Introduction: Can't Touch This

> This embracing or kissing the image visually, I submit, was meant literally as well as metaphorically. Like all successful religious symbolism, this metaphor was grounded in perception and perceptual theory. Because the optical rays that issue forth from the eyes were thought to touch the object seen, vision was haptic, as well as optic, tactile as well as visual. Vision thus connected one with the object seen, and, according to extramission, that action was initiated by the viewer.[1]
>
> – Robert S. Nelson

In 2000, Robert S. Nelson's groundbreaking essay "To Say and to See: Ekphrasis and Vision in Byzantium" raised the theory of haptic sight to a privileged position in the history of Byzantine art and culture. Positioning extramission (where the eye emits rays that contact the object) against intromission (where rays enter the eye passively from an outside source), Nelson argued for a theory of vision wherein sight was a species of touch.[2] Despite acknowledging that competing antique and late antique theories

[1] Robert S. Nelson, "To Say and to See: Ekphrasis and Vision in Byzantium" in Robert S. Nelson (ed.), *Visuality Before and Beyond the Renaissance: Seeing as Others Saw* (Cambridge University Press, 2000), 143–68, at 153.

[2] In a later book review, Nelson provides a concise summary of these two theories of vision, while detailing the normalization of intromission in the early modern world with the birth of modern optics, writing: "This is why intromission [*sic*], the principal Byzantine theory of vision, was ideally suited for icon devotion and vice versa. Shortly after the end of the iconoclastic controversy, Patriarch Photios evoked such vision in a celebrated sermon at the inauguration of the new apse mosaic of Hagia Sophia. In intromission [*sic*], the viewer sends out a ray that touches the object seen and returns to the eye. Intromission [*sic*] is thus tactile and active and motivated by the viewer who does something to something else in order to see. Extramission [*sic*], a more passive sense of seeing, is the proper term for the generally accepted notion of vision in our world. Light rays reflect off the object seen, enter the eye, and pass to the brain. In the West, extramission [*sic*] began to gain adherents during the late Middle Ages, due to the translation of Arabic texts. Perspectival, optical, and physiological studies of vision during the early modern period gradually made extramission [*sic*] the norm in the West" (N.B. Here Nelson has inverted the terms intromission and extramission in his summary). See Robert S. Nelson, "Review of Charles Barber, *Figure and Likeness: On the Limits of Representation in Byzantine Iconoclasm*," *Art Bulletin* 85:4 (2003): 797–800, at 799.

of vision circulated in Byzantium, Nelson's analysis of classical and medieval sources, particularly their metaphors and literary tropes, concluded that the Byzantine world preferred a theory of vision whereby the eyes emitted rays that grazed the body of the object and returned to the viewer, thus enabling perception. Therefore, sight was understood to be a species of touch and an active rather than passive engagement with visual culture. The Byzantine viewer was able to visually touch the icon – the most important part of the visual culture of veneration – as if kissing and embracing its surface. Weaving metaphor, science, theology, and philosophy, Nelson claimed to have captured an all-encompassing theory of visual perception for the Byzantines, whereby viewer and object were not distinct entities but physically connected through the tactility of sight.

This haptic theory of vision, however, is by no means exclusive to Byzantine Studies or to Nelson's influential piece. It had already been prevalent in the study of ancient theories of vision for decades, as well as in (western) Medieval Studies. In 1983, for example, Margaret Miles described Augustine's theory of vision in a manner that presages Nelson's sentiments two decades later, almost verbatim, writing:

> For the classical people. . ., sight was an accurate and fruitful metaphor for knowledge because they relied on the physics of vision, subscribed to by Plato and many others, that a ray of light, energized and projected by the mind toward an object, actually touches its object, thereby connecting viewer and object.[3]

Miles goes on to stress, much like Nelson above, that a haptic model of sight produced a "connection" between viewer and object, wherein vision was "initiated by the viewer," and that in the act of seeing viewer and object became "united."[4] In other words, Miles emphasized the same keywords as Nelson, demonstrating the importance that the viewer's initiation of the process and connection with the object had in the Christian episteme. And, just like Nelson, Miles's summary also erroneously associates the intersection of sight and tactility with "Plato and many others," even though Plato's writings offer little to presume as much. In other words, Nelson's perspectives on Byzantine sight certainly did not develop in a vacuum, nor were they by any means unique or idiosyncratic. This is attested by the context of his essay's publication, emerging from an

[3] Margaret R. Miles, "Vision: The Eye of the Body and the Eye of the Mind in Saint Augustine's *De trinitate* and *Confessions*," *Journal of Religion* 63:2 (1983): 125–142, at 127. See also Margaret R. Miles, *Augustine on the Body* (Missoula, MT: Scholars Press, 1979), 9–39.

[4] Miles, "The Eye of the Body," 127–128.

interdisciplinary conference on vision and visuality at the University of California in Los Angeles in the spring of 1995.[5] As Nelson's edited volume demonstrates, his fellow medievalist contributors, including Georgia Frank, Cynthia Hahn, and Michael Camille, all followed in the haptic model of extramissive sight, as did their Classicist counterparts, Jaś Elsner and Shadi Bartsch.[6]

Research into ancient and late antique theories of vision has long featured the same steadfast adherence to tactile sight (whether it be defined as extramissive, intromissive, or interactionist in some capacity), even though the primary sources demonstrate that there was no single visual theory that was by any means restrictive or canonical for the ancient world – and, even less so any theory that could have been seen as tactile. As the works of Jaś Elsner, Shadi Bartsch, Helen Morales, Gérard Simon, David Lindberg, Olivier Darrigol, A. Mark Smith, Suzanne Conklin Akbari, and others have observed, theories of vision from the ancient through medieval worlds were immensely eclectic and diverse, depending on the philosophical, religious, and cultural matters that a particular author or thinker wished to stress.[7] And as Sue Blundell, Douglas Cairns, Elizabeth Craik, and Nancy Sorkin Rabinowitz caution, the operation of sight often appears to overstep its prescribed physiological or theoretical function, "such as the role of the eyes in the expression of anger, [where] the relevant interpretive frame is not the 'haptic' model of vision, but specific Greek understandings of the expressive, emotional, and social role of the eyes in ordinary social interactions."[8] In the Byzantine world, we witness the same matters at play. Byzantium comprised a diverse, multi-lingual, and fluid empire that lasted well over a millennium.

[5] Robert S. Nelson, "Introduction: Descartes's Cow and Other Domestications of the Visual" in Robert S. Nelson (ed.), *Visuality Before and Beyond the Renaissance: Seeing as Others Saw* (Cambridge University Press, 2000), 1–21, at 14.

[6] See Robert S. Nelson (ed.), *Visuality Before and Beyond the Renaissance: Seeing as Others Saw* (Cambridge University Press, 2000).

[7] See Jaś Elsner, *Roman Eyes: Visuality and Subjectivity in Art and Text* (Cambridge University Press, 2007); Shadi Bartsch, *The Mirror of the Self: Sexuality, Self-Knowledge, and the Gaze in the Early Roman Empire* (University of Chicago Press, 2006), esp. 57–114; Helen Morales, *Vision and Narrative in Achilles Tatius' Leucippe and Cleitophon* (Cambridge University Press, 2004), 8–35; Gérard Simon, *Le regard, l'être et l'apparence dans l'Optique de l'Antiquité* (Paris: Éditions du Seuil, 1988); David C. Lindberg, *Theories of Vision from Al-Kindi to Kepler*, revised edition (University of Chicago Press, 1996); Olivier Darrigol, *A History of Optics: From Greek Antiquity to the Nineteenth Century* (Oxford University Press, 2012); A. Mark Smith, *From Sight to Light: The Passage from Ancient to Modern Optics* (University of Chicago Press, 2015); Suzanne Conklin Akbari, *Seeing through the Veil: Optical Theory and Medieval Allegory* (University of Toronto Press, 2004).

[8] Sue Blundell, Douglas Cairns, Elizabeth Craik, and Nancy Sorkin Rabinowitz, "Introduction: Vision and Viewing in Ancient Greece," *Helios* 40:1–2 (2013): 3–37, at 22.

It is impossible to ascribe a monolithic theory of vision to the Byzantine worlds, which, as Michael Squire points out in the case of antiquity, "lacked any singular, culturally dominant model for explaining the mechanics of sight."[9] Byzantine writers demonstrate a great deal of coherence and unity in their syntheses and permutations of visual theories, but they are each uniquely varied in crucially nuanced ways.

In the context of Medieval Studies, it is perhaps possible to attribute the rise of haptic extramission to the Latin-speaking West, wherein the transmission of ancient theories of vision did at times explicitly deploy tactile language in a manner that was unparalleled in the Greek-speaking Byzantine world. Perhaps the most prominent exemplar of this tradition is Augustine, whose statements have served as a rallying cry for a tactile visuality, as suggested already in Margaret Miles's work. Namely, we witness this in Augustine's often-cited line describing how the "rays" (*radios*) of the eyes "shine through them and touch whatever we see" (*qui per eos emicant et quidquid cernimus tangunt*).[10] While we might propose reading this grasping cognitively, in the case of Augustine *tangunt* here appears to be resolutely haptic. Therefore, it is necessary to concede that in some circles sight might have been understood to be haptic – beyond the limits of metaphor alone – given Augustine's popularity and, to a lesser extent, the relative inaccessibility of the classic Greek texts and their commentaries to his Latin-speaking audience. Likewise, earlier Latin sources similarly attest to this haptic depiction of vision, as in the case of Apuleius's *Apologia*, where, in a summary on vision, he attributed to the Stoics the idea that the effluxes from the eye "touch and contact the object" (*quod extra tangant ac uisant*) through attenuated air.[11] In these two examples, we might appreciate the inklings of a haptic extramission in the medieval Latin-speaking West, but such statements have no true parallel in the Greek-speaking East.

Thus, it is permissible to propose that the haptic theory of extramission as a visual *lingua franca* for Byzantium originates in the West, but particularly in its historiography. In other words, haptic sight in

[9] Michael Squire, "Introductory Reflections: Making Sense of Ancient Sight" in Michael Squire (ed.), *Sight and the Ancient Senses* (London: Routledge, 2016), 1–35, at 15.

[10] Augustine, *De trinitate*, 9.3.3, ed. Johann Kreuzer, *De trinitate (Bücher VIII–XI, XIV–XV, Anhang: Buch V)* (Hamburg: Felix Meiner Verlag, 2001), 54; trans. Stephen McKenna, *On the Trinity: Books 8–15*, ed. Gareth B. Matthews (Cambridge University Press, 2002), 27.

[11] Apuleius, *Apologia*, 15, ed. and trans. Christopher P. Jones, *Apologia*, Loeb Classical Library 534 (Cambridge, MA: Harvard University Press, 2017). I wish to thank Christopher P. Jones for recommending this source.

Byzantium appears to be a projection from a certain body of comments made (in passing) in the Latin world and used as adages for vision in the secondary literature. By the late twentieth century, western medieval theories of vision had been far more studied and elucidated in the historiographic record than any of their Byzantine counterparts. Thus, it is understandable that Byzantinists would have grafted such presumptions about vision onto the study of Byzantine art and culture.

Yet even the articulations of haptic sight in the West seem to betray a certain confusion emerging as by-product of a crude cropping and reduction of Greek theories. I would say that in the examples of Augustine and Apuleius we encounter the fragments of more complex arguments and metaphors that have simply gone awry in their excerption and translation, rather than constituting any properly fleshed-out theory of haptic sight. This matter, however, goes well beyond the goals of the present book. Nevertheless, we can even witness the unease with which Michael Camille approached haptic vision in his contribution to Nelson's volume, for example. There, Camille struggled with a more nuanced perspective on the differences in theories of perception at play in the western world, giving due focus to the work of Avicenna.[12] His essay rightly placed attention upon an interactionist theory of vision, wherein both the eye and the object performed mutual actions in the process of sight, while still oriented around the misguided presumption that extramission always denotes a tactile theory of sight. However, in shifting his attention from sight alone to the internal senses, such as the "common sense" (*sensus communis vel sensatio*) and the "cognitive imagination" (*imaginatio vel formalis*) in Avicenna's *De anima* commentary, Camille was able to better grasp and grapple with the problem of tactility from the perspective of the mind's perceptions, rather than the senses' sensations alone.[13] In a sense, Camille's essay indirectly responded to Nelson's contribution by demonstrating that the Aristotelian (and Platonic) heritage was never quite founded upon haptic sight, understood as the touch of the optical rays, but rooted in an interactionist theory wherein the cognitive gaze grasped the object in the mind. Camille, however, did not explicitly demonstrate just how tactility emerged from the operations of the common sense and the imagination, nor did he endeavor to take down haptic sight fully, as I aim to do in

[12] Michael Camille, "Before the Gaze: The Internal Senses and Late Medieval Practices of Seeing" in Nelson (ed.), *Visuality Before and Beyond the Renaissance*, 197–223.
[13] See Camille, "Before the Gaze," 198–202, 204–205, 211–214.

this volume. Instead, Camille only politely side-steps haptic vision's problematic implications for medieval art and culture.

In projecting stereotypes of western visuality onto Byzantium, Nelson and others designated tactility to be the defining aspect of Byzantine visual theories of sight, but, as I argue in this book, the one thing that most theories of vision in the Byzantine period seemed to generally agree upon was that touch proper did not occur through sight, despite the frequent haptic language and metaphors that characterized the process of perception. By looking closely at classical, late antique, and Byzantine sources, I aim to show that the notion of haptic vision in both the classical and Byzantine worlds was a product of metaphors that in reality were describing cognition and the mental processes of perception. In other words, the idea of sight being haptic does not emerge from a Byzantine theory that sight is a species of touch, but due to the shorthand describing the processes of perception. It must be clarified at the outset that this book's argument is not that one should favor one ancient theory of vision over another, such as intromission over extramission. Instead, the goal is to show overwhelmingly that the Byzantine rhetoric of haptic sight pointed to the mind's grasp and apprehension, not the literal grasp of the eyes. Many of the usual suspects in discussions of sight will be brought into the dialogue, particularly those that relate sight to touch.

This book's launching point is Nelson's essay and its primary sources. I actively read his argument and the sources closely, against the grain, and alongside other crucial texts, to demonstrate how Byzantine authors writing on medicine, the natural world, and theology produced nuanced articulations of sight. By distancing sight from touch we can then attend to what is actually being described by this haptic language, namely, the cognitive unfolding of perception, a process in which the imagination is the centerpiece. This shift in focus allows us to recover an image theory that did not fetishize the illusion of presence in the icon, but rather expressed the desire and "directed absence"[14] upon which the icon relied theologically. Turning to the importance that the imaginative faculty played in perception and the viewer's investment in the image, we are able to read anew key texts about Byzantine art, both before and after the Iconoclastic period, to appreciate how the imagination was responsible for animating the icon in the viewer's mind. It is the imagination that allowed the viewer to feel as if they were in the presence of a holy person depicted

[14] Charles Barber, *Figure and Likeness: On the Limits of Representation in Byzantine Iconoclasm* (Princeton University Press, 2002), 121.

in the icon, speaking with and touching them, but never under the illusion that they actually were in said person's presence.

A Brief History of Byzantine Theories of Vision

Modern scholars have often divided classical, medieval, and early modern theories of vision into two major camps: extramission and intromission. Thinkers like Euclid, Empedocles, Hipparchus, and the Stoics generally fall into the category of extramission, whereby the eyes emit flames, rays, or some form of efflux that flows to the object and contacts it somehow. It is from this theory that we get the notion of haptic extramission, because many of the metaphors explaining the operation of the effluxes are haptic. For example, the effluxes are rays that extend "just as by the touch of hands" (καθάπερ χειρῶν ἐπαφαῖς) to the object, in the case of Hipparchus, or they are a fiery mixture of *pneuma* extending to the object, seeing "as if through the walking stick" (ὡς διὰ βακτηρίας) of the blind touching the object, in the case of the Stoics. Intromission, on the other hand, details a series of divergent processes whereby rays, colors, images, or light emitted from the object stream into the eyes. For Aristotle, the diaphanous medium betwixt the viewer and the object conducts colors from the object's surface to the eyes when activated by light, or in the case of the atomists, "replicas" (εἴδωλα) are shed by the objects and impinge themselves into the eyes of the viewer, according to the theories of Leucippus and Democritus, popular with the Epicureans.

However, as Squire and others have noted, there are other theories that are far more "interactionist" than the binary terms extramission and intromission would suggest.[15] For example, Plato, who is often taken as a paradigmatic extramissionist, actually believed that vision occurred through the union of a flame (φλόγα) coming from the object and the visual stream of the eyes, a union activated by external light. Even the Stoic theory of *pneuma* held that the fiery mixture flowing through the eyes could not reach the object of sight by itself, but did so because the mixture put the surrounding air in a state of tension that allowed the two together to conduct an object's colors back to the eyes, a process that Galen expounds and repeatedly clarifies. Furthermore, throughout the antique and post-antique worlds, there was an immense variety of language describing theories of vision. Even when clearly describing the theory of a particular author, sources often varied in their characterization of the

[15] Squire, "Introductory Reflections," 16.

effluxes, diversely described as rays, light, fire, flames, or, more generally, as an efflux or emanation. This great variation in an eclectic body of sources from the ancient to early modern period shows that authors freely reworked the tradition.

Byzantinists and Classicists alike have stressed the importance of tactility in premodern theories of vision, often stressing the operation of sight in relation to these haptic metaphors. Nelson's summary of Byzantine theories of vision relied on this general consensus, and his words, quoted above, echo the very model that Hipparchus describes in the extant fragments of his theory, where "rays from the eyes, stretched out to the ends just as by the touch of the hands themselves, seizing the bodies outside to deliver an apprehension (ἀντίληψιν) of them to the faculty of sight."[16] Preserved in the work of Aetios of Antioch, whose doxography was used by a long line of writers, from Nemesios of Emesa in the late fourth century to Michael Psellos in the eleventh, this single-sentence description was merely one of many. And it is the only theory that explicitly relates a theory of vision in explicitly haptic terms. Yet even here touch is used as a metaphor. The thing returned is the "apprehension" or "comprehension" (ἀντίληψιν) of the object, not the object itself, which suggests that Hipparchus meant to describe a cognitive process, not a physical imprint on the eyes. Late antique and Byzantine sources use Hipparchus's line only in passing, to lay the groundwork for the later theories of Plato, Aristotle, and Galen. Thus, while sight certainly had haptic valences in the pre-Socratic world, later thinkers from Plato onward actively fought against this tendency, or at least tried to restrict it to metaphor.

Despite the great diversity of theories, it is nevertheless possible to loosely define two major groups of theories that held sway in the Byzantine world. First, in circles educated in philosophy (a matter to which I shall return in the following section), up through the twelfth century, we witness a preference for the Platonic or Aristotelian theories of vision. Oftentimes, Plato's theory of a union of rays allowed authors a middle ground to articulate the agency of both the object and the viewer, permitting them to mediate the divide between intromission and extramission. Aristotle's theory of the transparent, while downplaying the agency of the viewer, still allowed for the notion that an intervening medium served as

[16] "ἀκτῖνας ἀπὸ τῶν ὀφθαλμῶν ἀποτεινομένας τοῖς πέρασιν ἑαυτῶν καθάπερ χειρῶν ἐπαφαῖς καθαπτούσας τοῖς ἐκτὸς σώμασι τὴν ἀντίληψιν αὐτῶν πρὸς τὸ ὁρατικὸν ἀναδιδόναι." Aetios of Antioch, *De placitis reliquiae (Theodori et Nemesii excerpta)*, IV:13.9, ed. H. Diels, *Doxographi Graeci* (Berlin: Reimer, 1879), 404. Unless otherwise indicated, all translations are my own.

the point of communion between viewer and object. The two theories of Plato and Aristotle could be mixed together or unified. One such theory, for example, claimed that the intermediary of air or water is the medium in which sight occurs, but rays or fires also emerge from the eyes or objects. Second, it is quite clear that the Galenic approach to *pneuma* was the theory par excellence for medical authors. Many of the physiological treatises that come down to us are quite silent regarding the exact physics of this visual efflux in the world, but they devote their attention to ameliorating diseases of the eye by enhancing or stanching the flow of the pneumatic emission. Much of this work, and its assumptions, depends directly upon Galen's writings. These two camps – those who focused on the emission or reception of rays and fires and others who focused on the outpouring and operation of the optic *pneuma* – comprise the two major approaches to theories of vision in the Byzantine world.

Two other minor groups, however, still make their appearances throughout the literature. The first of these is represented mainly by Euclid and, to a lesser extent, Ptolemy. Euclid's theories often featured in the teaching of the *quadrivium*, the four key subjects of Byzantine education, composed of arithmetic, geometry, music, and astronomy. Although Euclid was an extramissionist, whose linear rays are the bedrock of his mathematical teachings, his work says little about the physiology of sensation. His work was used primarily in service to mathematical optics, that is, to understand the geometry and mathematics of the rays of vision, calculating the effects of reflections, refraction, and so on. A curious aspect of Euclid's work in the medieval world is that even authors who disagreed with the theory of extramissive rays nevertheless retained his models because of their mathematical accuracy in studying visual phenomena. This happened in the Arabic world, which developed new intromissive theories, and also with Ptolemy, who built upon Euclidian teachings for his optical calculations. Whereas Ptolemy's astronomical corpus and optics were known in the Byzantine world but rarely used, Euclid's presence was far more prominent in Byzantine education, but it was relegated to the mathematical geometry of optics alone. In other words, it carried little (if any) weight on notions regarding the physiology of vision, and certainly had nothing to say on the cognitive aspects of perception. Lastly, the final popular camp in Byzantine theories of vision is comprised of the atomists, those who believed that objects emit replicas or images (εἴδωλα) of themselves that are passively received by the eyes. While we see more popular references to the atomists than we do to Euclid or Ptolemy, these often occur in passing and are often meant to exploit the marginal status of

that theory. The atomists are treated as a curiosity in the history of theories of vision, and there is not much evidence to suggest a sincere belief in their theory.

Classical Education and the Transmission of Knowledge

The great challenge in constructing a survey of Byzantine theories of vision and their relation to religious and secular practices is that most of the sources that come down to us are from elite circles tied to centers of knowledge and study. To this day, our understanding of education in Constantinople, and Byzantium more broadly, is lacking. However, we can see how widespread theories of vision were throughout texts like homilies, aimed at broad audiences, for which reason a third of this volume is dedicated to the close study of Photios's Homily 17 on the icon of the Theotokos in the apse of Hagia Sophia. It is also worth contextualizing the work, education, and teaching of some important figures that appear prominently in this book, such as Michael Psellos, who attests – both in his sources and his influence – to a tradition of visual knowledge unbroken from late antiquity. Let us briefly sketch out some important points regarding Byzantine education and the reception and transmission of the classical heritage.

Over the course of the empire, there was never any form of compulsory education, yet the resources were there for students who had the ability to pay for it. Higher education itself was relegated to the major cities and from the ninth century onwards associated with imperial efforts and patronage, and the works of prominent private tutors.[17] Basic literacy was relatively widespread, however, with particularly high levels amongst the elites.[18] Byzantine schooling overall was divided loosely into what we might call "primary" and "secondary" education.[19] Primary education or *propaideia* began around the ages of six to eight, lasted for three to four

[17] See Athanasios Markopoulos, "Education" in Robin Cormack, John F. Haldon, and Elizabeth Jeffreys (eds.), *The Oxford Handbook of Byzantine Studies* (Oxford University Press, 2008), 785–795, esp. 786–788.

[18] On literacy in Byzantium, see Michael Jeffreys, "Literacy" in Robin Cormack, John F. Haldon, and Elizabeth Jeffreys (eds.), *The Oxford Handbook of Byzantine Studies* (Oxford University Press, 2008), 796–802. See also Robert Browning, "Literacy in the Byzantine World," *Byzantine and Modern Greek Studies* 4 (1978): 39–54; Robert Browning, "Further Reflections on Literacy in Byzantium" in S. Reinert et al. (eds.), *To Hellenikon: Studies in Honor of Speros Vryonis, Jr.* (New Rochelle, NY: Aristide D. Caratzas, 1993), 69–84.

[19] On the use of these terms, see R. A. Kaster, "Notes on 'Primary' and 'Secondary' Schools in Late Antiquity," *Transactions of the American Philological Association* 113 (1983): 323–346.

years, and consisted of basic skills, including arithmetic, reading, and writing.[20] Here the Psalms served as the key educational text for students to practice writing and memorization.[21] Secondary education or the *enkyklios paideia* began around the ages of twelve to fourteen, lasted three to four years, and consisted of the *trivium* of grammar, rhetoric, and philosophy, and the *quadrivium* of arithmetic, music, geometry, and astronomy.[22] While it is uncertain to what extent of completion these curricula were taught, especially in the case of the *quadrivium*, it is generally accepted from the existing evidence that there was a great deal of stability and continuity in the training and literary canons of the Byzantine educational tradition.[23]

Following the late antique model, during the course of the *trivium*, students would have begun their rhetorical education with Homer's *Iliad*, along with nine ancient tragedies drawn from the three playwrights Aeschylus, Sophocles, and Euripides, and three comedies from Aristophanes.[24] This also was augmented by works from Hesiod, Pindar,

[20] For a general overview of the timing and curriculum of primary and secondary education, see Markopoulos, "Education," 788–789. See also Ann Moffatt, "Schooling in the Iconoclast Centuries" in Anthony Bryer and Judith Herrin (eds.), *Iconoclasm: Papers Given at the Ninth Spring Symposium of Byzantine Studies, University of Birmingham, March 1975* (Birmingham: Centre for Byzantine Studies, University of Birmingham, 1977), 85–92; Ann Moffatt, "Early Byzantine School Curricula and a Liberal Education" in *Byzance et les Slaves* (Paris: Association des Amis des Etudes Archéologiques des Mondes Byzantino-Slaves et du Christianisme Oriental, 1979), 275–288; M. J. Kyriakis, "Student Life in Eleventh Century Constantinople," *Byzantina* 7 (1975): 375–388.

[21] Herbert Hunger, *Schreiben und Lesen in Byzanz: Die byzantinische Buchkultur* (Munich: C. H. Beck, 1989), esp. 76–77.

[22] For an overview of the *trivium* and *quadrivium*, see Markopoulos, "Education," 788–789. See also Michel Cacouros, "La philosophie et les sciences du *trivium* et du *quadrivium* à Byzance de 1204 à 1453 entre tradition et innovation: les textes et l'enseignement, le cas de l'école du Prodrome (Pétra)" in Michel Cacouros and M.-H. Congourdeau (eds.), *Philosophie et sciences à Byzance de 1204 à 1453: les textes, les doctrines et leur transmission* (Leuven: Peeters, 2006), 1–51.

On the structure and content of the *enkyklios paideia* since the Graeco-Roman world, see Teresa Morgan, *Literate Education in the Hellenistic and Roman Worlds* (Cambridge University Press, 1998), esp. 50–89.

[23] See Athanasios Markopoulos, "Teachers and Textbooks in Byzantium: Ninth to Eleventh Centuries" in Sita Steckel, Niels Gaul, and Michael Grünbart (eds.), *Networks of Learning: Perspectives on Scholars in Byzantine East and Latin West, c. 1000–1200* (Berlin: Lit Verlag, 2014), 3–15, esp. 3–4. See also Václav Ježek, "Education as a Unifying and 'Uplifting' Force in Byzantium," *Byzantinoslavica* 65 (2007): 167–200; Nikolaos M. Kalogeras, "Byzantine Childhood Education and Its Social Role from the Sixth Century until the End of Iconoclasm," unpublished PhD dissertation, University of Chicago (2000).

[24] See Rafaella Cribiore, "The Grammarian's Choice: The Popularity of Euripides' *Phoenissae* in Hellenistic and Roman Education" in Yun Lee Too and Niall Livingston (eds.), *Pedagogy and Power: Rhetorics of Classical Learning* (Cambridge University Press, 1998), 241–259. See also Raffaella Cribiore, *Gymnastics of the Mind: Greek Education in Hellenistic and Roman Egypt* (Princeton University Press, 2001), esp. 185–219.

Theocritus, Lucian, Demosthenes, Aeschines, Xenophon, Philostratus, Aelian, Plato, the poems of Gregory of Nazianzos, and others.[25] In other words, students would have had a strong and concrete survey of classical texts, including the dialogues of Plato, upon which to build further higher education that took a more concerted approach to classical philosophy, particularly the works of Plato, Aristotle, and the latter's commentators as evidenced by the educational narratives of learned figures like Plotinos and Michael Psellos, as shall be discussed later. The educational grounding of the *quadrivium* would have likewise exposed students to Euclidian and perhaps even Ptolemaic optics, given that Euclid served as the basis for geometry, and Ptolemy's *Mathematical Composition* also appeared frequently in the context of astronomical learning along with Theon of Alexandria's commentaries.[26] Thus, those boys and girls completing the curricula of the *trivium* and *quadrivium* would surely have had a nuanced grasp not only on theories on human sensation and perception through philosophical and literary Graeco-Roman texts, but they would also have had a foundation, at least, of Euclidian geometry around optics, as evidenced in the *quadrivium* of George Pachymeres.

In the context of imperial circles, education also included the further education or *paideia* of the learned elite. Particularly during the Palaeologan period, this could last as long as a decade and involved the acquisition of an Atticizing social dialect, different even from that of the time, and at times the careful study of philosophy and, more rarely, astronomy.[27] Yet, as Niels Gaul has noted, this did not simply mean that these learned circles were closed off from others, but rather that the ability to produce writing and knowledge at these higher levels did not preclude the social literacy of those in other strata of society, most notably below them.[28] Many of those

[25] See Markopoulos, "Education," 788–789. See Paul Lemerle, *Le premier humanisme byzantin* (Paris: Presses Universitaires de France, 1971), esp. 100–104; Athanasios Markopoulos, "De la structure de l'école byzantine: le maître, les livres, et le processus éducatif" in Brigitte Mondrain (ed.), *Lire et écrire à Byzance* (Paris: Association des amis du Centre d'histoire et civilisation de Byzance, 2006), 85–96.

[26] On mathematical and scientific learning in the *quadrivium*, see Anne Tihon, "Numeracy and Science" in Robin Cormack, John F. Haldon, and Elizabeth Jeffreys (eds.), *The Oxford Handbook of Byzantine Studies* (Oxford University Press, 2008), 803–819, esp. 805–810.

[27] See Niels Gaul, "All the Emperor's Men (and His Nephews): Paideia and Networking Strategies at the Court of Andronikos II Palaiologos, 1290–1320," *Dumbarton Oaks Papers* 70 (2016): 245–270, esp. 262 n 77. See also P. Agapitos, "Teachers, Pupils and Imperial Power in Eleventh-Century Byzantium" in Yun Lee Too and Niall Livingston (eds.), *Pedagogy and Power: Rhetorics of Classical Learning* (Cambridge University Press, 1998), 170–191; Niels Gaul, *Thomas Magistros und die spätbyzantinische Sophistik: Studien zum Humanismus urbaner Eliten der frühen Palaiologenzeit* (Wiesbaden: Harrassowitz, 2011), esp. 229–310.

[28] Gaul, *Thomas Magistros*, 163–168.

writers who underwent higher education would have relied upon and grounded their understanding of the natural world through the gaze of the commentaries on Aristotle and the Aristotelian corpus, building as well on any earlier exposure to the Platonic dialogues throughout the course of the *trivium*. This may surprise anyone who regards the Byzantine and medieval world at large as being largely Neoplatonic, but keep in mind, Aristotle often served in late antique and Byzantine education as a pathway into Platonism. Because he carefully surveyed the opinions of his predecessors, Aristotle was seen less as a polemicist and more as an explicator, thus often serving as a prerequisite for a proper and disciplined understanding of Plato. This trajectory, seen as early as Plotinos, coaxed Byzantine thinkers into synthesizing Aristotelian and Platonic theories of vision.

Commentators and other writers such as John Philoponos or Nemesios of Emesa served as some of the most crucial sources for theories of sight and perception, not only because they presented ancient learning within a Christian context, but, more importantly, because through their extensive erudition they produced important surveys that set their own teachings alongside summaries of a very broad wealth of ancient learning. Plotinos, Alexander of Aphrodisias, Iamblichus, Themistios, Simplikios, and John Philoponos are examples of both readers and producers of such treatises, giving us theories of vision that regarded sight as a union of effluxes from eye and object. The specifics varied from source to source, but nevertheless evidenced a great deal of consistency and similarity in their approaches. For example, these commentators all stress the division and uniqueness of the individual senses, stressing often the fallacy of atomic or some earlier extramissive theories conflating sight with touch. The idea being that an atomic emission would bear the material essence of the thing seen and is thus similar to the experience of touch or taste, which is often understood as a close variant of touch. Rather than stressing the tactility of sight, they often accuse earlier thinkers of this logical fallacy, since touch cannot sense colors and since each sense is particular to itself.

In the ninth century, in the aftermath of the Iconoclastic controversy, many figures actively cultivated, preserved, and transmitted many classical and late antique texts related to philosophy and natural science.[29] Photios, for example, actively taught Aristotelian logic, known from his extant comments on Aristotle's *Categories* and related scholia. His younger contemporary Arethas of Caesarea was also a teacher of Aristotelian philosophy

[29] See Alphonse Dain, "La transmission des textes littéraires classiques de Photius à Constantin Porphyrogénète," *Dumbarton Oaks Papers* 8 (1954): 31–47.

and is a crucial figure for the preservation of the Platonic corpus through his patronage of complete copies of Plato's works. And neither was alone. Other contemporaries such as the ninth-century iconoclast Patriarch John the Grammarian, Leo the Mathematician, and Constantine the Philosopher were active educators of rhetoric and philosophy in Constantinople.[30]

Furthermore, interest in the codification of knowledge in the tenth century, during the so-called Macedonian Renaissance, blossomed. Ecclesiastical and imperial scribes, the vanguard of a society that valued research and study, were charged with the task of compiling and preserving knowledge on a variety of topics. For example, in one treatise on imperial military campaigns, compiled for Leo at the behest of his father Constantine VII Porphyrogennetos, the unnamed author writes: "Having completed a great deal of research, yet finding no memorandum deposited in the palace, we were at last just able to discover one which dealt with these matters in the monastery called Sigrianē. . ."[31] From there, the author further recounts how the found text was written in poor grammar and syntax, lacking in "Hellenic learning" (παιδείας Ἑλληνικῆς), and thus he had rewritten and revised it.[32] This military treatise, like comparable contemporary works in other fields, depended on earlier sources derived from antiquity for conveying knowledge about military weaponry, siege warfare, tactics, and so on.[33] This passing remark suggests an image of tenth-century intellectual life in Constantinople that encompassed not merely elite scholars but also a wide swathe of the literate class, including educated scribes tasked with the duties of researching and compiling knowledge for the imperial elite.

[30] See John Duffy, "Hellenic Philosophy in Byzantium and the Lonely Mission of Michael Psellos" in Katerina Ierodiakonou (ed.), *Byzantine Philosophy and Its Ancient Sources* (Oxford University Press, 2002), 139–156, esp. 144–145.

[31] "ὅθεν πολλὰ περὶ τούτων ἀνερευνήσαντες καὶ μηδεμίαν ὑπόμνησιν ἐναποκειμένην τῷ παλατίῳ εὑρίσκοντες, ὀψὲ καὶ μόλις ποτὲ περὶ τούτων ὑπόμνημα ἐν τῇ μονῇ τῇ καλουμένῃ Σιγριανῆς εὑρεῖν ἠδυνήθημεν." Constantine VII Porphyrogennetos, *Treatise on Imperial Military Expeditions*, C:456.24–26, ed. and trans. John Haldon, *Three Treatises on Imperial Military Expeditions* (Vienna: Verlag der Österreichischen Akademie der Wissenschaften, 1990), 94–95.

[32] Constantine VII Porphyrogennetos, *Treatise on Imperial Military Expeditions*, C:457.33, ed. and trans. Haldon, 96–97.

[33] See, for example, Denis F. Sullivan, *Siegecraft: Two Tenth-Century Instructional Manuals by "Heron of Byzantium"* (Washington, DC: Dumbarton Oaks, 2000), 1–23. See P. H. Blyth, "Apollodorus of Damascus and the *Poliorcetica*," *Greek, Roman, and Byzantine Studies* 33 (1992): 127–158; E. Lacoste, "Les poliorcétiques d'Apollodore de Damas," *Revue des Études grecques* 3 (1890): 230–281; F. Lammert, "Zu den Poliorketikern Apollodoros und Athenaios und zur Poliorketik des Vitruvius," *Rheinisches Museum für Philologie* 87 (1938): 304–332.

Many of the key materials that we shall consider in this book were to be found not only in broad compendia of ancient knowledge and the educational notes and orations of educators, such as Michael Psellos's summary on vision, but also within popular religious texts, for example, John of Damascus's *Expositio fidei,* one of the most prominent texts found in the manuscript tradition.[34] In this text, to which we shall return throughout this volume, John gives a cogent rundown of the five senses, placing them in dialogue with one another and also within the broader context of cognitive perception through imagination, discursive thought, and memory. Furthermore, the *Progymnasmata*, schoolbooks used for rhetorical exercises, reflected and refracted complex Byzantine understandings about representation and the operations of the imagination in the processing and handling of sense perception.

In the eleventh century, we arrive at the elusively erudite figure of Michael Psellos, whose intimacy with Hellenic philosophy might make one question how representative he was of the broader spheres of Byzantium. Are we to dismiss his work as a "lonely mission,"[35] as John Duffy has called it? Psellos himself poignantly stated: "I am a lone philosopher in a time without philosophy" (φιλοσοφῶ μόνος ἐν ἀφιλοσόφοις καιροῖς).[36] While Psellos is well known for such hubristic statements exclaiming his grandeur and contributions, as Duffy and others have noted, to some extent he was perhaps not being so extreme in his self-appraisal.[37] Psellos was a voracious reader, whose education he himself recounts in the *Chronographia* with equal boasting, writing:

> ὅτι ἐκπνεύσασαν τὴν σοφίαν καταλαβών, ὅσον ἐπὶ τοῖς μετέχουσιν, αὐτὸς ἀνεζωπύρησα οἴκοθεν, οὔτε διδασκάλοις ἀξιολόγοις περιτυχών· οὔτε σπέρμα σοφίας ἐν τῇ Ἑλλάδι ἢ τῇ βαρβάρῳ τὸ ξύμπαν διερευνησάμενος εὑρηκώς. ἀλλ' ἐπειδὴ μέγά τι περὶ φιλοσοφίας ἐν τῇ Ἑλλάδι ἀκούων, ἐν φωναῖς τισὶν ἁπλαῖς καὶ προτάσεσι κατεμάνθανον (καὶ ἦν ταῦτα ὡσανεὶ στῆλαι καὶ ὅρια), καταγνοὺς τῶν περὶ ταῦτα σμικρολογουμένων, ἐζήτησά τι πλέον εὑρεῖν. ὡς δέ τισι τῶν ἐξηγησαμένων τὴν ἐπιστήμην ἐνέτυχον, τὴν ὁδὸν παρ' αὐτῶν ἐδιδασκόμην τῆς γνώσεως· καί με ἄλλος εἰς ἄλλον

[34] See Stratis Papaioannou, *Michael Psellos: Rhetoric and Authorship in Byzantium* (Cambridge University Press, 2013), 15–17.

[35] Duffy, "Hellenic Philosophy in Byzantium," 152.

[36] Michael Psellos, *Oratoria minora*, 6.52–53, ed. A. R. Littlewood, *Oratoria minora* (Leipzig: Teubner, 1985), 20.

[37] Duffy, "Hellenic Philosophy in Byzantium," esp. 154–155. See also Dominic J. O'Meara, "Aspects du travail philosophique de Michel Psellus" in C. F. Collatz et al. (eds.), *Dissertatiunculae criticae: Festschrift für Günther Christian Hansen* (Würzburg: Königshausen und Neumann, 1998), 431–439.

παρέπεμπεν, ὁ χείρων πρὸς τὸν κρείττονα· κἀκεῖνος αὖθις εἰς ἕτερον· καὶ οὗτος εἰς Ἀριστοτέλην καὶ Πλάτωνα. ὧν δὴ καὶ οἱ πρὸ ἐκείνων ἠγάπησαν, εἰ εὐθὺς τὰ δευτερεῖα μετ᾽ ἐκείνους εἰλήχασιν. ἐντεῦθεν οὖν ὁρμηθεὶς αὖθις ὥσπερ περίοδον ἐκπληρῶν, ἐς Πλωτίνους καὶ Πορφυρίους καὶ Ἰαμβλίχους κατῆειν. μεθ᾽ οὓς ὁδῷ προβαίνων εἰς τὸν θαυμασιώτατον Πρόκλον ὡς ἐπὶ λιμένα μέγιστον κατασχών, πᾶσαν ἐκεῖθεν ἐπιστήμην τε καὶ νοήσεων ἀκρίβειαν ἔσπασα· μέλλων δὲ μετὰ ταῦτα ἐπὶ τὴν πρώτην ἀναβαίνειν φιλοσοφίαν· καὶ τὴν καθαρὰν ἐπιστήμην μυεῖσθαι, τὴν περὶ τῶν ἀσωμάτων θεωρίαν προὔλαβον ἐν τοῖς λεγομένοις μαθήμασι (ἃ δὴ μέσην τινὰ τάξιν τετάχαται, τῆς τε περὶ τὰ σώματα φύσεως· καὶ τῆς ἀσχέτου πρὸς ταῦτα νοήσεως· καὶ αὐτῶν δὴ τῶν οὐσιῶν, αἷς ἡ καθαρὰ συμβαίνει νόησις), ἵν᾽ ἐντεῦθεν εἴ τι καὶ ὑπὲρ ταῦτα ὑπέρνουν ἢ ὑπερούσιον καταλήψομαι.

Philosophy, when I first studied it, was moribund as far as its professors were concerned, and I alone revived it, untutored by any masters worthy of mention, and despite my thorough research, finding no germ of philosophy either in Greece or in the barbarian world. I had heard that Greece had a great reputation for philosophy, expressed in simple words and simple propositions, and their work in this field set a standard and criterion for the future. There were some who belittled the simplicity of the Greeks, but I sought to learn more, and as I met some of the experts in the art, I was instructed by them how to pursue my studies in a methodical way. One passed me on to another for tuition, the lesser light to the greater, and he again recommended me to a third, and he to Aristotle and Plato. Doubtless my former teachers were well satisfied to take second place to these two. Starting from these authors I completed a cycle, so to speak, by coming down to Plotinus, Porphyry, and Iamblichus. Then, continuing my voyage, I put in at the mighty harbour of the admirable Proclus, eagerly picking up there his doctrine of perception, both in its broad principles and in its exact interpretation. From Proclus I intended to proceed to more advanced studies – metaphysics, with an introduction to pure science, – so I began with an examination of abstract conceptions in the so-called mathematics, which hold a position midway between the science of corporeal nature, with the external apprehension of these bodies, and the ideas themselves, the object of pure thought. I hoped from this study to apprehend something that was beyond the reach of mind, something that was not subject to the limitations of substance[38]

Psellos here depicts a dire picture of the state of philosophy in eleventh-century Byzantium, claiming he had to search far and wide for proper tutelage and guidance. His path provides us an intricate image of his

[38] Michael Psellos, *Chronographia*, VI.37–38, ed. D. R. Reinsch, *Chronographia*, vol. I (Berlin: De Gruyter, 2014), 122; trans. E. R. A. Sewter, *Fourteen Byzantine Rulers* (New York: Penguin Books, 1979), 173–174.

philosophical training, particularly its process and unfolding over time. In his arrogance, he frames this as a unique process, but the stages of his education are identical to those taken by many before him and they suggest as well that he had at hand an abundant amount of resources – tutors and primary sources – to undertake such study.

While Psellos may have been exemplary in erudition, he was also not unrivaled in the post-iconoclastic Byzantine world before the eleventh century. Like his ninth- and tenth-century predecessors, Psellos progressed from Aristotle and Plato (more than likely, from Aristotle *to* Plato), and on to Plotinos, Porphyry, Iamblichus, and eventually Proklos.[39] He explains his philosophical interests, and, beyond the extract quoted above, goes on to explain his further studies in philosophy, rhetoric, and so on. As far as his schooling is concerned, Psellos's education was fairly standard for a member of the Byzantine intelligentsia of the time, such as John Mauropous. Theirs was an education based on basic grammar, orthography, Homeric poetry, and composition, before moving on to more specialized topics.[40]

Psellos's corpus itself certainly attests to his careful study and engagement with the works of far more thinkers than the very few mentioned above. He had a keen and fairly comprehensive grasp of commentators and doxographers such as Alexander of Aphrodisias, Aetios of Antioch, and John Philoponos, which he used and cited for his own works and philosophical compendia. And if Psellos's extant literary corpus is significant, surely even more so is that which is lost to us. That is, the entire oeuvre, both extant and lost, shows us that Psellos had deeply ingested classical, late antique, and Byzantine sources, and can be relied upon as a critical reader of the breadth of the tradition. And even though his erudition was exceptional, it nevertheless is representative of Byzantine culture, both in his own time and in centuries to come. The bulk of his writings on philosophy were produced as educational materials. Psellos taught everything from basic grammar to rhetoric and philosophy in what were private schools funded by the emperor around the city of Constantinople, which often were associated with monasteries and churches.[41]

[39] On Psellos's study of Plotinos, see Frederick Lauritzen, "Psellos and Plotinos," *Byzantinische Zeitschrift* 107:2 (2014): 711–724.

[40] On Psellos's education, see Papaioannou, *Michael Psellos*, 4–5.

[41] On Psellos and teaching, see Papaioannou, *Michael Psellos*, 7. On schools in Constantinople, see Floris Bernard, *Writing and Reading Byzantine Secular Poetry, 1025–1081* (Oxford University Press, 2014), 210–251, esp. 210–213. See also V. Katsaros, "Προδρομικοί «θεσμοί» για την οργάνωση της ανώτερης εκπαίδευσης της εποχής των Κομνηνών από την προκομνήνεια περίοδο" in

His influence extended beyond elite Constantinopolitan circles, evident in a letter he wrote to Patriarch Michael Keroularios in the 1050s. Psellos boasts that he had attracted students from both west and east – from the Celtic, Arabian, Egyptian, Babylonian, Persian, and Ethiopian worlds:

> ἀλλὰ Κελτοὺς μὲν καὶ Ἄρραβας ἁλωσίμους ἡμῖν πεποιήκαμεν καὶ καταπεφοιτήκασι κατὰ κλέος ἡμέτερον κἀκ τῆς ἑτέρας ἠπείρου, καὶ ὁ μὲν Νεῖλος τὴν γῆν ἐπάρδει τοῖς Αἰγυπτίοις, ἡ δὲ ἐμὴ γλῶττα τὴν ἐκείνων ψυχήν· κἂν πύθοιο τῶν Περσῶν κἂν τῶν Αἰθιόπων, ἐροῦσιν ὡς ἴσασί με καὶ τεθαυμάκασι καὶ τεθήρανται. Καὶ νῦν δέ τις ἐκ τῶν Βαβυλῶνος ὁρίων ὥστε πιεῖν τῶν ἐμῶν ναμάτων ἀσχέτοις ταῖς προθυμίαις ἐλήλυθε.
>
> But I have made Celts and Arabs yield to me, and on account of my fame they regularly come down here to study even from the other continent; and while the Nile irrigates the land of the Egyptians, my speech irrigates their souls. And if you ask a Persian or an Ethiopian, they will say that they have known me and admired me and sought me out. And now someone from across the boundary of Babylon has come to drink from my springs through an insatiable desire of his.[42]

While peppered with his unmistakable pomp, this claim is certainly feasible, especially when considering the international cachet of Constantinople in the eleventh century. Possibly two international students of his were George and John of Petritzos, from Georgia.[43] In another letter to a friend, Psellos wrote that he was the one responsible for "adorning the City [i.e. Constantinople] with words," referring both to his activities as a

V. Vlyssidou (ed.), *The Empire in Crisis? Byzantium in the 11th Century, 1025–1081* (Athens: Hellenic National Research Foundation, 2003), 452–455; Paul Lemerle, *Cinq études sur le XIe siècle byzantin* (Paris: Presses Universitaires de France, 1977), 227–235; Markopoulos, "De la structure de l'école byzantine," 85–86; P. Agapitos, "Teachers, Pupils, and Imperial Power in Eleventh Century Byzantium" in Yun Lee Too and Niall Livingstone (eds.), *Pedagogy and Power: Rhetorics of Classical Learning* (Cambridge University Press, 1998), 170–191.

[42] Michael Psellos, *Epistula ad Michaelem Cerularium*, 96–103, ed. U. Criscuolo, *Epistola a Michele Cerulario*, Hellenica et byzantina neapolitana 15, reprint (Naples: Bibliopolis, 1990), 21–31; trans. Anthony Kaldellis and Ioannis Polemis, "Letter to the Patriarch Kyr Michael Keroullarios" in Anthony Kaldellis and Ioannis Polemis (eds.), *Psellos and the Patriarchs: Letters and Funeral Orations for Keroullarios, Leichoudes, and Xiphilinos* (South Bend, IN: University of Notre Dame, 2015), 37–48, at 41–42.

[43] On Psellos and his students, see Robert Volk, *Der medizinische Inhalt der Schriften des Michael Psellos* (Munich: Institut für Byzantinistik und neugriechische Philologie der Universität, 1990), 15–20. On his possible Georgian students, see B. Martin-Hisard, "Georgian Hagiography" in *The Ashgate Research Companion to Byzantine Hagiography*, vol. 1 (Burlington, VT: Ashgate, 2011), 285–298, esp. 288–289; L. Gigineishvili and G. Van Riel, "Ioane Petritsi: A Witness to Proclus' Works in the School of Psellus" in A.-Ph. Segonds and C. Steel (eds.), *Proclus et la théologie platonicienne* (Leuven University Press, 2000), 571–587.

teacher and to those of his pupils.[44] In his writings, Psellos described his pedagogical task as being to fully educate his students in everything vital, to make them into philosophers in his own mold.[45]

Furthermore, Psellos's students spanned the imperial and intellectual elite of the city, from the controversial John Italos to the future Emperor Michael VII, whom Psellos tutored at the behest of Emperor Constantine X Doukas. The *De omnifaria doctrina*, Psellos's compendium of natural and philosophical knowledge, including an important entry on the senses, was composed for the education of Michael VII. Psellos's reputation as a thinker, commentator, and educator came to be well known, and his name is cited on a list of Aristotle's works and his commentators in one thirteenth-century manuscript (Jerusalem, Taphou 106) as part of a sequence of illustrious antique and late antique commentators.[46] Thus, if Psellos began as a lonely philosopher (doubtful) that surely is not how he finished. Even if Psellos's erudition and talent were truly unique and not matched by any contemporary, he nevertheless inculcated those skills within his students and pupils, as well as future admirers such as Anna Komnene.[47] His considerable impact speaks to a wide promotion of philosophical thought in the Byzantine world, and many emulators and followers that continued in that tradition.

In the early twelfth century, following Psellos's influence and model, Anna Komnene assembled an elite circle of scholars, including Eustratios of Nicaea and Michael of Ephesus. In fourteenth-century Constantinople, particularly around the imperial court, intellectual life thrived, with figures as diverse as Nikephoros Blemmydes and his imperial pupil Theodore II Doukas Laskaris, Nikephoros Gregoras, Manuel Bryennios, Theodore Metochites, and Sophonias.[48] Throughout this volume, it will be seen

[44] "οἱ τὴν Πόλιν τοῖς λόγοις κοσμήσαντες." Michael Psellos, *Epistula*, 198, ed. Konstantinos Sathas, *Μεσαιωνική Βιβλιοθήκη*, vol. v (Venice: Typois tou Chronou, 1876), 491–492.

[45] See Duffy, "Hellenic Philosophy in Byzantium," 152. See Michael Psellos, *Theologica*, 20.2–3, 89.85–86, 91.3, 76.11–12, ed. P. Gautier, *Theologica*, vol. I (Leipzig: Teubner, 1989), 76, 353, 356, 302.

[46] Duffy, "Hellenic Philosophy in Byzantium," 154. See P. Wendland, *Commentaria in Aristotelem Graeca*, vol. III.1 (Berlin: Akademie der Wissenschaften, 1901), xv-xix, esp. xviii.

[47] On Anna Komnene and Michael Psellos, see S. Linnér, "Psellus' *Chronographia* and the *Alexias*: Some Textual Parallels," *Byzantinische Zeitschrift* 76 (1983): 1–9; Stratis Papaioannou, "Anna Komnene's Will" in D. Sullivan, E. Fisher, and S. Papaioannou (eds.), *Byzantine Religious Culture: Studies in Honor of Alice-Mary Talbot* (Leiden: Brill, 2011), 99–121.

[48] On higher education in the thirteenth through fifteenth centuries, see C. N. Constantinides, *Higher Education in Byzantium in the Thirteenth and Early Fourteenth Centuries* (Nicosia: Cyprus Research Center, 1982); Sophia Mergiali, *L'enseignement et les lettrés pendant l'époque des Paléologues (1261–1453)* (Athens: Société des Amis du Peuple, Centre d'Études Byzantines, 1996). See also

how the theories of vision Psellos discussed and expounded were part of a larger transmission from late antiquity onward, across different kinds of audiences.

John of Damascus in the eighth century, Photios in the ninth century, and (the allegedly unique) Psellos in the eleventh century, despite the different genres and types of readers they were addressing, shared many clear and direct parallels. We will repeatedly encounter a shared body of sources, citations, and readings that suggest that the tradition Psellos represented was far less discontinuous than he may have wanted to admit. We see that tradition exhibited by the defenders of icons in the Iconoclastic period such as John of Damascus, Theodore of Stoudios, and Patriarch Nikephoros of Constantinople. They discussed and expounded a common pool of theories of vision and perception that are fundamental for us in comprehending how they thought images operated. Oftentimes, these writers make this explicitly clear. By explaining how human vision and perception worked, they went on to mold and contour the theology of the icon based on what they thought perception could do, and used this understanding of vision and perception to expand and amplify the icon's ability to create an illusion of presence through representation.

Methodology: Mining Down, Close Reading, and Translation

Given its aim, to consider the impact of theories of vision on the treatment of the icon, this book is centered on the Iconoclastic controversies and the period immediately after their resolution. Hence, I shall often begin a topic by turning to seventh-to-ninth-century sources, analyze them, and then explore how they engaged with their sources specifically and more generally with the classical and late antique heritage. From there, I shall turn to consider their influence upon later periods. Yet, my focus will always be on what we would term the early and middle Byzantine periods. The book's temporal scope, however, falls short of the fourteenth century, providing often only brief glimpses into how the trajectory continued. By doing so I acknowledge the different way vision operated in the context of Hesychasm. Later Byzantium merits its own separate study, attuned to the complexities of Hesychastic theology and nuanced theories of perception and representation.

Fevronia Nousia, *Byzantine Textbooks of the Palaeologan Period*, Studi e Testi, 505 (Vatican City: Biblioteca Apostolica Vaticana, 2016).

This volume explicitly resists a more traditional order – a chronologically linear survey of the classical theories of vision, Byzantium's manipulations of them, and then their later afterlives. Such a linear approach would pit the late antique and Byzantine worlds in a false dichotomy, suggesting a body of classical thought on one side and the mere rearrangement, excerption, and corruption of these earlier theories on the other. These theories of sight were in constant flux not just in Byzantium but in the classical period. My effort to ascribe a particular classical heritage to any one Byzantine theory is more for structure and clarification, not to judge or define it against its classical Ur-sources. Thus, as I have just said, throughout this volume, we shall begin with Byzantine authors from the period of iconoclasm, or immediately thereafter, a kind of triptych centered upon iconoclasm through which to gaze across both directions of the tradition.

By moving back in time to mine the Byzantine archives and to demonstrate the nestled complexities within their thinking, we will see a world of thinkers who read voraciously and widely, citing their sources in various ways, while developing their own arguments and research projects. The Byzantine texts discussed here shall reveal layers and complexities of Byzantine theories of sense perception. Some expositions are founded upon ancient theories of sight, and consequently seek to summarize the classical doxography. Some classical teachings were revised and refracted through the writings of the late antique commentators, early Christian thinkers, Church Fathers, contemporaries, and so on. Only after this long process did select theories of vision come to be staged and curated by our Byzantine authors, who, in attempting to support and promote their own intellectual projects and achieve specific rhetorical goals, produced a creative and intricate worldview of sensory experience, perception, and cognition.

Throughout the course of the book, we shall study a host of different texts, from late antique pagan novels to Christian homilies, ancient scholia to philosophical commentaries. These texts feature immense variety in content, style, audience, and delivery. They also encompassed a great variety of audiences in background and education. The summaries of ancient philosophy produced for an elite pupil in the highest inner circles of Constantinopolitan nobility are not interchangeable with a homily delivered before the congregation at Hagia Sophia on a major feast day. Nevertheless, these different texts participate in a shared intellectual tradition and have common themes of sight, tactility, and imagination. Rather than presuming that all the members of this eclectic assortment of sources are the same or comparable, the study seeks to reveal the congruities that

emerge across texts written in very different contexts and intended for radically different groups. My goal is to show that even if we cannot delineate a single and specific intellectual tradition for the transmissions of these various texts, Byzantine writers were clearly tuned to broad, longstanding debates about the interrelations of vision, touch, and perception. This method privileges a varied breadth of sources, where a deep and clear lineage of ideas is not always, if ever, possible. In sketching out these networks, I wish, not to posit positivist lines of transmission, but to stress that the fact that at any given point in time two writers producing very different texts for diametrically opposed audiences, writing with great nuance and complexity, could still agree on the deeper matters of Byzantine visuality.

In its methodology, this book is primarily a form of close reading within a massive and expansive archive. I take close reading, eloquently described by Elizabeth Freeman, to be "the decision to unfold, slowly, a small number of imaginative texts rather than amass a weighty archive of or around texts, and to treat these texts and their formal work as theories of their own, interventions upon both critical theory and historiography."[49] My goal has been to actively resist the desire to make generalizing claims or to produce a singular survey, which would obscure the exciting variety of thought in the Byzantine world. This, however, has not always been possible; as a caveat, any such claims (either of a unitary narrative, or of the classical categorization of a Byzantine articulation of sight) that make their way into the book do so for narrative convenience, because of scholarly convention, or to provide some rhetorical scaffolding for the reader.

Oftentimes, I structure my arguments as responses to extant translations, particularly popular and highly accessible ones, such as those found in the Loeb Classical Library for the ancient world or those of Cyril Mango for the Byzantine world. As a rhetorical device, I clearly signpost the moments in which my response to a translation plays an important role. As I shall explain, using often-cited translations allows me to push back against the assumptions that have become commonplace in the field, and beyond it, and permits me to clearly explain how such texts have colored our views of Byzantine vision and how my interventions begin to open new spaces. I see influential translations, and my slow and careful critiques, as products of a crucial and critical subversive act. At times, I use the close

[49] Elizabeth Freeman, *Time Binds: Queer Temporalities, Queer Histories* (Durham, NC: Duke University Press, 2010), xvii.

study and response to translations as a narrative structure in this book. This is primarily the case in my close analysis of Photios's Homily 17 (in Part II), dedicated to carefully unfolding a single sentence of the homily a few words at a time. This will emphatically demonstrate the richness, complexity, and nestled knowledge of our Byzantine counterparts.

Structure

This book has been structured as a triptych. The first side-panel, Part I, provides readers with a representative survey of Byzantine writings on vision and its relationship to touch, culled from a variety of areas and sources spanning from the fourth to the fourteenth century, as well as a careful discussion of the classical and late antique texts on vision that grounded these discussions for the Byzantines. This provides a variety of discussion about sight's relationship to tactility in late antiquity and Byzantium. This section, by no means exhaustive, lays the conceptual and thematic foundation upon which the rest of this volume rests. This problem of sight and tactility, which is the proper focus of this book, is divided into three main concerns: (1) the centrality of medium and mediation in perception; (2) the tendency to compare, equate, and conflate tactility with sight, often to explain the operation of mental perception and thought, not bodily sensation; and (3) the cognitive commonalities and rhetorical transgressions of the senses, where each sense, while retaining its distinctive power, produces sensory experience that exceeds its own bounds.

The central panel is my close reading of Photios's Homily 17, where I flesh out the nuances of his vision theory and excavate his theory of cognitive perception, drawing our attention to the role of the imagination.[50] By closely unfolding Photios's litanies regarding visual and aural perception, I sketch out a five-stage process of perception. This begins with sensation, then moves on to an initial apprehension or grasp by the mind that names and categorizes the sensory data being passed along by the senses. This information is then offered up to the imagination, which is tasked with imagining or visualizing sense perception. At this stage the imagination synthesizes the various imprints of each of the senses. Here, the notion of the common sense appears, whereby the imagination

[50] For an earlier and abridged version of this section, see Roland Betancourt, "Why Sight Is Not Touch: Reconsidering the Tactility of Vision in Byzantium," *Dumbarton Oaks Papers* 70 (2016): 1–23.

recognizes that honey, for example, is not only amber, but also sticky, sweet, scented, and produces sound when stirred or poured. As the imagination processes sensory data that comes to it through, for example, hearing, it imagines those words as visual narratives as if those events or persons described are being reenacted.

Another stage is memory, which preserves knowledge and works with the imagination to enhance the common sense. When one merely sees fire, for example, the memory "tells" the imagination that it is hot to the touch. Thus, memory and imagination allow sight to conjure the illusion of touch, cued by memory from previous encounters. However, Photios also indicates another stage of perception sandwiched between the imagination and memory, namely the process of judgment and assent. Here, the mind debates what has come to it through the senses and the imagination, considering whether these impulses and imprints are to be considered valid and truthful. If they are deemed to be truthful and not some figment of the imagination or some deception of the senses, then one consents and assents to the truths which they impart. For Photios, this process is missing from vision. The actuality and vividness of images, which come readymade into the imagination, are simply passed on "effortlessly" to the memory. This is unlike hearing, in which the imagination must first convert words into sights and then the mind must judge these things "with sober attention" so as to ascertain that they have been properly visualized before they can be deposited in memory for future use and the preservation of knowledge.

This five-stage process (sensation, apprehension, imagination, judgment, and memory) has its precedents in the works of late antique thinkers such as Porphyry of Tyre and Nemesios of Emesa, and is fundamental to John of Damascus's and Theodore of Stoudios's articulations of the icon's effectiveness. By closely reading and mining Photios's sentence, as well as its sources and his fellow thinkers, Part II allows us to redefine the icon's effectiveness. We can stop putting undue emphasis on tactile sight, and distribute our attention to *all* the mental faculties that partake in perception. The icon has power because it serves as a starting point for the imagination to generate the illusion of the presence of the holy in the mind. This approach radically differs from one that relies upon haptic extramission and treats the icon as a sacred site in itself, which tactile sight can actually touch and grasp, as if the person represented were actually and palpably present before the physical eyes. Rather, the language of grasping or apprehending refers to the process of imagining the sacred, rather than actually touching it; since the ancient and medieval worlds describe

cognitive comprehension through haptic language, just as we do when we say that we have "grasped" or "apprehended" something. The heuristic I advocate helps us to distinguish between sensation alone, that is, the senses' individual contact with the object, and perception proper, a process that encompasses sensation and the ensuing cognitive stages as the mind comprehends the sensible object.

The second side-panel, Part III, contains three chapters, each of which concludes a corresponding chapter of Part I. The aim of this last section is to demonstrate what is at stake in the distancing of sight from tactility. It shows the ramifications of my analysis of the senses in terms of (1) theories of representation and mediation in both literature and art; (2) literal forms of touch deployed within the context of icon veneration in ritual and the imagination; and (3) the broader context of cross-sensory metaphors and language found throughout the Byzantine world.[51] While these three chapters respond to the three initial chapters that began our investigation, they also enjoy their own internal cohesion, building upon one another to develop how we think of presence and the limits of representation in the icon when we elevate the faculties of the imagination and the so-called "common sense" to a privileged position in the history of Byzantine art and culture.

In the conclusion, I step back to consider the intellectual context in which Robert Nelson's proposition of haptic and extramissive sight emerged in Byzantine Studies. There I compare historiographic trends around the turn of the millennium with the Byzantines' own uneasy desires and expectations regarding images and their operations. This methodological and historiographic reflection enables me to close the investigation of this introduction by returning to Nelson's important words, which are the foundation, inspiration, and impetus of this work. My contribution, like his, is not a new, decisive theory of vision for Byzantine Studies, but rather a notable intervention in the current conversation. We should take our attention away from mere sensation and notions of presence in the icon and instead focus on the imaginative processes by which we perceive and through which we invest ourselves in the images that surround us. Like us, when we encounter a work of art denied our touch by a museum's case, so the Byzantines, when they saw, they felt that inalienable temptation to touch. Sight could not supplant touch; quite the contrary. My central proposition, in fact, is that Byzantine

[51] For an earlier and abridged rendition of some of these matters, see Roland Betancourt, "Tempted to Touch: Tactility, Ritual, and Mediation in Byzantine Visuality," *Speculum* 91:3 (2016): 660–689.

image theory to some extent had to actively deny the possibility of haptic sight, or else risk losing the effectiveness of the icon itself. Gazing upon the icon generated and sustained an impressive desire to touch and commune with the sacred, to imagine oneself to be in the presence of the holy, to touch and dialogue with their flesh. These are notions that are still very present to us. In popular culture we repeatedly deploy tropes of sexual desire. The gaze alone of the desired one does not satiate that pull but rather makes one ever more so intimately "tempted to touch," and so viscerally aware that one "can't touch this."