for whom the "spirit" is the true medicine, it is the "life", inner *"astra"* or "astral spirit" in the body,[89] the *quinta essentia* or "tincture",[90] *balsamus* or *mumia balsamita*.[91]

We must note that the notion of quintessence is ambiguous in the work of Paracelsus as it underwent evolution over time.[92] For us, however, it is important for its connotation with taste and smell: "some quintessences are … bitter, sweet, sharp [*acetosae*] […] some renew the body, others preserve it in health […]".[93] Quintessences had been related to specific strong and extraordinarily pleasing smells and tastes in the famous *De consideratione quintae essentiae* of John of Rupescissa (1310–1362).[94] That Paracelsus understood the special connection between the taste, smell and virtues of a quintessence is

86 Ibid., pp. 33–35.

87 Paracelsus, Opus Paramirum, *ETW*, p. 437. See also idem, Liber de matrice, *ETW*, p. 680; idem, De causis morborum invisibilium, *ETW*, p. 844. According to Weeks (idem, *ETW*, p. 228, note *a*), "mumia" is described at times as a "balsam" which preserves the living body from putrefaction, or as an innate healing power of the body.

88 Paracelsus, Archidoxis, *SE* 3,118. In Paracelsian texts, these powers are sometimes identified as coming from God: "got die selbigen kreft und tugent in die natur gossen hat, wie die sel in menschen" (*Philosophia de divinis operibus et secretis naturae*, *SE* 14,221).

89 Croll, O., *Basilica chymica*. Frankfurt am Main, G. Tampach 1608, pp. 21, 23 etc.

90 Ibid., pp. 40–41, 51 etc.

91 Ibid., pp. 59, 105.

92 See Benzenhöfer, J., *Johannes' de Rupescissa Liber de consideratione quintae essentiae omnium rerum, deutsch*. Stuttgart, Franz Steiner Verlag 1989, pp. 72ff.; Kahn, D., Quintessence and the Prolongation of Life in the Works of Paracelsus. In: *Longevity and Immortality: Europe – Islam – Asia. Micrologus, Nature, Sciences and Medieval Societies*, No. 26. Ed. Ch. Crisciani. Firenze, SISMEL (Edizioni del Galluzzo) 2018, pp. 183–225.

93 Paracelsus, Archidoxis, *SE* 3,120.

94 Rupescissa, I. de, *De consideratione quijntae essentiae rerum omnium*. Basel, Conrad Waldkirch 1597.

attested when he says: "let the *quinta essentia* digest four days so that it is perfect in its smell [*Geschmack*], juice, taste and power";[95] or when he recommends doctors to recognise the "three parts" not according to colours but by the smell (*Geruch*).[96] In the *Liber Meteororum*, quintessence and spiritus are almost interchangeable and it is said that spiritus can be best experienced, or "sensed", by *Geschmack* – which, however, means rather "smell":

> The spirit is the right thing, the other is not. The buxus has a smell [*Geschmack*], and this smell is its spirit, the other is the corpus. The musk has its soul in the smell; if it is lost, it is like a dead wood that has been cut down and that no longer bears fruit. […] the spirit is the smell [*der Geist ist der Geschmack*] […].[97]

Taste and smell – both of which require closeness between the perceiver and the perceived – are intimately conjoined sensory perceptions which are able to reveal the inner powers or essence of a thing which can, metaphorically as well as really, also be related to the "ground" or "root".[98] We could adduce more examples of this meaningful relationship between ground, "matrix", plant, fruit, food and taste in Paracelsus' texts.[99]

Now, in the previous passages, we have discussed taste (and smell) not as metaphors but as real sensory perceptions. This, however, paves the way for better understanding the metaphorical use of taste. It would be surprising, given his familiarity with the German religious tradition, if the metaphor of taste as the highest, deepest, essential, or mystical and ineffable knowledge were totally absent in Paracelsus. Yet the examples I have found are few and rather vague. For example, we read that "the universities do not taste [*schmecken*] anything in philosophy, so as they, generally, can and know nothing".[100] Similarly, we read that "if a man is salted with the right salt, then

95 Paracelsus, Archidoxis, *HE* 6,39: "laß die quintam essentiam digeriren vier tag / so ist sie in dem Geschmack / Safft / Gustu, vnd Virtute vollkommen".

96 Idem, Fragmenta de Urinis, *HE* 5, Appendix, 173.

97 Paracelsus, Liber Meteororum, *HE* 8,189; see idem, Von Vrsprung, Herkommen vnd Anfang der Frantzosen. In: *Chirurgische Bücher vnd Schrifften*. Ed. J. Huser. Straßburg, Latzarus Zetzner 1605, p. 212a: "jhren Geschmack / jhr Krafft vnd Tugend hat"; see also idem, Archidoxis, *HE* 6,5: "Spiritus gibt Gehördt / Gesicht / Sensum vnd Empfindligkeit / vnd Gustum."

98 See, e.g., idem, Das Ander Buch der grossen Wundartzney. In: *Chirurgische Bücher vnd Schrifften*, p. 62b: "so dann jhr den Grund so eben wissend vnnd schmecken"; idem, Opus Paramirum, *HE* 1,199: "was da wachst / nach seiner wurtz schmecket…" For the closeness of both senses see Ibarretxe-Antuñano, I., The Power of the Senses and the Role of Culture in Metaphor and Language, p. 117.

99 E.g., Paracelsus, Azoth, *HE* 10, Appendix, 26 and 29.

100 Idem, Von den natürlichen Dingen, *HE* 7,142.

he tastes good to God".[101] My suggestion is that this relates to the influence of the anti-intellectualist Taulerian and Lutheran traditions.

On the other hand, Paracelsus uses many metaphors of light and seeing, most famously the pair "light of nature" and "light of grace". Importantly, he appreciates both "lights", that is, natural and inspired knowledge, as equally valuable and worthy. In particular, his emphasis on empirical knowledge in the light of nature, as opposed to the authorities and "paper books", is what is typical: "nature is so highly endowed by God that everything must be experienced by the light of nature and not by hearing".[102] Yet if we open his theological works, we can read that

> […] the eyes give no account of the highest Good […] to know the highest Good is given only by the spirit of heaven which was not with the ancient [thinkers], only with the new[born] creature.[103]

Hence Paracelsus' prayer: "may our eyes not seduce us in the lust [*wollust*] of the natural tree […] in seduction by the evil spirit".[104] These words would fit well into the Lutheran context, likewise the context of heterodox spiritualism.

To sum up, according to the Paracelsian teaching of *signatura rerum*, the inner powers should be recognised by means of outer forms and sensory qualities of things in general, that is, by their shape, colour, smell, taste, etc. We may assume that taste is less prone to a false "seduction" and, therefore, it is more reliable – both as the real sensory perception and as a metaphor for non-intellectual knowledge. However, I have only been able to find a few examples of the latter use.

Valentin Weigel: Seeing as tasting

Let us now have a look at one of the first readers of Paracelsus who was, at the same time, highly individual and influential. Although being inspired in many ways by Paracelsus, the heterodox Lutheran theologian Valentin Weigel (1533–1588) had his own primarily theological agenda, caring little

101 Idem, *Ms.* 90. (H1) UB Heidelberg, *Cod. Pal. Germ.* 476,2. In: Sudhoff, K., *Versuch einer Kritik der Echtheit der Paracelsischen Schriften. Teil II. Paracelsus-Handschriften*. Berlin, Georg Andreas Reimer Verlag 1899, p. 442.

102 Paracelsus, Elf Tractat, *SE* 1,87.

103 Paracelsus, Liber de vita. In: idem, *Neue Paracelsus-Edition. Theologische Schriften*, vol. 1. Ed. U. L. Gantenbein (hereafter *GE*). Berlin, De Gruyter 2008, p. 164.

104 Idem, Liber de potentia et potentiae gratia dei, *GE* 1,387.

for medical or natural philosophical implications. Weigel was an avid reader of German mysticism, mainly the *Theologia Deutsch* and Tauler for sure, but his inspirations were, in fact, many and quite divergent.

On the one hand, the situation seems clear when we read the following:

> […] sight surpasses hearing, *auditus*, hearing surpasses *odoratus* […] Smell surpasses *gustum*, that is, taste [*geschmakh*] […] *gustus* surpasses *tactus*, that is, grasping or feeling […] but the quickest and most skilful of the external senses is sight, which happens by means of the eyes and in the twinkling of an eye. But the *imaginatio* not only surpasses these five external senses, but includes them all […].[105]

This emphasis on seeing and, consequently, light, sides with Weigel's epistemology of the "three eyes" which he drew from the 12th-century theologian Hugh of St. Victor (c. 1097–1141) and developed further. The lowest knowledge pertains to the "sensual eye" and imagination. (This does not conform to the above hierarchy of the senses; however, Weigel does not solve this paradox.) Above this, there is the "rational eye" that rises above the senses; and, ultimately, the "intellectual or mental eye", "by which humans see and know the object in an angelic manner".[106] To make it more complicated, the "highest vision" means for Weigel, as it meant in the Eckhartian and Taulerian traditions, that the intellectual eye remains passive and God himself "sees" through the human eye. Then, there is no distance between subject and object. That is why such a knowledge is the only true knowledge because it overcomes its subjectivity. The confluence of subject and object means that it is, in fact, not seeing because that presupposes their distinction. Could it, perhaps, be a "tasting"? The short answer is yes, as attested by multiple examples:

> […] the Spirit of God, the Word of God, or Christ in us, who dwells in us through faith […] is the whole and perfect kingdom of God, but it is not manifest – it must be waited for, known, found, felt [*gefület*] and tasted [*geschmeckt*] in the inner foundation of the soul.[107]

This taste also relates to "essence" or "being" (*Wesen*) as faith is "essential feeling" and must be felt and "tasted" in the heart. However, at the same

105 Weigel, V., Gnothi seauton I,9. In: idem, *Sämtliche Schriften. Neue Edition*. Ed. H. Pfefferl. Stuttgart-Bad Cannstatt, Frommann-Holzboog 1996– (hereafter *PW*), III,74.
106 Idem, Der güldene Griff 4, *PW* VIII,18.
107 Ibid. 15, PW VIII,61f.

time, Weigel assumes that this "essential" knowledge is multidimensional, so to speak, and pertains to other sensory perceptions too:

> […] true faith renews […] and enlightens the heart, and is truly a living feeling [*lebendiges befinden*], seeing, hearing, touching, and tasting [*schmecken*] […] it is no dead fanciful invention. […] Faith is essential feeling, seeing, sensing and hearing in the inner man. […] you feel and taste it in your heart […].[108]

Still, when it comes to the description of the highest knowledge – or rather the "unknowing knowledge" of Cusanus, who is one of Weigel's sources – Weigel reverts to metaphors of taste, as when he speaks of God who is "a lovely and sweet rest [*süsser Stillestand*]".[109] Here, "rest" means what it says, it "ceases all desire and movement".[110] Thus, there is a metaphorical paradox in Weigel's doctrine: even if eye and sight are exemplary for *all* sensual perception, seeing with the mind's eye may more properly be called "tasting". However, much like sight, it is a cognitive metaphor and quasi-concept.[111]

Heinrich Khunrath: The experience of Wisdom

Another Paracelsian, of a very different sort, and yet in some respects similar to Weigel, is the influential theosopher and alchemist Heinrich Khunrath (c. 1560–1605). He drew on Weigel, Paracelsus, Luther, German Mysticism and Ficino. We will limit our search to his *opus magnum* only, the *Amphitheatrum sapientiae aeternae* (1609), which is, moreover, the most philosophically and theologically relevant.

The importance of light metaphysics to Khunrath is suggested by his use of the Ficinian-Paracelsian notions "light of nature" and "light of grace". Generally, metaphors of light are omnipresent in his work.[112] Similar to Ficino and the Neoplatonists, Khunrath makes use of the ladder of light, manifested in the hierarchy of beauty, while adding the Weigelian motif of the "eye of the mind":

108 Ibid. 19, *PW* VIII,77.
109 Weigel, V., Vom Ort der Welt 19. In: idem, *Sämtliche Schriften*. Ed. E. Zeller – W.-E. Peuckert. Stuttgart, Frommann-Holzboog 1962– (hereafter *ZW*), I,67.
110 Ibid., *ZW* I,69.
111 On quasi-concepts see Petr Pavlas' study in this special issue.
112 See Žemla, M., Ficino in the light of alchemy. Heinrich Khunrath's use of Ficinian metaphysics of Light. In: Finamore, J. F. – Nejeschleba, T., *Platonism and its Legacy*. Lydney, The Prometheus Trust 2019, pp. 281–295.

> How pleasant it is to behold this eternal and infinite Light with the eyes of the mind […] How pleasant it is to conceive this uncreated and incarnate Light by faith in the Saviour, to behold the created Light in the angels, to admire its radiance in the macrocosmic light of nature, in the heavenly lights, and to awaken its brightness in the microcosmic soul […].[113]

Importantly, the goal of the cognitive process is divine Wisdom, as the book title itself insinuates. As such, it is beyond the scope of merely human knowledge, which makes it prone to metaphors other than the visual. Indeed, Khunrath makes an extensive use of other sensory metaphors to describe how Wisdom is attained.

In a good Lutheran way (and also in the footsteps of Nicholas of Cusa), he often emphasizes that we *listen* to divine Wisdom's calling.[114] To offer but one example:

> Wisdom calls […] in the whole world […], in the books of Nature and Creation, in the Holy Scriptures and in your own conscience […] Does not wisdom cry out, does not prudence utter her voice? […] We listen to this catholic [i.e. ubiquitous] voice with our ears of the senses, of reason, of the intellect, and of the mind, in prayer, in the oratory, and in the laboratory […].[115]

The phrase "ears of the senses, of reason, of the intellect, and of the mind" is a typical Khunrathian way of pointing out that our "hearing" must happen on various levels of reality – of which only the lowest involves bodily ears and sensory perception. Thus, hearing becomes a metaphor for tracing the invisible divine Wisdom. This "hunt for Wisdom", to use another Cusanus' phrase, is understood by Khunrath, using another famous metaphor, as the reading of the "three divine books": Holy Scripture, nature, and the human conscience. In other words, it involves studying, experimenting, and experiencing.

If we now move on to the next metaphor, that of "taste", the results of our search in the *Amphitheatrum* will be even more impressive. Let us begin again with a quotation:

113 Khunrath, H., *Amphitheatrum sapientiae aeternae*. Hanau, Guilielmus Antonius 1609, § 89 (*Ecclesiastes* 11,7).

114 On listening to God's Wisdom see ibid., § 4, 25, 32, 40, 47, 48, 49, 60, 62, 64, 65, 66, 79, 82, 278, 279, 300 etc.

115 Ibid., § 35 (*Proverbs* 8,1).

> […] the true student of Sophia [Divine Wisdom] may […] dwell on it in thought with ingenuity, and examine it often in the mind, so that the salutary mental food of this theosophical doctrine may be happily transformed into a sweet renewal of the soul, and a most efficacious nourishment of the spirit […] we are to taste [this wisdom] not superficially and lightly with our lips, but to receive it repeatedly by swallowing it often and deeply, and to truly, even quintessentially, perceive how, and how sweet, is true Wisdom, and finally how its teaching penetrates into the deepest recesses of the human heart.[116]

This passage is telling, and it brings us to the very core of Khunrath's understanding of the relationship between taste and Wisdom: "tasting" is an essential, animating, and *transforming* cognition.

The metaphorical connection between Wisdom and sweetness, mentioned in the above text, often comes with other sensory metaphors. Thus Wisdom (or Jesus) is, at one and the same time, "the flower of divine honey", "the heavenly manna of dew", "the honey in the soul and in the heart", and "light in the soul that dispels the darkness of ignorance".[117] True Wisdom gives a "sweet answer" to her lover, with the "hidden voice of the intellect and soul" and also with a "delightful kiss" which is "sweet".[118] "Sweet", that is, attractive to us, which arouses our emotions. This multisensoriality of the experience of Wisdom is sometimes made explicit when Khunrath gradually names all the senses and their functions in, to use Abraham Maslow's term, this "peak experience". For example:

> O Wisdom, open my spiritual sight to see You and my hearing to hear You, purify my senses, my mind and intellect, touch the tongue of my heart to taste You. Finally, I ask You to exalt me with the attraction of Your magnet, to refine me with the fire of Your Spirit, and to connect and unite me with You.[119]

Elsewhere, to take but one of many, many similar quotations, we are informed that we "will see it, touch it, taste it, hear it, and feel it";[120] Khunrath himself confesses (about the fundamental alchemical *desideratum*, the Catholic Green Lion): "I saw it, held it in my hands, tasted it and felt it";[121] and he

116 Ibid., *Prologue*; see also ibid., § 339.
117 Ibid., § 166.
118 Ibid., § 230.
119 Ibid., § 38.
120 Ibid., § 153.
121 Ibid., § 294.

assures the reader that the "catholic, triune, hermaphroditic, placed and finite little world […] can be seen, felt, heard, smelled and tasted".[122]

We can say that, in terms of sensory metaphors, Khunrath's text presents a mixture of light metaphysics, Lutheran primacy of hearing, and the mystical emphasis on taste. "Tasting" is true knowledge, the transforming cognition, and a "sweet" affect that can move us.

Conclusion: The 17th century

Sight has been shown to be the major metaphor for knowledge and understanding in Western thought. In the Platonic tradition, although sight allows access to beauty and divinity up the metaphysical-physical-metaphorical ladder, its inherent distance and susceptibility to illusion make it vulnerable to error. Sight, primarily, pertains to concepts which are fixed and unmoving, that is, "true". It is often considered the most objective of our senses. In contrast to sight, in Lutheranism, hearing with its passive nature offers a more open understanding of God (and the world), allowing us to move beyond the limitations of active visual perception, beyond "erring eyes". For mystics and Paracelsians, taste (and smell, as we have seen), as the most intimate and therefore most subjective sense, provides a visceral and transformative experiential cognition, an "unknowing knowledge" from the perspective of visual metaphors, that leads to a deeper, "living" understanding which transcends the limitations of language and communication. As such, taste can reveal the "true nature" of a thing, its "hidden powers" (*vires occultae*); on the other hand, metaphors of taste have a strong effect on our emotions: they can "move us" toward or away from something.

Thus, we can say, by recognizing the limitations of sight and exploring the unique insights offered by hearing and taste, a more nuanced and transformative understanding of the (divine) world might have been unlocked. Conversely, the ban on non-visual metaphors could have narrowed the world as we "see" it, especially if the visual metaphors had remained in use and as such went unnoticed.

As stated above, it would be necessary to broaden and deepen the scope of this paper to fully understand the role of sensory metaphors, and especially the metaphor of taste, in the development of philosophical and early scientific thought. Thus, allow me just a few remarks.

One important current of thought was articulated by the Rosicrucian movement that started with the three Manifestos published in 1614, 1615

122 Ibid., *Isagoge* 2.

and 1616. They called for a general change, a "universal reform". If we look here for sensory metaphors, overall the results are not rich. However, the *Confessio fraternitatis* (1615) makes one important claim: "there have been ages which have seen, others which have heard, others again that have smelt and tasted [*gerochen unnd geschmecket*]".[123] It is not clear how to understand it: perhaps in the sense of a Neoplatonic emphasis on seeing, Lutheran on hearing, and mystical on tasting? Anyway, the text claims (as the Paracelsians did) that God opened his hidden knowledge in the "book of nature" which "stands open truly for all eyes". This involves a new and special task: now "honour should be likewise given to the tongue, that which formerly saw, heard, and smelt shall finally speak"; and after intoxicated sleep we shall "joyfully go forth to meet the sun rising in the morning". It seems that the old possibilities of sensory metaphors have been set aside for the sake of the age of activity and "speaking".

Although this call often remained only vague and theoretical, some authors tried to devise practical steps, such as Johann Valentin Andreae (1586–1654, a co-author of the Manifestos) in his utopic *Christianopolis* (1619) and Jan Amos Comenius (1592–1670) with his pedagogical treatises. Andreae himself makes good use of sight and of images in his *Christianopolis*: images are the best instrument for learning things, they are an aid to memory,[124] because "learning enters us altogether more easily through our eyes than through our ears, and more pleasantly".[125] That is why, in Christianopolis, "they attract the children by giving them pictures to examine, they develop the older ones, and they advise the adolescents".[126]

Authors who subscribed to Rosicrucian ideas often developed highly imaginative methods based, obviously, on images, that is, largely on sight. A typical representative of this is Robert Fludd (1574–1637). However, like Khunrath, Weigel and Paracelsus – all of them usually being the Rosicrucian sources – they used other sensory metaphors as well and they used them as both cognitive and affective metaphors.

Yet there is also the other party, promoted by Marin Mersenne (1588–1648), Fludd's opponent and a follower of René Descartes (1596–1650). For them, imagination is an obstacle on the path to true knowledge. In fact, the origins of modern science are closely related to a cleansing process in early modern

123 *Confessio Fraternitatis*, ch. 8. Frankfurt am Main, J. Bringern 1617, p. 48.
124 Andreae, J. V., *Christianopolis* 47. Ed. and transl. E. H. Thompson. Dordrecht, Kluwer 1999, p. 213.
125 Ibid.
126 Ibid. 51, p. 218; see also ch. 49–50.

philosophy, whose language was to be free of any imaginative, that is, vague and misleading terms. Yet, at the same time, they often make extensive use of visual metaphors.

Francis Bacon (1561–1626), in his *Instauratio magna*, published 1620, emphasised the role of the "eye of the human understanding", of "deceitful resemblances of objects and signs", of "the uncertain light of the sense, sometimes shining out, sometimes clouded over".[127] He claims: "I admit nothing but on the faith of eyes, or at least of careful and severe examination".[128] For him, "all depends on keeping the eye steadily fixed upon the facts of nature and so receiving their images simply as they are. For God forbid that we should give out a dream of our own imagination".[129] The crown of the creation is "the intellectual light".[130] Here, the eye is the leading instrument in the new science as well as its leading metaphor – although it wants to get rid of imagination.

Descartes' rejection of figurative language, coupled with his method of *clare et distincte*, is well known.[131] Significantly, Descartes begins his *Dioptrique* (1637) – with an introductory *Discours de la méthode* – as follows:

> All the conduct of our life depends on our senses, among which that of the sight is the most universal and noblest, there is no doubt that the inventions which serve to increase its power, are of the most useful that can be.[132]

Descartes' contemporary, Thomas Hobbes (1588–1679), writes in 1651:

> Metaphors, and senselesse and ambiguous words, are like *ignes fatui*;[133] and reasoning upon them, is wandering amongst innumerable absurdities; and their end, contention and sedition, or contempt.[134]

127 Bacon, F., The Great Instauration. In: *The Philosophical Works of Francis Bacon*. Ed. and transl. J. M. Robertson. London, George Routledge and Sons 1905, Preface, p. 245.
128 Ibid., p. 252.
129 Ibid., p. 253; see also Bacon's critique of Paracelsus in *The New Organon*. Book 2, Aph. 48, ibid., p. 371: "let no one adopt the wild fancy of Paracelsus […] blinded I suppose by his distillations […]."
130 Bacon, F., The Great Instauration, p. 254.
131 See, e.g., Blumenberg, H., Paradigmen zu einer Metaphorologie, pp. 7f.
132 Descartes, R., La Dioptrique I (De la lumière). In: idem, *Œuvres*, vol. 6. Ed. Ch. Adam – P. Tannery. Paris, Léopold Cerf 1902, p. 81.
133 "Foolish fires", i.e., will-o'-the-wisps, in the sense that they attract our attention, seduce us, but they are nothing in themselves.
134 Hobbes, T., *Leviathan, or, The Matter, Forme, and Power of a Common-Wealth Ecclesiastical and Civil* I,5. London, Andrew Crooke 1651, p. 22.

About four decades later, John Locke asserts that "figurative Speeches" in scholarly treatises "insinuate wrong *Ideas*, move the Passions, and thereby mislead the Judgment; and so indeed are perfect cheat".[135]

Of course, such claims make sense only if figurative language were in use not only in popular speech but also in philosophy. The early modern raid against "misleading" and overly emotional and "disturbing" metaphors, however, was directed against everything but the fundamental visual metaphors, which were used rather uncritically. "Hearing", "smell" and "taste" as privileged experiential ways to the truth remained episodic and marginal, reserved for poetry and personal religiosity where they can open the door to another "reality" – which mainstream science, driven by visual metaphors, does not consider real at all.

135 Locke, J., *Essay Concerning Human Understanding* III,10. London, Awnsham et al. 1700 (1st edition 1689), p. 301.

Metaphors of Universal Architecture and the Architecture of Vanities in Miklós Bethlen's Works*

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Abstract:
This paper highlights the tantalising intellectual tension between the sceptic view of the late Transylvanian Count Miklós Bethlen (1642–1716) in his *Memoires* on architecture as "vanitatum vanitas" and his earlier progressive building project in Betlenszentmiklós/Sânmiclăus. Whereas the later Bethlen's self-fashioning is driven by the worldview of *Ecclesiastes/Kohelet,* commonly accepted in Bethlen's age as written by King Solomon, his country house built between 1668 and 1683 shows the fundamental influence of his teacher Nicolaus Goldmann's (1611–1665) theory of universal architecture in the footsteps of the Jesuit Juan Bautista Villalpando's (1552–1608) reconstruction of the Temple of Solomon. This case study offers a unique opportunity to compare cognitive metaphors in sources ranging from Bethlen's autobiography to such architectural embodiments of cognitive metaphors as Bethlen's country house in Transylvania.

Keywords: metaphors; history of architecture; autobiography; Temple of Solomon; design culture

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Miklós Bethlen was a distinguished member of one of the leading early-modern landed aristocratic families in Transylvania, primarily a politician – Chancellor of the Principality – but also a creative architect and prolific author. As Virgil Birbauer (Borbíró; Bierbauer; 1893–1956) once wrote, his autobiography is a "pearl" of early-modern Hungarian prison literature and his palace in Bethlenszentmiklós is the best and most beautiful example of late renaissance country house architecture in Transylvania.[1] I shall demonstrate the tantalising interplay between Bethlen's use of metaphors in his autobiography and architecture, claiming that notwithstanding the strong tension between them, any understanding of the text and of the building is deeply interdependent.

Theoretical frameworks

After the heyday of the linguistic turn, postmodern strong textualism and the crisis of the humanities and theory in general, new and alternative cultural and scholarly attitudes began to emerge as part of the phenomenon of the "theory after theory" (Barry) such as the theory of atmosphere or mood (*Stimmung*) and the production of presence, somaesthetics, affect theory and design culture studies, all of which are connected to bodily, spatial and design (culture) turns.[2] These trends sought to criticise attitudes that regarded cultures exclusively as texts, linguistic practices, discursive episteme and paradigms, semioses or language games with their particular dictionaries and grammars on the one hand, or – as in the case of visual culture studies – solely as sets and patterns of visual or iconographic phenomena on the other. After a while, however, these new alternatives, successfully overcoming linguistic imperialism and iconological reduction, gradually began

1 Bierbauer, V., Nicholas Bethlen. Un grand seigneur architecte. *Nouvelle Revue de Hongrie*, 28, 1935, No. 53, pp. 314–322, here p. 315: "Son autobiographie est une des plus saisissantes, une perle, malheureusement peu connue, de la littérature hongroise – tandis que le château de Bethlen-Szentmiklós, dont il fut lui-même l'architecte, est le plus beau château de la Transylvanie en style renaissance" [His autobiography is one of the most striking examples, a pearl, unfortunately little known, of Hungarian literature – while Bethlen-Szentmiklós Palace, of which he himself was the architect, is the most beautiful palace in Transylvania in the Renaissance style]. (Translation mine.)

2 Barry, P., *Beginning Theory: An Introduction to Literary and Cultural Theory: Fourth Edition.* Manchester, Manchester University Press 2017; Böhme, G., *Atmosphäre: Essays zur neuen Ästhetik.* Berlin, Suhrkamp Verlag 1995; Gumbrecht, H. U., *Production of Presence: What Meaning Cannot Convey.* Redwood City, CA, Stanford University Press 2004; idem, *Stimmungen lesen.* München, Carl Hanser 2011; Shusterman, R., Somaesthetics: A Disciplinary Proposal. *The Journal of Aesthetics and Art Criticism*, 57, 1999, No. 3, pp. 299–313; Julier, G., From Visual Culture to Design Culture. *Design Issues*, 22, 2006, No. 1, pp. 64–76; Highmore, B., *Cultural Feelings: Mood, Mediation and Cultural Politics.* London, Routledge 2017.

to tend to the other extreme, excessively emphasising sensorial experiences and bodily cognition at the expense of intelligible, discursive and logical understanding in striking accordance with the total aestheticization project of the current (cognitive) trends of aesthetic, artistic and design capitalisms.[3]

One of the most tantalising papers from this point of view is Böhme's piece on architectural metaphors that, to his mind, are non-existent, since metaphors are solely linguistic phenomena, so that in the case of architecture one must instead think in terms of atmospheres.[4] It is quite telling, though, that he appreciates the possibility of architectural metaphors in the paradigm of postmodernism in design, when architecture is virtually understood as built marketing. This could, however, unintentionally support Renato De Fusco's semiotic thesis, according to which this is a typically historical question, since there are some ages when architecture is understood and practiced in more "representative" (cf. *rappresentazione*) and others in more "structural" (cf. *conformazione*) terms.[5] In "representative" periods, the idea of architecture as rhetoric or language prevails; in more structure-focused periods, engineering-oriented, structuralist and phenomenological approaches are more common. Equally convincing is John Onian's research on architectural cognition that claims legitimacy for architectural metaphors from several points of view which complement Lakoff's, Johnson's and Kövecses' pivotal theories in the field according to which our cognition and language use are primordially spatial.[6]

Instead of supporting one of the extremes or thinking these assumptions inimical, it is more edifying to adopt notions of the poetics of space originating in Gaston Bachelard's theory, following which one can think of an ever-fruitful interaction between space articulation and perception in physical

3 With references to T. W. Adorno, Mike Featherstone, Ernesto Francalanci, Remo Bodei, Gilles Lipovetsky and Jean Serroy among others, see Szentpéteri, M., Total Aestheticization and Design Capitalism. In: Csontó, L. – Horányi, A. – Süli-Zakar, S. (eds.), *Tervezett alkotás = Designed Art Work: Debreceni Nemzetközi Művésztelep = International Artist in Residence of Debrecen.* Debrecen, Modem 2017, pp. 30–35; idem, Changing the Rhythm of Design Capitalism and the Total Aestheticization of the World. *Hungarian Studies Yearbook*, 1, 2019, No. 1, pp. 82–98; idem, A művészet visszatérése [The Return of Art]. *Helikon: Irodalom- és Kultúratudományi Szemle*, 66, 2020, No. 3, pp. 5–19. For a less critical but detailed overview see Böhme, G., *Ästhetischer Kapitalismus.* Berlin, Suhrkamp Verlag 2016.

4 Böhme, G., Metaphors in Architecture – a Metaphor? In: Gerber, A. – Patterson, B. (eds.), *Metaphors in Architecture and Urbanism: An Introduction.* Bielefeld, Transcript Verlag 2013, pp. 47–58.

5 De Fusco, R., *Una semiotica per il design.* Milano, Franco Angeli 2005, p. 13.

6 Lakoff, G. – Johnson, M., *Metaphors We Live By.* Chicago–London, University of Chicago Press 1980; Kövecses, Z., *Metaphor: A Practical Introduction.* Oxford, Oxford University Press 2002; Onians, J., Architecture, Metaphor and the Mind. *Architectural History*, 35, 1992, pp. 192–207.

terms, and in discursive terms the poetic, mythical or narrative creation of more homogenised places from the ocean of heterogeneous spaces.[7] When we approach design culture as a dynamic network of phenomena that is constituted from the synergy of all the senses, we naturally think of it as being born out of an ever-creative interplay of physical spaces experienced by the body and discursive spaces open to the human mind at the same time. This is especially true of reading in terms of 4E Cognition theory,[8] according to which our mind is embodied in its states, movements and gestures while delving into typographical space, embedded in social and material contexts virtually rebuilt by the text, extended into our designed environment, again, evoked by the text, and to a certain extent enacted in the intellectual and fictitious scenes of the book also clearly experienced by the body.[9]

The textual palace as a cognitive metaphor for futility

Questions arising from the construction of Bethlen's Palace in Bethlenszentmiklós and questions regarding Miklós Bethlen's architectural education have sporadically appeared in the history of Hungarian architecture ever since the pioneering works of the architect and architectural theorist Virgil (Borbíró) Birbauer, but despite Margit B. Nagy and András Kovács' pivotal works, we can hardly claim that the subject has been exhausted.[10] In the meantime, Koen Ottenheym and Letiția Cosnean have recently opened up a completely new perspective in the investigation of such questions and thus, for example, the Bethlen researchers were able to direct attention to Bethlen's Leiden master, Nicolaus Goldmann, and his architectural thoughts, recently discussed in detail by Jeroen Godeau.[11]

7 This line of inquiry has been extensively explored in: Szentpéteri, M. – Tillmann, J. (eds.), Térpoétika [The Poetics of Space]. *Helikon: Irodalom- és Kultúratudományi Szemle*, 56, 2010, No. 1–2 (thematic issue).

8 4E stands for Embodied–Embedded–Extended–Enacted. For an overview see Newen, A. – Gallagher, S. – Bruin, L. de, 4E Cognition: Historical Roots, Key Concepts, and Central Issues. In: iidem (eds.), *The Oxford Handbook of 4E Cognition.* Oxford, Oxford Library of Psychology 2018. For online digital edition see ibid., Oxford, Oxford Academic 2018. Available online at www: https://doi.org/10.1093/oxfordhb/9780198735410.013.1 [cit. 19. 6. 2025].

9 Kukkonen, K., *4E Cognition and Eighteenth-Century Fiction: How the Novel Found its Feet.* Oxford, Oxford University Press 2019.

10 Bierbauer, V., *A magyar építészet története* [A History of Hungarian Architecture]. Máriabesnyő, Gödöllő 2004 (1st edition 1937), pp. 97–100.

11 Cosnean, L., The Architectural Patronage of Miklós Bethlen in Late Seventeenth-Century Transylvania. *Caiete ARA*, 5, 2014, No. 1, pp. 135–150; Ottenheym, K., Proportional Design Systems in Seventeenth-Century Holland. *Architectural Histories*, 2, 2014, No. 1, pp. 1–14; Goudeau, J., *Nicolaus Goldmann (1611–1665) en de wiskundige architectuurwetenschap.* Groningen, Philip Elchers 2005; idem, The Matrix Regained: Reflections on the Use of the Grid in the Architectural Theories,

Before I say more about this, let me first refer to the fact that in his memoirs, the elderly Miklós Bethlen, while in prison, retrospectively classifies all human activity as futile, including earthly, actual architecture, as a result of which in his autobiography the Bethlenszentmiklós Palace and its construction history functions as a kind of cognitive metaphor that can be regarded as a model of all kinds of vanity in the text.[12] Bethlen's attitude is not unique for its time. John Onians drew architectural historians' attention to the medieval crisis of actual, tangible architecture, which affected reception all the way to the early modern era and guaranteed the basically negative role of architecture in the strict system of Christian morality.[13] Accordingly, this was perhaps the most important reason for the strengthening of symbolic architecture in the era, which proved to be decisive later on, such as in Miklós Bethlen's time. In this Christian view, factual architecture is actually a temptation from God, a kind of hubris, like the construction of the Tower of Ba-

of Nicolaus Goldmann and Jean-Nicolas-Louis Durand. *Architectural Histories*, 3, 2015, No. 1, pp. 1–17. See also Goudeau, J., Ezekiel for Solomon: The Temple of Jerusalem in Seventeenth-Century Leiden and the Case of Cocceius. In: idem – Verhoeven, M. – Weijers, W. (eds.), *The Imagined and Real Jerusalem in Art and Architecture.* Leiden, Brill 2014, pp. 88–113.

12 On Bethlen's self-fashioning in general see Tóth, Z., *A koronatanú: Bethlen Miklós. Az Élete leírása magától és a XVII. századi puritanizmus* [Miklós Bethlen's Autobiography and 17th-century Puritanism]. Debrecen, Csokonai 2007, pp. 38–41. On the architectural use of cognitive metaphors see Szentpéteri, M., A keresztény pánszófia temploma. Jan Amos Comenius és a szabadkőműves templomszimbolika kora újkori forrásvidékei [The Temple of Pansophy: Jan Amos Comenius and the Early Modern Sources of Masonic Temple Symbolism]. *Helikon*, 62, 2016, No. 4, pp. 528–545. Bethlen's image of mummies is similarly exciting and perceptive, although it does not play such an important role in the autobiography's self-fashioning strategies as the question of futile architecture. "The sweet scent of ointment is profitable to the living, who can inhale it and smell it. To the dead, however, it is as useful as a horseshoe to a dead horse. What use to the bodies of the Egyptian kings was that anointing in which they indulged above every nation, if, as doctors tell us today, if they are not mistaken ["lying" in the original], they are corroded and rotted later in the mummified state ["people eat them as mummies and shit them out" in the less euphemistic original version]? Has anointing ever preserved a single body from corruption? Never ever. If the anointing is renewed, the body will dry out and keep for a long time, but so hideously black that one is repelled by it. Such things are to be seen among the curiosities in Leyden. But what does it profit the body itself, or the soul that lived in it, that it should not be corrupted? Thus we have seen amply above what profit repute is to the dead." Bethlen, M., Élete leírása magától. In: Windisch, É. V. (ed.), *Kemény János és Bethlen Miklós művei.* Budapest, Szépirodalmi 1980, pp. 399–981, here p. 423. For online digital edition see idem, Élete leírása magától. In: Windisch, É. V. (ed.), *Bethlen Miklós művei.* Budapest, Neumann 2000. Available online at www: https://mek.oszk.hu/06100/06152/html/index.htm [cit. 19. 6. 2025]. For English translation see Bethlen, M., *The Autobiography of Miklós Bethlen.* Transl. B. Adams. London–New York–Bahrain, Kegan Paul 2004, pp. 52–53. (Here and in the following quotations from the English translation of Bethlen's autobiography, the modifications in square brackets are mine.)

13 Onians, J., *Bearers of Meaning: The Classical Orders in Antiquity, the Middle Ages, and the Renaissance.* Princeton, NJ, Princeton University Press 1988, pp. 112–129 (chapter "The crisis of architecture: Medieval and Renaissance").

bel. These worldly, human structures, just like the cities of Babylon, Sodom, or even Jerusalem, and earthly possessions in general (*Matthew* 6,19), are doomed to destruction – even Solomon's temple only stood for a short time. At the same time, construction in the metaphorical sense is decisive as early as the New Testament. Peter is the rock, for example, on whom the church is built (*Matthew* 16,18); and Paul calls the apostles James, Peter and John "pillars" (*Galatians* 2,9). It is therefore not surprising, according to Onians, that Christian basilicas and churches were symbols of the Heavenly Jerusalem, and their builders all compared themselves to Solomon, the only person to receive divine approval for his construction work on earth. This legitimacy trick was also applied by Justinian, the builder of the Haghia Sophia, as well as by Charlemagne in Aachen and Abbot Suger in Saint Denis.[14]

It is rarely discussed whether the parallels to Solomon were drawn when designing civic buildings although, to a certain extent, the example of the Escorial is obvious from this perspective.[15] Notwithstanding that Bethlen, *expressis verbis*, does not see himself as the constructor Solomon, in his autobiographical self-fashioning an important role is played by the Solomon of vanities, i.e. the Preacher, whose words in Bethlen's time were still believed to be those of Solomon, "the son of David, the king of Jerusalem" (*Ecclesiastes* 1,1). In my opinion, the topos of the crisis mentioned by Onians also appears in Bethlen's autobiography in the form of Solomon's vanity, when the discussion of honour and reputation turns to the construction of Bethlenszentmiklós Palace. According to Bethlen,

> [h]onour is […] of two kinds; in the same way that man consists of two parts, body and soul; so there is bodily, worldly honour, which accompanies the body or earthly life and vanishes together with the same; and there is spiritual, lasting honour, and like the soul this too is immortal and not only aids one in this life but also accompanies one to the next world, inseparably, unchangingly.[16]

The latter is "truly honour", the former only its "image", "mask" and "shadow", although the former is "pursued" for the most part, and the latter, regrettably, is "very weakly claimed".[17] In the sequel, Bethlen illustrates the question of worldly fame and honour with a perceptive architectural image

14 Szentpéteri, M., A keresztény pánszófia temploma, pp. 531–532.
15 Taylor, R., *Arquitectura y magía. Consideraciones sobre la idea de El Escorial.* Madrid, Siruela 1992.
16 Bethlen, M., Élete leírása magától, p. 406; idem, *The Autobiography*, p. 30.
17 Idem, Élete leírása magától, p. 411; idem, *The Autobiography*, p. 35.

relevant to our topic, "[b]ut how weak, and certainly more fragile than ice, is the opinion of man, the fundamentum on which the world builds its Babel-tower of honour, as the thing itself and everyday examples reveal."[18]

The topos of "the tower of Babel of honour (becsületi Bábel tornya)" is beautifully enriched when Miklós Bethlen brushes the futility of the *arti del disegno*, that is, in Bethlen's words, the "great crafts of the hands (kézi nagy mesterségek)", like architecture, painting and sculpture. Regarding the craft of the architect (*architectus*), for example, he believes that "those men of power too grasp at this shadow that seek eternal memory in buildings, the first of whom was the murderer Cain in *Genesis* 4,17 and the first tyrant Nimrod or Ninus in *Genesis* 10,8–11, the kings that made the pyramids of Egypt, Nebuchadnezzar, Alexander, Seleucus, Antiochus, Constantine the Great and others." He then continues:

> Where are the terribly great buildings known as the seven wonders of the world, where are they themselves that built them or caused them to be built? If any city named after them still bears their name today it is rather in the histories than in reality, for the nations that inhabit them now call them by different names; but even if they had remained, what would they have profited their builders? in the mouths of men their names signify, for the most part, foolish and haughty tyrants. What is harder still, God, through David in *Psalm* 49,12–15, likens them to cattle, and consigns them to the grave and to hell. Is that good repute, honour, eternal remembrance?[19]

Bethlen later, now openly referring to Solomon and his temple, adds more colour to the picture outlined so far:

> Solomon says in *Ecclesiastes* 1,4: One generation passeth away, and another generation cometh, and so on and so on; *consequenter* time consumes not only men but also all their works, even those in which they have sought repute, name and eternity, monarchias, great imperiums, cities too and terribly great buildings, columns of marble, gold, bronze and silver set up in the hope of perpetuity, images, monumentums, whole generations, their languages, repute and names; it consumes too the human emotions, love, fear, anger, pleasure, sorrow, glory, kind-

18 Idem, Élete leírása magától, p. 413; idem, *The Autobiography*, p. 37.

19 Idem, Élete leírása magától, p. 421. "Great manual skills" is certainly not the best rendering of "kézi nagy mesterségek". Idem, *The Autobiography*, pp. 48–49.

> ness, shame, repute good and ill, panegyricuses, epitaphiums, books, languages, sciences, in brief, all transitory things. Where are the pyramids of Egypt, the temples of Solomon and Diana, the Hanging Gardens of Babylon, the Four Monarchias, the tomb of Mausolus?[20]

Bethlen does not deal with painters ("képírók" in Hungarian, i. e. "image writers") and sculptors ("képfaragók" in Hungarian, i. e. "image carvers") any more positively:

> Apelles and Parrasius were painters and Phidias and Praxiteles sculptors so famous that even the idol gods that they made received greater honour; but where in the world today is a single one of their works? Their work is lost, they themselves are no more, their names and memorials too. Indeed, what could be greater folly than to wish to set ice in a ring instead of a diamond and wear it? No greater sense, surely, only not so soon perceptible, have those that seek eternity in transient, perishable things.[21]

Although Bethlen calls all worldly pursuits, including architecture and construction, with Solomon "the vanity of vanities" in the chapter "On my Inclinations or Propensities", it is still exciting to have a look at how things actually happened, or at least what it was for the younger Bethlen to remember all this could mean. Let me quote the well-known lines about Bethlen's great willingness to build:

> My inclination towards building was great, and was increased because at university I studied architecture both civil and military; and because I saw many fine houses in Christian lands, and as eldest son I inherited farms everywhere, so that, even if I had not taken pleasure in architecture and had not had a grasp of it, I would have been obliged to build. But this did me harm, and in many ways I was led astray in it, was boastful over it, tried beyond my strength and impoverished myself with it; I had great trouble, much anxiety and regret, and could not obtain expert master craftsmen in Transylvania, because they were very few.[22]

This detail is followed by the well-known story of the construction of Betlenszentmiklós Palace, which certainly inspired generations to come. Writing

20 Idem, Élete leírása magától, pp. 457–458; idem, *The Autobiography*, p. 102.
21 Idem, Élete leírása magától, p. 422; idem, *The Autobiography*, pp. 50–51.
22 Idem, Élete leírása magától, p. 502; idem, *The Autobiography*, pp. 164–165.

instructions for posterity, Bethlen concludes the section of his autobiography discussing the construction of his palace with this famous Solomonic verdict, which also raises the eternal backwardness of Hungarian and Transylvanian culture:

> I have judged it necessary to write this as evidence for my posterity, and I advise them: if there is not actually great need of something, do not build for mere pleasure or out of vanity; because although I set my own building in order so that my property should not be harmed, it was at great damage to my farming and my purse. As I see it, fine buildings are not for Transylvania: they lead either to damage to a man's vision, or to loss for his children, or both. Vanitas vanitatum.[23]

The above topos of the Preacher's vanity puts the history of the palace's construction in a beautiful framework. As we read above, Bethlen asks, where are the pyramids of Egypt, the temples of Solomon and Diana, the Hanging Gardens of Babylon, the four Monarchies, the tomb of Mausoleus? These worldly vanities, just like Bethlenszentmiklós Palace, which in its current state is indeed unfortunately at the mercy of the public, are only doomed to destruction…

The Temple of Solomon in Transylvania

Notwithstanding all the above elderly talk about futility, is it conceivable that the Temple of Solomon, prefiguring the Heavenly Jerusalem, might still be hidden in Betlenszentmiklós Palace? Is it possible that in Miklós Bethlen's self-fashioning, not only the old preacher, or the disgraced, idolatrous — in Bethlen's words, promiscuous and arrogant — Solomon, but also the young builder Solomon in Bethlen's younger years played a role? Is it possible that the text inscribed into the building and the text of the recollection show an exciting tension? In order to obtain a meaningful answer to this question, we have to take a look at Miklós Bethlen's architectural studies. In Utrecht, he studied:

> [f]ortification or military architecture with a very old and drunken man called Wasner, a famous mathematician, who came to my lodgings and taught us as a group of five young gentlemen. He knew no Latin, only Belgian, and his hands shook so with age and drunkenness that

23 Idem, Élete leírása magától, p. 504; idem, *The Autobiography*, p. 166.

> he could not draw a line, never mind write a word, until he had drunk a goodly glass of brandy in the morning or two glasses of rough wine after lunch; when he had drunk it his hand was steady. Therefore even when we were making arrangements he struck a bargain: he taught for an hour every morning and at noon. I made great progress in this subject, and therefore translated from German into Latin the *Architectura* of Adam Freytag; it is among my writings if it has not been destroyed.[24]

This shows that Bethlen was already very interested in the topic in Utrecht, so much so that it even encouraged him to work as a translator. At the same time, to us his studies in Leiden are much more important: "[A]lso I studied civil architecture and perspective in German with an old German named Nicolaus Goldmannus (he was not a professor)."[25] Goldmann, who was born in Breslau in 1611 and died in Leiden in 1665, was a mathematician and architectural writer educated in Leipzig and Leiden, whose most important work is the *Vollständige Anweisung zu der Civil-Bau-Kunst*, published posthumously in 1696 by Leonhard Christoph Sturm, which is as important in the German-speaking lands as Alberti's in Italy, Philibert de l'Orme's in France or Inigo Jones' in England.[26] The book, and especially Sturm's revised editions, also had a fundamental impact on Hungarian architectural theory. From our perspective, it is particularly important that Goldmann also plays a distinguished role in the history of "architectural Solomonism" (Stefania Tuzi).[27]

24 Idem, Élete leírása magától, p. 574; idem, *The Autobiography*, p. 249. Adam Freytag (1608–1650) was a military engineer and physician of Prussian origin. There is no extant copy of Bethlen's translation of his *Architectura militaris nova et aucta, oder Newe vermehrte Fortification* (Leiden 1631). See Bethlen, M., *Válogatott bibliográfia* (Selected Bethlen-bibliography). Ed. Z. Tóth. Budapest, Reciti 2016. Available online at www: http://reciti.hu/wp-content/uploads/bethlen-bib_vn.pdf [cit. 19. 5. 2025].

25 Bethlen, M., Élete leírása magától, p. 579; idem, *The Autobiography*, p. 255. István Bibó does not mention that Bethlen studied under the supervision of Goldmann, see Bibó, I., A magyar építészeti szakirodalom kezdetei (Építészeti szakkönyvek Magyarországon a XVIII. században) [The beginnings of Hungarian architectural literature /Architectural textbooks in Hungary in the 18th century/]. In: Zádor, A. – Szabolcsi, H. (eds.), *Művészet és felvilágosodás. Művészettörténeti tanulmányok* [Art and Enlightenment]. Budapest, Akadémiai 1978, pp. 27–122, here p. 85.

26 See Bibó, I., A magyar építészeti szakirodalom kezdetei, pp. 85–86. Jeroen Goudeau calls him "a northern Scamozzi", see Goudeau, J., A Northern Scamozzi: Nicolaus Goldmann and the Universal Theory of Architecture. *Annali di architettura*, 18–19, 2006–2007, pp. 235–246. See also Hanno-Walter, K., *Geschichte der Architekturtheorie.* München, C. H. Beck 1995, pp. 198–199. For a detailed discussion in the original – together with Ezechiel's visionary description of the Temple from the Lutherbibel in Sturm's introduction – with tables and Sturm's beautiful Villalpandian images see Goldmann, N., *Vollständige Anweisung zu der Civil-Bau-Kunst.* Ed. L. C. Sturm. Braunschweig, Heinrich Kessler 1699, pp. 30–46.

27 Portoghesi Tuzi, S., *Le Colonne e il Tempio di Salomone. La storia, la legenda, la fortuna.* Roma, Gangemi 2002, p. 126.

As we have seen so far, the palace of the autobiography is not only an architectural or construction matter. Since its real meaning, and thus what makes it always present in the reader's mental or neural filmmaking, is inseparable from the spatial poetic process by means of which the already blasphemous topos of *vanitas* in Bethlen's Palace in backward Transylvania certainly turns into a cognitive metaphor of hopeless and futile spiritual, moral and material construction or development as well as all kinds of progression. Bethlen brilliantly combines here the spiritual dimensions with the tangible.

This can be further elaborated by the fact that the Solomon of vanity (*vanitatum vanitas*) stands here with Solomon the builder. As Letiția Cosnean emphasises following Koen Ottenheym, the nine-panel, orthogonal ground plan of Bethlenszentmiklós Palace clearly shows the influence of Goldmann's architectural theory on his former student.[28] Further, following Jeroen Goudeau, Cosnean draws attention to a fact, well known by "ideal architecture" researchers, that Goldmann's universal architectural system sought to demonstrate the harmony of Vitruvius and biblical architecture, namely the lingering project of the highly influential Jesuit Juan Bautista Villalpando who, among other things, followed the considerations of the Renaissance *philosophia perennis* during his procedure and tried to show that the pagan Vitruvius participated in the eternal truth long before the first coming of Christ.[29]

It is about the method of Villalpando, who in this context, as an exegete as well as an architect – a member of the Escorial Circle – probably made the most influential attempt ever to reconstruct Solomon's temple. In the history of early modern Hungarian ideas and culture, the depictions of Solomon's Temple and Jerusalem made for Piscator the Elder's Bible project, and later reused in Johann Heinrich Alsted's encyclopaedias, are the best-known examples of the far-reaching reception of Villalpando's model. In the 18th century, these same visual materials were also employed, albeit in a less spectacular fashion, in the reconstruction attempts of the Jesuit antiquarian János Molnár.[30]

28 Cosnean, L., The Architectural Patronage of Miklós Bethlen in Late Seventeenth-Century Transylvania. *Caiete ARA*, 5, 2014, No. 1, pp. 135–150.

29 From the vast literature see especially *Dios arquitecto: J. B. Villalpando y el templo de Salomón.* Ed. J. A. Ramírez. Madrid, Siruela 1991.

30 Szentpéteri, M., A bölcsesség temploma. Metszetek Johann Heinrich Alsted enciklopédiáiban [The Temple of Wisdom: Engravings in J. H. Alsted's Encylopaedias]. In: Kapitány, Á. – Kapitány, G. (eds.), *Építészet és jelentés – építészeti jelentés* [Architecture and Meaning – Architectural Meaning]. Budapest, Moholy-Nagy Művészeti Egyetem 2007, pp. 52–105; Szentpéteri, M., The Temple of Encyclopaedia – A Symbol of Universal Wisdom in Johann Heinrich Alsted's Works. In: Kérchy, A. – Kiss, A. – Szőnyi, G. E. (eds.), *The Iconology of Law and Order (Legal and Cosmic).*

It has remained a mystery whether the coffered or orthogonal ground plan of Bethlenszentmiklós Palace, born in the spirit of Goldmann, could present us with a hidden, symbolic reconstruction of Solomon's temple, since the Leiden architectural theorist considered the orthogonal structure in the spirit of Villalpando's temple reconstruction to be an architectural metaphor for universal architecture and universal, encyclopaedic knowledge of all kinds. As Cosnean succinctly summarises, following Goudeau, "the use of a square layout divided into nine equal-sized sections can be traced back to Solomon's Temple, which Goldmann treated as the spiritual foundation of architecture, an archetypal model of architectural and scientific thought inspired by God."[31] We do not know for sure how much Bethlen was aware of this fundamental, Villalpandist context of Goldmann's oeuvre, but I consider it almost impossible that he could have been to any extent unfamiliar with these semantic considerations of his former master when he began to design his palace, and that he would have followed Goldmann in the construction purely on a formal basis. This is almost impossible in the case of an eminent Transylvanian aristocrat who studied under the supervision of János Apáczai Csere, the author of the first encyclopaedia in Hungarian, who himself was the excellent student of András Porcsalmi in Cluj/Kolozsvár and Johann Heinrich Bisterfeld in Alba Julia/Gyulafehérvár, and as such was an ardent reader of Alsted, the highly influential master of all.[32]

Preliminary conclusions

According to present knowledge, the palace of the autobiography and its extra-textual version is, on the one hand, a paraphrase of Solomon's temple, but on the other hand, also a cognitive metaphor for futility. This seems like an incredibly exciting tension, the tension between the perception of the young and the old Solomon. Although the Jerusalem Temples were also destroyed – both the Solomonic and the Zerubabbelian/Herodian – their virtual or actual reconstruction in the early modern period was part of the *Verbesserungsprojekte*, the various – great, general, universal and further – reformations, instaurations, and restitutions, and later, in general, it became

Szeged, JATE Press 2012, pp. 185–197; Szentpéteri, M., *Molnár János és Salamon temploma: Templomrekonstrukció kőművesellenes kontextusban?* [János Molnár and the Temple of Solomon: Reconstruction in an Anti-Masonic Context?]. Unpublished manuscript notes for a lecture, Institute for Literary Studies, Hungarian Academy of Sciences [8. 3. 2016].

31 Cosnean, L., The Architectural Patronage, p. 143.

32 For details see Szentpéteri, M., *Egyetemes tudomány Erdélyben. Johann Heinrich Alsted és a herborni hagyomány* [Universal Learning in Transylvania. J. H. Alsted and the Herborn Tradition]. Budapest, Universitas 2008.

a cognitive metaphor for all kind of progressive efforts to create an earthly paradise in the perception of many authors, such as Villalpando, Alsted, Comenius, Coccejus and later, for example, in freemasonry, as well as Bethlen's master from Leiden, Nicolaus Goldmann, who viewed the architectural role of the archetype of the Solomonic temple in this way in his universal architectural program. In this respect, it is rather surprising that while Goudeau clearly refers to the influence of Alsted and the Herborn post-Ramist authors on Goldmann's universal learning endeavours, he paradoxically believes that Alsted – in contrast with Goldman, who followed him – failed to bring the formal character of his universal learning project into harmony with its architectural content. Although *expressis verbis* neither Bethlen's building nor writing were produced according to metaphorical terms of Vitruvian ideas – namely, *ichnographia*, *orthographia* and *sciagraphia* – and that of Ezechiel's visions as Comenius' temple of *pansophia*, the tantalising role of the Villalpandian imagery in Alsted's 1620 and 1630 encyclopaedias definitely navigates its initiated reader in this direction and displays metaphorically the entire encyclopaedia as the reconstructed Millenarian temple of wisdom.[33]

It is possible, then, that the young Bethlen was therefore inspired by this Villalpandian tradition via Goldmann when designing Betlenszentmiklós Palace. The elderly Bethlen, however, seems to have regarded such enthusiastic perceptions as futile. Be that as it may, for those who enter the ruined palace today, the designed environment, especially in its depressing present state, will be a cognitive metaphor for Solomonic self-fashioning, and the spatial atmosphere experienced by the body will be inextricably intertwined with the logic of the autobiography and floor plan discussed herein, with their intellectual and spiritual connotations. From now on, learned and understanding observers shall perceive what they experience in this tension-filled dialogue, and their aesthetic contemplation will encourage them to discursively articulate their sensual experiences in the spirit of this dialogue, that is, to capture them in a conceptual sense. For design culture is constituted in the synergy of all our senses and the amalgamation of our aesthetic and logical knowledge, stemming both from our bodily experiences of the physical space and our mental poetics open to myths, stories and narratives that can be rendered upon the designed environment.

33 Goudeau, J., A Northern Scamozzi, pp. 246–248. See also Szentpéteri, M., A bölcsesség temploma; idem, The Temple of Encyclopaedia; idem, *Egyetemes tudomány Erdélyben*.

Appendix

Figure 1. Miklós Bethlen's palace on an early 20th-century postcard – still in good condition.

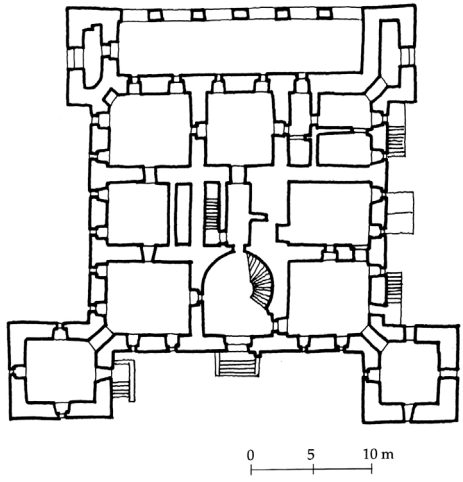

Figure 2. The schematic ground plan of the Betlenszentmiklós Palace.

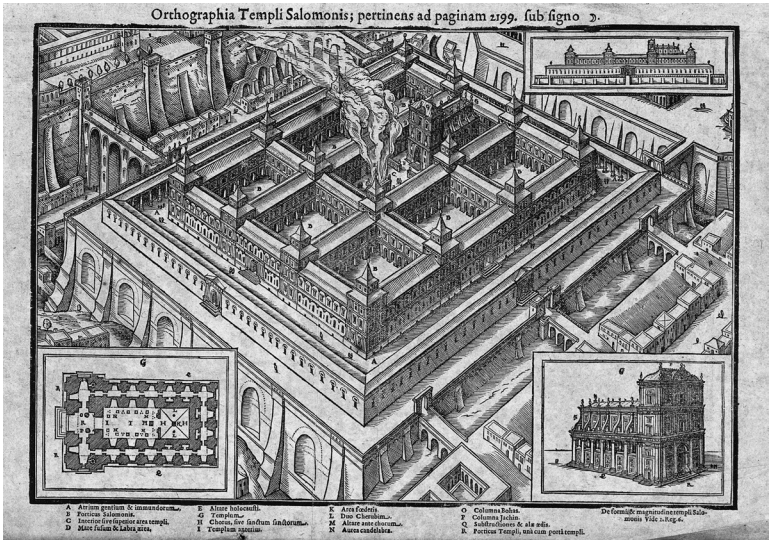

Figure 3. The Villalpandian image of the Temple of Salomon in Johann Heinrich Alsted's *Encyclopaediae septem tomis distincta*. Herborn, Corvinus 1630.

About authors

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Having obtained her doctoral degrees in Anthropology and Classical studies and her "Habilitation" in History, **Lucie Storchová** specializes in the early modern intellectual history, in particular in circulation of knowledge and texts in early modern Central Europe. She currently works as a senior scholar at the Institute of Philosophy of the Czech Academy of Sciences and holds lectures at the Faculty of Humanities, Charles University in Prague. During the last years Lucie participated in several international projects including a Cost Action IS1310, projects related to the *Europa humanistica* network and the ERC 101021262 as well as the ERC CZ LL 2320. She has also recently led a grant project dealing with a complex field of humanist scholarly communities and literary life – its main outcome *Companion to Central and Eastern European Humanism 2/1: The Czech Lands* was published by De Gryuter in 2020. Another co-authored volume on *Bohemian Editors and Translators at the Turn of the 16th Century* appeared with Brepols in 2021. Her most recent Czech monograph deals with ways in which Wittenberg natural philosophy was adapted to new cultural and confessional environments in the mid-16th-century Bohemian lands. In the TOME project, Lucie Storchová led the Intellectual-Historical Group.

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