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The Brain as Treasury and as Aqueduct

Metaphors of the Brain in Theodoret of Cyrrhus

ABSTRACT In late antique theological texts, metaphors of the brain were useful tools for talking about forms of governance: cosmic, political, and domestic; failed and successful; interior discipline and social control. These metaphors were grounded in a common philosophical analogy between the body and the city, and were also supported by the ancient medical concept of the brain as the source of the sensory and motor nerves. Often the brain was imagined as a monarch or civic official, governing the body from the head as from an acropolis or royal house. This article examines two unconventional metaphors of the brain in the work of the fifth-century Greco-Syrian bishop Theodoret of Cyrrhus—the brain as a treasure within the acropolis, and the brain as a node in an urban aqueduct—both of which adapt the structural metaphor of governance to reflect the changing political and economic circumstances of imperial Christianity. Drawing upon medical theories of the brain, Theodoret expands upon the conventional governance metaphor of brain function to encompass the economic and the spiritual responsibilities of the bishop-administrator. Just as architectural structures (acropolis, aqueduct) contain and distribute valuable resources (treasure, water) within the city, so the brain accumulates and redistributes nourishing substances (marrow, blood, *pneuma*) within the body; and just as the brain functions as a site for the transformation of material resources (body) into spiritual goods (mind), so the bishop stands as a point of mediation between earthly wealth and the treasures of heaven. KEYWORDS Theodoret of Cyrrhus, Ancient Medicine, Brain, Marrow, Aqueduct, Metaphor

Like jokes, metaphors rely upon shared expectations and contextual knowledge, illuminating the unknown through reference to the known.[1] For the historian,

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1. Thomas F. Green, "Learning Without Metaphor," in *Metaphor and Thought*, ed. Andrew Ortony, Second Edition (Cambridge: Cambridge University Press, 1993), 610–20 at 612–14.

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metaphors can reveal the knowledge that speakers expect of their audience, "the horizon of possibilities for thinking and acting" within a cultural and intellectual context.[2] Through metaphors of the brain, we can trace common notions of its anatomy and its functions; by attending to the sociopolitical and the figurative context of such metaphors, we can also trace the brain's symbolic potential.[3] To borrow a figure from Cornelius Borck's study of brain metaphors in modern science, metaphors are "linguistic tools for finding orientation in complex worlds."[4] Thus, they reveal not only shared knowledge, but also the conceptual difficulties that they are intended to map and resolve. This article examines how metaphors of the brain in late antique texts reflect the new complexities of imperial Christianity, in particular the governing role of bishop-administrators and their economic responsibilities.

Central to late antique understandings of the brain was the concept of governance, that is, the brain as organ of the "governing part of the soul" (*hēgemonikon*).[5] Ancient philosophers and medical writers long puzzled over which bodily organ served as the instrument of the *hēgemonikon*.[6] By the second century C.E., opinion was largely divided between the heart and the brain.[7]

2. Heidi Marx-Wolf, "Medicine," in *Late Ancient Knowing: Explorations in Intellectual History*, eds. C. M. Chin and Moulie Vidas (Oakland: University of California Press, 2015), 80–98, at 94–95. Fundamental to this claim is the work of George Lakoff and Mark Johnson, *Metaphors We Live By* (Chicago: University of Chicago Press, 1980).

3. The exemplary study of how metaphor in scientific discourse and especially scientific education shapes knowledge both of "the natural world" and "cultural beliefs and practices" is Emily Martin, "The Egg and the Sperm: How Science Has Constructed a Romance Based on Stereotypical Male-Female Roles," *Signs* 16, no. 3 (1991): 485–501, at 485.

4 Cornelius Borck, "Toys Are Us: Models and Metaphors in Brain Science," in *Critical Neuroscience: A Handbook of the Social and Cultural Contexts of Neuroscience*, eds. Jan Slaby and Suparna Choudhury (Chichester: Wiley-Blackwell, 2012), 113–33 at 130; see also 124, where Borck discusses specific instances where neuroscientists make use of metaphors as tools for explaining feature and functions of the brain.

5. Throughout this article, I transliterate Greek terms used in the body of the text (for example: *hēgemonikon*), but provide the original Greek for quotations (for example: "governing part of the soul [ἡγεμονικόν]"). All translations are my own, unless otherwise stated.

6. Aët. *Plac.* 4.5 (H. Diels, ed., *Doxographi Graeci* [Berlin: Reimer, 1879], 391–92): "What is the governing part of the soul, and in what [part] is it?" (τί τὸ τῆς ψυχῆς ἡγεμονικὸν καὶ ἐν τίνι ἐστίν;). See also Tert. *An.* 15 (*CCL* 2:801–802); C.-Aur. *Acut.* 1.1.8.53–54 (I. E. Drabkin, ed., *Caelius Aurelianus. On Acute Diseases and On Chronic Diseases* [Chicago: University of Chicago Press, 1950], 34–36). For a detailed account, see Julius Rocca, *Galen on the Brain: Anatomical Knowledge and Physiological Speculation in the Second Century AD* (Leiden: Brill, 2003), 17–47.

7. For a discussion of this development in relation to early Christian material, see Brent Douglas Gilbert, "The Image of God, Greek Medicine and Trinitarian Polemic in Gregory of Nyssa's *De Hominis Opificio*," Ph.D. diss. (The Catholic University of America, 2014), 8–28.

The heart-centered (cardiocentric) account was associated most closely with Aristotelian and Stoic philosophers, while the brain-centered (encephalocentric) perspective was considered Platonist, and was supported by many medical writers, above all the prolific and influential physician Galen of Pergamum (c. 130–210 C.E.).[8]

When early Christian authors looked to scriptural authority to resolve this debate, they found extensive support for cardiocentrism, but not a single biblical reference to the brain.[9] "The governing part of the soul is not in the brain, as Plato claims," wrote Jerome, "but, according to Christ, within the heart."[10] Yet, in spite of its conflict with scriptural authority, many early Christians accepted some form of encephalocentrism. One reason for this was the usefulness of the governance metaphor that was associated with the encephalocentrist position. Dismissing cardiocentrism in favor of the brain, Lactantius argued that "it is of course appropriate that whatever has governance over the whole body should dwell in the highest part, as if in the acropolis of the body. . .just as the lord and governor of the world himself on high."[11] Encephalocentrism offered an anatomical mirror of cosmic and political organization.[12]

The metaphor of the head as the "acropolis of the body" has Platonist origins. In the creation narrative of his *Timaeus*, Plato compares the rational part of the soul (*logistikon*) to a monarch that rules over the body politic from within the acropolis of the skull.[13] In *Laws*, he describes the sensory organs as scouts or guards that keep watch around the walls of a city, sending information to the

8. See the discussion in Philip J. van der Eijk, "The Heart, the Brain, the Blood and the Pneuma: Hippocrates, Diocles and Aristotle on the Location of Cognitive Processes," in *Medicine and Philosophy in Classical Antiquity* (Cambridge: Cambridge University Press, 2005), 119–38. With regard to Plato's influence, see Gilbert, "The Image of God," 10: "Plato's *Ti.*, the main source for his teaching on the ruling faculty, provides therefore the philosophical foundation of most later encephalocentric theory and, more importantly for the purposes of this study, is the treatise that most directly influences Philo and, through him, Gregory's Christian predecessors." On Galen and his refutation of the Stoic position, see Teun Tieleman, *Galen and Chrysippus on the Soul: Argument and Refutation in the De placitis, Books II-III* (Leiden: Brill, 1996).

9. On the organs of the soul in the Hebrew scriptures, see Mark S. Smith, "The Heart and Innards in Israelite Emotional Expressions: Notes from Anthropology and Psychobiology," *Journal of Biblical Literature* 117, no. 3 (1998): 427–36.

10. Hier. *Matt.* 2.1525–27 (*CCL* 77:131–32): *animae principale non secundum platonem in cerebro sed iuxta christum in corde est*.

11. Lact. *Opif.* 16.4 (*CSEL* 27.1:52): *oportuisse scilicet quod totius corporis regimen haberet, potius in summo tamquam in arce corporis habitare. . .sicut ipse mundi dominus et rector in summo est.*

12. See Dale B. Martin, *The Corinthian Body* (New Haven: Yale University Press, 1995) for inscriptions of political ideologies into the human body.

13. Pl. *Ti.* (J. Burnet, *Platonis opera*, 5 vols. [Oxford: Clarendon Press, 1901–07], 4:69d6–70a7).

elders within.[14] While Plato does not identify the brain as the instrument of governance in either account, later philosophical and medical authors merged the metaphors from *Timaeus* and *Laws* in a key argument for encephalocentrism. Gregory of Nyssa offers a clear description of their amalgamation in service of the localization of mind (*nous*) within the brain: "Those who consecrate the brain to reason say that the head has been constructed by nature just like the acropolis of the whole body; for the mind dwells within like some monarch, guarded all around by the sensory organs like messengers and body-guards."[15] By Late Antiquity, this metaphor had become idiomatic: Jerome could explain the Platonist position as "placing wisdom in the citadel of the brain" (that is, the skull), while Victor of Vita, in his *History of the Persecution of the Province of Africa*, could describe how "many lost the citadel of their brain" (that is, their skulls were crushed).[16]

Architectural and political metaphors enabled better understanding of the body and the soul; in turn, metaphors of the body were used to represent modes of governance and civic responsibility. The metaphor of the brain as a site or agent of governance proved especially useful to early Christian authors in describing and justifying the changing structures of governance that accompanied the rise of imperial Christianity in the fourth and fifth centuries. The governing power of the brain could be used to represent political and domestic authority, as well as Christ's kingship (or "headship") within the church.[17] Respect for the emperor could be envisioned as proper care for one's brain, motiving both political obedience and bodily discipline.[18] As the organ of the *hēgemonikon* (or *logistikon*, *nous*; these terms, though different in meaning, were often used interchangeably), the brain enabled and echoed human dominance over the created world.[19] Through their display of medical and philosophical expertise regarding

14. Pl. *Lg.* 12 (Burnet, *Platonis opera*, 5:964e–965a).

15. Gr. Nyss. *Hom. Opif.* 12 (*PG* 44:156.45–50): Οἱ δὲ τὸν ἐγκέφαλον ἀφιεροῦντες τῷ λογισμῷ, ὥσπερ ἀκρόπολίν τινα τοῦ παντὸς σώματος τὴν κεφαλὴν δεδομῆσθαι παρὰ τῆς φύσεως λέγουσιν· ἐνοικεῖν δὲ ταύτῃ καθάπερ τινὰ βασιλέα τὸν νοῦν, οἷόν τισιν ἀγγελιαφόροις ἢ ὑπασπισταῖ, τοῖς αἰσθητηρίοις ἐν κύκλῳ δορυφορούμενον.

16. Hier. *Ezech.* 1.1.213–14 (*CCL* 75:11): *sapientiam in cerebri arce ponentes*. Vict.-Vit. *HP* 3.31 (*CSEL* 7:88): *plurimi arcem cerebri cum oculis amiserunt*.

17. See Jessica Wright, "Brain, Nerves, and Ecclesial Membership in John Chrysostom," in *(Re) Visioning John Chrysostom: New Theories and Approaches*, eds. Chris L. De Wet and Wendy Mayer (Leiden: Brill, forthcoming).

18. Jessica Wright, "John Chrysostom and the Rhetoric of Cerebral Vulnerability," *Studia Patristica* 81, no. 7 (2017), 109–126, at 122–23.

19. Nemes. *Nat. Hom.* 1 (Moreno Morani, ed., *Nemesii Emeseni De natura hominis* [Leipzig: Teubner, 1987], 15.3–6): "Who, therefore, could justify surprise at the nobility of this creature that

the brain, late antique preachers and theologians naturalized the emergent power relations of imperial Christianity.[20]

In this article, I examine how the Greco-Syrian bishop Theodoret of Cyrrhus (c. 393–457 C.E.) deploys governance metaphors in his homilies *On Providence*, delivered perhaps as a series of guest lectures in Antioch, or to Theodoret's home congregation in Cyrrhus.[21] These metaphors expand the conventional metaphor of the brain as an agent of governance to encompass the economic responsibilities of the bishop-administrator. Figuring the skull as a citadel and the mind (*nous*) as its guardian, Theodoret describes the brain itself as "some wealth and treasure" concealed within the city walls (Homily 3).[22] To be precise, it is a "treasury of marrow" (Homily 6), and might also, in a related metaphor, be imagined as a "wellspring of marrow" (Homily 3).[23] The brain, situated in the place of governance, serves as a source of material resources (wealth and water) within the body politic. At the same time, Theodoret's description of surrounding anatomical structures presents the brain as the central node in an urban aqueduct.[24] I will argue that these various metaphors work together to build out a robust image of the brain as a site for the management and exchange of resources, material and spiritual in kind.

In the sections that follow, I first provide background on late antique medical concepts of the brain in order to highlight Theodoret's allusions and innovations. Next, I analyze Theodoret's two dominant metaphors for the brain (the treasury within the citadel and the urban aqueduct), connecting these images to the theoretical discussions in the previous section. Finally, I explore how Theodoret's metaphors relate to his social and cultural context, in particular the economic aspects of ecclesial governance. Theodoret's metaphors of the brain,

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binds together in itself the mortal with the immortal, that joins together the rational with the irrational, that carries in its own nature the image of the entirety of creation, on account of which it has been called *microcosm*. . .?" (τίς οὖν ἀξίως θαυμάσειε τὴν εὐγένειαν τούτου τοῦ ζῴου τοῦ συνδέοντος ἐν ἑαυτῷ τὰ θνητὰ τοῖς ἀθανάτοις καὶ τὰ λογικὰ τοῖς ἀλόγοις συνάπτοντος, τοῦ φέροντος ἐν τῇ καθ' ἑαυτὸν φύσει τῆς πάσης κτίσεως τὴν εἰκόνα, δι' ἃ καὶ μικρὸς κόσμος εἴρηται. . .;)

20. Helen Morales, "Metaphor, Gender and the Ancient Greek Novel," in *Metaphor and the Ancient Novel*, eds. Stephen Harrison, Michael Paschalis, and Stavros Frangoulidis (Groningen: Barkhuis Publishing, 2005), 1–22, at 1–2, on the ways in which metaphors naturalize power relations.

21. On the performance context for the homilies see Thomas Halton, *Theodoret of Cyrus: On Divine Providence* (New York: Newman Press, 1988), 2–3.

22. Thdt. *Provid.* 3.27 (*PG* 83:601.7–8): οἷόν τινα πλοῦτον καὶ θησαυρὸν.

23. Thdt. *Provid.* 6.17 (*PG* 83:653.1–2): ἐγκέφαλον δὲ μυελῶν θησαυρὸν. Thdt. *provid.* 3.24 (*PG* 83:600.25–26): ὁ νωτιαῖος μυελὸς πηγὴν τὸν ἐγκέφαλον ἔχων.

24. Thdt. *Provid.* 3.24 (*PG* 83:600.15–16).

I argue, served to corroborate his vision of how spiritual and material resources ought to be distributed within the ecclesial body.

At the core of Theodoret's figurations, we find the brain as a material object and a site of material processes. Theodoret highlights the role of the brain as a meeting-point of bodily functions (for example, the transmission of blood or *pneuma*) and psychic activities (especially rational thought). His metaphors of the brain as "some wealth and treasure" and as an urban aqueduct build upon traditional metaphors of governance to represent the specific modes of ecclesial governance that he sought to establish within his community, that is, the translation and exchange of spiritual and material goods.

1. THEORIES OF BRAIN FUNCTION IN LATE ANTIQUITY

According to late antique medical theory, the brain was the starting-point for sensory and motor nerves, responsible for the functions of sensation, memory, voluntary motion, and, in human beings, rational thought—that is, for the faculties of the soul.[25] The brain was thought to be constructed of soft marrow, necessary for the absorption of sensory impressions, and for this reason to be held in shape by surrounding membranes and bone.[26] Inside the brain was a series of three or four ventricles, in which subtly-material spirit (*pneuma*) gathered and flowed.[27] Rooted in the brain were the sensory and motor nerves, which operated through the passage of the *pneuma*. According to some post-Galenic authors, each of the cerebral ventricles was responsible for a psychic function: the front two ventricles for sensation, the middle ventricle for thought or memory, and the rear ventricle for memory or voluntary motion.[28] Galen himself taught that the nerves responsible for

25. For an overview, see Jessica Wright, "Brain and Soul in Late Antiquity," Ph.D. diss. (Princeton University, 2016), 23–173. Associated most commonly with Galen, this model of brain structure and function had developed over several hundred years of medical investigation. See Heinrich von Staden, "Early European Conceptions of the Brain and the Nerves. Classical Intuitions and Hellenistic Discoveries," in *Sphinx: 2004–2005. Yearbook of the Finnish Society of Sciences and Letters* (Helsingfors: Multiprint, 2005), 11–32.

26. Rocca, *Galen on the Brain*, 81–112, in describing Galen's dissection of the brain, details the role of the skull and membranes in protecting the brain itself.

27. Rocca, *Galen on the Brain*, 113–238.

28. This theory is commonly known as ventricular localization or cell theory; it remained authoritative until the sixteenth century. On the early development of the theory, see Peter Grunert, "Die Bedeutung der Hirnkammer in der antiken Naturphilosophie und Medizin," *Antike Naturwissenschaft und ihre Rezeption* 12 (2002): 151–82; Rocca, *Galen on the Brain*, 245–48; Wright, "Brain and Soul in Late Antiquity," 160–71. On the subsequent development of the theory, see

sensory function were rooted in the front part of the brain, while the motor nerves were rooted in the rear.[29]

Late antique Christian authors demonstrate familiarity with medical accounts of the brain. In a sermon on the construction of the human body, for example, Ambrose draws on the authority of "medical experts" (*medendi periti*) to describe the brain as "the source of our nervous system and of all the sensations of voluntary movement."[30] In a discussion of divine providence, John Chrysostom cleaves close to Galen in his discussion of how perfectly the brain is designed for reason: being soft, it is suited to receive sensation; being walled around by bone, it is protected from external blows; being covered by two membranes, it is cushioned from friction.[31] Even authors who deny encephalocentrism reveal familiarity with medical accounts of brain anatomy and function. Despite his insistence that the *nous* must not be localized in either the heart or the brain, Gregory of Nyssa describes the membranes surrounding the brain as "the foundation and root of the sensory organs," and compares the brain itself to a charioteer, steering the body through the sinews and the nerves, that is, the reins.[32]

Theodoret also echoes Galen closely in his descriptions of the brain: he characterizes the brain as the root of the nerves and the organ of sensation, and observes that, being soft and vulnerable on account of its sensory function, the

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Tullio Manzoni, "The Cerebral Ventricles, the Animal Spirits and the Dawn of Brain Localization of Function." *Archives Italiennes de Biologie* 136 (1998): 103–52.

29. Gal. *UP* 8.6 (K. G. Kühn, ed., *Claudii Galeni Opera Omnia*, 22 vols. [Leipzig: C. Cnobloch, 1821–33], 3:638.12–16).

30. Ambr. *Hex.* 6.9.61 (*CSEL* 32.1:251–52): *Initium enim neruorum et omnium sensuum uoluntariae commotionis cerebrum est*. Immediately after describing the brain as the source of the nerves, Ambrose claimed it as the source of the arteries also. This theory might be the result of a conflation between Galen's view, based on that of Herophilus of Chalcedon, that some motor nerves, functioning through permeation by psychic *pneuma*, were rooted in the spine and the view of several other Hellenistic physicians, most famously Praxagoras, that the arteries were filled solely with *pneuma*. See Friedrich Solmsen, "Greek Philosophy and the Discovery of the Nerves," *Museum Helveticum* 18, no. 3 (1961): 178–80, 185–86, especially 186: "Praxagoras's pupil [sc. Herophilus] transferred to the nerves the function which his master had assigned to the arteries."

31. Chrys. *Stat.* 11.8 (*PG* 49:123.35–124.7). Cf. Gal. *UP* 8.9 (Kühn, *Claudii Galeni*, 3:659.1–660.17), excerpted in Orib. *Med. Coll.* 24.1.12.1–14.1 (J. Raeder, ed., *Oribasii collectionum medicarum reliquiae, libri XXIV–XXV. XLIII–XLVIII* [Leipzig: Teubner, 1931], 5).

32. Gr. Nyss. *Hom. Opif.* 12 (*PG* 44:157.11–13): Ὁ δὲ ἕτερος πᾶσι τοῖς αἰσθητηρίοις οἷον ὑποβάθραν τινὰ καὶ ῥίζαν εἶναι λέγει τὴν μήνιγγα. See also Gr. Nyss. *Hom. Opif.* 30 (*PG* 44:251.57–252.1). Gregory's identification of the membranes as the root of the sensory nerves was a theory taught by the Hellenistic anatomist Erasistratus of Ceos. See Ruf. *Anat.* 73 (C. Daremberg and C. É. Ruelle, eds., *Oeuvres de Rufus d'Éphèse* [Paris: Imprimerie Nationale, 1879], 185).

brain is carefully protected by the double membranes and the skull.[33] Theodoret references not only these widely noted aspects of brain function, but also the brain's role in the accumulation and distribution of surplus "excretions" that need be evacuated through orifices in the face (for example, the nose) or released as vapors through the sutures in the skull.[34] While vital for bodily health, this function of the brain could cause severe illness: if the brain absorbed too much fluid, for example, this could lead to seizures and the corrosion of brain matter.[35] Although the brain's management of bodily fluids was not directly responsible for the faculties of the governing soul (sensation, voluntary motion, thought, and memory), its mismanagement could impair them: "If sickness falls upon the brain membrane," writes Theodoret, "then evil vapors and humors damage the brain, which, swamped on all sides, does not admit the activity of the soul, but, like someone underwater, moves the hands and feet and other parts of the body at random."[36] Theodoret's attention to this aspect of brain function allows him to expand the metaphoric usefulness of the brain, as we will see, to evoke the importance of managing material resources for the physical and spiritual health of the communal body.

33. Sensation: Thdt. *Affect.* 5.81.31–5 (*SC* 57.1:252–53). Nerves: Thdt. *Rom.–Philm.* (*PG* 82:613.39–41). Softness: Thdt. *Provid.* 3.27 (*PG* 83:601.11–25).

34. Thdt. *Provid.* 3.35–36 (*PG* 83:604.53–605.11). Cf. Lact. *Opif.* 10.7 (*CSEL* 27.1:33–34), for the expurgation of residues from the brain as a central function of the nose. Medical sources for this aspect of brain function include Hp. *Gland.* 10 (E. M. Craik, ed., *The Hippocratic Treatise on Glands* [Leiden: Brill, 2009], 74) and *Aër.* 3.8–10 and 24–27 (É. Littré, *Oeuvres complètes d'Hippocrate*, 9 vols. [Paris: Baillière, 1840], 2:16 and 18); Gal. *UP* 9.1–2 (Kühn, *Claudii Galeni*, 3:684–96). This notion of the brain dovetailed with the ancient assumption that the brain provided moisture for the nourishment of hair and the production of semen. Hair: Arist. *GA* 5.3, 781b30–784a21 (H. J. Drossaart Lulofs, ed., *Aristotelis de generatione animalium* [Oxford: Clarendon Press, 1965], 183–90). Hair and semen: [Arist.] *Pr.* 10.57 (I. Bekker, ed., *Aristotelis opera*, 5 vols. [Berlin: Reimer, 1831], 2:897b23–29). Semen: Vind. *Gyn.* 18.1 (Louise Cilliers, "Vindicianus's Gynaecia: Text and Translation of the Codex Monacensis," *The Journal of Medieval Latin* 15 [2005]: 153–236, at 178).

35. Hipp. *Morb. Sacr.* 10.6–7 (Littré, *Oeuvres complètes d'Hippocrate*, 6:378) and *Gland.* 11–15 (Craik, *The Hippocratic Treatise On Glands*, 74–78).

36. Thd. *Haer.* 5.9 (*PG* 83:481.14–9): Εἰ δὲ τῇ μήνιγγι προσπέσοι τὸ νόσημα, σίνεται μὲν τὸν ἐγκέφαλον ἡ τῶν ἀτμῶν καὶ τῶν χυμῶν μοχθηρία, ὑπὸ δὲ τούτων περικλυζόμενος, οὐ δέχεται τῆς ψυχῆς τὴν ἐνέργειαν, ἀλλ' ἔοικεν ὑποβρυχίῳ τινὶ γενομένῳ, καὶ ὡς ἔτυχε καὶ χεῖρας κινοῦντι καὶ πόδας καὶ τὰ ἄλλα τοῦ σώματος μόρια. Theodoret's verb "swamped on all sides" (περικλυζόμενος) parallels the language and explanation found in Hipp. *Morb. Sacr.* 11.15–17 (Littré, *Oeuvres complètes d'Hippocrate*, 6:382.13–15). Cf. Chrys. *Hom. 1–18 in 1 Tim.* 13 (*PG* 62:568.28–569.7), for a description of how alcohol floods the brain.

2. METAPHORS OF THE BRAIN IN THEODORET'S *ON PROVIDENCE*

In this section, I analyze the third homily in Theodoret's series *On Providence*, examining in detail how his metaphors of the brain as "wealth and treasure" and "aqueduct" engage with contemporaneous medical and metaphorical concepts of the brain. I begin by situating these metaphors within the teleological framework that undergirds Theodoret's homiletic series: both the "wealth and treasure" and the "aqueduct" fulfil some purpose, or *telos*, within the civic body. Investigating the cluster of metaphors around marrow and precious metals and marrow and water brings into focus the nourishing function of the brain, and highlights the interchangeability of water and wealth at multiple levels within Theodoret's account.

Theodoret's third homily *On Providence* examines human anatomy for signs of provident and benevolent design. As the basis of his argument, Theodoret offers the conventional teleological argument that each part of the human body has a distinct purpose for which it has been designed.[37] Just as houses and cities are architected toward certain ends, such as shelter and ventilation, so God, as "master craftsman," designed the human body with forethought to its operation as instrument of the rational soul.[38] This is especially evident, Theodoret asserts, with regard to the circulation of fluids: the "vessels" with which the creator equips "this house of reason" are akin to the wells, fountains, and vats constructed for the use and pleasure of household inhabitants; indeed, blood is channeled through the pipes of the body more effectively crafted than domestic plumbing.[39]

The architectural organization of bodily parts was commonplace in ancient philosophical discourse, where it was often invested with political meaning.

37. For a thorough discussion of Aristotelian teleology, including its appropriation within natural theology (arguments for the existence of God from observation of natural phenomena) see Monte R. Johnson, *Aristotle on Teleology* (Oxford: Clarendon Press, 2005).

38. Thdt. *Provid.* 3.17 (*PG* 83:596.29). The word ἀριστοτέχνης ("master craftsman") is used in the Greek tradition to refer to the highest god. See, for example, Pi. *Fr.* 57 (H. Maehler [post B. Snell], ed., *Pindari carmina cum fragmentis*, vol. 2, Fourth Edition [Leipzig: Teubner, 1975], 70), cited several times by Plutarch and once by Dio Chrysostom. In Christian literature it refers most often to the creative activity of God in molding the human form (for example, Gr. Nyss. *Hom. Op.* 4 [*PG* 44:136.16–22]). The language of "instrument" (*organon*) appears first in [Pl.] Alc. 1 (Burnet, *Platonis opera*, 2:129c8 and d4–5, together with 129e3), and recurs in Arist. *De an.* 2.1 (W. D. Ross, ed., *Aristotle. De anima* [Oxford: Clarendon Press, 1961], 412b3–6). Both texts were core to late antique philosophical education, with Aristotle's coming earlier in the curriculum, as discussed in H. J. Blumenthal, *Aristotle and Neoplatonism in Late Antiquity: Interpretations of the* De anima (Ithaca: Cornell University Press, 1996), 3.

39. Thdt. *Provid.*3.16 (*PG* 83:596.20–26).

The most famous example appears in Plato's *Timaeus*, which we encountered above: Plato divides the soul into three parts (rational, spirited, appetitive), each of which occupies a part of the body (head, heart, liver), just as different classes of citizen (kings, soldiers, commoners) occupy different spaces within the city (acropolis, guardhouse, trough).[40] Theodoret activates these political associations in *On Providence* 3, where he describes the head as "the acropolis of the body, raised aloft," inside which the *nous* acts as "commander of the stronghold" (φρουράρχῳ).[41] The eyes are appointed as "two guards, one on the right and the other on the left."[42] Within the acropolis, the brain lies protected "like some wealth and treasure (πλοῦτον καὶ θησαυρὸν) in an extremely strong guardhouse (φρουρίῳ) . . . like wealth (πλοῦτος) guarded in the head as in an acropolis."[43] This "wealth and treasure" is, as we learn from Theodoret's subsequent homily *On Providence* 6, a "treasury of marrow" (μυελῶν θησαυρὸν).[44] As such, it is a source or wellspring (πηγὴν) for the marrow within the spine (νωτιαῖος μυελὸς).[45] According to Theodoret's metaphor, the brain is not the agent or instrument or even site of governance, but rather a material resource that the governing power must protect.

Marrow, Water, Wealth

Theodoret's brain provides nourishment for the members of the civic body. The metaphor of marrow as a nourishing substance, such as the soil, had a long history. It appears prominently in Plato's *Timaeus*: "Having molded into a spherical shape the portion of marrow that was intended as a field to receive the divine seed, [the creator god] named it 'brain.'"[46] It was a metaphor that Galen would pick up in his own description of the cerebral marrow as the "field" in which is

40. See Pl. *Ti.* (Burnet, *Platonis opera*, 4:69d7–70a7). Plato discusses his tripartite psychology most thoroughly in *R.* 4 (Burnet, *Platonis opera*, 4:440e–441a).

41. Thdt. *Provid.* 3.27 (*PG* 83:601.4–7): Ἐπειδὴ δὲ εἰς αὐτὴν ἤκομεν τὴν κεφαλὴν, βλέπε αὐτὴν ὥσπερ ἀκρόπολίν τινα τῆς τοῦ σώματος πόλεως ἐν ὕψει καθημένην. Thdt. *Provid.* 3.29 (*PG* 83:601.27–28): Ἐπειδὴ δὲ ἔδει τῷ φρουράρχῳ νῷ καὶ κατασκόπων.

42. Thdt. *Provid.* 3.29 (*PG* 83:601.31–33): δύο φύλακας . . . καὶ τῷ μὲν τὰ δεξιὰ, τῷ δὲ τὰ εὐώνυμα.

43. Thdt. *Provid.* 3.27–28 (*PG* 83:601.7–9, 26–27): οἷόν τινα πλοῦτον καὶ θησαυρὸν ἐν ἰσχυροτάτῳ φρουρίῳ φυλάττουσαν τὸν ἐγκέφαλον . . . οἷόν τις πλοῦτος . . . ἐν τῇ κεφαλῇ καθάπερ ἐν ἀκροπόλει φυλάττεται.

44. Thdt. *Provid.* 6.17 (*PG* 83:653.1–2).

45. Thdt. *Provid.* 3.24 (*PG* 83.600.25–26).

46. Pl. *Ti.* (Burnet, *Platonis Opera*, 4:73c1–4): πανσπερμίαν παντὶ θνητῷ γένει μηχανώμενος, τὸν μυελὸν ἐξ αὐτῶν ἀπηργάσατο, καὶ μετὰ ταῦτα δὴ φυτεύων ἐν αὐτῷ κατέδει τὰ τῶν ψυχῶν γένη.

planted not only the "rational part of the soul," but also the spine and the nerves that branch outward from it, nourished by the marrow as by the pith.[47]

Analogies between the earth and the body were prevalent in antiquity. In them, the marrow appeared not only as the field and the pith, but also as a source of precious metals or stone. For example, the theologian Tertullian of Carthage (160–240 C.E.) invites his reader to imagine human muscles as clods of earth, bones as rocks, sinews as roots, veins as rivers, and "the hidden treasuries of marrow (*medullarum. . .thesauros*) as quarries (*metalla*)."[48] Both *thesauros* and *metalla* are Greek loanwords, suggesting that Tertullian borrowed the comparison from elsewhere. The metaphor of the marrow as treasure buried deep beneath the earth was in circulation.

Tertullian was working within the framework of a common analogy expounded by the Stoic philosopher Seneca (4 B.C.E.–65 C.E.) in his *Natural Questions*. Here, Seneca explains the popular theory that the natural operations of the earth follow "the model of our own bodies."[49] Rivers, he states, are so like blood vessels as to be called "veins of water."[50] Yet, "just as we contain not only blood but many types of fluid. . .so the earth contains various kinds of fluid also." Among the kinds of fluid that Seneca identifies within the human body are "the brain in the head" and "marrow in the bones."[51] Turning to the fluids beneath the earth, he highlights above all those that "harden quickly."[52] This is the source, Seneca explains, of "the whole crop of metals, from which avarice seeks gold and silver."[53] Here, Seneca offers an aetiology for the metaphor of marrow as a quarry: gold and silver accumulate underground as their fluid forms congeal, just as marrow (so the reader is left to imagine) must solidify to form the brain.[54]

47. Gal. *UP* 12.4 (Kühn, *Claudii Galeni*, 4:11.14–12.4, especially 11.14–16): ἀρχὴ μὲν γὰρ αὐτῶν ὁ ἐγκέφαλός ἐστι κατασπαρείσης εἰς αὐτὸν οἷον εἰς ἄρουράν τινα τῆς λογιστικῆς ψυχῆς.

48. Tert. *Carn. Chr.* 9.3 (*CCL* 2:891–92): *considera singulas qualitates, musculos ut glebas, ossa ut saxa, etiam circum papillas calculos quosdam: aspice nervorum tenaces conexus ut traduces radicum et venarum ramosos discursus ut ambages rivorum et lanugines ut muscos et comam ut caespitem et ipsos medullarum in abdito thesauros ut metalla.*

49. Sen. *Nat.* 3.15.1. 3 (Harry M. Hine, *Seneca*, *Naturales Quaestiones* [Leipzig: Teubner, 1996], 126): *ad nostrorum corporum exemplar.*

50. Sen. *Nat.* 3.15.2.1 (Hine, *Seneca*, *Naturales Quaestiones*, 126): *aquarum appellauerint uenas.*

51. Sen. *Nat.* 3.15.2.3–4 (Hine, *Seneca*, *Naturales Quaestiones*, 127): *in capite cerebrum . . . in ossibus medullae.*

52. Sen. *Nat.* 3.15.3.1 (Hine, *Seneca*, *Naturales Quaestiones*, 127): *quaedam quae matura durentur.*

53. Sen. *Nat.* 3.15.3.1–3 (Hine, *Seneca*, *Naturales Quaestiones*, 127): *hinc est omnis metallorum fructus, ex quibus petit aurum argentumque auaritia, et quae in lapidem ex liquore uertuntur.*

54. The notion that a river might transform into a solid material resource is illustrated in Vitruvius's discussion of the Hierapolis hot springs in Vitr. *De arch.* 8.3.10 (F. Krohn, *Vitruvius*

In Seneca and Tertullian, we find the metaphor of marrow, including cerebral marrow, as "some wealth or treasure," but buried under the earth, rather than stored within the acropolis. Whereas Theodoret is working within the analogy between the body and the city, Seneca and Tertullian use a related analogy, prominent within Stoic thought, between the body and the natural world. In a seventh-century Byzantine dreambook that claims to borrow from a wide range of existing dream interpretations, the author, Achmet, indicates a strong association between marrow and wealth that more closely resembles Theodoret's metaphor.[55] To dream of eating a brain indicates that one will acquire wealth: the state of the brain (boiled, roasted, or raw) and its source (human or animal) determine the method of acquisition, and the source.[56] Conversely, a dream of injury to the forehead (which, Achmet tells us, serves as the "barrier and shield" of the "marrow") signifies that one's own wealth (πλοῦτος) will be "stripped away"; if a king were to dream this, then the danger would be "in his treasuries (θησαυροῖς) of gold."[57] Whereas Seneca and Tertullian envision the wealth of marrow as a precious metal yet to be mined, Achmet reveals the possibility of envisioning the brain marrow as a treasure that is domesticated and urbanized, being extracted from the body of the earth and stored as a treasure within the city walls.

Theodoret's metaphors of the brain make sense within this constellation of images that emerge out of the framing analogies between the body, earth, and city, and in correspondence with the medical and philosophical concept of

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Pollio. On Architecture [Leipzig: Teubner, 1912], 182–83). Vitruvius discusses various kinds of water, which, like Seneca, he introduces through reference to the human body: just as the human body contains multiple kinds of fluid (blood, milk, sweat, urine, tears), so the earth contains different kinds of water. Among the varieties that Vitruvius describes are the waters that bubble up at the Hierapolis hot springs in Phrygia, which are channeled through ditches to local vineyards (182, lines 23–26): "After one year, however, a stony crust is produced. Each year, therefore, the locals cut margins out of the earth on the left and the right, carry it home, and build walls in their fields." *haec autem efficitur post annum crusta lapidea. itaque quotannis dextra ac sinistra margines ex terra faciundo inducunt eam et efficiunt his crustis in agris saepta*.

55. Steven M. Oberhelman, *The Oneirocriticon of Achmet: A Medieval Greek and Arabic Treatise on the Interpretation of Dreams* (Lubbock: Texas Tech University, 1991), 15–20 offers a brief analysis of Achmet's sources, suggesting that where Achmet attributes his material to "the Indians," he has drawn it from Byzantine Christian sources, while when he attributes it to "the Persians and Egyptians," he refers to Arabic sources.

56. Achmet, *Oneirocriticon* 39–40 (F. Drexl, *Achmetis oneirocriticon* [Leipzig: Teubner, 1925], 25–26).

57. Achmet, *Oneirocriticon* 57.3–7 (Drexl, *Achmetis oneirocriticon*, 36): Τὸ μέτωπον ἔρεισμά ἐστι καὶ περίφραγμα τοῦ μυελοῦ. ἐὰν οὖν ἴδῃ τις, ὅτι ἐκλάσθη ἢ ἔπαθέ τι τὸ μέτωπον αὐτοῦ, γυμνωθήσεται ὁ πλοῦτος αὐτοῦ καὶ ἔμφοβος καὶ ἔντρομος ἔσται· ἐὰν ἴδῃ τοῦτο ὁ βασιλεύς, ἐν τοῖς θησαυροῖς τοῦ χρυσίου αὐτοῦ νοείτω τὸ πάθος.

marrow as a wet and nourishing substance, something precious that could be extracted and potentially consumed. Marrow, including cerebral marrow, was imagined as a precious resource, a deposit or a sediment buried deep within the body of the animal or of the earth. Marrow was also thought to be a source of nourishment, both a "seedbed" for plants and hair, and a comestible (brain) for human beings. Formed out of bodily fluids, marrow might be thought to flow, although at times it might become or appear solid, as in the case of the brain.

The Brain as Aqueduct

Theodoret nuances the governance metaphor to include not only the gathering of intelligence and delivery of commands, but also the protection of vital resources. Working within the tissue of existing metaphors of the marrow, Theodoret is able to evoke in brief strokes the role of marrow as a nourishing substance that might be either water or gold. I turn now to his metaphor of the brain as a node in an urban aqueduct, in order to examine how he uses the brain to represent not only the protection of resources, but also their proper distribution.

Marrow did not just flow anywhere within the body; instead, like the waters in a river, it followed fixed paths; most pertinently here, the spine and the nerves. As Galen writes in his treatise *On the Usefulness of the Parts*, marrow "flows out of the brain, like a river from a spring," sending out sensory and motor nerves "like streams."[58] Theodoret invokes a similar metaphor when he writes that the brain, "nourished and increased" by the influx of blood and *pneuma*, "sends marrow on to the spine through the connecting bones."[59] Yet, his version comes with a twist. As the larger architectural framework indicates, Theodoret is inviting his audience to imagine the marrow not only as a natural or underground river (the brain is the "wellspring of the marrow"), but also, and unusually, as an urban aqueduct.

The brain, as Theodoret describes it, is the connecting organ between two pillars. One, the marrow-fed spine, resembles a "watertight column composed of many tambours."[60] The other, that is the throat, calls to mind a column that

58. Gal. *UP* 12.11 (Kühn, *Claudii Galeni*, 4:47.14–18): τὸν νωτιαῖον, οἷον ποταμόν τινα ἐκ πηγῆς ἐκρέοντα τοῦ ἐγκεφάλου. . .νεῦρον ἐπιπέμπειν οἷον ὀχετὸν αἰσθήσεώς τε ἅμα καὶ κινήσεως.

59. Thdt. *Provid.* 3.26 (*PG* 83:600.48–50): τρεφόμενος δὲ καὶ αὐξόμενος, διὰ τῶν συμπεφυκότων ὀστῶν τὸν νωτιαῖον μυελὸν παραπέμπει τῇ ῥάχει.

60. Thdt. *Provid.* 3.24 (*PG* 83:600.15–16): καὶ κίονι παραπλησίως στεγανῷ, καὶ ἐκ σπονδύλων πολλῶν συγκειμένῳ. Halton translates: "and resembles a stout pillar, being composed of many vertebrae" (Halton, "Theodoret of Cyrus," 42). His interpretation assumes that συγκειμένῳ qualifies ῥάχιν (spine), although its case and gender agree with κίονι (column). While the translation provided here is closer to Theodoret's grammar, both are valid, reflecting Theodoret's pun on σπονδύλων, which could refer both to "vertebrae" and to "tambours" (the drums out of which columns were constructed).

has been "drilled through from top to bottom, having both many perforations and one big shaft in the middle."[61] This hollow and perforated column is an aqueduct, "through which water channels convey and distribute most of the water, ordering it to go down through other [pipes], and sending some to the south part of the city, some to the east, some to the west, and some to the north."[62] Theodoret uses the existing association between marrow, treasure, and streams to incorporate an aqueduct into the architecture of the body. Theodoret's aqueduct represents the distribution of water and of wealth within a city. The cerebral treasure is a stable water supply.

Aqueducts were staples of urban infrastructure across the late Roman Empire.[63] Although utilitarian in purpose, they were also symbols of wealth, representing civic patronage through their grand construction and their association with public baths.[64] Moreover, while civic patrons might provide water freely for all, the distribution of water reproduced the social hierarchy: the wealthy had channels constructed between aqueducts and their domestic plumbing

61. Thdt. *Provid.* 3.25 (*PG* 83:600.32–34): καὶ ἀναμνήσθητί μοι τῶν κιόνων, τῶν κάτωθεν ἄνω διατετρημένων, καὶ πολλὰς τοιαύτας διατρήσεις ἐχόντων, καὶ μίαν μέσην μεγίστην.

62. Thdt. *Provid.* 3.25 (*PG* 83:600.34–39): δι' ἧς οἱ τῶν ὑδάτων ὀχετοὶ πλεῖστον μὲν ἀνάγουσιν ὕδωρ, διανέμοντες δὲ τοῦτο, κατιέναι διὰ τῶν ἄλλων παρακελεύονται, καὶ τὸ μὲν εἰς τὸ νότιον μέρος τῆς πόλεως παραπέμπουσι, τὸ δὲ εἰς τὸ ἑῷον, ἄλλο δὲ εἰς τὸ ἑσπέριον, ἕτερον δὲ εἰς τὸ βόρειον.

63. On the eastern origin of the aqueduct and its spread through the Roman empire, see Andrew I. Wilson, "Hydraulic Engineering and Water Supply," in *The Oxford Handbook of Engineering and Technology in the Classical World*, ed. John Peter Oleson, (Oxford: Oxford University Press, 2008), 285–318, at 290–302.

64. Indeed, some archaeologists have suggested that aqueducts outside of Rome were constructed chiefly to feed the baths, that is, for luxury and display: see Alfred T. Hodge, *Roman Aqueducts and Water Supply* (London: Duckworth, 1989), 5–6; Deborah Chatr Aryamontri, "Running Water: Roman Advances in Urban Water Supply Under the Empire," in *The Nature and Function of Water, Baths, Bathing and Hygiene from Antiquity through the Renaissance*, eds. Cynthia Kosso and Anne Scott (Leiden: Brill, 2009), 330–36. Although note also the observation of Wilson, "Hydraulic Engineering," 296 that "[b]athing and ostentatious display were certainly not the driving forces. . . behind the three earliest Roman aqueducts"; it was only later, Wilson suggests, that "aqueducts and public baths [became] linked features of Roman civic architecture." See also the qualification of Bettina Fischer-Genz, "Roman Rule in the Near East," in *A Companion to the Archaeology of the Ancient Near East*, ed. Daniel T. Potts (Chichester: Wiley-Blackwell, 2012), 1030, that "competition between cities prompted the construction of imposing buildings. . .rather than essential infrastructure such as aqueducts or streets." Compare Ann Olga Koloski-Ostrow, *The Archaeology of Sanitation in Roman Italy: Toilets, Sewers, and Water Systems* (Chapel Hill: University of North Carolina Press, 2015), 63, where Dionysius of Halicarnassus is cited for the view that "the greatness of the Roman Empire" could be measured "by the sewers, along with Rome's aqueducts and paved roads." For a brief literature review of the question of why aqueducts were built (as necessity or luxury?), see Wilson, "Hydraulic Engineering," 308, who argues that "the very utility of aqueducts," for example in the sewage system and public fountains, "increased their ideological impact."

structures; the poor made do with public fountains and taps.[65] Water was a symbol of wealth and power, introduced into the city only to be carefully guarded and policed in its distribution to the populace.[66] It was not unknown for illegal pipes to be attached to aqueducts at vulnerable locations.[67] Aqueducts were therefore protected by the construction of fortified water tanks, known in Latin as *castella* ("fortifications," singular: *castellum*).[68] Water flowed into the *castellum* through a central channel, before being separated, like blood and *pneuma* within the throat, into separate pipes that traversed the city as a whole.

Theodoret's incorporation of urban plumbing into the anatomy of the acropolis built on existing metaphors. As Julius Rocca has observed in his analysis of Galen's anatomy of the brain ventricles: "Galen draws his analogies from structures and systems that deal with the containment or distribution of fluids."[69] In his treatise *On the Usefulness of the Parts*, for example, Galen describes the architecture of the brain in terms of funnels, cisterns, and pipes. In *On the Opinions of Hippocrates and Plato*, Galen explicitly figures the liver and veins in terms of an aqueduct: "for if someone should wish to describe the distribution of water that has been brought into a city, no other starting-point for the account would be found than the first point of entrance," that is, the source of blood within the body.[70] Theodoret's metaphor of the brain as a central node in the

65. Aryamontri, "Running Water," 328: "Large segments of urban populations could not meet the expense of the construction of a well or cistern in their own houses. . . . Wealthy denizens were granted private pipe networks, equipped with lead distribution boxes and tubs for their personal needs, even though they mainly used these pipelines to water their gardens or adorn them with fountains as a display of their social status."

66. Although see Hodge, on conspicuous consumption as a central aspect of hydraulic architecture and display: Hodge, *Roman Aqueducts and Water Supply*, 11: "The particular feature of aqueduct water that should be celebrated above all was its profusion; hence the emphasis on cascades and fountain jets. . . . It might have been built for the baths, but here was its most striking and outwardly visible manifestation, and the message it sent was unmistakable: 'Water? Why, we've got heaps of it, we just throw it away. That's what an aqueduct is – and our city's *got* one!'." On water distribution, see Wilson, "Hydraulic Engineering," 302–04.

67. As described by Frontinus in his technical treatise *Aq.* 65.6–7, 106.1–2 (R. H. Rodgers, ed., *Frontinus: De aquaeductu urbis Romae* [Cambridge: Cambridge University Press], 87, 106). See also Hodge, *Roman Aqueducts and Water Supply*, 294.

68. Aryamontri, "Running Water," 324–25; Wilson, "Hydraulic Engineering," 302–03.

69. Rocca, *Galen on the Brain*, 100. For the long-standing use of terminology from civil engineering in medical contexts, see Cornelius R. van Tilberg, "Interaction Between Anatomical and Civil Engineering Terminology," in *Streets and Streams: Health Conditions and City Planning in the Graeco-Roman World* (Leiden: Primavera, 2015), 3–22, especially the discussion of κιών (7) and ὀχετός (12).

70. Gal. *PHP* 6.5.30.1–3 (Phillip De Lacy, ed., *Galeni De placitis Hippocratis et Platonis* [Berlin: Teubner, 1978–1984], 2:394): οὐδὲ γὰρ εἴ τις ἐθελήσειεν ὕδατος ἐξηγήσασθαι διανομὴν ἐπεισάκτου πόλει τὴν ἀρχὴν τῆς διηγήσεως οὐκ ἄν ἄλλοθεν εὕροι ποιήσασθαι παρελθὼν τὴν πρώτην εἴσοδον.

urban aqueduct resonates with—and perhaps borrows directly from—the figurative language of Galen's anatomical discourse.

Aqueducts, like other public amenities, became less common in Late Antiquity.[71] The Roman historian Arnaldo Momigliano explained the shrinking urban infrastructure in terms of a shift in priorities among wealthy patrons: "Money which would have gone to the building of a theatre or an aqueduct," he wrote, "now went to the building of churches and monasteries."[72] Theodoret might have disagreed. As bishop, he acted in the tradition of civic patronage, as a public rhetorician, a politician, and a sponsor of urban building projects.[73] Unlike wealthy patrons of past, however, he drew funds not from his own pocket, but from the accumulated resources of the church. Writing to the Roman consul Nomos in 449, he boasts first of his conversion of Arians and Marcionites in local villages, and then of his investment in urban construction projects: "From church income, I erected public porticoes, I built two large bridges, and I took care of the public baths. Finding the city to be unwatered by the adjacent river, I furnished it with a conduit, and filled the waterless town with water."[74] When Theodoret uses the image of the brain as an aqueduct, he invokes an architectural structure that he was—or wanted to appear as—responsible for providing within his diocese. It was an image that embodied the distribution of wealth: through the pathways of the aqueduct, church income returned as water to the members of the civic body.

71. Wilson, "Hydraulic Engineering," 298: "New aqueducts were still being built in the Severan period, but very few new constructions postdate A.D. 230, although existing aqueducts were repaired." There is ongoing debate regarding whether the changes visible in the material remains of late antique cities are to be read as signs of "decline" (J. H. W. G. Liebeschuetz, *The Decline and Fall of the Roman City* [Oxford: Oxford University Press, 2003]; Bryan Ward-Perkins, *The Fall of Rome: And the End of Civilization* [Oxford: Oxford University Press, 2005]) or "transformation" (John Rich, ed., *The City in Late Antiquity* [London: Routledge, 1992]; Gareth Sears, *Late Roman African Urbanism: Continuity and Transformation in the City* [Oxford: Archaeopress, 2007]).

72. Arnaldo Momigliano, *The Conflict Between Paganism and Christianity in the Fourth Century: Essays* (Oxford: Clarendon Press, 1963), 9, discussed in Peter R. L. Brown, *Through the Eye of a Needle: Wealth, the Fall of Rome, and the Making of Christianity in the West, 350-550 AD* (Princeton: Princeton University Press, 2012), 74.

73. See Peter R. L. Brown, *Power and Persuasion in Late Antiquity: Towards a Christian Empire* (Madison: University of Wisconsin Press, 1992), 78–103, and Averil Cameron, *The Mediterranean World in Late Antiquity: AD 395-700* (London: Routledge, 2015), 81, 95–96, on the structural importance of patronage in late antique society, especially with regard to the welfare of the poor.

74. Thdt. *Ep.* 81.63–7 (*SC* 98:196.15–19): Δημοσίας στοὰς ἐκ τῶν ἐκκλησιαστικῶν προσόδων ἀνέστησα· γεφύρας δύο μεγίστας ᾠκοδόμησα, λουτρῶν ἐπεμελήθην κοινῶν· ἐκ τοῦ παραρρέοντος ποταμοῦ τὴν πόλιν μὴ ὑδρευομένην εὑρών, τὸν ἀγωγὸν κατεσκεύασα, καὶ τὴν ἄνυδρον πόλιν ὑδάτων ἐπλήρωσα.

In his homilies *On Providence*, Theodoret develops conventional metaphors of marrow, especially brain marrow, to nuance his audience's understanding of what goes on within the citadel of the skull. Governance in the late Roman Empire was not so much, or not only, a matter of issuing commands, but of gathering, guarding, and distributing resources to the members of the civic body; as Christianity gained traction within the imperial family and the Roman elite, ecclesial leaders were increasingly in the position of managing these resources. The civic body and the ecclesial body began to overlap. Theodoret accumulates the wealth of elite Christians within his diocese and distributes it as water to the city of Cyrrhus as a whole.

While Theodoret sets out to describe the hidden structures and functions of the human body through comparison to visible, familiar architectural structures within the city, his metaphors also illuminate the architectural structures themselves, and their social meanings. The aqueduct that Theodoret constructs—and the funneling of "wealth and treasure" through the church—illustrates the Aristotelian maxim with which Theodoret explains his analogy between architecture and analogy: "art," including the art of building economic communities, "imitates nature."[75] Medical and metaphorical accounts of the brain and nervous system form the basis of Theodoret's arguments for providence in relation to the human body; indirectly, however, they suggest that social and economic structures exist by providential design as well.

3. THE CIRCULATION OF WEALTH AND SPIRIT WITHIN THE CHURCH

I turn in this section to the social and economic structures that informed Theodoret's metaphorics of the brain. I focus first on the material *pneuma* that proceeds from the brain and endows the members of the body with sensory and motor powers; for Theodoret, this *pneuma* represented both the distribution of the immaterial Spirit (*pneuma*) among individual members of the church, and also the donation of material wealth to church as a whole. The bishop was responsible for coordinating the distribution of both spiritual and material resources. The brain and the nervous system served as a model for this distribution, and further helped explain the unequal distribution of spiritual and material gifts. Using anatomical examples, Theodoret described his congregation as a single economic body, allowing his wealthier members to feel secure in their possession of superior wealth, so long as they used that wealth to support the body as

75. Thdt. *Provid.* 3.25 (*PG* 83:600.40–41): μιμεῖται γὰρ. . .τὴν φύσιν ἡ τέχνη. Cf. Arist. *Ph.* 2.2 (W. D. Ross, ed., *Aristotelis physica*, Second Edition [Oxford: Clarendon Press, 1966], 194a21–22).

a whole. Finally, I explore a reversal of this metaphor in another of Theodoret's sermons, where the brain signifies not material wealth, but impoverishment and vulnerability, a signification made possible by the theological association between poverty and spiritual "treasure." Behind the various metaphors of the brain that Theodoret uses across his corpus, I argue, there is a core symbol of the brain as a site for the accumulation and redistribution of nourishing resources that exist on both the material and the spiritual planes. The brain, as bodily organ of the governing soul, represents the transformation of material into spiritual goods.

Central to early Christian concepts of community formation was the Pauline image of Christ as the "head" of the church.[76] This metaphor was related to the Platonist image of the soul as a king, ruling from the acropolis of the skull. Yet, the headship of Christ was envisioned not simply in terms of obedience to commands, but also as a source of organic growth and integrity: just as nerves sprouted from the brain and spinal column, so the members of the church were rooted in Christ; just as the brain spread its *pneuma*-carrying nerves throughout the body and thereby animated the whole, so Christ held the church together by imbuing every member with gifts of the Spirit (*pneuma*).

By Late Antiquity, *pneuma* had acquired multiple technical uses. In medical and scientific texts, *pneuma* was a subtle, airy substance produced by the heart out of inbreathed air.[77] It was responsible for all kinds of activities of the soul, including digestion, pulsation, and reproduction. The *pneuma* that gathered within the brain was the most refined of all, and was called "psychic *pneuma*" (or "animal spirit," from the Latin *spiritus animalis*). This *pneuma* was responsible for thought, memory, and, through the nerves, perception and voluntary motion. In addition to its medical meaning, *pneuma* denoted in Stoic discourse an incorporeal substance that pervaded the entire universe; in Christian theology, it referred to the immaterial (Holy) Spirit bestowed by Christ upon the faithful.[78]

76. See especially Eph 4.15–16, Col 2.19, and 1 Cor 12.12–27. There is a long history of scholarship on the body metaphor in Paul's letters and its roots in both political and philosophical contexts. See especially Michelle V. Lee, *Paul, the Stoics, and the Body of Christ* (New York: Cambridge University Press, 2006); Martin, *The Corinthian Body* and Margaret M. Mitchell, *Paul and the Rhetoric of Reconciliation: An Exegetical Investigation of the Language and Composition of 1 Corinthians* (Tübingen: Mohr Siebeck, 1991), 72–4 (bodily divisions and schism) and 157–64 (the body as model for political unity).

77. On *pneuma* in Galenic medicine, see Rocca, *Galen and the Brain*, 59–66.

78. The classic account is G. Verbeke, *L'évolution de la doctrine du pneuma, du Stoicisme à s. Augustin* (Paris: D. de Brouwer, 1945). For *pneuma* in Stoic theories of the cosmos and the soul, see

The polysemy of *pneuma* enabled Theodoret to interpolate the brain and nerves into his exegesis and deployment of the Pauline metaphor of the church as the body of Christ, visualizing Christ's "headship" as a symbol not only of governance, but also of the interconnectivity of all the members of the church, through the distribution of the Spirit among them. For example, in his exegesis of Ephesians 4.15–16, which situates Christ as the head of the ecclesial body and the source of the body's growth, Theodoret describes the brain as "the fount of the perceptive faculty; thus the Lord Christ, possessing the rank of head, distributes the gifts of the Spirit (τοῦ Πνεύματος), connecting the members of the body into a single harmony."[79] In his discussion of Colossians 2.19, Theodoret again describes Christ as the "brain," endowing the members of the body with sensation through the nerves, but further introduces the "apostles, prophets, and teachers" as the "ligaments" that bind the body together.[80] We find a similar metaphor in John Chrysostom's corpus: just as the head is set at the top of the body and serves as the root of bodily governance, via the nerves that sprouted from the brain, so too the apostleship serves as the source and root of all spiritual gifts within the church.[81] Or, again: just as the brain endows each part of the body with sensation to the extent that the individual member is capable of receiving *pneuma*, so Christ distributes spiritual gifts among the members of the church; if the member is cut off from the body, Chrysostom argues, it ceases to receive the Spirit.[82]

David E. Hahm, *The Origins of Stoic Cosmology* (Columbus: Ohio State University Press, 1977), 137–84; S. Sambursky, *Physics of the Stoics* (London: Routledge and Paul, 1959), 21–29. For discussion of how the medical meaning of *pneuma* intersected with early Christian usage, see Troy W. Martin, "Paul's Pneumatological Statements and Ancient Medical Texts," in *The New Testament and Early Christian Literature in Greco-Roman Context: Studies in Honor of David E. Aune*, ed. John Fotopoulos (Leiden: Brill, 2006), 105–26; J. W. Barrier, "Jesus' Breath: A Physiological Analysis of πνεῦμα within Paul's Letter to the Galatians," *Journal for the Study of the New Testament* 37, no. 2 (2014): 115–38.

79. Thdt. *Rom.–Philm.* (*PG* 82:537.14–20): πηγὴ γὰρ τῆς αἰσθητικῆς δυνάμεως ὁ ἐγκέφαλος· οὕτως ὁ Δεσπότης Χριστὸς κεφαλῆς τάξιν ἐπέχων, τὰ τοῦ Πνεύματος διανέμει χαρίσματα, εἰς μίαν ἁρμονίαν συνάπτων τὰ μέλη τοῦ σώματος. See Eph 4.15–16: "But speaking the truth in love, we must grow up in every way into him who is the head, into Christ, from whom the whole body, joined and knit together by every ligament with which it is equipped, as each part is working properly, promotes the body's growth in building itself up in love" (NRSV translation).

80. Thdt. *Rom.–Philm.* (*PG* 82:613.39–44): Ὥσπερ γὰρ ἐπὶ τοῦ σώματος ῥίζα τῶν νεύρων ἐστὶν ὁ ἐγκέφαλος, διὰ δὲ τῶν νεύρων ἔχει τὰς αἰσθήσεις τὸ σῶμα· οὕτω παρὰ τοῦ Δεσπότου Χριστοῦ, καὶ τὰς τῆς διδασκαλίας πηγὰς, καὶ τῆς σωτηρίας τὰς ἀφορμὰς δέχεται τῆς Ἐκκλησίας τὸ σῶμα. See Col 2.19: "not holding fast to the head, from whom the whole body, nourished and held together by its ligaments and sinews, grows with a growth that is from God" (NRSV translation).

81. Chrys. *Hom. 1–4 in Ac. princ. 3* (*PG* 51:92.22–31).

82. Chrys. *Hom. 1–24 in Eph.* 11 (*PG* 62:84.4–24).

In these metaphors, Theodoret and Chrysostom use the familiar metaphor of the brain as an agent or instrument of governance to imagine a community bound by dependence upon shared resources, that is, the gifts of the Spirit. The brain controls the distribution of spirit, via the nerves, among the members of the body; this is the principle of ecclesial harmony. The source of those gifts is God, but reception of the gifts requires participation in the body of the church, which is held together and nourished with *pneuma* by spiritual leaders of the past and, we might imagine, the present also.

Alongside spiritual ministry, late antique bishops functioned increasingly as civic patrons, accumulating financial resources through donations, and redistributing this wealth for communal benefit.[83] Once again, Theodoret and Chrysostom use the brain and nervous system as the vehicle to illustrate the movement of resources. In his homily *On the First Letter to the Corinthians* 10, Chrysostom urges congregants to share their wealth with the church: just as the nose does not hold onto odors, but shares them with the brain and with the stomach for the refreshment and nourishment of the whole, so individual members of the church must contribute their material resources.[84]

Theodoret, in his sixth homily *On Providence*, describes the brain as a "treasury of marrow" (μυελῶν θησαυρὸν).[85] This is an allusion back to the metaphor of the brain as "some wealth and treasure" in *On Providence* 3, but it also supports Theodoret's more immediate argument in *On Providence* 6 that poverty is compatible with divine providence. According to Theodoret, economic inequality does not disprove the doctrine of providence, since the human body, on which the ecclesial body is modeled, also includes members with different and unequal powers. Human beings, Theodoret argues, possess unequal wealth for the same reasons that "the Creator has endowed each of the bodily parts

83. Claudia Rapp, *Holy Bishops in Late Antiquity: The Nature of Christian Leadership in an Age of Transition* (Berkeley: University of California Press, 2005), 155–71, esp. 156: "the bishop's role in practical matters was analogous to that of the *patronus* or public benefactor. . . . Bishops provided food in times of famine, helped Christians in distress, and pleaded with authorities for tax remission and other favors." Rapp's description of the bishop as *patronus* responds explicitly to Brown's influential description of the "holy man" as a spiritual and political patron in rural areas: Peter R. L. Brown, "The Rise and Function of the Holy Man in Late Antiquity," *Journal of Roman Studies* 61 (1971), 80–101. For an opposing view, see Richard D. Finn, *Almsgiving in the Later Roman Empire: Christian Promotion and Practice 313–450* (Oxford: Oxford University Press, 2006), which argues that the competitive nature of almsgiving in Late Antiquity prevented bishops from becoming the central patron of their city.

84. Chrys. *Hom. 1–44 in 1 Cor.* 10.7 (*PG* 61:86.28–62).

85. Thdt. *Provid.* 6.17 (*PG* 83:653.1–2): ἐγκέφαλον δὲ μυελῶν θησαυρὸν.

with different functions."[86] The parts of the body, like the members of the church, are interdependent because they rely on one another's functions. Theodoret draws here on 1 Corinthians 12.21: "The eye cannot say to the hand, 'I have no need of you', nor again the head to the feet, 'I have no need of you'," interpreting the implicit hierarchy of the passage—eyes and heads dismiss hands and feet, the former being superior in their perceptual and directorial functions, as well as physically higher within the body—in economic rather than political terms.[87] The brain, as treasury, represents the wealthy members of the church; as such, it justifies economic inequality as a natural phenomenon. It also demands that individual wealth be shared, to some extent, with the other members of the body. The "treasury of marrow," like the "wealth and treasury" of *On Providence* 3, represents the concentration of material resources in one place (one wealthy individual), with a view to the nourishment of the body as a whole.

The two economies that Theodoret and Chrysostom describe through the metaphor of the brain—the distribution of *pneuma*, and the distribution of material stuff—are encompassed in the work of the bishop as a distributor of resources, as Theodoret presents it: Theodoret established his episcopal success by building an aqueduct and also by converting "heretics." The "wealth and treasure" within the *castellum* of the aqueduct is both the wealth contributed to the church, and the water that is provided through that wealth; it also represents the "living water" of the Hebrew and Christian scriptures. The bishop is responsible for managing both kinds of resource; the bishop is also responsible for converting one kind of resource into the other, promising spiritual resources in return for donation to the church. The convergence of spiritual and material economies in the figure of the bishop has an apt analogue in the brain, insofar as psychic power derives from the movement, the accumulation, and the dispersal of material stuff.

We see this most clearly in a homily outside the series *On Providence*, where Theodoret figures the brain not as "wealth or treasury," but rather as the opposite, a vulnerable or poor member of the church. As in *On Providence* 6, his scriptural source is 1 Corinthians 12.21–23, but instead of emphasizing that it is natural for some members of the body to have more power and others less, he

86. Thdt. *Provid.* 6.17 (*PG* 83:652.47–8): τοῖς τοῦ σώματος μέλεσιν, οὐ τὴν αὐτὴν ἅπασι δέδωκεν ὁ Δημιουργήσας ἐνέργειαν.

87. NRSV translation; on the local political conflicts that lie behind the contestation between the "weak" and the "strong" in 1 Corinthians, see Martin, *The Corinthian Body*, 38–68.

uses anatomical analogues to illustrate how a vulnerable member might be considered precious and worthy of divine protection. Paul writes that "the members of the body that seem to be weaker are indispensable."[88] Theodoret's exegesis rests on anatomical knowledge: "The weaker and more necessary parts," he writes, "are the liver and the brain, for the bones of these parts are more thinly-covered, but nonetheless come by greater security from the creator."[89] The brain was a central site of human vulnerability: its physical weakness, essential for human sensitivity, was the consequence of divine providence; human intelligence depended upon the fragile condition of the brain.[90] Theodoret's paradoxical assertion of the brain's strength in vulnerability thus echoes the signature claim of Pauline Christianity, that the fulfilment of divine power within the human being requires human vulnerability: "My grace is sufficient for you [God says to Paul], for my power is made perfect in weakness."[91] In Theodoret's exegesis, the brain represents the "members of the body that seem to be weak," insofar as both manifested the power of God, not in spite of their vulnerability, but because of it.

How could the brain represent wealth in one homily, and the poor members of the church in another? As the church grew in membership, prestige, and wealth, almsgiving came to play a central role in reconciling the idealization of poverty with the worldly power and resources of prominent Christians. "If you wish to be perfect," Jesus had said to the rich young man, "go, sell your possessions, and give the money to the poor, and you will have treasure in heaven; then come, follow me."[92] The notion that giving to the poor might yield "treasure in heaven" produced a new economic relationship between rich and poor, wherein the rich could "bank" their wealth for future use, by funneling it through the poor.[93] The logic of almsgiving depended upon the transmutation

88. 1 Cor 12.21–23: "The eye cannot say to the hand, 'I have no need of you', nor again the head to the feet, 'I have no need of you'. On the contrary, the members of the body that seem to be weaker are indispensable, and those members of the body that we think less honorable we clothe with greater honor, and our less respectable members are treated with greater respect" (NRSV translation).

89. Thdt. *Rom.–Philm.* (*PG* 82:328.51–54): Ἀσθενέστερα τῶν μορίων, καὶ ἀναγκαιότερα, τὸ ἦπαρ καὶ ὁ ἐγκέφαλος· τούτων γὰρ τὰ ὀστᾶ στεγανώτερα· ἀλλ' ὅμως πλείονος ἀσφαλείας τετύχηκε παρὰ τοῦ Ποιητοῦ.

90. See the discussion in Wright, "John Chrysostom and the Rhetoric of Cerebral Vulnerability," 119–22. Plato's *Timaeus* famously argues that the human brain received little physical protection from the skull or hair, in order to enhance the human capacity for perception and intelligence. See Pl. *Ti.* 70a7–c7 (Burnet, *Platonis opera*, vol. 4).

91. 2 Cor 12.9 (NRSV translation, revised to include "my").

92. Matt 19.21 (NRSV translation).

93. Peter R. L. Brown, *Treasure in Heaven: The Holy Poor in Early Christianity* (Charlottesville: University of Virginia Press, 2016), 24–27.

of material into spiritual wealth. Poor and vulnerable members of the church became "porters" of earthly treasure, because they were imbued with spiritual significance.[94] Insofar as it represents "the members of the body that seem to be weaker," the brain signifies treasures in heaven—that is to say, the conversion of earthly into heavenly riches, through donation to the poor and to the church.

Theodoret did not invent his metaphors of the brain as treasure and as aqueduct in a discursive vacuum. Not only did both metaphors resonate within broader figurative clusters (such as marrow as an underground deposit of precious metals), they also spoke to Theodoret's own situation as bishop of Cyrrhus. Through the symbol of the brain, Theodoret sketched out the new social and economic structures of the church as natural objects designed perfectly for their end-goal, that is, the salvation of the body of Christ. In Theodoret's account, governance—whether bodily, ecclesial, political, or cosmic—is effected through the accumulation and distribution of resources, both material and immaterial in kind.

CONCLUSION

In his treatise *On the Opinions of Hippocrates and Plato*, Galen writes that "it is *not* the case that, just because the brain sits in the head like a great king in an acropolis, so the governance of the soul is there likewise—nor because it has the senses stationed all around it like bodyguards."[95] While Galen makes extensive arguments for the encephalocentrist perspective, he denies the role of metaphor in identifying the organ of the *hēgemonikon*. In general, Galen disapproved of figurative language in medical texts: he was what we would now call a literalist, and did not approve of metaphor either as ornament or as explanatory tool.[96] Yet, his own articulation of medical concepts depended

94. See J. Patout Burns and Robin M. Jensen, *Christianity in Roman Africa: The Development of Its Practices and Beliefs* (Grand Rapids: Eerdmans, 2014), 579 n. 263–65, for a list of Augustinian sources for this notion. See also Peter R. L. Brown, *The Ransom of the Soul: Afterlife and Wealth in Early Western Christianity* (Cambridge: Harvard University Press, 2015), 91–93.

95. Gal. *PHP* 2.4.17.1–18.3 (De Lacy, *Galeni De placitis Hippocratis et Platonis*, 1:120): οὐδὲ γὰρ ὅτι καθάπερ ἐν ἀκροπόλει τῇ κεφαλῇ δίκην μεγάλου βασιλέως ὁ ἐγκέφαλος ἵδρυται, διὰ τοῦτ' ἐξ ἀνάγκης ἡ τῆς ψυχῆς ἀρχὴ κατ' αὐτόν ἐστιν, οὐδὲ ὅτι καθάπερ τινὰς δορυφόρους ἔχει τὰς αἰσθήσεις περιῳκισμένας.

96. On Galen, see Heinrich von Staden, "Science as Text, Science as History: Galen on Metaphor," in *Ancient Medicine in Its Socio-Cultural Context*, ed. Philip J. van der Eijk, H. J. F. Horstmanshoff, and P. H. Schrijvers (Amsterdam: Rodopi, 1995), 499–518. On literalism, see Andrew Ortony, "Metaphor, Language, and Thought," in Ortony, ed., *Metaphor and Thought*, 1–16 at 1–2. On the pedagogical use of metaphor, see Richard E. Mayer, "The Instructive Metaphor: Metaphoric Aids to Students' Understanding of Science," in Ortony, *Metaphor and Thought*, 561–78 at 562–66.

upon figurative language to articulate the unfamiliar and the unseen in terms that his audience could understand.[97]

As contemporary theorists have argued, metaphors are among the primary instruments of scientific reasoning, fundamental to human conceptual systems, and important to the introduction and success of scientific paradigms.[98] Scientific metaphors are powerful theoretical and pedagogical tools, and—as Galen's refutation of the governance metaphor indicates—they were used as such in ancient medical texts.[99] An underlying premise of my analysis has been to treat late antique sermons as a kind of medical text, in which early Christian preachers—presenting themselves as "physicians of the soul"—deployed medical concepts and theories in support of their accounts of the human body and its relationship to the soul and to God.[100] The medical concepts and metaphors that they developed not only illustrate what was already comprehensible to their audiences—the scope of popular anatomical and physiological knowledge—but also shaped and tweaked those concepts, layering them with new meaning and establishing the place of scientific objects such as the brain and the nervous system in the imperial Christian cosmos.

While late antique texts overwhelmingly emphasize the role of the brain as the instrument or agent of governance, receiving information and dispatching commands, Theodoret's metaphors of the brain highlight its function as a site for the accumulation and redistribution of bodily fluids—a function that the brain fulfilled in part through its structure as a series of containers through which *pneuma* flowed (the brain as an aqueduct, or as a treasury), and in part

97. Von Staden, "Science as Text, Science as History," 500: "Metaphor thus is conspicuously associated with linguistic, scientific, communicative, and moral failure (an association that might startle. . .those familiar with Galen's own rich, at times licentious, use of metaphor. . .)." See also Marx-Wolf, "Medicine," 94, for the argument that "any thinking about the cosmos, the human body, and nature is necessarily metaphorical."

98. For the role of metaphors in conceptual systems, see Lakoff and Johnson, *Metaphors We Live By*, 3. On scientific paradigms, see Thomas S. Kuhn, *The Structure of Scientific Revolutions*, ed. Ian Hacking, 50th Anniversary Edition (Chicago: The University of Chicago Press, 2012). Hugh G. Petrie and Rebecca S. Oshlag, "Metaphor and Learning," in Ortony, *Metaphor and Thought*, 579–609, at 587–89, argue that metaphors are vital components of scientific paradigms.

99. See, in general, the contributions to Ortony, *Metaphor and Thought*, especially the two final sections, titled "Metaphor and Science" and "Metaphor and Education."

100. For exemplary analysis of Chrysostom's sermons as therapeutic texts, see Wendy Mayer, "Shaping the Sick Soul: Reshaping the Identity of John Chrysostom," in *Christians Shaping Identity from the Roman Empire to Byzantium. Studies Inspired by Pauline Allen*, eds. Wendy Mayer and Geoffrey D. Dunn (Leiden: Brill, 2015), 140–64, and "The Persistence in Late Antiquity of Medico-Philosophical Psychic Therapy," *Journal of Late Antiquity* 8, no. 2 (2015): 337–51.

through its substance as soft marrow, which extended outward through the nerves and the spine (the brain as wealth and treasure, which could be conceived of as interchangeable with underground rivers or bodily fluids). By examining Theodoret's unusual metaphors, we are able to reconstruct characteristics of the late antique brain that must have been comprehensible to his audience, but that are otherwise obscured by the focus on governance in extant sources. We are also able to see how Theodoret uses these anatomical and functional characteristics to support his picture of an ideal (that is, a providential) city: one in which resources flow to a central administrator who assumes responsibility for distributing spiritual and material nourishment to all the other members of the body. ■