Eternity and Print

How Medieval Ideas of Time Influenced the Development of Mechanical Reproduction of Texts and Images

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ABSTRACT

The methods of intellectual history have not yet been applied to studying the invention of technology for printing texts and images ca. 1375–ca. 1450. One of the several conceptual developments in this period reflecting the possibility of mechanical replication is a view of the relationship of eternity to durational time based on Gregory of Nyssa's philosophy of time and William of Ockham's. The article considers how changes in these ideas helped enable the conceptual possibilities of the dissemination of ideas. It describes a direct connection of human perceptual knowledge to divine knowledge that enhanced the authority of printed production to transfer and reproduce the true and the good.

KEYWORDS

history of technology, mechanical reproduction, nominalism, philosophy of time, printing, relics

Against ideas' old reputation for populating the realm of the permanent and infinite, we now see them as drivers of ceaselessly changing relationships. Whether through text, data, or images, our conceptual thinking about life and existence motivates our actions and shapes our production. This realization is a principal instigator of the history of ideas and other historiographic endeavors. Until less than a half-century ago, the practice of printing—including typography, engraving, and woodcuts—launched more information and ideas into circulation than anything else in human history, continually increasing the speed toward more complicated conceptions and actions.

This accelerating effect of print is one of the chief markers of modernity, from the initial deployment of replicative technologies ca. 1375–ca. 1450 onward. And yet this dynamo of change, print, and especially typography—a

new industrial complex—is portrayed as having arisen rather abruptly and then rapidly spreading, with little constraint and with no evident conceptual foundation, from the previous phase of European culture in which change and history itself were conceptualized chiefly in connection with eternity and in which the domain of the eternal was held to order the cosmos. Coming-to-be and passing-away have been well understood by all peoples simply from the experiences of natural existence. But for the Christian peoples of Eurasia in the Middle Ages, change was, broadly speaking, profoundly conciliated by eternity. Starting at least as early as the influence of St. Augustine, the eternal served to reconcile the people in these societies to losses; the final pain of change was, so to speak, sealed away by the eschaton. The rapid movement of ideas, information, and images helped to change that.

Thus, the idea of print can be contrasted with the idea of eternity as orders of things. In Europe, the era of print and its technology, in contrast with the era of dominant belief in the idea of eternity and the practice of that belief, the "age of print" follows directly upon what may be called, for symmetry's sake but a little awkwardly, the "age of eternity." While the advent of printing is intensely studied as the history of technology and as socio-cultural history, it is not studied from the point of view of intellectual history, with a couple of thin exceptions.[1] What concepts allowed for the mechanical multiplication of text and image, and what ideas motivated people to create these techniques? I suggest we approach this question of "pre-print" by observing the successive and branching ideas in late Scholasticism that constellated in the invention and deployment of replicative technologies. What gave the readers of text and image mechanically replicated in multiples the confidence and trust they had put into the originals and their copying by the hands of artists? And in what did they come to have confidence? I argue that the answers are not only the faithfulness of the reproduction but also the

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1. Choosing a few examples from among many, one finds no discussion of a conceptual history approach in the standard accounts, for example, David McKitterick, "The Beginning of Printing," in *The New Cambridge Medieval History, vol. 7 c. 1415–c. 1500*, ed. Christopher Allmand (Cambridge: Cambridge University Press, 1998), 287–298; or in the most recent major specialized work, Eric Marshall White, *Editio Princeps: A History of the Gutenberg Bible* (London: Harvey Miller, 2017), 21–48; or in work on Gutenberg's world, such as Wolfgang Dobras, ed., *Gutenberg, Man of the Millennium: From a Secret Enterprise to the First Media Revolution* (Mainz: City of Mainz, 2000); or in works on Gutenberg's life; in works on the history of this technology and related socio-cultural history; in work on early printmaking, such as Peter Parshall, Rainer Schoch, David Areford, Richard S. Field, and Peter Schmidt, eds., *Origins of European Printmaking: Fifteenth-Century Woodcuts and Their Public* (Washington, DC: National Gallery of Art, 2005). The most sensitive and advanced article on this is from an art-historical perspective: Elina Gertsman, "Multiple Impressions: Christ in the Winepress and the Semiotics of the Printed Image," *Art History* 36, no. 2 (2014): 310–337, doi:10.1111/1467-8365.12000.

transference of truth and goodness from the authority of truth and goodness in the original to the copy. In pursuing this avenue of inquiry, I will not include matters relating to the history of reading, the manuscript tradition, technology, or other cultural developments—not because they are not part of the story, for they did share skills and persons with print, but because I want to focus attention on development of certain relevant concepts.

One of the theoretical reasons for pursuing this is to show that intellectual history creates valid history, first by describing strongly generative tensions, and second by discovering consequential relationships not due to such direct routes as contemporaneity, personal influence, or specific literary contact. To the extent that our wide and pluriform ways of learning are structured, the structuration is often at levels too deep for conscious control by rationalist pattern-making and goes, instead, in untamed zigzags and leaps. If we are open to these ways, we will avoid the effect of some of our own unobserved desires to impose order on the past, and some of our conscious efforts as well—though, of course, the approach I advocate can make for different instances of the same errors. Another benefit of this inquiry is that it looks straight into the heart of the way concepts of temporality led to ideas about history around which modernity eventually formed. This is beyond the scope of this article, but here I can lay a prologue to investigating how the story of the historical discourse about medieval thought and about printing technology shows us that these topics were used to help form the concepts of time, history, society, and politics at every stage since the Renaissance.

An inquiry into the histories of ideas of an eternal order and an indefinitely, and now infinitely, representable and mutable order can help us penetrate the closed-off darkness in which the origins of print lies. While a few more fragments of pre-print or some bits of early typographic technology are occasionally found, we are confined on the whole to material evidence of what has been preserved to date, although it is being more deeply plumbed by imaging and other technologies. But almost all of the abundant philosophy of the late Middle Ages is preserved and can serve an intellectual history inquiry into the conceptual preconditions of pre-print.

Putting part of the origin of the age of printed communication into concepts of eternity means that print—the impress of the original of text, image, and data into copies by a technology that ultimately created a system of storage, diffusion, and retrieval—at its start involved, on the part of the person or persons who invented the craft and on the part of those who developed and used it, not only verification of the truth of the copy but also referred transferred moral authority from its supernatural source to the world of accumulated human knowledge.

The Christian theology of eternity begins with St. Augustine (354–430 CE) in the fourth century and also with what I will show to be an import-

ant conceptualization by his contemporary Gregory of Nyssa (335–394 CE). So here we must place our footings at ca. 400 and ca. 1400, a millennium apart. To make yet more trouble, one of the most important thinkers in this field whose ideas are relevant here lived in the ninth century, exactly halfway between the other dates. This is John Scotus Eriugena (815–877 CE). One could start earlier than Augustine, and one could add texts by many others who wrote through this medieval millennium, such as Boethius (whose concept of eternity is based on issues different from those the neo-Platonists focused on) and numerous theologians from Albertus Magnus through the early fifteenth century; but the case here is that these three theologians—Augustine, Nyssa, and Eriugena—provide the structure we need from the earlier Middle Ages, before the twelfth century "renaissance" and before Scholasticism, to set up ideas that contrast with and can also lead to the conceptions of various topics that enabled replicative technologies.[2] Finally, the ideas William of Ockham (1285–1347 CE) about eternity suggest one of the conceptual possibilities to which this development led that ought to be part of our understanding of the invention of printing. These four footings across a millennium stretch, tensely, the historiographic narrative of the inception of print as a multiplication of what is true and good back to its most reasonable proximate conceptual origin.

St. Augustine's view of eternity in his *Confessions* is part of a presentist philosophy of time. We cannot locate past and future moments except in present thinking activity.[3] All time, he says, is present time, and all present time is instantaneously fleeting moments.[4] "Past" and "future" are merely ways of speaking of the present as prompted by memory and expectation.[5] The cosmos comprises the first Heaven and earth made by God "outside time" but other than His own substance; and the second Heaven and earth, including humankind with the rest of created nature, which exist in the fleeting present that is the whole of time.[6] The only temporality that can exist is therefore a part of divine timelessness. He knows transience, and so transience exists within His eternality.[7] For humans, memory is where eternity

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2. For some of the other sides of the medieval discussion of eternity, see Peter Adamson, "Eternity in Medieval Philosophy," in *Eternity: A History*, ed. Yitzhak Y. Melamed (Oxford: Oxford University Press, 2016), 76–115; and Carlos Steel, "The Neoplatonic Doctrine of Time and Eternity and Its Influence on Medieval Philosophy," in *The Medieval Concept of Time: Studies on the Scholastic Dispute and Its Reception in Early Modern Philosophy*, ed. Pasquale Porro (Leiden: Brill, 2001), 3–32.

3. Augustine, *Confessions*, 11.18.23–24.

4. Ibid., 11.18.23–24, 11.15.20–21.

5. Ibid., 11.18.26.

6. Ibid., 12.12.15.

7. Ibid., 12.15.18.

"dwells," because it holds all things in a never-ending present, as if they were timeless.[8] Time can be change alone and change solely at its fastest, as instantaneity so intense that it does not exist. It, and all things mutable, exists only because God holds it within Himself.[9] The energy we feel from the passage of time is the impetus of the divine creation and guidance.[10] Since time, being nothing but transience, cannot exist on its own, the whole of it must be located where nothing is lost, that is, in eternity.[11] In this way, time and eternity are alike, as both are entirely made of the present and nothing but the present, except that in time all presence is the passing present, in which all is lost, while eternity is endless presence, without loss.[12]

Presentist philosophies of time in recent analytic metaphysics help show the consequences of Augustine's position for conceptions of history and of the production of information as historical process.[13] Contemporary analytic presentism faces off against views holding that temporal relationships permanently exist instead of being negated by the instantaneous present. World War I always was and always will be before World War II, and 29 July 1752 must always follow 28 July 1752. Before and after do not alter. (This is called "eternalism" in the sense of this word having nothing to do with the notions of eternity discussed here.) These presentisms can be theistic or non-theistic, and they sometimes use a quantum of duration, such as "growing block" or "moving spotlight" or "specious present," to ease temporal relations into presentism. Whereas Augustinian presentism subsumes time under eternity, in most modern presentisms, the fleeting present (or another kind of present) just is what reality is insofar as we characterize it by time. But both Augustinian and more recent presentisms require exclusion of real existence for anything not in the present. Under Augustine's view, insofar as anything is real, it is or participates in the timeless present called eternity. This necessary presentness of all pasts causes great problems when we start to think about history rather than solely of time (difficulties of no concern to most philosophers of time), because presentism excludes the real existence of past and future whether it does or does not credit the eternity of

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8. Ibid., 10.25.36.

9. Ibid., 7.15.21.

10. Ibid., 4.8.13.

11. On some of theological difficulties in Augustine's position, see Marilyn Ekdahl Ravicz, "St. Augustine: Time and Eternity," *The Thomist: A Speculative Quarterly Review* 22, no. 4 (1959): 542–554, doi:10.1353/tho.1959.0032.

12. Augustine, *Confessions*, 11.11.13.

13. As argued by, for example, Mark Hinchliff, "The Puzzle of Change," *Philosophical Perspectives* 10 (1996): 119–136, doi:10.2307/2216239; and Ned Markosian, "A Defense of Presentism," in *Oxford Studies in Metaphysics Volume 1*, ed. Dean Zimmerman (Oxford: Oxford University Press, 2004), 47–82.

a divine being or realm. For Augustine's special theological line of thought, this leaves memory while excluding all mutable things, but the effect on how people might understand their capacities to alter the conditions of their lives is in some ways the same as that of modern presentism if it were thought through as an understanding of history or of human behavior.[14]

Augustine developed his view of history in congruence with his view of time. Humans exist and act as part of God's plan. The span of time from the Fall to the redemption of the world is made of fleeting presents sustained by the divine purpose realized in the eschaton. The present time we share with God is the way we have awareness of our sin. The real existence of this span of presentist time is in God's eternal existence as an always conscious, always knowing, always active creator. This does not recognize history in our sense of the word because God's actions are in eternity and not in time; instead, this view subsumes history under eternity as delivered by the end of time.[15] The starkness of human existence before God in Augustine led to non-historicality. This is why Augustine's presentism does not allow for history except as comprehended in God. It limits its understanding of change—and of the dynamic of the diffusion of information—by preempting history.

St. Gregory of Nyssa's intense analysis of eternality in his *Adversus Eunomium* became, like Augustine's, an authoritative conception of eternity in medieval Latin Christianity.[16] But a fateful ambivalence as to the nature if eternity existed in the neo-Platonism both these Fathers shared from before its Christianization.[17] Gregory's view of the relation of time and eternity, also neo-Platonic in origin, differed from Augustine's, resulting in a philosophy of time with widely different implications.

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14. Augustine's presentism, of course, has moral implications quite distinct from those of modern analytic presentism. For a discussion of his presentism in his devotional context, see Katherin A. Rogers, "St. Augustine on Time and Eternity," *American Catholic Philosophical Quarterly* 72, no. 2 (Spring, 1996): 207–226.

15. Similarly argued by Johannes Van Oort, "The End is Now: Augustine on History and Eschatology," *HTS: Teologiese Studies/Theological Studies* 68, no. 1 (2012): 1–7.

16. Werner Jaeger, ed. *Contra Eunomium Libri* (Leiden: Brill, 1960). I also used the sole English translation of the entire work in *A Select Library of Nicene and Post-Nicene Fathers . . . Second Series . . . Gregory of Nyssa: Dogmatic Treatises, etc.*, trans. Philip Schaff and Henry Wace (New York: Christian Literature Company, 1893); and the translation of book 2 by Stuart George Hall, as "The Second Book against Eunomius," in *Gregory of Nyssa: Contra Eunomium II . . . Proceedings of the 10th International Colloquium on Gregory of Nyssa*, ed. Lenka Karfíková et al. (Leiden: Brill, 2007), 59–204. Citations below refer to the traditional division into books plus Jaeger's book and section numbers (added to Migne's division of books and parts), as well as Jaeger's pagination.

17. See Stephen Gersh, *From Iamblichus to Eriugena: An Investigation of the Prehistory and Evolution of the Pseudo-Dionysian Tradition* (Leiden: Brill 1978), 72n212.

Gregory's target was the Arian claim that Jesus was begotten in time rather than existent in eternity.[18] To defeat Eunomius's claim of temporal duration ("begetting") in the procession of the Holy Spirit and the Son from the Father, Gregory argues that if we are to purge materiality from our idea of a God who had no beginning, we must hold that eternity is temporal existence without temporal intervals or sequences.[19] Nothing was before God or will be after God, else He would be discontinuous and would partake of nothing, which cannot exist.[20] When we think of God we cannot cut him short at any point in time.[21] Gregory thinks, however, that a further notion is required to grasp eternity, and he develops it in the following way: God is not merely endless nor merely "unbegotten"; He neither perdures nor endures.[22] For God is simple, not multiple. In order to limit the consequences of the schema of a creator's unity and his creation's plurality, Gregory's eternity must be time without interval (beginning, middle, or end). "Time" for God must be basically different from what it is for us who are slow to understand.[23] Interval, quantity, and circumscription are not evidence supporting any denial of eternality.[24] We cannot describe eternity by any of the marks by which we describe the temporal, and no marks of the temporal can negate eternity; but, since anything eternal exists unlimited by interval, it exists at all times. The result of this is to recognize that time is a domain of relationships separate from the domain of eternity.

The issue of time and eternity is reflected in a conflict of the Genesis account of the creation with a neo-Platonic account that does not appear in Augustine but that does develop in the hands of other thinkers.[25] In the "theologized" Genesis account, God acts on everything in the instant of creating the universe. In Plotinus's version of neo-Platonism, the godhead-like principle it calls the One encompasses subordinate principles (or levels) of the created that it "emanates." Plotinus flattens the process of creation: as emanation it is a strictly rational development of the ontologically dependent many out of the absolutely simple One and not at all a temporal process.[26] Gregory

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18. Gregory's brother, St. Basil of Cesarea (330–379 CE), also wrote an anti-Arian treatise *Contra Eunomium*.

19. Gregory of Nyssa, *Contra Eunomium*, I.624–633 (Jaeger 1.206–208) and 3.73–93 (Jaeger, 2.31–35).

20. Ibid., III.3.8–11 (Jaeger, 2.109–111).

21. Ibid., III.6.3–11 (Jaeger, 2.186–189).

22. Ibid., II.192–195 (Jaeger, 1. 280–281).

23. Ibid., III.6.23–26 (Jaeger, 2.193–195).

24. Ibid., III.66–78 (Jaeger, 3.209–213).

25. See Conrad Rudolph, *The Mystic Ark: Hugh of Saint Victor, Art, and Thought in the Twelfth Century* (Cambridge: Cambridge University Press, 2014), 36–37.

26. Plotinus, *Enneads*, V.1.7.

will stand for nothing of the sort. The creation in Genesis is a miracle rather than a rational event since God created reason as well as the heavens in the creation; the relationship of the divine creator to the created is in the end a mystery, not that of a rational administrator to levels of weaker power. In Gregory's view, God acts with no emanations or intervals of any kind, nor is He less present in some corners of His creation than in others. Thus, the temporality of our world need not reflect or express eternity. God's power enables His creation of a real but non-eternal time.

God's action is the creation of all things. Gregory holds that humans can understand these actions of God, although the being of God in timelessness is utterly unintelligible to finite minds.[27] Therefore, our human use of concepts can track the divine in all creation. Limited though we are, we have faith, on the one hand, to reach over what divides us from God; and on the other hand, we have conceptual thought we can move upwards through in rational knowledge by way of nothing less than every thing in the universe and every event and process.[28] Gregory uses this notion, on which he lays great stress and to which much of book two of *Against Eunomius* is devoted, for threading a very narrow needle. It is meant to compass the tensions of separation and inclusion in the relations of the created to the creator. It is meant, furthermore, to make devotion capacious but also to constrain it from violating the limits that a correct ontology lays down.

We can understand the importance of the difference between Gregory and Augustine by looking at the relation of the created world to the creator in the work of John Scot Eriugena.[29] I focus here on Eriugena because, while the question of Eriugena's influence is a difficult one, he furthered the Greek tradition of philosophical speculation in the Latin world. Eriugena's approach exposes the conflict within the Latin view of divine eternality that grew out of the terms of the loose, highly generalized neo-Platonism that Augustine developed. Eriugena was a very likely conduit of pseudo-Dionysius and Gregory of Nyssa into later medieval theology.[30]

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27. Gregory of Nyssa, *Contra Eunomium*, II.268–271 (Jaeger, 1.304–305).

28. Ibid., II.253 (Jaeger, 1.300).

29. Eriugena's systematic work is *Perisypheon liber quintus*, ed. Edouard Jeauneau (CCCM 161–165) (Turnhout: Brepols, 1996–2007), translated as *Perisypheon (The Division of Nature)* by I. P. Sheldon-Williams and revised by John J. O'Meara (Washington, DC: Dumbarton Oaks, 1987), cited here by the column and section numbers in Migne, *Patrologia Latina*, vol. 122 (1853), which are used in both Jeauneau and the English translation.

30. See the editor's list of citations in the Sheldon-Wilmot/O'Meara translation, 718–719; Dermot Moran, *The Philosophy of John Scotus Eriugena: A Study of Idealism in the Middle Ages* (Cambridge: Cambridge University Press, 1989), 53–54; and John O'Meara, *Eriugena* (Oxford: Clarendon Press, 1986), 76–79.

Eriugena readily quotes Gregory of Nyssa at length, but his specific vision was moved away from Gregory's by the pseudo-Dionysian works he read and translated. In his fourfold division of being, he joined the manifold universe (the fourth level) to the one creator God (the first level) on the grounds that the end of all things—meaning both their purpose and their termination—is found in the beginning of all things.[31] To his mind this was required by the neo-Platonic principles that everything is truly the One and that the self-constituted One alone can and does return everything emanating from it back into itself.[32] Thus creator and creation are not names of entities but rather words suggesting a relationship of self-identity that must obtain but can obtain only within the "simple unity" of the divine nature.[33] The "splendors of the saints" are a part of God.[34] In a beautiful passage, Eriugena turns Plotinian emanation into the indivisible flow of a river from its well,[35] and his view of the creation is that of the multiplication of the One through the dyad.[36] This serves him in justifying the Christian view of resurrection: death is the beginning of the return of nature to God.[37]

Eriugena casts the problem in terms of the return of all things to reason.[38] Gregory's God required no intermediaries in order to create, but His creation was separate from Himself. A more rigid neo-Platonic theology such as Eriugena's muddies the levels of dependence and independence of creation with regard to its creator: there is a movement between them, like a river, but their simple unity is equally strongly held.[39] This is not to say that Gregory or anyone else solved the problem of participation, for his account is inconsistent, if not muddy. But it had this advantage, that a religion founded on divine incarnation and resurrection could not apply the simple unity of its godhead to all the universe, any more than it could submerge the problem of evil into the primitive unity of divine nature.[40]

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31. Eriugena, *Periphyseon*, 526C–527C.

32. For Eriugena, all existence, including the human being, is essentially a concept in the mind of God (*Periphyseon*, 769B–C), and matter is actually a form of divine essence (*Periphyseon*, 633B), as Plotinus, *Enneads*, V.3.12.

33. Ibid., 527D–528A.

34. Ibid., 559B–560B.

35. Ibid., 632B–632D.

36. Ibid., 652B.

37. Ibid., 875C–875D. On "self-reversion" as a major theme in neo-Platonism, see Gersh, *From Iamblichus to Eriugena*, 125–129 and 217–228.

38. Ibid., 743C.

39. Christoph Erismann, "The Logic of Being: Eriugena's Dialectical Ontology," *Vivarium* 45 (2007): 203–218, here 206–207, doi:10.1163/156853407X217722.

40. In *Periphyseon* 960A–966A, Eriugena struggles with situating the irrational or the real existence of evil in connection to the divine harmony of all things.

As the Middle Ages advanced and Scholasticism started to form, the differing outcomes of the emanation, or neo-Platonic, view of the creation, as exemplified in Eriugena, and of the miracle, or theologized Genesis, view of the creation, as exemplified in Gregory of Nyssa, were consequential, even if the difference seems slight at its origin in retrospect. Augustine held the two in tension, but conceptual development put them into opposition. The method of philosophical and theological thought that Gregory of Nyssa's concept of divine eternality tends to authorize is that of analogy, by which we understand things through a chain of intelligible similarities. The philosophical and theological method that Eriugena's view of divine nature tends to require is that of anagogy, by which we must use what we can compare in order to move understanding toward radical difference.[41] In his study of twelfth century Latin speculative and theological poetry, Winthrop Wetherbee has described two sides of the medieval way of seeing the divine presence in all things in this period. He describes the first as "rational-scientific" and characterized by the use metaphor; it issues in the speculative power of analogy. Nyssa's view of the created world as informed by the eternal presence of the divine supports the use of analogy as the method of thought. The second side of the medieval way of seeing divine presence he calls the "sapiential-intuitive" method, characterized by the use of symbolism; and it issues in anagogy.[42] Eriugena's view, and a great deal of apophatic theology straight to Cusa and after, centrally relies on anagogy, the validity of which may be said to be based on the view of God's infinitude and eternal presence outlined here.

On the one hand, Gregory held that God's power of action is one with His being and that the created, which does not have the power of creating, is separated from its creator but made full of His goodness by its miraculously unmediated relation to God. The relation between God and creation is that of the divine creation, in which God makes the world to be just as he wills it to be: a paradox not adequately described by ordinary, finite relational or categorical terms. Contact with the eternal may be sought through created things because God wills this to be the case. Eriugena, on the other hand, held that divine unity, located in eternity, must be completely identical to the created world and the created world to it, so that the relation, if critically examined, is "identity" as a powerful logical operator rather than the theological notion of divine power creating all things. The created must share or be God's eternity, and this proves to unleash the contradictions of propositional binary logic.

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41. Anagogy was the fourth and highest of the "four senses" of exegesis, as described by Henri de Lubac, *Exégèse médiévale: les quatre sens de l'Écriture* (Paris: Aubier, 1961–1964).

42. Winthrop Wetherbee, *Platonism and Poetry in the Twelfth Century: The Literary Influence of the School of Chartres* (Princeton, NJ: Princeton University Press, 1972), 4–17.

Under Eriugena's neo-Platonic view and anagogical method, the created world is part of the eternal but so degraded that it gives one little reason to attend to it. Under Nyssa's analogical, Genesis-consistent approach, the created world stands on its own, as if this too were a gift of the divine creative miracle and is not a weak form of eternity but a full complement and contrast to it, worthy of attention. If all is One, nothing matters; but if the eternal is a domain of what is to us miraculous, it can bless every bit of dust and ash.

An important example of how concepts of eternity affected parts of the medieval understanding of the material representation of the divine is that of the veneration of relics.[43] Bodily and contact relics lie among time past, time present, and eternity. Broadly, a relic is sacred by virtue of the impression upon it or the trace of the divine goodness and truth; most systems of belief in the supernatural, newer as well as axial or even older, have had numinous objects, some of which were acheiropoietic (i.e., not made by human hands). Such things stand in the gap between Heaven and earth or are a type of communicator from the divine to the human (and back) to which printed text and imagery readily seem to be akin. Most of the philosophical contests over the one and the many and the participation of the real in the ideal appear explicitly or implicitly in the histories of communication, the growth of knowledge, and concepts of time and progress. Cults of saints' relics, after having been greatly stimulated by Crusader loot, seem to have spread and increased in intensity in the later Middle Ages. While recognizing the commercial reality of relics, we must also see that the very possibility of the intellectual validity of veneration of relics rested on one or another theory of what eternity is and the nature or degree of divine immanence.[44]

In the rhetoric of canon law—as developed late in the Middle Ages—a relic was both *res sacra* (a thing consecrated by a *pontifex*) and *res spiritualis* (a spiritual *annexum* to ordinary things).[45] The real part of relics was not

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43. On the "conflation" or "blurring" of image and relic in the late medieval development of new media, see David S. Areford, "Multiplying the Sacred: The Fifteenth-Century Woodcut as Reproduction, Surrogate, Simulation," in *The Woodcut in Fifteenth-Century Europe*, ed. Peter Parshall (New Haven, CT: Yale University Press for the National Gallery of Art, 2009), 119–154.

44. On relics as vestiges or traces, see Anthony Cutler, "The Relics of Scholarship: On the Production, Reproduction, and the Interpretation of Hallowed Remains in Late Antiquity, Byzantium, Early Islam, and the Medieval West," in *Saints and Sacred Matter: The Cult of Relics in Byzantium and Beyond*, ed. Cynthia Hahn and Holger A. Klein (Washington, DC: Dumbarton Oaks, 2016), 309–346.

45. Stéphane Borion, "Définition et statut juridique des reliques dans le droit canonique classique" [Definition and legal status of relics in classical canon law], in *Reliques et sainteté dans l'espace médiéval*, ed. Jean-Luc Deuffic (Saint-Denis: Pecia, 2006), 23–29. This text is the only source I have found that summarizes canon law on relics as a

their material substance.[46] Christianity developed a body of thought that incorporated, but also endeavored to supersede, the ancient puzzles of the one and the many in its vision of a constant God. Relics had to be fitted into this frame, though they also busted it. Strong argument was required in order to square the temporality of the relics of finite bodies with the temporality of eternity in which Christianity requires the devout to conceive God.

As early as the early fifth century, just after Gregory's passing, we can see the effect of differentiation between a pure, purged temporality of eternity and our busy, interval-soaked temporality in thinking about relics. Whereas the ideas of Gregory and the other Cappadocian Fathers supported veneration of relics in Eastern Christianity, the matter was controverted in Gaul and elsewhere in the Latin world.[47] The issue arises in a polemic on relics in response to St. Ambrose's provisioning of churches with relics.[48] Vigilantius of Calagurris (fl. 395–406 CE) argued, against St. Paulinus and even against St. Jerome,[49] the eternal is too distant from us to make sense of paying it tribute through veneration and other ascetic practices.[50] The purity of life with God is not for such as we, who can be fat and happy in the mundane way but not in the celestial way.[51] Saints' souls, being what they are, are happy with God and do not linger in any earthly substance.[52] But for Victricius of Rouen (d. not later than 409 CE), his opponent, this position means that a protocol of ontological divisions limits God's scope of creative activity.[53]

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stable, "classic" formula. Nicole Hermann-Mascard, *Les Reliques des Saints: Formation coutumière d'un droit* [The relics of the saints: Customary formation of a right] (Paris: Klinksieck, 1975) discusses the historical development of this formula.

46. Hermann-Mascard, *Les Reliques*, 42–45.

47. The Cappadocian Fathers include Basil the Great (330–379 CE) and Gregory Nazianzus (329–389 CE) with Gregory of Nyssa and helped reconcile Greek philosophy with early Christian theology.

48. An earlier debate on veneration of the bodies of saints is described in Jean-Marie Sansterre, "Les justification du culte des reliques dans le haut Moyen Age" [The justification of the cult of relics in the late Middle Ages], in *Les reliques: objets, cultes, symboles*, ed. Edna Bozóky and Anne-Marie Helvétius (Turnhout: Brepols, 1999), 81–94.

49. Jerome argued Nyssa's side against Eunomius as well as Victricius's against Vigilantius in *Adversus Vigilantium*, ed. Jean Louis Feiertag (*Opera* III.5) (Turnhout: Brepols, 2005), sec 8 (18–20). Vigilantius's work is lost.

50. David G. Hunter, "Vigilantius of Calagurris and Victricius of Rouen: Ascetics, Relics, and Clerics in Late Roman Gaul," *Journal of Early Christian Studies* 7, no. 3 (1999): Hunter 401–430, here 429, doi:10.1353/earl.1999.0061.

51. Hunter, "Vigilantius," 430.

52. Ibid., 424–427.

53. *De laude Sanctorum*, ed. I. Mulders and R. Demeulenaere, in *Corpus Christianorum Series Latina* LXIV (Turnhout: Brepols, 1985), 69–93; English translation with full apparatus by Gilian Clark, "Victricius of Rouen: Praising the Saints," *Journal of Early*

God's perfection transcends all ontological or procedural limits on justice,[54] and most certainly He has no need of emanations or intervals.[55] God, lacking all division, which Victricius expresses as "quantity and quality," outside a contingency, can finish all he makes; and the relics of the saints he makes so as to lack nothing.[56] The physical relics are species of which the incorruptible God is the genus.[57] A thoughtful devout person must struggle to work out in words the way in which relics partake of unlimited eternal being, so difficult to state that Victricius warns us that we must beware of "the deceitful snares of speech."[58]

As to direct theorizing of relics, we have only Thiofrid of Echternach's *Flores epytaphii sanctorum*, composed between 1102 and October 1105 CE,[59] the only medieval treatise devoted to a systematic deliberation about relics.[60] The *Flores* is the only text in the whole of the Middle Ages in which we observe an active venerator thinking abstractly and at length about the doubled, fraught temporality of relics that could satisfy religious desire for connection to the eternal.[61] Insofar as Thiofrid does have a logical or philosophical solution to this, it lies in the verb *transfundere* (to pour, pour out, pour off, deposit, discharge, transfuse[62]) by which he names the link from

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Christian Studies 7, no. 3 (1999): 365–399, doi:10.1353/earl.1999.0071; and a subsequent English translation by Philippe Buc, in *Medieval Hagiography*, ed. Thomas Head (New York: Routledge, 2001), 31–52.

54. Victricius, *De laude*, 8.5 (Mulder and Demeulenaere, 81–82; Clark, 386–388).

55. Ibid., 8.15–16 (Clark, 388), "in reliquis nihil esse non plenum."

56. Ibid., 9.30–31.

57. Ibid., 10.7–9.

58. Ibid., 10.6–7

59. *Thiofridi Abbatis Epternacensis Flores Epytaphii Sanctorvm*, ed. Michele Camillo Ferrari *Corpus Christianorum Continuatio Mediaeualis* series, vol. 133 (Turnhout: Brepols, 1996).

60. Cynthia Hahn notes the singularity of Thiofrid's treatise in "What Do Reliquaries Do for Relics?" *Numen* 57, no. 3/4 (2010): 284–316, 294. The only attempt I know to explain the curious uniqueness of this work in the medieval corpus is Mehdi Dallali, "Débat inexistant ou paroles persistantes: la théologie des reliques au Moyen Âge, autour du *De pigneribus sanctorum* de Guibert de Nogent" [Nonexistent debate or persistent words: The theology of relics in the Middle Ages, around *De pigneribus sanctorum* by Guibert de Nogent] (MA thesis, University of Montréal, 2010), 32–63.

61. The best-known medieval work on the subject of relics in Guibert of Nogent's *De sanctis et eorum pigneribus*, ed. R. B. C. Huygens, *Corpus Christianorum Continuatio Mediaeualis* series, vol. CXXVII (Turnhout: Brepols, 1993). But not very much of it is actually about relics.

62. See Lewis and Short. Malo, *Reading and Writing*, 55, defines *transfundere* as "transference" and relates it to the twin uses of *translatio* as the relocation of relocation and as a metaphorical function. Christopher A. Jones, "Old English Words for Relics of the Saints," *Florilegium* 26 (1989): 89n22, suggests the translation of Thiofrid's word as "fusion."

God to His creation.[63] He uses forms of this verb fourteen times.[64] The eternal is transfused into the temporal; this infusion makes a bodily relic holy when God sanctifies it. Thiofrid means it to describe God's way of mixing eternality into the created world, but the word is of course a metaphor.[65] For Thiofrid, the variety of nature shimmers with a unity that is the mystery of divine creation, beyond the dialectics of similarity and dissimilarity; and the plain facts that we take in through specular cognition, directly and potently present to us, in the full colorfulness of worldly things, such mysteries as that of God's use of his unlimited power to endow relics with sacrality.[66]

Thus for Thiofrid, on the whole, eternity may be sought through created things because God wills this to be the case: this is the argument from analogical real presence. God can be present in every corner of creation in ways wholly heedless of the rebarbative demands of logic. If, on the other hand, the created must share or be God's eternity, for Eriugena, it is necessary to unleash the contradictions of propositional binary logic: this is the argument from anagogical symbolic meaning. As Thiofrid was more a rhetorician of devotion than he was a philosopher, he uses *transfundere* to lean sometimes toward the dualism of Gregory (whom he quotes) and sometimes toward a neo-Platonic monism of the kind we see in Eriugena; and in maintaining both approaches through his ambiguous *transfusio*, he continues the unresolved stance taken by Augustine, the dominant figure before Thomas Aquinas and Scholasticism. But the difference between analogy and anagogy as ways of creating meaning was to be highly consequential, as indeed it already had been in the Eucharistic Controversy of the eleventh century.[67]

The issue of divine immanence in these discussions of relics helps to reveal the conflict of ontologies leading to differing versions of Christian neo-Platonism. These ontologies were non-materialist monism and various sorts of dualism, which were heretical, and quasi-dualism; and, partly from their conflict, a third ontology arose that in time led away from Platonism altogether, the materialist monism familiar to modernity. Here I want to ad-

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63. Ferrari, "Einleitung" [Introduction], in Thiofrid, *Flores*, xlvii–xlix. As he notes (n.s 146–147), Thiofrid also uses "transtulit" and "transmittit."

64. E.g., ibid., I.6.17, III.2.5, III.3.21, III.3.44, IV.1.35, IV.2.29, and IV.4.24.

65. For example, at ibid., II.3.36–45, he uses "transfusa" as part of a comparison of earthly tribulation to divine glorification.

66. Ibid., II.1.48–63.

67. In this controversy—one phase of the very long debate in Christianity as to the nature of the sacraments—the issue was whether the Eucharist was a symbol that must be interpreted by the intellect or a reality that simply was and could be directly known. See Brian Stock, *The Implications of Literacy: Written Language and Models of Interpretation in the Eleventh and Twelfth Centuries* (Princeton, NJ: Princeton University Press, 1983), 259–272.

dress a different part of this story: the way in which a quasi-dualism, or at least an odd idealistic monism, arising from philosophizing about eternity in the period fostered the possibility of technology to reproduce information.

The central story of Christianity is, of course, the entry of the divine from eternity into humankind in time and history. The Veil of Veronica and the mandylions and shrouds of early Christianity continued the great theme, as did relics and even reliquaries, boxes, and frames. A guarantee of authenticity by impress is a very ancient idea, rooted in metaphors of incision.[68] It was developed in the Middle Ages by the broadening use of seals and all kinds of stamping, molding, and casting, including the baking of the Eucharist, in which the true original is transferred by contact onto receptive matrices.[69] From about 1375 on, the woodcut, both on single leaves and as text illustration, quickly followed by engraving on metal, served devotional cults by mediating relic and person—as saints mediate God and humans, as reliquaries mediate relic and venerator—picking up the sanctity and truth from the eternal object. The argument that the impress of ink from an engraved original onto a paper substrate transferred the eternal immaterial to temporal matter, divine being thus guaranteeing the truth and the moral value of the impression, was first presented, as far as I know, as a theory of early woodcuts and engravings by Charles Talbot in 1986, and others have followed him in this.[70]

Talbot, however, specifically denies that people of the period in question would have thought of typography through the same conceptions as those that he argues supported interest in prints of images.[71] Yet letterforms were sometimes cast from molds at least as early as the twelfth century, and words appear in molds from Roman antiquity onward.[72] It seems a small step

68. An interesting recent contribution to the long study of this matter is David Ganz, "'Character' and the Power of the Letter," in *Graphic Devices and the Early Decorated Book*, ed. Micelle P. Brown, Ildar H. Garipzanov, and Benjamin C. Tilghman (Woodbridge, UK: Boydell, 2017), 31–44.

69. See Aden Kumler's explorations of this in "The 'Genealogy of Jean le Blanc': Accounting for the Materiality of the Medieval Eucharist," in *The Matter of Art: Materials, Practices, Cultural Logics, c. 1250–1750*, ed. Christy Anderson, Anne Dunlop, and Pamela H. Smith (Manchester: Manchester University Press, 2015), 119–140; and "The Multiplication of the Species: Eucharistic Morphology in the Middle Ages," *Res: Anthropology and Aesthetics* 59–60 (2011): 179–191, doi:10.1086/RESvn1ms23647789.

70. Charles Talbot, "Prints and the Definitive Image," in *Print and Culture in the Renaissance*, ed. Gerald P. Tyson and Sylvia S. Wagonheim (Newark: University of Delaware Press, 1982), 189–207, especially 193–201.

71. Talbot, "Prints," 189–191.

72. For some examples of medieval cast metal letterforms, see Geoff Egan and Frances Pritchard, *Dress Accessories c. 1150–c. 1450* (London: Boydell, 1997), 202–203; and Annemarieke Willemsen et al., "Late Medieval Bling-Bling: A Collection of Decorated

from this to observing that printed text was also thought to retain the truth of the original. If this is the case, the wider group of concepts verifying the authenticity of an object or image—extending to concepts that expressed the ways authority related to truth and goodness in human actions as well as productions—is part of the answer to the question Adrian Johns says has not yet been asked: what is the origin of the veracity ascribed to early printed texts?[73] Furthermore, what ideas started to allow for or accompany the replacement of manual copying by mechanical copying? What in intellectual tensions built and then broke through in the time of the invention of techniques for the mechanical production of multiples?

In medieval Christian thought, the relation of the eternal God to moral humankind is the central concern. I hold that the two strains of Christian Platonism I have discussed—real presence as understood by analogy and immanent presence as understood by anagogy—both, complexly intertwined, helped to foster the deployment of replicative media. For example, the influence of Plotinian, anagogical monism on the interest in print culture from 1450 or so onward, through Nicolas of Cusa and Italian intellectuals, has been much discussed.[74] A common progressivist view associates interest in the natural and material world with new media ca. 1400–1450 as parts of an increasing tendency toward materialist monism that ultimately overtook belief in the supernatural. Although emanationist views, which were mystical and hyper-rationalized at the same time (in the manner of Plotinus), continued to shape conception and technology, William of Ockham's separation of mundane time from eternity by the direct-miracle path of divine creation boosted the conceptual possibilities for attention to the material world through his incipient dualism, rather than through Thomistic Aristotelianism, naturalism, or idealism, though Ockham nevertheless relied on mysteries unintelligible to us to explain the relation of God to the created universe.

Leather and Base-metal Mounts in the National Museum of Antiquities in Leiden," in *Medieval Material Culture: Studies in Honour of Jan Thijssen*, ed. H. Clevis (Zwolle: Foundation for the Promotion of Archaeology, 2009), 57, 62–65. Letterforms are also part of some pilgrimage badges.

73. Adrian Johns, *The Nature of the Book: Print and Knowledge in the Making* (Chicago: University of Chicago Press, 1998), 2–3.

74. For example, Karin Emmrich, "St. Viktor bei Mainz, Nikolaus von Kues und der frühe Buchdruck: Klerikerkarrieren im Umfeld Johannes Gutenbergs" [St. Viktor near Mainz, Nikolaus von Kues and early letterpress: Clerical careers in the area of Johannes Gutenberg], in *Gutenberg Jahrbuch* 76 (2001): 87–93; and Kai-Michael Sprenger, "'Volumus tamen, quod expressio fiat ante finem mensis Maii presentis': Solite Gutenberg 1452 im Auftrag Nikolaus von Kues' Ablsbriefe drucken?" ['We wish, however, that the expression of it is made before the end of the month of May': Solite Gutenberg 1452 on behalf of Nikolaus von Kues' letters of indulgence], in *Gutenberg Jahrbuch* 74 (1999): 42–57.

Around 1370, Nicholas Oresme discovered that each planetary orbit differed from every other. No longer could the heavens be understood as an exact image of eternal self-identity, expressed in stable arithmetic relationships.[75] Since the calendar and time-keeping are ordered by the cosmos, the order of time now could seem not to represent eternity as a faithful and exact intermediate sphere. Somewhere around 1300 to 1350, the first verge and foliot escapement mechanism for clocks seems to have been invented.[76] Formerly, an educated Christian could feel entirely justified in apprehending the eternal as disclosed in the sky, as if through the clouds rent apart by the spectacular machinery of a liturgical play in front of a church. The temporal order could now be understood as more manipulable and free than hitherto was conceivable, but the price was that it might no longer completely conform to the ultimate logical order of the universe. In a sense, this was the principle of nominalism: things do need not conform to our words about what they do.

Neo-Platonism had a tendency to understand causality in such a way as to place the cosmos in a non-diachronic stasis.[77] The fact of change pushed Proclus to place existence in time (opposed to existence in eternity) into the enduring and the dated.[78] This created a "third man," the durable temporality between Heaven and earth, called the *aevum*.[79] In the emanationist scheme of things, such as Eriugena's, reality is a "continuous series of causes and effects in which each term is related dynamically to the previous one; it 'remains' in its prior (manifests an element of identity with it), it 'proceeds' (manifests an element of difference), and it 'reverts' (strives to re-establish the identity)."[80] This involves a realist ontology of exactly the kind Ockham's nominalism opposes.

His argument begins with the principle that quantity and quality are modes of things but are not themselves things.[81] Elsewhere, he holds that

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75. Nicole Oresme, *Nicole Oresme and the Kinematics of Circular Motion: Tractatus de commensurabilitate vel incommensurabilitate motuum celi*, ed. and trans. Edward Grant (Madison, WI: University of Milwaukee Press, 1971), 70, 285.

76. Otto Mayr, *Authority, Liberty and Automatic Machinery in Early Modern Europe* (Baltimore, MD: Johns Hopkins University Press, 1986), 6, 38.

77. This can be seen in *Elements of Theology*, trans. and ed. E. R. Dodds (Oxford: Clarendon Press, 1933, reprinted 1992), propositions 25–39 (28–43).

78. Proclus, *Elements*, propositions 55 (52–54) and 105–107 (94–97).

79. See Carlos Steel, "The Neoplatonic Doctrine of Time and Eternity and Its Influence on Medieval Philosophy," in *The Medieval Concept of Time: Studies on the Scholastic Dispute and Its Reception in Early Modern Philosophy*, ed. Pasquale Porro (Leiden: Brill, 2001), 3–32.

80. Gersh, *From Iamblichus to Eriugena*, 125; see also 17–26.

81. *Guillelmi de Ockham Quaestiones in Librum Secundum Sententiarum*, ed. Gedeon Gal and Rega Wood (St. Bonaventure, NY: The Franciscan Institute, 1981), II. Q. XI, 241.10–15.

although we use these modes in all human knowledge, but the requirements of their logic do not constrain God's power as the immediate cause of all effects. These modes can have no substance other than things themselves, but they are concepts and therefore are not things. They are words that can mean different things. *Aevum* expresses a concept for measurement of angelic, that is, intermediate, time, but the substances God created must be temporal and cannot have any part of the eternal.[82] All creation is known by our intellect in time.[83] All real differences among things are differences in substances consequent to God's efficient creative power, not in names.[84] These differences can arise from single or multiple causes, but they all branch out through time because they were created into and with time rather than through relations, essences, or other necessities. The reality of things is what God made them, not our measurement or organization of them. Our knowledge as cognizing subject is tied to the objects of our knowledge by time; the whole *complexum* is within time and not within eternity.[85] Eternity excludes measuring and being measured, the language of measurement and the logic of measurement.[86] While this brings us closer to the angels, it also means that every created thing, thus separated from eternity, is subject to the diachronic logic of quantity and quality—and, in the longer history of concepts, of cause and effect.[87]

In accord with his nominalist logic and seemingly in rough alignment with the thinking of Oresme and others and with some engineers and craftsmen, William of Ockham rejected any temporality between natural time and eternity, the *aevum*. Ockham argued that memory creates the habits that comprise our actual, though imperfect, understanding.[88] This helped to move the emanation theory of the cosmos with which Plotinian Christian thinkers following Augustine were building theologies into opposition to immediate, direct, and intrinsic individuation of beings from being. Individual and concrete things can be copied and altered, whereas universals are not

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82. Ibid., II. Q. XI, 243.14–19.

83. Ibid., II. Q. XI, 242.21–24.

84. Ibid., II. Q. XI, 245.14–20.

85. *Guillelmi de Ockham Quaestiones in librum physicorum Aristotelis*, ed. Stephen Brown (St. Bonaventure, NY: The Franciscan Institute, 1981) Q. XXXIX, 500–501. On this see Alessandro Ghisaberti, "The Categories of Temporality in William Ockham and John Buridan," in Porro, *The Medieval Concept of Time*, 261–275.

86. Ockham, *Quaestiones in librum physicorum*, Q. LIV, 542

87. The case for crediting a greater influence of Ockham in early modernity than is customary is made by Charis Charalampous, "William of Ockham's Mind/Body Dualism and its Transmission to Early Modern Thinkers," *Intellectual History Review* 23, no. 4 (2013): 537–563, doi:10.1080/17496977.2013.796617.

88. Katherine H. Tachau, *Vision and Certitude in the Age of Ockham: Optics, Epistemology, and the Foundations of Semantics, 1250–1345* (Leiden: E.J. Brill, 1988), 131–133.

and hence are dispensed with by Ockham.[89] Vestiges, copies, and images are made from our partial knowledge of the likeness of things, rather than from our attempts to think like God.[90] Aquinas had already stressed the particularizing capacity of images, and Ockham and other later Scholastics enhanced the distribution of knowledge and also of devotion to individual instances.[91] At the cusp of modernity, one could still conceive of contact with the eternal, but increasingly it was understood as a connection both circumscribed by and made as present as possible by the manifold of the world in which we live, know, and act.[92]

Ockham's distinction of eternity from all measurement is similar to Gregory of Nyssa's separation of eternity from time. Under the influence of Ockham's nominalism of which this was a logical part, this suggested that what we can find or experience in the world can be validated as truthful or good, or their opposites, by investigation of measurable and observable properties. Although this is not Descartes's dualism, both Ockham and Descartes thought the knowledge of the world gave experience of God not, or at least not always, as mystical experience but as a study of the world's own peculiar structure. As Ockham conceived it on the basis of his distinction between eternity and time, this structure is very highly individuated; it is a world of copied individuals in ongoing replication and multiplication, each a separate entity but related to other entities through observable, local similarities (along with differences), rather than through universal classes or ontological extensions of ultimate unity.

In this kind of world, instances of truth and moral goodness are still authorized by their divine source and creator, and we have a world of present physical and conceptual detail to scrutinize and learn from. Human work in representing ideas of truth and the good through words and images need not be conceived by anagogy (though they could, of course, continue to be developed or known in this way) but could instead proceed through direct

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89. See J. T. Paasch, "Scotus and Ockham on Universals and Individuation," in *Debates in Medieval Philosophy: Essential Readings and Contemporary Responses*, ed. Jeffrey Hause, (New York: Routledge, 2014), 371–394.

90. See Armand Maurer, *The Philosophy of William of Ockham in the Light of Its Principles* (Toronto: Pontifical Institute of Medieval Studies, 1999), 289, 310, 432–433.

91. This is treated by Michelle Karnes, *Imagination, Meditation, and Cognition in the Middle Ages* (Chicago: University of Chicago Press, 2011), 47–57, 95–97, and in many other places.

92. For further discussion of the place of concepts on eternity in early modern thought, see Yitzhak Melamed, "Eternity in Early Modern Philosophy," in Melamed, *Eternity*, 129–167; and Jean-Luc Solère, "Postérité d'Ockham: Temps cartésien et temps newtonien au regard de l'apport nominaliste" [Ockham's Posterity: Cartesian and Newtonian time with regard to the nominalist contribution], in *Metamorphosen der Zeit*, ed. Eric Allier et al. (Munich: Fink, 1999), 293–322.

use of our intuitive cognition. The human mind by intellectual and physical labor could represent or give access to the divine in a way that suits its limited character, situated and localized as Ockham saw it, in addition to mystical ascent. Confirming the possibilities of analogical thinking enlarges the possibilities of multiplying instances, each of which can develop the original or model. A conceptual framework in which individuation is freed of a hierarchy of hypostases can support the desire to expand the development of ideas and the technical means to do so.

The Ockhamist explanation of eternity and time has two consequences (among others) that intricately interplay. The first consequence leads to thinking of the distance between God and humankind as insuperable due to the elimination of ideational and spiritual intermediaries. The second consequence provides humans with a direct link to the divine precisely because the elimination of an intermediary concept of the cosmos frees up what Ockham called "intuitive cognition." If these two consequences sound contradictory to people today, or at least to non-dualists today, the important historical point is that for some people in the fourteenth and fifteenth centuries they did not conflict and stimulated developments in science and culture. For others, changing philosophy, theology, and science caused grievous losses in their culture; and, besides such concerns, the publishing trade in particular cast into oblivion much that it did not put into print. By advancing the theoretical possibilities for the making of multiples and replicating machinery, nominalism helped enable the vast collection of information about the world that was to put religion to the test. The tension between the two tendencies became part of the substance of some of the deepest and hardest philosophical problems in succeeding eras.

Radical separation of eternity from temporal succession is just one piece of the puzzle. Other important concepts were also changing in the same period and contributed to the conceptual possibilities of pre-print. These include ideas about memory, of which understanding changed as historical studies developed in this period, along with changes in the material means of preservation; about natural forces, such as impetus; about human labor, due to the many slow steps in its replacement by mechanism; about the concept of individuation, by which copying was, in part, understood; and biological life, in which regeneration fills history with replicated yet different individuals. Of course, the connection between intellectuals and the rest of society is unclear, variable, and very much near the heart of the theoretical problem of intellectual history. In following the specific concept of eternity as the realm of the creator in its relationship to the realm of the created, we are looking at a kind of model of the question of the historical interaction of conception and production. If people in medieval societies, through conceptualization or through devotion or feeling or practices, thought that they could make

contact with the ineffable eternal, despite the great distance and difference between the divine and sublunary realms, then their understandings as to how something eternal makes itself present in the transitory world are at least partly connected to the ways in which they thought they could act, think, or feel to receive, perceive, or come to know what is true and what is good and right from its source and highest authority.

As new means of communication now bring the age of print to a close, we ought to approach the invention of print in a way that incorporates our sense of the ongoing loss of print culture in order to have a better grasp of our losses and gains in these changes from our study of the most similar previous events in the history of knowledge and communication. If we deepen our understanding of the invention of new ways to produce, circulate, store, and retrieve ideas at the end of the Middle Ages and in the early Renaissance (and of course later), we have a way of observing the history of conceptions and of productions in close conspectus—a conspectus that might draw ever closer as the speed of the exchange of ideas increases into faster diffusion and greater influence.

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