Profile of a Plant: The Olive in Early Medieval Italy, 400-900 CE

by

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Planting an olive tree is an act of faith. A cultivator must patiently protect, water, and till the soil around the plant for fifteen years before it begins to bear fruit. Though this dissertation is not nearly as useful or palatable as the olive's pressed fruits, its slow growth to completion resembles the tree in as much as it was the patient and diligent kindness of my friends, mentors, and family that enabled me to finish the project. Mercifully it took fewer than fifteen years. My deepest thanks go to Paolo Squatriti, who provoked and inspired me to write an unconventional dissertation. I am unable to articulate the ways he has influenced my scholarship, teaching, and life. Ray Van Dam's clarity of thought helped to shape and rein in my run-away ideas. Diane Hughes unfailingly saw the big picture—how the story of the olive connected to different strands of history. These three people in particular made graduate school a humane and deeply edifying experience. Joining them for the dissertation defense was Richard Tucker, whose capacious understanding of the history of the environment improved this work immensely. In addition to these, I would like to thank David Akin, Hussein Fancy, Tom Green, Alison Cornish, Kathleen King, Lorna Alstetter, Diana Denney, Terre Fisher, Liz Kamali, Jon Farr, Yanay Israeli, and Noah Blan, all at the University of Michigan, for their benevolence.

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Coming from a family of farmers, it is unsurprising that I settled on an agricultural topic for my dissertation. That those farms were set on the Great Plains, however, makes it a rather long leap to early medieval olive trees. I attribute the brazen decision to pursue such an odd and foreign subject also to my family, because they never made me think it was silly. Also, my parents and grandparents, to a person, are voracious readers, agile thinkers, and hard workers, qualities which continue to inspire me; thanks to Tim, Terri, Pat, Rich, Helen, and Pete for providing me with an embarrassingly sublime childhood. Emily has shared my life for going-on ten years now, the majority of which have been in the pursuit of the completion of this document. Her resolve, patience, and detachment from all things early medieval and academic made her instrumental in doing it. Finally, the daughters I share with Emily, Eloise and Adeline, in no way made it easier to finish this dissertation. Like the Mediterranean climate, they impose harsh conditions on my life—diapers, bottles, sleepless nights, etc. The olive tree, however, requires those seemingly inhospitable Mediterranean seasons to bear fruit. Likewise, in some

inexplicable, but very real way, this dissertation and my life required Eloise and Adeline. Thanks to them.

Preface

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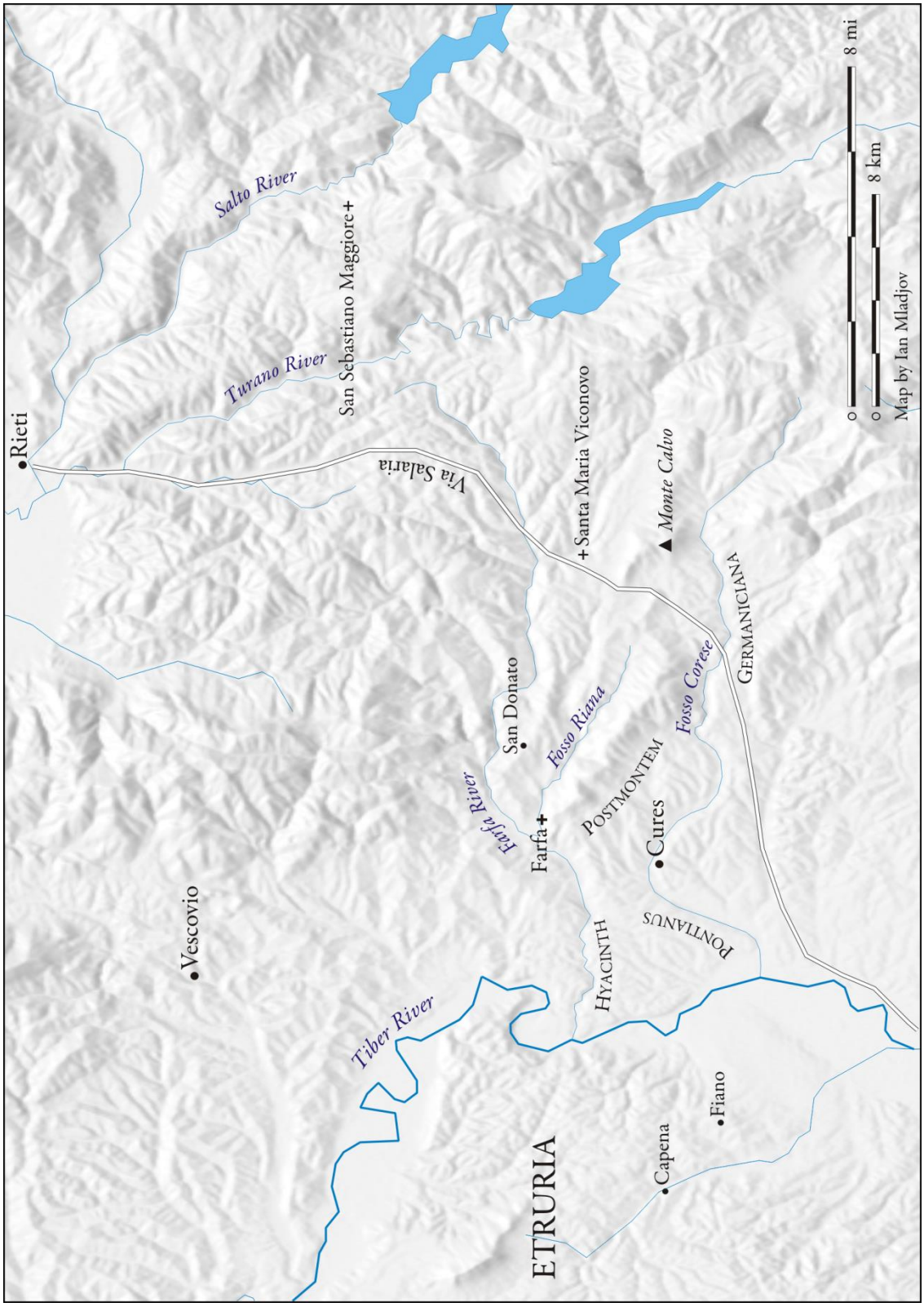

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List of Abbreviations

AA.SS. = Acta Sanctorum

CDL = *Codice Diplomatico Langobardo* (ed. L. Schiaparelli)

DGT = E. Repetti, *Dizionario geografico fisico storico della Toscana*

LL = Gregory of Catino, *Liber largitorius vel notarii monasterii pharphensis* (ed. G. Zucchetti)

LP = *Liber Pontificalis* (ed. L. Duchesne)

RF = Gregory of Catino, *Il Regesto di Farfa* (eds. I. Giorgi and U. Balzani)

Introduction

The Mediterranean churns unceasingly. Every year the two tectonic plates that cradle the largest inland body of water in the world heave toward one another roughly two centimeters, narrowing infinitesimally the distance between the sea's northern and southern coasts.[1] Earthquakes and volcanic eruptions expend some of the pent up energy from this confrontation, but sustained over several millennia the slow grind has crumpled the earth's crust like an accordion, thrusting skyward the limestone ridges around the Mediterranean basin and making it, in the words of Fernand Braudel, "a sea ringed round by mountains."[2] Its waters swirl around the coasts in a counter-clockwise motion, responding to profound hydrological imbalances—high inputs of salt water from the Straights of Gibraltar, freshwater acquired from its rivers and the Black Sea, temperature changes, and massive evaporation rates.[3] Above, the region's winds are stirred by opposing atmospheric pressures, originating over the Atlantic during the winter and over the Sahara Desert during the summer, which ultimately propel the distinctive climate and its alternating rhythms of rainfall and aridity.[4]

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[1] J. Blondel et al., *The Mediterranean Region: Biological Diversity in Space and Time*, 2nd ed. (Oxford: Oxford University Press, 2010), p. 11.
[2] F. Braudel, *The Mediterranean and the Mediterranean World in the Age of Phillip II*, vol. 1, trans. S. Reynolds (New York: Harper & Row, 1972), p. 25.
[3] Blondel et al., *The Mediterranean Region*, p. 8. About 4500 cubic kilometers of water evaporate from the Mediterranean per year, and only 10% of that is replaced by rainfall and inputs from rivers; the other 90%, then, comes from the Atlantic Ocean. For an elegant history of the Mediterranean's water and the people who navigated its currents, see D. Abulafia, *The Great Sea: A Human History of the Mediterranean* (London: Allen Lane, 2011).
[4] A. Harding, J. Palutikof, and T. Holt, "The Climate System," in *The Physical Geography of the Mediterranean*, ed. J. Woodward (Oxford: Oxford University Press, 2009), pp. 69-88.

The Mediterranean's kinetic quality creates a strange ecological zone, a topographically fractured place with volatile swings in heat, moisture, and wind. Over the course of several thousand years, its punishing twists have stimulated the formation of an unusually large number of plant species.[5] There are roughly four times as many species of plants in the thin slice of Europe that borders the Mediterranean than on the remainder of that continent, for instance.[6] One of the prevailing strategies for survival among this cohort of plants is to hunker down and endure. These plants have developed features for dealing with the challenging environment, such as foliage with small, waxy leaves, a type botanists call schlerophylous.[7] This form, found in different manifestations on the bay tree (*Laurus nobilis*), strawberry tree (*Arbutus unedo*), and holm oak (*Quercus ilex*), defends against transpiration, thus maximizing the plant's water retention. Communities of these evergreen plants, collectively called "maquis," represent the most widespread form of vegetation in Mediterranean ecosystems, occupying a coastal belt and penetrating inland where climate and topography allows.[8]

Despite the Mediterranean's wondrous botanical variety, a single plant dominates conceptual configurations about the region's vegetative landscape and its identity: the olive tree (*Olea europaea*). Most famously, Braudel posited that Mediterranean unity derived from its shared climate, with the olive as the silvery metonym for the structural conditions imposed by its rhythms.[9] How did the olive achieve such a lofty status in the mind of the region's most

[5] P. Squatriti, "The Vegetative Mediterranean," in *A Companion to Mediterranean History*, eds. P. Horden and S. Kinoshita (Chickester, West Sussex: John Wiley & Sons, 2014), pp. 26-41.
[6] H. Allen, "Vegetation and Ecosystem Dynamics," in *The Physical Geography of the Mediterranean*, ed. J. Woodward (Oxford: Oxford University Press, 2009), pp. 203-227; Mediterranean and northern European biodiversity on page 215.
[7] Blondel et al., *The Mediterranean Region*, p. 17.
[8] Allen, "Vegetation and Ecosystem Dynamics," p. 204.
[9] Braudel, *The Mediterranean*, p. 231. More recently, see P. Horden and H. Purcell, *The Corrupting Sea: A Study of Mediterranean History* (Oxford: Blackwell, 2000), pp. 209-213, where the authors argue that the olive works particularly well for Mediterranean societies that must "diversify, store, and redistribute."

formative scholar? It does share the distinctive schlerophylous foliage common to Mediterranean shrubs, yet there many species of maquis plants in the region more numerous than olive. In terms of geographic representation, large sections of the Mediterranean basin, including the stretch of land between Libyan Cyrenaica and the Sinai Peninsula (see map 1), remain inhospitable to the olive tree. Was Egypt not part of the Mediterranean? Naturally, Braudel was fully aware of the relatively narrow scope of olive's growth.[10] For him, the olive's centrality derived not from its population or geographic range, but as the symbolic link between the Mediterranean's distinctive ecology and the shared ways of life among its human inhabitants. The plant connected the rhythms of the premodern Mediterranean's natural and cultural structures.

Is the olive really a distinctive, connective Mediterranean flora, as Braudel suggests? All domesticated crops, those botanical beings whose genetic code has been purposefully modified by human agents, belong to a conceptual space where nature and culture meet.[11] Agricultural plants are formerly wild plants whose specific features, adapted originally in response to natural pressures, were strategically isolated and augmented by humans through selective breeding. As Noel Kingsbury puts it, "[t]he gap between the wild and the cultivated is all about the difference between nature's requirements and ours."[12] Indeed, the olive blurs this traditional dichotomy.[13] A classic Mediterranean hybrid, the olive can convince humans to pamper it like a domesticated

[10] Braudel, *The Mediterranean*, p. 231: "The Mediterranean of the vines and olive trees consists, as we know, only of a few narrow coastal strips, ribbons of land bordering the sea. This falls very short of the historical Mediterranean, but it is of great importance that the Mediterranean complex should have taken its rhythm from the unifrom band of climate and culture at its centre, so distinctive that it is to this that the adjective 'Mediterranean' is usually applied."

[11] For a lucid discussion about prevailing theories concerning the interaction of nature and culture, see R. Hoffmann, *An Environmental History of Medieval Europe* (Cambridge: Cambridge University Press, 2014), pp. 1-20. Also, E. Arnold, *Negotiating the Landscape: Environment and Monastic Identity in the Medieval Ardennes* (Philadelphia: University of Pennsylvania Press, 2013), pp. 1-15.

[12] N. Kingsbury, *Hybrid: The History and Science of Plant Breeding* (Chicago: The University of Chicago Press, 2009), p. 3.

[13] On Mediterranean hybridity, see S. Epstein, "Hybridity" in *A Companion to Mediterranean History*, eds. P. Horden and S. Kinoshita (Chickester, West Sussex: John Wiley & Sons, 2014), pp. 345-358.

plant, yet the tree can survive happily without our species, competing effectively against its wild vegetative counterparts. Thus, the olive's hybridity has nothing to do with genetic makeup—the traditional, botanical sense of the word—but rather with its ability to inhabit two Mediterranean worlds. In this sense, the olive is akin to other hybrid figures, like the sixteenth century traveler and diplomat, Leo Africanus, who moved seemlessly between Christian Rome and Muslim Fez by assuming different religious identities.[14] Like a trickster, the olive's true self cannot be assessed in any one moment, but rather must be viewed in different relationships over the course of its life.

The human aspects of the olive's hybridity originate in the process of propagating new trees. The domesticated olive tree will not maintain the desirable (by humans) behaviors that its genetics predispose it for over the course of several generations without assistance from a farmer.[15] Its properties can only be "fixed" and transmitted to another generation by a very specific, and unnatural, method of reproduction, most often by removing branches and rooting them so that they develop into clones of the parent tree. Because the olive, left to its own devices, is cross pollinated and heterozygous, the progeny obtained from seeds are unreliable and often grow into a feral form of the plant, the oleaster, which does not bear fruit suitable for oil production.

The same process of replication that maintains the olive's stable genetic code circumvents the plant's sexual proclivities.[16] Human selection inhibits natural selection, and without reproductive cycles, the olive refuses to adapt to non-Mediterranean ecologies. In

[14] N. Z. Davis, *Trickster Travels: A Sisteenth-Century Muslim Between Worlds* (New York: Hill and Wang, 2006).
[15] D. Zohary, M. Hopf, and E. Weiss, *Domestication of Plants in the Old World: The origin and spread of domesticated plants in south-west Asia, Europe, and the Mediterranean Basin*, 4th ed. (Oxford: Oxford University Press, 2012), p. 114.
[16] Ibid, p. 115.

particular, it requires a long stretch of heat and dryness, during which the fruit matures, punctuated by a cool, damper spell, during which the tree gathers energy to produce fruit. Cool, however, cannot turn to cold, as the tree will not tolerate an extended duration of frost. Tropical climates will not do, as they lack this regenerating cool period, but neither will continental, since winters regularly bring a long freeze. The balance between cool, wet winters and hot, dry summers is exceptionally rare; only about two percent of the world's total land area experiences those conditions, including (in addition to the Mediterranean basin) small parts of California, Chile, the Western Cape in South Africa, and Australia.[17] Until Portuguese sailors perfected the caravel during the late fifteenth century, then, the olive's human partners were unable to carry her from the Mediterranean to another suitable landscape, with the consequence that the vast majority of the plant's past has been spent at a single address.

Further complicating its categorization as a traditional domesticated plant, the olive does not require constant aid from a farmer.[18] It enjoys and responds bountifully to gently hoed ground or careful pruning, but the olive can endure decades of neglect. The stalwart plant can face alone most anything the churning Mediterranean environment throws at it. Over the very long term, however, it must eventually attract the attention of a human partner, since a population of trees is ultimately rendered impotent without a cultivator. As such, the olive has evolved a powerful mechanism to lure *Homo sapiens* into its company: the presentation of an oily fruit. As Michael Pollan notes, "plants are nature's alchemists, expert at transforming water, soil, and sunlight into an array of precious substances, many of them beyond the ability of human

[17] P. Dallman, *Plant Life in the World's Mediterranean Climates* (Berkeley: University of California Press, 1998).
[18] Cultivated plants typically do not readjust well to the wild once accustomed to human support; botanical mechanisms essential for survival in the wild—to survive drought or competitors—are no longer useful in the domesticated state, since humans compensate for those factors. Controlled breeding ensures that plants with the biggest seeds—not those with a will to survive—are selected in agricultural contexts. See Kingsbury, *Hybrid*, p. 27.

beings to conceive, much less manufacture."[19] To overcome its limited reproductive prowess, the olive devised a perfect cocktail in its fruits, such that, when picked, milled, and squeezed, it renders a liquid capable of arousing great desire in humans.

Why do humans find olive oil so appealing? At a primal level, we crave the triglycerides, the fats, in the oil; our bodies use those lipids to build cell walls that confine the water that makes up the human body. Thus, oil's hydrophobia—its chemical opposition to water—makes it a nutritional necessity and one that olives can fulfill nicely.[20] Other sources of fat work just as well, from animals and other vegetable oils (and humans produce some for themselves, within their bodies), but the olive might just be the most reliable form of triglycerides in the Mediterranean. It is the only oil-producing fruit indigenous to Eurasia, as all other vegetable oils derive from seeds. The most readily available competing oils, from flax (linseed) and sesame derive from grass seeds, annual plants that require perpetual re-planting.[21] And because those oils are locked in a solid, woody frame, and not in a fleshy mesocarp like the olive, they require a great deal of pressure to release, which creates more heat and destroys some of their flavors and nutritional components (admittedly grinding olives into oil also produces some friction, but less heat, especially in the first press that makes "extra virgin" oil famously tastier than second press oil on which more force was exerted).

In addition to its nutritional role, olive oil has several other properties that garner support from humans, particularly those living in premodern conditions, without fossil fuels and

[19] M. Pollan, *The Botany of Desire: A Plant's Eye View of the World* (New York: Random House, 2001), p. xix.
[20] H. McGee, *On Food and Cooking: The Science and Lore of the Kitchen*, Rev. Edition (New York: Scribner, 2004), pp. 797-802.
[21] On flax production see S. Karg, "New research on the cultural history of the useful plant Linum usitatissimum L. (flax), a resource for food and textiles for 8,000 years," *Vegetation History and Archaeobotany* 20 (2011), pp. 507-8. Archaeobotanical remains of flax from Modena, dated to the first century CE, suggest that northern Italy grew flax in this period, but primarily for its use in the production of textiles. See G. Bosi et al., "Flax and weld: archaeobotanical records from *Mutina* (Emilia Romagna, Northern Italy), dated to the Imperial Age, first half 1st century A.D.," *Vegetation History and Archaeobotany* 20 (2011), pp. 543-548.

electricity. Its hydrophobic nature slows oxidation, which means that it is an excellent preservative for certain foods. For the same reason it preserves other materials, too, like leather and metal. Olive oil also absorbs fragrances well, and thus it can be seasoned with herbs for additional flavoring, or scented with flowers and made into perfume. The viscosity of olive oil makes it a good lubricant. And as a carbon-based substance, olive oil combusts when touched by flame, casting light and heat in the process. Thus, just as Pollan suggests, the olive produces a compound of almost unimaginable utility to humans, which has kept our species, or at least its lucky Mediterranean representatives, returning to its gnarled branches with great regularity over the course of the last five millennia.

The olive offers its fruits every fall or winter, though only in a significant quantities every other year. In terms of productive cycles, then, the olive abides by a human's annual sense of time. This stands in stark contrast to the plant's lifecycle, which can stretch over a millennium. The chronological scale of an olive's life dwarfs not only that of humans, but also most other tree crops. Apple and pomegranate trees (*Malus domestica* and *Punica granatum*), for instance, have a productive life of about twenty years and a lifespan of about a century. Likewise, the grape vine (*Vitis vinifera*) has a relatively short window of production, about twenty or thirty years, after which it will live for an additional twenty or forty years. Most of the significant Mediterranean fruit trees and bushes, then, follow human-like stages of life; the farmer who planted a vine as a youth might enjoy its vintage as an adult and then experience senescence together. The olive, on the other hand, is effectively immortal from the perspective of frail humans.

In summary, the olive refuses categorization. It does not fit easily within the traditional dichotomies of "wild" or "cultivated," "environmental" or "human," or "natural" or "cultural."

Certainly the plant depends on our species for propagation, and we have deployed its oil in an endless array of cultural programs. Yet the olive has never succumbed to "humanization" like most other botanical entities that catch the eye of our species. The olive's Mediterranean cousin, wheat (*Triticum aestivum*), for instance, happily (and successfully) followed *Homo sapiens* nearly everywhere it roamed, but now requires steady vigilance from the farmer in order to survive. *Olea europaea*, on the other hand, stayed put, always preferring volatile Mediterranean conditions to landscapes mollified by humans. Even in its chronological cycles, the olive has a split identity, producing fruits in human time, but living for eternity. Most importantly, this hybrid status makes the olive's dialectic relationship with humans particularly dynamic. We act upon the plant—pruning, hoeing, and harvesting, for instance—but the long-lived plant, that fixture of the landscape, also acts upon us, drawing people to its stationary branches, suggesting in its fruits a material culture, and setting the agricultural rhythms of a community. The story of the olive, then, connects to a host of factors, both human and ecological, making it a compelling subject for thinking about environmental changes. Indeed, this dissertation casts the tree as its protagonist, utilizing its hybrid nature to learn about the past.

In some periods the olive's role in human affairs is conspicuous by its scale or the status of its principal purveyors. The Roman Empire, for instance, manufactured entire oleicultural landscapes and then facilitated the transport of oil across the Mediterranean, which left massive quantities of material evidence dispersed around the sea, as we shall see below. Or in the late seventh century Frankish kings endowed 10,000 pounds of olive oil annually to the monastery of Corbie, on the River Somme not far from the English Channel, providing that frigid community

with the warm comforts of the Mediterranean.[22] These are, no doubt, important episodes in the history of the olive and its extract, but the powerful nature of the hegemonic figures in these examples conceals some of the more subtle ways the plant acts upon humans. The oleicultural fantasies of emperor Septimius Severus or king Clovis III are impossible to disentangle from the way Romans in Carthage or monks at Corbie felt about the olive.

This dissertation sets out to discern oleicultural patterns on a smaller scale, to get a better sense of how the olive might have shaped human decisions on a local level. To do so, I focus upon a time and place of deep political, social, and cultural division, early medieval Italy. Following on the heels of the Roman Empire's decline and fall, Dark Age Italy was a place of rupture, of fractured and weak states, extensive immigrations, and technical devolution. In short, it was a setting conducive to ecological experimentation, and thus perfect for my purposes here. Moreover, the historiography of early medieval Italy is dominated by a handful of prevailing themes: ethnicity, the papacy, and the rise of powerful landed monasteries. Indeed, these are important subjects, but a perspective of the period borne from the olive branch promises a novel and illuminating way to see the early Middle Ages. To write a history of the olive, moreover we must reshuffle the usual evidence, or sometimes deploy entirely new forms of evidence, such as those of pollen records or dendrochronology, which enriches the types of things we can say about these Dark Ages.

I. The Early Medieval Mediterranean: An Overview

A history of early medieval Italy and its olives must begin with the Roman Empire. Indeed, all of the olives bequeathed to the early Middle Ages were in some way influenced by

[22] P. Fouracre, "Eternal light and earthly needs: practical aspects of the development of Frankish immunities," in *Property and Power in the Early Middle Ages*, eds. W. Davis and P. Fouracre (Cambridge: Cambridge University Press, 2002), pp. 53-81; northern oil on pages 70-1.

people who lived under Roman rule, since by the first century CE that state's hegemony extended over all of the sea's basin. The Roman Empire was by no means homogenous, but its system of taxation created a shared burden on the varied provinces around the sea.[23] While that system directly implicated the olive tree, as I will discuss further below, it also shaped the social, cultural, and economic world that the plant lived in for a half millennium or more, and thus is pertinent for our purposes here.

Most importantly, the Roman state built an apparatus for extracting and moving taxes from every corner of the empire. Towns and cities served as the vital nodes that facilitated the system's execution, namely by channeling and consuming profits gained from agricultural production in the countryside. As the center of economic and political life, Roman cities attracted social elites, who built imposing stone monuments dedicated to their memory. Often those stone monuments also served a public purpose, as in the case of temples, baths, or aqueducts. Obviously these broad superstructures were articulated differently in each province—the principles that animated, say, ancient London were very different than those that prevailed in Alexandria—but citizens of both cities would have known who the local elites were and their sundry efforts to curry favor with regional politicians. The engine of the system, in other words, was recognizably similar.

The diversity of opinion about how this remarkably enduring and expansive polity collapsed goes a long ways to illuminating the totality of the event. For Gibbon, writing in the eighteenth century, the fundamental breakdown of Rome's western empire manifested in the form of the barbarian invasions in the fifth and sixth centuries, but these were catalyzed by the

[23] C. Wickham, *Framing the Early Middle Ages: Europe and the Mediterranean, 400-800* (Oxford: Oxford University Press, 2006), pp. 18-55. Also, see C. Wickham, "The Other Transition: From the Ancient World to Feudalism," *Past and Present* 103 (1984), pp. 3-36.

weakening of social ties stemming from the imperial promotion of Christianity after the Edict of Milan in 313 CE. In the early 1900s Henri Pirenne, on the other hand, argued that when the barbarian tribes assumed hegemony over Rome's western provinces, they maintained the fundamental culture inherited from the Romans—language, coinage, and material goods—which was fueled by commercial activity in the cities. With the Muslim conquest of north Africa, however, the Mediterranean Sea became economically frozen, stultifying urban exchange and thus ending the classical Roman mode of life.[24] For Chris Wickham in the early twenty-first century, the Roman state's collapse was inextricably linked to contradictions within the ancient mode of production. Namely, the state used its profits from taxation to make a handful of bureaucrats very wealthy, which this class inevitably invested in land, thereby incurring more tax liability. As a result, "their private interests as landowners were thus in contradiction with their interests as rulers and clients of the state."[25] When push came to shove, private interests usually prevailed over public benevolence; aristocrats stopped paying taxes, which caused the system to implode

As evidenced by these three classic theories about the end of the Roman world, the transition to the medieval period included ruptures in social practices, economic exchanges, and relationships with the state. In short, this was a complex and interwoven process, one in which three very bright scholars can detect entirely different origins. Indeed, decline and fall unfolded differently everywhere around the western Mediterranean.[26] The most profound disruptions to Italian institutions between Anitquity and the Middle Ages were related to two separate phenomena, the waning importance of the city of Rome and political fragmentation of the

[24] H. Pirenne, *Mohammad and Charlemagne*, trans. B. Miall (London: Dover, 2001 (reprint)), pp. 197-200.
[25] Wickham, "The Other Transition," p. 15.
[26] Wickham, *Framing the Early Middle Ages*. Wickham examines the post-Roman history of ten regions in Europe and the Mediterranean: north Africa, Egypt, Syria and Palestine, the Byzantine heartland, Italy, Spain, Gaul and Francia, England and Wales, Denmark

peninsula. For several centuries, a heafty portion of the taxes extracted by the western Roman Empire around the Mediterranean was consumed in the city of Rome (and later Milan and Ravenna), and thus the empire's disintegration resulted in a steep decline in the flow of materials to the region. From the mid-sixth century on, horizons of consumption in Italy were more local in origin than at any time in the previous five hundred years. This element of the transition had a lasting effect upon the material elements that undergirded social and cultural expression.

The peninsula remained a single political unit until roughly 535 CE, when the established political dynasty in Italy was challenged by the emperor of the eastern Roman Empire, headquartered in Constantinople.[27] Warfare persisted until 554 CE, until finally the Byzantine army was able to reclaim all of Italy as a province of the Roman Empire. Pockets of resistance and resentment remained, however, and about a decade later a band of people from northern Europe called Lombards marched across the Alps and encroached easily upon Byzantine Italy. By the year 700 CE, the eastern emperors held only a portion of peninsula, including Rome, Naples, Ravenna, and a few other pockets of land, while the Germanic Lombards occupied the middle and northern regions of the boot (see map 2).

In addition to these opposing polities, authority in early medieval Italy was also increasingly assumed by powerful religious organizations, including ecclesiastical hierarchies and monasteries, which assumed some of the roles once filled by civic officials. Christian bishops, in particular, took significant secular roles as urban functionaries. Claudia Rapp identifies the year 408 CE as the turning point, when bishops were charged with the task of electing the *defensor civitatis*, giving them their first permanent and institutionalized form of

[27] C. Wickham, *Early Medieval Italy: Central Power and Local Society 400-1000* (Ann Arbor: University of Michigan Press, 1989), pp. 1-79.

civic control.[28] The bishop of Rome, a city full of aristocratic competitors for control over administrative functions, gained sufficient status around the year 500 CE to make him a leading political player in his urban contexts.[29] A bit like the urban bishops, but a little later, in the seventh century, powerful monastic communities like those at Bobbio and, as we shall see in some detail, Farfa, managed increasingly large tracts of land, making them effective micro-states within the early medieval Italian peninsula. Taken together, the fragmentation of Italy meant that no one authority commanded overwhelming power, but rather the peninsula was controlled by relatively weak nodes of authority with only local hegemony.

Early medieval Italy was occupied by a host of different institutions, each with a different set of practices and each responding to its Roman inheritance in distinct ways. This work ranges across this veritable laboratory of human-environmental interaction, stopping wherever the evidence permits us a clear view of post-Roman relationships between fickle humans and those stalwarts, the olives. Rome's rupture provides perfect context for interrogating the olive's hybridity: does the olive respond to changes in human institutions, or do human institutions evolve around the olive, or both? As such, the chapters of this dissertation explore two different kinds of olives, real, physical trees and cultural manifestations of the fruit, in order to assess whether changes in one affect the other and vice versa. Therefore, two of the chapters are devoted to analyzing the ecological changes associated with the post-Roman period (i.e. real trees). In particular, these chapters explore how the end of Italy's classical urban network and aristocratic structures influenced the cultivation of olive trees. In chapter one I look at northwestern Tuscany, where evidence pertaining to the city of Lucca provides a detailed portrait

[28] C. Rapp, *Holy Bishops in Late Antiquity: The Nature of Christian Leadership in an Age of Transition* (Berkeley: University of California Press, 2005), p. 290.
[29] F. Marazzi, "Rome in Transition: Economic and Political Change in the Fourth and Fifth Centuries," in *Early medieval Rome and the Christian West: Essays in honour of Donald A. Bullough*, ed. J. Smith (Leiden: Brill, 2000), p. 38.

of the differences between the geography, social networks, and consumption of ancient and early medieval olives. The hills and mountains of rural Sabina take center stage in chapter two, which explores how the decline of the city of Rome affected its former hinterland, as described in the documents stored at the monastery of Farfa.

In the second half of the work, I explore the uses to which humans put olives in early medieval Italy and the larger Mediterranean world (i.e. cultural manifestations of the fruit). In chapter three I reveal a significant shift in how the bishops of Rome deployed olives, transitioning them from a food stuff to fuel for visual energy. That chapter demonstrates how the popes deployed olive oil to illuminate Dark Age Christian space, which articulated their spiritual and social authority over the recently Christianized community. Finally, the fourth chapter explores the role of olive oil in Christian semiotics, in particular the miraculous stories and cult practices that arose during around the early medieval Mediterranean. Though the study is ostensibly divided into ecological and cultural halves, it will become apparent that these categories often break down, as the line between them becomes impossible to distinguish. This ambiguity is important: as argued above, it distinguishes *Olea europeae*.

The thesis is this: the collapse of the Roman state added a twist to the pathways by which people in Italy experienced and understood the olive. It did so in two general ways. First, Rome's fall shattered Mediterranean connectivity, which in turn caused a profound decline in the available quantity of olive oil the people and institutions in Italy had become accustomed to consuming. This dearth catalyzed various responses. Some utilized the shortage to heighten oil's meaning, while others abandoned olive oil in favor of more available resources. Second, the olive was a vital substance in Rome's political circulatory systems, as a form of rent and tax, which meant that the dissolution of those systems created an oleicultural vacuum, wherein new

political and religious actors could adopt the olive for different ideological and economic systems. The decline of Rome is nearly always discussed in terms of "power"—failure to extract tax, to recruit civil servants, to raise an army—all fundamentally human-to-human relationships; this work demonstrates that there was a material, and indeed environmental component that mediated what bound citizen and soldier to the state and vice versa. My study of the "decline and fall" of the olive shows that we have as much to gain in thinking about those ligaments and their fraying as we do in thinking about the standard suite of subjects that govern post-Roman studies: states, ethnicity, and religion.

This study hinges upon the systemic differences between classical and early medieval olives, but focuses on the post-classical situation. To set the stage for early medieval olive, the remainder of this introduction provides some detailed background on the ancient Roman relationship with the plant. Most importantly, the following section demonstrates how different the fractured and localized authority structures of early medieval Italy were from those that preceded them. Indeed, Roman rule ushered a golden age for the silver-leafed plant, supplying it with the most aggressive and compliant set of human partners it would ever know. The Roman Empire did not just consume lots of olive oil: oil was bound up in the very mechanisms and ideologies of Roman rule. From the first century on, Mediterranean people's cultivation and consumption of olives was largely framed by the state, in the same way that roads and water and language were deployed to promote and instill hegemony. Thus, an olive tree conveyed Roman-ness the same way as orthogonal town plan and aqueducts and monumental inscription did. As the processes that connected olives and Rome were not completely overt, they require some explanation here.

II. Roman Olives

The Roman state intervened in food flows in order to feed two entities: the army and the city of Rome (through the annona militaris and annona urbis). This mediation began in 123 BCE when Gaius Gracchus passed the *Lex Frumentaria*, built government granaries, and began distributing grain to citizens in Rome.[30] With these acts, Rome entered the comestible market as a supremely wealthy and powerful force, which stimulated an unprecedented degree of demand for agricultural products. Since growers knew the state required food to maintain the city of Rome's inflated population (reaching one million souls under Augustus) and sustain its standing army, it became reliably profitable to produce agricultural surplus in the form of preservable and transportable foods. Those best positioned to reap the benefits from Rome's insatiable hunger were wealthy landowners, who created centrally-controlled, intensive farms, which aggregated into the so-called villa-system.[31]

And it was from this context that the Roman aristocratic tradition of agricultural writing was born, with authors like Cato, Varro, and Columella, who gave the olive an exalted place in Roman "practical" literature.[32] The archaeological record confirms the emergence in the second century BCE of significant oileries attached to villa complexes around Italy.[33] Aristocrats not only directed surplus oil to markets, packed in earthenware jars, but also deployed it in more local contexts, as donations to nearby towns, which would lubricate the paths to political office there.[34] Indeed, throughout the ancient period Italian oil production can be characterized as

[30] P. Garnsey, *Famine and Food Supply in the Graeco-Roman World: Responses to Risk and Crisis* (Cambridge: Cambridge University Press, 1988), p. 182.
[31] D. Kehoe, "Landlords and Tenants," in *A Companion to the Roman Empire*, ed. D. Potter (Malden, MA: Blackwell, 2006), pp. 298-311; villa formation on page 300.
[32] For the literary references and additional context, see J. Rossiter, "Wine and Oil Processing at Roman Farms in Italy," *Phoenix*, 35, no. 4 (1981), pp. 345-361; Roman agronomists on page 353-354.
[33] X. Lafon, "L'huile en Italie centrale à l'époque républicaine," in *La production du vin et de l'huile en Méditerranée*, eds. M.-C. Amouretti and J.-P. Brun, Bulletin de Correspondance Hellénique Supplément 26 (Athens: Ecole Française d'Athènes, 1993), pp. 263-281. This essay updates the archaeological finds provided in Rossiter, "Wine and Oil Processing."
[34] Garnsey, *Famine and Food Supply*, p. 261.

ubiquitous, but not necessarily intensive. Even large villas like Settefinestre had only one oil press, which suggests that the substance retained its value closer to home or anyway where subsistence farmers continued to live.

The olive had several properties that allowed the state to expand its catchment area beyond Italy, and import oil from around the Mediterranean into the peninsula, especially the capital, to feed its large urban and military population. Unlike the wheat crop, which failed every other year in some Mediterranean contexts, the tree was reliable, hardy, and amenable to marginal soils, like hillsides where plowing was onerous.[35] Moreover, olive oil packs a nutritional punch, with a high caloric value per unit of weight, relative to cereals (a 9 to 4 ratio, in fact, between oil and wheat flour). Oil also has an exceptionally long shelf life (up to five years), meaning that surplus could be stored and transported. Time, in other words, did not degrade the value of oil (unlike, say, fresh fruits and vegetables, or wine), which was a particularly valuable characteristic for a state that orchestrated pan-Mediterranean shipping in which cargo was at the sea for months at a time.

Evidence for the state's role in supplying the city of Rome with oil intensifies around the middle of the first century CE, when stevedores on Roman wharves began unloading shipments of oil-bearing ceramic containers, called amphorae, from the boats on the Tiber River, emptying them, and then discarding them at a site just south of the Aventine Hill. Over the next two centuries, the pile of discarded amphorae on the Tiber wharves grew into a mountain, attaining enough broken pieces to reach at least thirty-six meters high, a perimeter of fifteen hundred meters, with a volume on the order of 580,000 cubic meters.[36] Monte Testaccio ("the mountain

[35] On the failure of ancient wheat crops, see Garnsey, *Famine and Food Supply*, p. 11.
[36] J. Peña, *Roman Pottery in the Archaeological Record* (Cambridge: Cambridge University Press, 2007), p. 301.

of potsherds"), as it is known today, stands as an enduring testament to the amount of oil unpacked in Rome during the first centuries of the millennium, representing around sixty million amphorae, which held about 375,000 metric tons of the liquid.[37] While the scale of Monte Testaccio is its most arresting feature, the minutiae of the amphorae within it provide a wealth of information about where Rome's oil came from during the early years of the empire and how it was prepared for shipment to Italy.

The ceramic fragments in Monte Testaccio can be linked to typologies of amphorae, whose distinct body-styles or fabric—some globular, others more elongated, for instance—betray their provenance. Those comprising the majority of Monte Testaccio (roughly 80-85%), the globular Dressel 20s in the conventional typology, are known to have come from Baetica, on the southern coast of the Iberian Peninsula.[38] On the exterior of those containers four lines of tabulation, called the *titulus pictus*, communicated four pieces of information: the empty weight of the amphora, the weight of the amphora with oil in it, the difference of those weights, and then the name of a person who certified the numbers.[39] Those measurements, performed on-site by state officials, reveal a Roman government intimately involved, by the middle of the first century, in procuring oil for Rome, most likely because market forces alone could not ensure that a city of a million souls remain provisioned.[40] It is worth noting, too, that Dressel 20 amphorae comprise the majority of ceramic containers at military sites along the northern frontier, the

[37] E. Rodríguez Almeida, *Il Monte Testaccio: Ambiente, Storia, Materiale* (Rome: Quasar, 1984), p. 109-119.
[38] Ibid. The remaining 15% came from predominantly from north Africa.
[39] J. Peña, *The Urban Economy during the Early Dominate: Pottery evidence from the Palatine Hill*, BAR International Series 784 (Oxford: Archaeopress, 1999), pp. 21-2.
[40] For a discussion of the programs under which state oil was collected before its inclusion in the annona, see P. Le Roux, "L'huile de Bétique et le prince: sur un itineraire annonaire," *Revue des études anciennes*, 88 (1986), pp. 247-71; for discussion of acquisition, see pages 263-4. For the inability of the market to supply ancient Rome, see R. Van Dam, *Rome and Constantinople: Rewriting Roman History during Late Antiquity*, (Waco: Baylor University Press, 2010), pp. 7-9.

limes, in Britain and Germany.[41] For the first two centuries of the first millennium, then, the southwestern Iberian coast was the favored, though not the only, orchard from which the empire plucked olives for both the capital and the army.

By what mechanism did the empire collect olive oil? Three types of imperial acquisition prevailed. First, Rome would have occasionally bought some comestibles from estate owners or even boards of corn sellers; the empire's willingness to rely upon what might be called "market" systems is perhaps best demonstrated in its persistent use of a merchant fleet, the *navicularii*, to move goods bound for the annona around the Mediterranean.[42] Second, the Roman government was a major landowner in Italy and its provinces and collected payments from tenants of that fiscal property. As a system of sharecropping—usually under the terms of a five year agreement, with the tenant paying one third of the produce to the state official (conductores)—Rome had a steady stream of food stuffs, paid as rent.[43] Third, the Roman Empire collected a property tax in all of its provinces, including Baetica, and this was paid in money or commuted to kind, with the latter taking the form of grain and oil.[44]

Although Monte Testaccio clearly attests to the supremacy of Baetican oil in Rome during this era, there is evidence for contemporaneous acquisition by the state from north African olive peddlers. An inscription discovered in Rome from the reign of the emperor Hadrian (117-138 CE) commemorated the government official in charge of supplying food to

[41] For Britain, see P. Funari, "The consumption of olive oil in Roman Britain and the role of the army," in *The Roman Army and the Economy*, ed. P. Erdkamp (Amsterdam: Geiben, 2002), pp. 235- 263. For Germany, see J. Remesal Rodriguez, "Baetica and Germania: Notes on the Concept of 'Provincial Interdependence' in the Roman Empire," in *The Roman Army and the Economy*, ed. P. Erdkamp (Amsterdam: Geiben, 2002), pp. 293-308.
[42] G. Rickman, *The Corn Supply of Ancient Rome* (Oxford: Clarendon Press, 1980), p. 27-8.
[43] These terms applied to conditions in northern Africa, between the second and third century. See J. Peña, "The Mobilization of State Olive Oil in Roman Africa: The Evidence of Late 4th-c. Ostraca from Carthage," in *Carthage Papers: The Early Colony's Economy, water Supply, a Public Bath, and the Mobilization of State Olive Oil*, ed. J. Peña, Journal of Roman Archaeology Suppl. 28 (Portsmouth, RI: JRA), pp. 116-238; on fiscal leases, see pages 160-1.
[44] Garnsey, *Famine and Food Supply*, p. 182.

Rome (praefectus annonae), and was funded by the grain and oil merchants in the province of Africa (mercatores frumentarii et olearii Afrari).[45] While imperial agents were certainly involved in maintaining a steady stream of oil from the southern Iberia, they were equally prepared to go elsewhere along the Mediterranean basin and enter into the market in order stay well stocked, judging by the rosy remembrance of Roman officials by African merchants.

The Roman state intervened in the oil trade during the first century CE because no other institution could independently ensure that sufficient quantities of human fuel would arrive to the capital to maintain its unnaturally large population. Once in the distributive networks of the city, merchants handled the process of selling the imported oil. From the perspective of a middling citizen of the capital, who saw the merchant as the face of her daily lipids, the significant logistical role played by the government in oleicultural affairs might have passed entirely unrecognized, assuming she did not live in the shadow of Monte Testaccio. This final, market-oriented phase of oil distribution in Rome, however, was partially eliminated during the reign Septimius Severus (193-211 CE), who implemented free daily rations of oil as part of the annona. Increasing the composition of comestibles in the annona was made possible through war, according to the *Historia Augusta*: "He [Septimius Severus] returned Tripolitania, where he had originated from, to utmost security by crushing bellicose tribes, and he bestowed to the Roman people daily oil, both free and in generous quantities, in perpetuity."[46]

[45] D.J. Mattingly and S. Aldrete, "The Feeding of Imperial Rome: The Mechanics of the Food Supply System," in *Ancient Rome: The Archaeology of the Eternal City*, ed. J. Coulston and H. Dodge (Oxford: Oxford University School of Archaeology, 2001), pp. 142-165; discussion of inscription on page 153. Several inscriptions from north Africa attest to imperial agents buying oil, and thus we have attestations from the other side of the relationship as well. See D. Manacorda, "Testimonianze sulla produzione e il consumo dell'olio tripolitano nel III secolo," *Dialoghi Archeologia* 9-10, no. 1-2 (1976-77), pp. 542-601; for African inscriptions about oil and the state, see pages 543-555.

[46] *Scriptores Historiae Augustae*, vol. 1, ed. D. Magie (London: William Heinemann, 1922), p. 412: "Tripolim, unde oriundus erat, contunsis bellicosissimis gentibus securissimam reddidit, ac populo Romano diurnum oleum gratuitum et fecundissimum in aeternum donavit."

The Severan war in Tripolitania, a region corresponding roughly with modern Libya, must have engendered changes in the productive and distributive models for olives that somehow offset the loss of revenue from the oil markets in Rome. This seems to have been accomplished through more direct oleicultural involvement by the state in the region. Mattingly suggests that tax breaks incentivized this process, while Manacorda links the seizure of property in Tripolitania by the state, with new fiscal lands directed to oleiculture.[47] Whichever scenario is right, Rome was making a more concerted effort to obtain oil by the turn of the third century. This novelty is confirmed by the fact that starting with Septimius Severus, the amphorae discarded at Monte Testaccio bore the name of the emperor.[48] In addition to inscribing amphorae, the emperor also highlighted his improvements to the imperial dole by placing the word "annona" on his coinage, along with an image of a ship. In short, by the early third century olive oil did not simply sustain Rome's population, but was a distinct symbol of imperial authority, with a higher degree of centralization in its distribution as a result.

The evolution of Italy's political boundaries further illuminates the growing influence of the state in peninsular alimentary affairs. At the end of the third century the emperor Diocletian implemented administrative reforms throughout the empire, which effectively divided it into four smaller units, each with its own political hierarchy. In 305 CE, for the first time, Italy and "Africa" were considered a single jurisdiction, led by Caesar Severus.[49] The region of "Africa" comprised the provinces Africa Proconsularis, Byzacena, Tripolitana, Numidia, Mauritania Caesariensis, and Mauritania Sitifensis, which stretched from modern Morocco to Libya.[50] When

[47] See D.J. Mattingly, *Tripolitania* (Ann Arbor: University of Michigan Press, 1994), p. 55 and Manacorda, "Testimonianze sulla produzione e il consumo," pp. 580-2.
[48] Peña, "The Urban Economy," p. 24.
[49] T. Barnes, *The New Empire of Diocletian and Constantine* (Cambridge: Harvard University Press, 1982), p. 197.
[50] The administrative subdivision of north Africa is detailed in a precious document called the Verona List, which dates to the period 305-315 CE. See ibid, pp. 201-208.

the emperor Constantine defeated Licinius in 324 CE and took sole control over the entire Roman Empire, he appointed his son Constans in charge of Italy and Africa, suggesting a durable logic to that grouping.[51] The jurisdictional union of these two regions was maintained at least through 420 CE, when a remarkable list of all contemporary Roman civil and military posts places the Praetorian Prefect of Italy, the regional governor directly under the emperor, in charge of not only the Italian peninsula, but of five provinces in Africa: "Byzacium, Numidia, Maritiania Sitfensis, Mauritania Caesariensis, and Tripolitana."[52] In addition to these, Italy's Praetorian Prefect also supervised the prefect of the grain tribute of Africa and the prefect of the patrimonial estates.

Among the regional divisions born in this period, Italy and Africa represented the only conglomeration of provinces not to share a contiguous terrestrial boundary—water lanes, not land, united this prefecture. Clementina Panella postulates that this geographic anomaly in the Roman plan was related to the imperial mandates that fueled the annona, an idea strongly supported by the Italian prefecture's supervision over Africa's "grain tribute." She says that the fruits of northern Africa, its olives and cereals, were dedicated to a single goal, supplying the city of Rome; other provinces, closer to the northern imperial boundary took up the task of supplying the army with food.[53] North Africa, then, had become Rome's one-stop oil jug and breadbasket,

[51] Ibid, p. 198.
[52] The jurisdiction of Italy's Praetorian Prefect derives from the Notitia Dignitatum. On the history and content of this document, see A.H.M. Jones, *The Later Roman Empire 284-602: A Social Economic and Administrative Survey*, vol. 2, (Norman: University of Oklahoma Press, 1964), pp. 1417-1450. On the evolution of the Praetorian Prefect, see ibid, vol. 1, pp. 370-371.
[53] C. Panella, "Rifornimenti urbani e cultura materiale tra Aureliano e Alarico," in *The Transformations of Vrbs Roma in Late Anitiquity*, ed. W.V. Harris, Journal of Roman Archaeology, Supplementary Series Number 33 (Portsmouth, Rhone Island, 1999), pp. 183-215; central Mediterranean axis of exchange on page 198. Rome's reliance upon north African cereals and its relationship with oil distribution has not been properly evaluated. Chris Wickham believes that the sudden rise in African products throughout much of the Roman Empire, traced primarily through the distribution of ceramic fine ware (African Red Slip) and oil amphorae, can be explained as the convergance of wheat and oil specialization in the region. Though the state had little to do with the distribution of fineware, Wickham argues that it was the presence of the state and its subsidization of wheat shipments that

with the state collapsing the watery chasm between them through dedicated maritime shipping, manifested through jurisdictional unification.[54] Given the intense channels of trade between Italy and north Africa, a line of argument pursued more fully below, it makes sense to conceptualize the north African agricultural landscape as an important appendage to the story of Italy's olives.

The late imperial ceramic record around the Mediterranean corroborates a rupture in the systems of food production and distribution around the end of the third century. Most notably, the growth of Monte Testaccio, that ceramic monument to Baetican olive oil, ceased around the 270s, around the time of the emperor Aurelian's reforms to the annona.[55] Although no subsequent piles of refuse rivaled the scale of Monte Testaccio, a survey of the major archaeological sites around Rome demonstrates that amphorae from north Africa, typified by a more cylindrical shape than those from Baetica, prevailed by a significant margin over all others from the beginning of the fourth until the seventh century.[56] Simon Keay has shown that African

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provided a relatively easy mechanism for other north African goods to enter into the Roman market. Most importantly, he sees state intervention as the key to understanding the rapid rise of north African products around the Mediterranean. See C. Wickham, "Marx, Sherlock Holmes, and Late Roman Commerce," *The Journal of Roman Studies* 78 (1988), pp. 183-193; for the rise of north Africa, see pages 191-193. David Mattingly postulates that the rise of Baetican olive oil probably occurred because the state was already sending ships to southwestern Spain in order to carry metal from the rich Iberian mines back to the capital. This provides an instructive parallel to Wickham's postulate that the African oil industry derived as on offshoot to its cereal fecundity, which originally brought Rome-bound ships to its coasts. See D.J. Mattingly, "Oil for export? A comparison of Libyan, Spanish, and Tunisian olive oil production in the Roman empire," *Journal of Roman Archeology* 1 (1988), pp. 33-56; Spanish metals on page 52.

[54] North Africa's agricultural centrality in the late Roman Empire formed the kernal to pernicious and distorted French imperial discourse. In the late nineteenth century French colonialists justified the occupation of Algeria by claiming that the contemporary, pastoral inhabitants had "ruined" the landscape, a source whose potential to French officials was gauged through archaeological and literary sources. For the use of the Roman past in imperial ecological discourse, see D. Davis, *Resurrecting the Granary of Rome: Environmental History and French Colonial Expansion in North Africa* (Athens, Ohio: Ohio University Press, 2007), pp. 1-44.

[55] *Scriptores Historiae Augustae*, vol. 3, pp. 263-265.

[56] Panella, "Rifornimenti urbani," pp. 192-3. For alternate sites of amphorae refuse during the late imperial age, see F. de Caprariis, "I porti di Roma nel IV secolo," in *The Transformations of Vrbs Roma in Late Anitiquity*, ed. W.V. Harris, Journal of Roman Archaeology, Supplementary Series Number 33 (Portsmouth, Rhode Island: JRA, 1999), pp. 216-234. She highlights the existence of a "piccolo Testaccio" not far from its mountainous predecessor, on page 219. Even more intriguing is her idea that an artificial hill in the Campus Martius, the so-called Monte Citorio (see a nineteenth century cartographic rendition on page 228), was in fact comprised of late antique ceramics. De Caprariis argues on pages 230-1 that the toponym Monte Citorio derives from an original topnym Mons Acceptorius, which would have been named after the *acceptores*, state agents involved in the distribution of imperial food stuffs. This

amphorae experienced an uptick in archaeological contexts in eastern Spain too, but they comprise a much smaller percentage of the total ceramic assemblages than in contemporary strata in Rome; this suggests to him that the state, and not economic or other intrinsic attributes of African oil (i.e. better tasting), was responsible for the dramatic triumph of African oleiculture in the late imperial period.[57]

A remarkable set of thirty two ostraca discovered in Carthage reveal some of the finer details about the mobilization of state oil in north Africa during the fourth century.[58] These ostraca comprised pieces of amphorae cut into a palm-sized, rectangular shape (shield cut, about the size of a smart-phone) and served as inventory records, written in Latin, for a state storage facility in the province of Zeugitana, centered in the wharves at Carthage during the year 373 CE.[59] The ostraca represent data kept by officials at this facility over the course of a few months; judging by their shape, these documents were eventually filed away and kept for later reference. State officials called *mensores olei* (oil measurers) composed these ostraca as they counted amphorae and weighed oil to get a precise account of the containers and quantity of oil at the state's disposal. From these numbers, it is possible to say that many shipments of oil arrived to Carthage via ship, typically carrying about two hundred amphorae (and often eight or so of the containers were refused by the state, probably because they had cracked). Half of the oil in these inventories arrived from inland, carried in oil skins, which held about twice as much oil as a

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toponymic revelation is also related to her broader argument that the Campus Martius became the site of Rome's primary wharves during Late Antiquity. Also, see Panella, "Rifornimenti urbani," p. 198, where she notes that transport amphorae seem to have been used more often as leveling material for new construction during the fourth and fifth centuries, which represents a true inversion of the consolidated form of discarded amphorae at Monte Testaccio. It might be that as the state established itself as the principal force in the distribution of oil in Rome that it no longer felt compelled to demonstrate its oleicultural import by piling empty oil containers in one, very visible spot.

[57] S. Keay, *Late Roman Amphorae in the Western Mediterranean. A typology and economic study: the Catalan Evidence*, BAR International Series 196, vol. 2 (Oxford: Archaeopress, 1984), p. 416.

[58] Peña, "The mobilization of state olive oil," pp. 116-238.

[59] Ibid, p. 121.

terracotta amphora. Since Carthage never consumed a regular supply of state oil, it can be assumed that these inventories were being kept as part of a temporary collecting house, which organized the shipments of oil bound for Rome.

Before being submerged in Mediterranean mud, these Carthaginian ostraca were utilized by government officials to confirm payment toward fiscal obligations by Zeugitanian provincials. In effect the sherds were a tax record. It must have been documents such as these that Italy's Praetorian Prefect used to arrange shipments of oil to Rome. In other words, provincial inventories enabled the organizer of the city's food supplies to arrange the proper size of fleet to carry supplies back to Rome, and to make room for the oil at one of Rome's massive warehouses in Ostia or Portus, where the containers were then unloaded onto barges for transport up the Tiber.[60] Once unloaded from wharves at Rome and into state warehouses, the oil was poured into smaller containers or oil skins and the transport amphorae were either repurposed and shipped elsewhere or broken up.[61] The smaller containers were then sent to *mensae oleariae* (oil counters) in the city, whence the African oil was distributed to Roman citizens. The *Notitia Urbis Romae*, an early fourth century document, recorded 2,300 *mensae oleariae* in the city of Rome.[62]

The scale of Roman consumption suggested by bureaucratic documents and ceramic fragments in Rome is articulated even more clearly by archaeological evidence left throughout

[60] Mattingly and Aldrete, "The Feeding of Imperial Rome," pp. 146-148.
[61] While Monte Testaccio enjoyed its heyday, the primary state oil warehouse in Rome were the Horrea Galbana, located nearby. After the emperorship of Aurelian, the principal wharves for receiving imports seem to have relocated to the Campus Martius. See de Caprariis, "I porti di Roma nel IV secolo," pp. 216-234.
[62] *Notitia Urbis Romae*, in *Codice Topografico dell Città di Roma*, vol. 1, ed. R. Valentini and G. Zucchetti, Fonti per la storia d'Italia pubblicate dall'Istituto storico italiano per Medio Evo, 81 (Rome: Tipografia del Senato, 1940), pp. 63-258; oil measurers on page 188.

the Tunisian steppe, which, as noted above, served as Rome's oleicultural hinterland.[63] To appreciate the scale and intensity of Rome's efforts to extract north Africa's olives, however, some minimum information on oil production is required. In order to turn olives into oil, four basic steps are required. First, the skin of the olive must be broken, which exposes the flesh, where the oil resides; this can be achieved by striking the olive, as in a mortar and pestle, or by milling the olives, which uses the weight of a millstone to crack the skin. Second, long-lasting and steady pressure must be applied to the olive pulp, heating and releasing the liquids within the solid components of the fruit. In the pre-modern world this pressure was usually applied with a lever, as part of a pressing system, although similar effects could be achieved by twisting the olive pulp within a piece of cloth, which "wrung out" the liquid from the pulp.

The substances extruded from the olive pulp are not pure oil, but rather include significant amounts of bitter-tasting, quite toxic water, so the third necessary step is a period of decantation, during which oil and water separate.[64] In the fourth step, either the bitter water is ladled off or the oil is sluiced out from below. All phases of oil production require simple tools—for applying pressure, for breaking the skin and then heating its pulp with force, and containers for holding the liquid in its different phases—and these can be achieved with any number of materials and on a small scale, as well on a grander one.

In spite of the sundry ways to make oil, in the third century a surprisingly uniform and widespread style of oil processing spread across vast areas of northern Tunisia and northwestern Libya. A relatively complete portrait of this phenomenon can be recreated because much of it

[63] R. Hitchner, "The Kasserine Archaeological Survey, 1982-1986 (University of Virginia, USA—Institut National d'Archéologie et d'Art de Tunisie)," *Antiquités africaines* 24 (1988), pp. 7-41. For an overview, see R. Hitchner and D.J. Mattingly, "Fruits of Empire—the Production of Olive Oil in Roman Africa," *Research & Exploration* 7, no. 1 (1991), pp. 36-55.

[64] In fact, oil comprises only 30% of the mesocarp, the remainder being water. See A.K. Kiritsakis, *Olive Oil, From the Tree to the Table* (Trumbull, CT: Food and Nutrition Press, 1998), p. 15.

occurred in marginal, pre-desert areas that remained sparsely inhabited over the subsequent centuries. Additionally, this style of oil processing occurred on a monumental scale, flagged even today by the massive stone orthostats or pillars, the component of a press that anchors the press beam to the ground, which typically stand about three meters high. In addition to pressing equipment, there still exist many large, mosaic basins in which the oil decanted after it was squeezed from the olive's flesh. Thus, amid the scrubby steppe of northern Tunisia and the Gebel of Libya, these stone pillars and basins stand out in flat terrain and represent the skeletal remains of a regional system that Rome mobilized to send oil north, across the sea.

Bruce Hitchner and David Mattingly published a series of articles that put the northern African oil infrastructure in perspective. They were able to provide figures by extrapolating from the dimensions of the extant orthostats and their corresponding pressing floors; those pressing beds usually comprised an elevated circular surface about one meter in diameter, which was ringed by a reservoir that collected the liquids that oozed from the pressed olive flesh. From this immediate catchment, gravity then carried the liquids through channels into underground storage tanks, where it decanted. A key element to this style of pressing were the wicker baskets or mats, called *fiscinae* in Latin, that held the olive pulp as the giant lever—most beams were seven to nine meters long—bore down on the pulp;[65] these baskets were shallow, and each held a thin layer of pulp, about two to three centimeters deep.[66] Baskets slathered with pulp were piled one upon the next so that the press beam compressed a cylinder of wicker baskets as the ropes on the windlass systems pulled the lever toward the ground.

[65] Hitchner and Mattingly, "Fruits of Empire," p. 46.
[66] Ibid, p. 51.

Sockets pierced the facing sides of the orthostats, the site of the pivot-point where the press beam attached to them. Since the lever exerted maximum force when positioned precisely at ninety degrees from its load, it stands to reason that the baskets were piled to the same height as the socket. Extrapolating from this, Mattingly estimates that about 1000 kilograms of olive pulp were pressed each day, producing about 100-200 kilograms of oil.[67] If operated for three months, then, one of these presses had the potential capacity of up to 15,000 kilograms of oil per season.[68] Based on the number of extant orthostats, Hitchner and Mattingly suggest that one area of northern Tunisia—around Cillium (Kasserine), Thelepte and Sufetula—produced about 5,000 to 10,000 tons of oil per year, which, based on an average per capita consumption of 20 kilograms, would have taken care of the oil needs of a population of up to half a million people. It should be emphasized here again that these orthostats stand upon marginal lands, which were watered with extensive efforts of irrigation from the nearest wadi. Neither the local nor regional population demanded such quantities of oil. Rather these north African agricultural changes were linked to external pressures, namely the hungry capital of Rome.

Though the picture of intensive oleiculture is particularly sharp in rural north Africa, urban regions there also produced surplus oil. Archaeological studies around the Libyan port city of Lepcis Magna have illuminated one such example. The principal regions around the city produced about 15,000,000 liters of oil per year; together with surrounding municipalities, this region was capable of producing 20,000,0000 (or 18,000 metric tons, even more than at Kasserine) liters per year.[69] Mattingly estimates that local demand, at Lepcis Magna and surrounding towns, stood at only at 3-5 million liters. Thus roughly 15,000,000 liters of oil were

[67] Ibid.
[68] Ibid.
[69] Mattingly, "Oil for export?," p. 37.

available for export each year from Lepcis Magna and its hinterland, much of that likely bound for Rome.

What do these stunning numbers mean? To begin, one cannot directly extrapolate levels of consumption in Italy and Rome based on the figures, since some of that oil was bound for other Mediterranean ports, including Provence and Spain. The value of these numbers, rather, lies in their demonstration of the shocking scale of overproduction in late imperial north African oleiculture. It is hard to believe that economies of scale could neutralize the costs incurred to transport oil from Carthage to, say, Catalonia, such that it could compete against locally grown varieties.[70] It is even more difficult to believe that the market worked that efficiently not just in Catalonia, but also throughout the sundry distributive mechanisms (often overland) necessary to carry the oil to various other consumers around the empire, in order to provide enough cumulative demand around the empire, thus accumulating enough demand to suck up north Africa's massive surplus. In short, the Roman state must have paid a very heavy cost in absolute terms in order to deploy the olive as the botanical arm of its empire.

For how long did the Roman state maintain this level of extractive pressure on oleicultural production in the Mediterranean? Written and archaeological evidence indicates that imperial food systems remained operational in the fifth and even sixth centuries. A letter written around 385 CE from the urban prefect of Rome, Symmachus, was sent to the emperor, asking that the governors of Africa immediately send more olive oil to the city's warehouses.[71] And, as mentioned above, the *Notitia Urbis Romae*, written around the year 430 CE, mentioned 2,300 oil-distribution sites in the city, intimating a functional apparatus. The Vandal conquest of

[70] For African oil in Catalonia, see Keay, *Late Roman Amphorae in the Western Mediterranean*, vol. 2, pp. 399-445.
[71] See R.H. Barrow, *Prefect and Emperor: The Relationes of Symmachus A.D. 384* (Oxford: Clarendon Press, 1973), p. 191.

Mauretania, Numidia, Zeugitana, and Byzacena around the same year and the 439 CE sack of Carthage changed the complexion of north African oil production. But these dramatic events did not end oleiculture and oil exports, they merely redirected them. Though Geiseric and his Vandals seized critical fiscal infrastructure, the barbarians recognized the great potential in the region, including its impressive main harbor. Thus, while archaeological traces of African exports to Rome dwindle in the period of Vandal domination, Tunisian imports continued to arrive at Marseille in the sixth and seventh centuries. Indeed, they comprise a larger percentage of that Provencal port's wares during this period, suggesting that the Vandals sought to maintain lucrative connectivity with the northern Mediterranean even when a cold war with Rome curtailed access to Italian markets.[72]

In Italy the last vestiges of the state-run food distribution system can be glimpsed in the letters of the professional bureaucrat Cassiodorus.[73] Cassiodorus began his career in the Italian court serving as Questor—a legal adviser and draftsman close to the king[74]—in the year 506 CE. The western Roman Empire in this period experienced a renaissance under the rule of Theoderic, a Byzantine courtier who led a politico-ethnic group, called Goths, that conquered the peninsula at the end of the fifth century. Theoderic's capital was Ravenna, where he deployed the traditional machinery of the Roman state to administer his kingdom, including rhetorically trained scholars like Cassiodorus. In the service of Theoderic, Cassiodorus composed hundreds of letters, and selections of these were later compiled in a work called the *Variae*. From one of these letters, we can see that the Gothic regime at least claimed to have collected taxes in grain

[72] S. Loseby, "Marseille: A Late Antique Success Story?," *The Journal of Roman Studies* 82 (1992), pp. 165-185.
[73] On Cassiodorus' background and political life, see J. O'Donnell, *Cassiodorus* (Berkeley: University of California Press, 1979).
[74] Cassiodorus also held higher offices, including Master of Offices, Consul, and Senator, but he seems to have remained Theoderic's principal mouthpiece throughout his reign, meaning that he was acting Questor even after graduating from the post.

and stored the corn in state silos in Ravenna.[75] Another missive commanded the Praetorian Prefect of Italy to abstain from levying alimentary supplies for two years in Sipontum, in Apulia, while the region recovered from Byzantine raids.[76] Through documents drafted by Cassiodorus, then, it is evident that in the fifth and sixth centuries the state maintained various means for collecting food, through taxes and compulsory sales.[77]

Elsewhere in his letters Cassiodorus celebrates Theoderic's ability to transport food around the northern Mediterranean, where he briefly ruled a miniature empire including Spain, Provence, Italy, and Dalmatia, using the traditional, imperial method for doing so, employing the shipping guilds (naviculariii). For instance, when newly conquered parts of southern Gaul were ravaged by famine, the king deployed *navicularii* in both southern Italy, in Campania and Lucania, as well as further north, in Tuscany, to move grain from Italy to Marseille.[78] Moreover in 537 CE Cassiodorus sent a letter to the province of Istria, a region across the Adriatic from Ravenna, commuting Istrians' regular taxes in money to payment in corn, wine, and oil, and, since it had been a bumper year for all three, he also levied the acquisition of surpluses for purchase by the state (coemptio), all of which was directed back to the capital.[79]

Using the Roman infrastructures provided to him, Theoderic collected and moved food, and oil in particular, in order to meet the ideological and practical needs of his state. And though this was a smaller Mediterranean world than before—north Africa, the empire's principal oilery, was lost to the Vandals by this point—the western Roman Empire remained a driving force in

[75] Cassiodorus, *Variae*, in *Monumenta Germaniae Historica, Auctorum Antiquissimorum 12*, ed. T. Mommsen (Berlin, 1894), pp. 1-385; for state grain silos see letter II.20, p. 57. This letter commands the imperial food administrator, the saio Wiligis, to move the grain collected as tax from Ravenna to "Liguria" by which Cassiodorus likely meant Pavia, Theoderic's temporary home during attacks from the Franks.
[76] Ibid, II.38, p. 67.
[77] See ibid, II.24, pp. 59-60, where Cassiodorus reveals that taxes were still collected three times per year, suggesting that sophisticated bureaucratic apparatus remained in place.
[78] Ibid, IV.5, p. 117. On Marseille as the likely port to feed those in southern Gaul, see ibid, III.41, p. 99.
[79] Ibid, XII.22, pp. 378-9.

shaping the complexion of agriculture in Italy and adjacent lands into the sixth century, even after that empire had formally ceased to exist. Rome's fiscal system, which had dominated the cultivation and ideological trappings of olives in the western Mediterranean for over five hundred years, collapsed soon after the death of Theoderic in 526. That event catalyzed the invasion of Italy by the eastern Roman Empire and launched nearly twenty years of highly destructive war in the peninsula, as outlined above. The Gothic Wars between Constantinople and the kingdoms of Italy undermined the regular and complex bureaucratic measures that sustained the empire's ability to intervene on a local level. Still, it is conceivable that after their long war the victorious Byzantines could have revived the fiscal infrastructure of the western Roman Empire had not Italy experienced yet another wave of attacks from the Lombards.

Under Lombard rule Roman fiscal systems collapsed entirely in Italy. This was not because the settlers did not admire their classical predecessors or appreciate the advantages of oil, but because of fundamental difference in their mode of governance.[80] Most importantly, the Lombard army was "paid" in land; that is, warriors' settlement on appropriated land was the mechanism that bound them to the new Lombard state. Unlike what happened in the Roman Empire, and continued to happen in the Byzantine one, no-one drew wages for services rendered.[81] And as the Lombards never captured the city of Rome, they certainly never felt compelled to feed its inhabitants. Thus, the Lombards did not inherit the two principal expenditures of the ancient Roman Empire—its army and Rome. Without this demand, it was

[80] For background and parallel developments, see C. Wickham, *Framing the Early Middle Ages: Europe and the Mediterranean, 400-800* (Oxford: Oxford University Press, 2006), pp. 80-124.
[81] Here, I side with Wickham against Goffart, who claims that "settlement" entailed the army collecting a portion of the taxes. This suggestion, while intriguing, is not supported with any direct documentation. Most likely, the Lombard army settled on lands that had became severed from their aristocratic owners—largely absentee—in Rome and Ravenna, who held most of the land anyway.

impractical over the long term to maintain the fiscal infrastructures that enabled thrice yearly tax collections in the Lombard *Regnum Italiae*.[82]

By the year 700 CE, by the time the dust had settled from the Lombard invasions, Italy was a truly patchwork of polities (see map 2). The Lombard kingdom controlled northern Italy, excepting Ravenna, as well as Tuscany and some of central Italy. Lombard dukes in Spoleto and Benevento eventually formed semi-autonomous polities, independent of the king in Pavia. The Byzantine Empire held Sicily, Sardinia, some coastal enclaves, Ravenna, Naples, Rome, and the peninsular extremities. Early medieval Italy's fragmentation and decentralization is crucial to this dissertation. Throughout the divided peninsula, the olive outlived its most loyal partner, which had enforced not only physical cultivation of the plant, but also imposed strict ideological compliance with its application to human life. The central questions addressed in these pages are, what happened to the olive when the powerful state, so long the enforcer of a specific oleicultural regime, ceased to demand payment in fruit? How did a landscape like Italy's respond to the end of state-sponsored importation of thousands of tons of olive oil? What choices did people who are culturally conditioned to expect oil in their lives make, when the oil no longer flows as it used to? Answers to these questions will, I argue, put us much closer to understanding the transformation of the Roman into the medieval world, and not just in Italy. Through this process, moreover, a better understanding of the olive and how that plant responded to changing circumstances is established.

[82] The Lombards might have maintained a kind of tax in the first few decades in Italy; see Paul the Deacon, *Historia Langobardorum*, II.32, pp. 108-9. None of the law codes, however, mention anything about taxation, and these were first issued in the 640s under Rothari.

Chapter 1
The City and the Country: Olives in the Lucchesia

Being Lombard was an idea that crystalized in the fifth century, among a group of people living around the Danubian headwaters.[1] Like other acts of late-ancient ethnogenesis on the imperial frontier, this one involved the formation of an identity rooted in relationships with a small coterie of military leaders.[2] Beyond this, the social and cultural attributes of the inchoate "Langobardi" were malleable. After the chameleon-like Lombards had crossed over the Alps into Italy, for instance, their acclimation included a new religion (orthodox Christianity) and tongue (Latin) that better suited an authoritative role in the former heart of the Roman Empire. They changed their names, too; the third Lombard King in Italy took the praenomen "Flavius," to smooth-out the foreign-sounding "Authari" that had been given to him, and all of his royal successors followed suit.[3]

According to Paul the Deacon, writing more than two centuries after the invasion, the amorphous Lombards also acquired an immediate appreciation for the Roman city, toppling and

[1] On the Lombards in Pannonia, see N. Christie, *The Lombards* (Oxford: Blackwell, 1995), pp. 1-68. More recently, N. Christie, "Pannonia: Foundations of Langobardic Power and Identity," in *The Langobards before the Frankish Conquest: An Ethnographic Perspective*, eds. G. Ausenda, P. Delogu, and C. Wickham (Boydell, 2009), pp. 6-29.
[2] See, P. Geary, *Myth of Nations: The Medieval Origins of Europe* (Princeton: Princeton University Press, 2002).
[3] Paul the Deacon, *Historia Langobardorum*, in *Monumenta Germaniae Historica, Scriptores Rerum Langobardicarum et Italicarum*, ed. G. Waitz (Hannover, 1878), 3.16, p. 123: "At vero Langobardi cum per annos decem sub potestate ducum fuissent, tandem communi consilio Authari, Clephonis filium supra memorati principis, regem sibi statuerunt. Quem etiam ob dignitatem Flavium appellarunt. Quo praenomine omnes qui postea fuerunt Langobardorum reges feliciter usi sunt." It should be noted, too, that the adoption of the Flavian praenomen, perhaps not coincidentally, inaugurated a very Roman-like reign of peace in the Lombard Regnum, wherein there was no theft or violence.

occupying a line of urban centers in the Venetia in the initial phases of the invasion.[4] In the decades following, as conquest gave way to administration, they developed a political framework built upon their original civic infrastructure—in Pavia, Bergamo, Brescia, Trent, and Cividale—and eventually thirty other towns ruled by Lombard dukes throughout northern and central Italy.[5] Based on material remains of burials, fortifications, and metalwork, the Lombards seem to have assumed immediate control over important parts of cities—their markets, cathedrals, and palaces—in the Po Valley.[6] The rapidity of Lombard urbanization is among their most stunning transformations, as no firm evidence exists for even a single Lombard house before 568 CE, the year they migrated to Italy.[7] To put it another way, whereas in 567 CE Lombards lived in such dispersed and impermanent modes of settlement in lower Moravia that nothing of them remains, the following year they found themselves occupying the most sophisticated and durable civic armatures anywhere in the western Mediterranean.

Though the physical features of classical Italian cities remained imposing in the sixth century, the foundations of urban life had been eroding well before the Lombards passed over the Julian Alps.[8] The Roman city, as Moses Finley taught us, consumed fiscal monies, and the

[4] Ibid, 2.9, pp. 77-8: "Indeque Alboin cum Venetiae fines, quae prima est Italiae provincia, sine aliquo obstaculo, hoc est civitatis vel potius castri Foroiulani terminos introisset, perpendere coepit, cui potissimum primam provinciarum quam ceperat committere deberet."
[5] Ibid, 2.32, pp. 90-1.
[6] G.P. Brogiolo, "La città longobarda nel periodo della conquista (569-in. VII)," in *La Storia dell'Alto Medioevo italiano (VI-X secolo) alla luce dell'archeologia: Convegno Internazionale (Siena, 2-6 dicembre 1992)*, eds. R. Francovich and G. Noyé (Florence: Edizioni All'Insegna del Giglio, 1994), pp. 555-566.
[7] S. Brather, "Dwelling and Settlements Among the Langobards," in *The Langobards before the Frankish Conquest: An Ethnographic Perspective*, eds. G. Ausenda, P. Delogu, and C. Wickham (Woodbridge:Boydell, 2009), pp. 30-68.
[8] F. Marazzi, "The destinies of the late antique Italies: politico-economic developments of the sixth century," in *The Sixth Century: Production, Distribution, and Demand*, eds. R. Hodges and W. Bowden (Leiden: Brill, 1998), pp. 119-160. For attempts to reconcile the early medieval use of terms for towns and cities see, C. Battisti, "La terminologia urbana nel latino dell'alto medioevo con particolare riguardo all'Italia," in *La cittá nell'alto medioevo*, Settimane di Studi del Centro Italiano di Studi sull'Alto Medioevo 6 (Spoleto: Presso la sede del Centro, 1959), pp. 647-699. Also, G. Köbler, "'Civitas', und 'vicus', 'burg', 'stat', 'dorf' und 'wik'," in *Vor-und Frühformen der europäischen Stadt im Mittelalter, Bericht über ein Symposium in Reinhausen bei Göttingen vom 18. bis 25 April 1972*, vol. 1, eds. H. Jankuhn, W. Schlesinger and H. Steuer, (Göttingen: Vandenhoeck und Ruprecht, 1973), pp. 61-

perpetual wars and territorial loss of the fifth and early-sixth centuries ate away at state revenues, with the inevitable result that cities had less to spend in Late Antiquity.[9] More immediately, the twenty-some odd years of warfare between the Ostrogothic Kingdom and Byzantine Empire, from 535-554 CE, over control of Italy had a disastrous effect upon the demographic and social composition of the city.[10] Thus, when Paul the Deacon claimed that the Lombards had triumphantly assembled a network of urban, administrative centers—strategically resembling in so many other ways their Roman predecessors—the meaning of that act is obscured not only by the novelty of Lombard urbanism, but also by other short and long-term transformations that had altered urban life in Italy. Even more, the underlying, fiscal properties of the Roman imperial urban network were fully dissolved when the Lombard state declined (or was unable) to collect regular taxes.[11]

Put succinctly, in the late-sixth century an incipient social group with no experience at urbanism inhabited a civic fabric choked off from the resources that had supported it for several centuries. Improbably, northern Italy—the heartland of the Lombard *Regnum*—retained its urban character through the early Middle Ages to a greater degree than any other part of the peninsula and probably the entire western Mediterranean and Europe.[12] The tenacity of urbanism in Italy is

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76. Köbler's discussion of civic terms, though focused on central and northern European geographies, is particularly good as he demonstrates the relativity of these terms across different types of sources, from law codes to hagiography.

[9] M.I. Finely, *The Ancient Economy*, (Berkeley: University of California Press, 1999), pp. 123-149.

[10] For the results of the Gothic-Byzantine War on settlements, see M. Valenti, "Architecture and Infrastructure in the Early Medieval Village: the case of Tuscany," in *Technology in Transition: A.D. 300-650*, eds. L. Lavan, E. Zanini, and A. Sarantis, (Leiden: Brill, 2007), pp. 451-489.

[11] For an overview of the late-ancient city, see W. Liebeschuetz, "The end of the ancient city," in *The City in Late Antiquity*, ed. J. Rich (London: Routledge, 1992), pp. 1-49. Cristina La Rocca provides a sanguine view of the late-ancient city in northern Italy in the same volume, called "Public buildings and urban change in northern Italy in the early mediaeval period," pp. 161-180.

[12] For the decline of towns in southern Italy, see P. Arthur, "La cittá in Italia meridionale in etá tardoantica: riflessioni intorno alle evidenze materiali," in *L'Italia meridionale in etá tardo antica, Atti del 38 Convegno di Studi sulla Magna Grecia, 2-6 Ottobre, 1998* (Taranto, 1999), pp. 167-200 and P. Arthur, "From vicus to village: Italian landscapes, AD 400-1000," in *Landscapes of Change. Rural Evolutions in Late Antiquity and the Early Middle*

not easy to explain. Indeed, some would deny that the early medieval city maintained an urban character in any meaningful way during the Dark Ages. For them, cities flat-lined in the sixth and seventh centuries before slowly rebuilding a demographic and economic base; on the other hand, some argue for a strong sense of continuity.[13] What is often at stake in this debate is not urbanism, per se, but rather genealogical relationships with the classical Roman city on the basis of administrative functions.[14] In his admirable essay on the Lombard state, for instance, Dick Harrison ascribes to towns (which he prefers to think of as "centers," avoiding terminological objections) a vital position in its institutional infrastructure and establishes four categories—administrative, military, ideological, and economic functions—by which to evaluate their significance.[15] This Weberian approach, while facilitating a nuanced and illuminating discussion of Dark Age urbanism, ultimately leads to no conclusions, in part because of the disparate evidence available for "centers" around Italy as well as the contingent fates of these sites in the decentralized administration of the Lombards.[16]

This chapter addresses early medieval urbanism in Italy from a different, environmental perspective. It conceives the city fluidly, as an organic entity with circulatory systems that

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Ages, ed. N. Christie (Aldershot: Ashgate, 2004), pp. 103-133. For towns in northern Italy, see B. Ward-Perkins, *From Classical Antiquity to the Middle Ages. Urban Public Building in Northern and Central Italy, AD 300-850* (Oxford: Oxford University Press, 1984). For an overview of the phenomenon across the Roman empire, see N. Christie, "Archaeologies of and Approaches to Abandoned Classical Cities," in *Vrbes Extinctae: Archaeologies of Abandoned Classical Towns*, eds. N. Christie and A. Augenti, (Aldershot: Ashgate, 2012), pp. 1-44.

[13] B. Ward-Perkins, "Continuitists, catastrophists, and the towns of post-Roman northern Italy," *Papers of the British School at Rome* 65 (1997), pp. 157-176.

[14] See E. Dupré Theseider, "Problemi dell città nell'alto Medioevo," in *La cittá nell'alto medioevo (Settimane di Studi del Centro Italiano di Studi sull'Alto Medioevo, 6*), (Spoleto: Presso la sede del Centro, 1959), pp. 15-46. Dupré Theseider, quoting Roberto Lopez, likened the study of early medieval urbanism over a short period of time to "squaring a circle," due to the difficulty of "reducing them to a common demoninator, given the endless permutations of the civic phenomenon." Also, see R. Hodges, "The rebirth of towns in the early Middle Ages," in *The rebirth of towns in the west AD 700-1050*, eds. R. Hodges and B. Hobley (London: Council for British Archaeology, 1988), pp. 1-7. Hodges notes, in particular, the methodological influence of Moses Finely's "type" analysis of ancient Greco-Roman cities.

[15] D. Harrison, *The Early State and the Towns: Forms of Integration in Lombard Italy AD 568-774*, (Lund: Lund University Press, 1993), pp. 27-97.

[16] An outcome predicted by Dupré Theseider, in "Problemi dell città," p. 19.

animate its existence. The notion here is to abandon the *a priori* search for institutions that supposedly gave form to civic life; Lombard duchies, and other contemporary civic authorities, simply did not produce the epigraphic and bureaucratic evidence needed to assess them like a Roman curia. Rather, traces of the early medieval city often come in small and mundane forms: bits of cooking ceramics here, a property deed there, an episcopal palace that linked the two, and so on.[17] By aggregating the available material and written evidence, a portrait of a city's inflows and outflows—a civic metabolism, as Abel Wolman called it[18] —begins to emerge, which highlights critical material processes and geographic relationships. These data enable a portrait of the early medieval city to develop on its own terms. Importantly, it does so with no preconceptions about early medieval urbanism vis-à-vis classical urbanism, and avoids framing transformations in terms of "decline," which ultimately misses the more important point that people and things still gravitated to these sites. And though they may have been materially poorer and without the legible institutions of Roman urbanism, the early medieval city was a place that met the needs of people living in and around them, and we should figure out how that was accomplished.[19]

Practitioners of the metabolic methodology, predominantly historians of American cities, tend to focus upon a few, critical objects of urban flow, whose trajectory produces new insights and previously undetected relationships. For instance, Joel Tarr's analysis of streetcar networks

[17] I will discuss this evidence more fully below.
[18] A. Wolman, "The Metabolism of Cities," *Scientific American* 213 (1965), pp. 156-74.
[19] See, for instance, B. Ward-Perkins, "The towns of northern Italy: rebirth or renewal?" in *The rebirth of towns in the west AD 700-1050*, eds. R. Hodges and B. Hobley (London: Council for British Archaeology, 1988), pp. 16-27. As Ward-Perkins notes, northern Italy remained continuously urbanized throughout the early Middle Ages, prompting the question as to why the options for its characterization are limited to "rebirth" or "renewal." Both assume a lapse of fundamental, urban character. There were profound political and economic changes during this period, but these need not imply a failure of the urban model, especially considering so few actually failed. Moreover, terms like "rebirth" or "renewal" imply a short curve of change; instead, the chronologies that constitute these characterizations lasted three hundred years, suggesting that they were far from insignificant moments, and ought not to be consigned to a secondary, transitory status.

(the flow of human bodies) in late nineteenth and early twentieth century North American cities revealed some of the structural forces that shaped urban demographics and the relationship between city and suburb.[20] Likewise, William Cronon's work on Chicago and its railways (along which flowed grain, lumber, and meat) uncovered the supra-regional impact of the city upon the markets for organic commodities.[21]

Historians like Tarr and Cronon attribute major transformations in modern urban life to shifts in the city's metabolic flow. They link the source of those changes, moreover, to rapid technological innovation: the streetcar and steam locomotive, respectively. Applying this historical model to premodern cities, then, requires some modification. Richard Hoffman adopts the concept by quantifying and mapping the movement of goods intended to meet the basic caloric needs of an urban population. By calculating figures of consumption based on population numbers he is able surmise the scope and imperatives behind the movement of a wide range of materials, including cereals, cattle, fish, and combustibles for several European cities between 1000 and 1500 CE.[22] The primary pressure affecting pre-modern, European urban metabolic flow were not technological, but rather demographic, as population increases steadily forced the city to seek organic networks that stretched further afield. While this is a promising way forward for better-documented late medieval urban studies, Hoffman's strategy is not viable for Lombard-era cities, since they lack any reliable demographic data.

For early medieval Italian cities, the nature of the evidence provides a better sense of supply than demand. As mentioned above, property deeds and material evidences illuminate the

[20] J. Tarr, *The Search for the Ultimate Sink: Urban Pollution in Historical Perspective* (Akron: University of Akron Press,1996), pp. 309-322.
[21] W. Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: Norton, 1991), pp. 97-259.
[22] R. Hoffman, "Footprint Metaphor and Metabolic Realities: Environmental Impact of Medieval European Cities," in *Nature's Past: The Environment and Human History*, ed. P. Squatriti (Ann Arbor: University of Michigan Press, 2007), pp. 288-325.

alimentary catchment upon which the otherwise mostly-invisible urban populations drew. And within the range of crops grown on the early medieval Italian landscape, the olive offers a particularly attractive and compelling subject for mapping pre-modern urban consumption. The always hybrid olive was utilized as a tree, a fruit, and oil, and it appears in the evidence in each manifestation, thus allowing connections to be made regarding sites of production and consumption. Moreover, the long life cycle of olive trees lends to this indicator of movement and change the ability to offer chronologically deeper insight into the geographic relationships between production and consumption; whereas the annual cycle of cereals might encourage experimentation on a parcel of land (perhaps we shall try lupine beans this year), the decade-long wait for olive trees to begin producing engendered long-term dedication to the fruit. As such, the lines of olive flow tended to be well worn, and thus more detectible in the available early medieval evidence.

A handful of urban centers in Lombard Italy indisputably coursed with a steady flow of people and things. Pavia, for instance, had been a political capital starting in the sixth century and permanently became the head of the Lombard kingdom during the time of Rothari (636-52CE).[23] Outside political officials and powerful ecclesiastical institutions, including the monasteries of Nonantola, Bobbio, and Sesto, as well as the bishopric of Luni, kept residences and agricultural storage facilities in Pavia, suggesting both the political and the economic magnetism of the royal capital.[24] By the seventh century, Spoleto and Benevento were the most politically powerful Lombard cities in central and southern Italy, respectively, and must have attracted similar attention as Pavia (see map 2). The three regional Lombard capitals appeared

[23] D. Bullough, "Urban Change in Early Medieval Italy: The Example of Pavia," *Papers of the British School at Rome* 34 (1966), pp. 82-130; Lombard Pavia on page 94.
[24] Ibid, 109.

frequently in the written record, primarily in the context of political events, which featured prominently in chronicles, law codes, and papal letters. Given their political and often micro-historical inclinations, however, these sources are not ideal for reconstructing a metabolic portrait of Dark Age urbanism. Thus, some of the hot spots in early medieval Italy do not lend themselves to the task of reconstructing the production and consumption networks of olives. Therefore, this chapter relies upon a less prepossessing city in northwestern Tuscany, Lucca, the site of a uniquely rich trove of evidence.

Through a fluke of preservation, the archdiocesan archive in Lucca possesses the largest cache of written documentation in Italy for the period between the Lombard migration and Paul the Deacon's narrative account of that event.[25] These documents, moreover, have two attributes that make this study possible. First, most of them represent contracts involving property, and as such include careful descriptions of the real estate's botanical components, including olives. Second, the property contracts derive from Lucca's hinterland and elsewhere in Tuscany, thus providing a geographic context broad enough to determine the early medieval city's metabolism (see map 3). In addition to this exceptional written material, Lucca and Tuscany more generally have been the targets of unusually careful and recent archaeological investigations geared toward the discovery of early medieval remains. The city itself has had steady, but scattered and small digs. Archaeological work on villages, particularly in southern Tuscany around Siena, however, have been extensive and produced new insights on early medieval settlement that are highly pertinent for an investigation into how oleiculture changed between Roman and medieval times.

[25] Between 685 and 780 CE, Schwarzmaier counted 293 charters. Looking at a broader chronological horizon produces even more impressive numbers. He noted 3494 charters for the era between 685 and 1100 CE. See H. Schwarzmaier, *Lucca und das Reich bis zum Ende des 11. Jahrhunderts: Studien zu Sozialstruktur einer Herzogstadt in der Toskana* (Tübingen: Max Niemeyer Verlag, 1972), p. 10.

Framed with a metabolic strategy, this chapter proceeds in seven distinct sections, leading to a conclusion. It begins with a potted history of Roman Lucca, in order to outline some of the elements of the ancient city that continued to influence its early medieval flows. This is followed by a brief section outlining some of the historiographical trends regarding post-classical urbanism. From there, it picks up in the year 713 CE, when written documentation became relatively steady in the Lucchese archive. I show that in the first forty charters we possess, the metabolic flow of olives can be characterized as a closed, rural system, wherein people in the countryside controlled oleicultural production and consumption. The next section covers what I see as the catalyst of early medieval oleicultural flow in Lucca, the foundation of suburban estates by three aristocrats, Pertuald, Sigemund, and Sicherad. I show that these urban elites intervened upon rural autonomy and followed a shared program for acquiring their olive wealth. The final three sections each examine a different purpose to which the Lucchese aristocrats deployed their olives—how olives were consumed. It examines religious, cultural, and industrial uses of olives in early medieval Lucchese contexts. In the end, this chapter will have shown how tracing the flow of olives in and around Lucca over the course of a few centuries illuminates previously undetected forces that animated the city in the early Middle Ages. In so doing, moreover, we shall see that control of the olive was a contested affair during this age of transition.

I. Enduring Walls and Cadasters: Roman Lucca

When olives flowed in and around early medieval Lucca they did so over a landscape that had been profoundly modified by agents of the Roman Empire. Two enduring aspects of classical Lucca are especially pertinent for interpreting later manifestations of the city's metabolism: the city's monumental architecture and the region's settlement patterns. This section

will provide an abridged history of these elements in order to establish the regional and inter-urban channels that animated the city before the Lombards arrived in Tuscany, thus providing a baseline for evaluating change in these channels during the early Middle Ages.

Both Lucca's urban armature and its rural cadastration were set out at the city's founding, which occurred in 180 BCE, probably as an attempt to defend Rome's border against the Ligurian tribes, who inhabited the mountains to the north.[26] The centuriation in the town's relatively small *contado*, comprising about 10,000 hectares, suggests a population of around 8-12,000 souls in the first century BCE.[27] The Roman colony was delineated by a strong rectangular circuit of walls, stretching about 2,000 meters in length, which opened in the standard way at four points, along each end of the *cardo* and *decumanus*, the cardinal roads of the rectilinear street plan.[28] The city's profile was augmented during the third century, when an inscription indicates that the city's walls were rebuilt, and an imperial armament factory took up production of *spathae*, long swords.[29] Epigraphic evidence dating to early and late fourth century uncovered in the center of Lucca and some archaeological indications of road improvements on the north side of city provide significant proof of vitality in that century.[30] The walls and essential amenities of Lucca must have remained in fine shape well into the sixth century, since

[26] P. Menacci and M. Zecchini, *Lucca Romana*, (Lucca: M Pacini Fazzi, 1981), p. 34.
[27] Ibid, pp. 242-3. The extent of Lucca's territory was limited by municipium of its southerly neighbor, Pisa. See. D. Osheim, *An Italian Lordship: The Bishopric of Lucca in the Late Middle Ages* (Berkeley: University of California Press, 1977), p. 2.
[28] See reconstructions in I. Belli Barsali, *Lucca: Guida alla cittá*, (Lucca: Pacini Fazzi, 1988), pp. 24-25 and Menacci and Zecchini, *Lucca Romana*, p. 81. For intra-urban development, see the maps in P. Sommella and C. Giuliani, *La Pianta di Lucca Romana*, (Lucca: De Luca Editore, 1974).
[29] G. Ciampoltrini and P. Notrini, "Lucca tardoantica e altomedievale: nuovi contributi archeologici," *Archeologia medievale* 17 (1990), pp. 561-592; *spathae* on page 590.
[30] Ibid. Inscriptions dated to the reigns of Constantine, Licenius, and Julian were found beneath the sites of S. Reparata and the Piazza del Giglio.

in 553 CE the Byzantine general Narses almost withered while trying desperately to besiege the town at the end of the Gothic Wars.[31]

Like most Roman colonies, the spatial organization of Lucca involved more than the careful planning of the area within its walls: its immediate hinterland also received the colonizers' attentions. This terrain was a particularly valuable asset as Lucca sat upon the wide and fertile plain that formed where the Serchio River descended from the Apennines (see map 3). The Lucchese plain extends eastward from the city and eventually connects with the Arno River valley, presenting few topographical obstacles to movement in that direction; the Romans took advantage of this flat stretch of land by building the Via Cassia, which connected Lucca to Florentia (Florence) and Rome. The Apuan Alps stood over Lucca's northern flank, the Versilian hills to west, and Monte Pisano cast its shadow from the south, but valleys penetrated each of these features. None was more important than the Garfagnana basin to the north, a region carved by the Serchio and its tributaries.[32] The riverine link made the mountainous Garfagnana an ecological extension of Lucca's hinterland, offering many a complement to the products produced on the plain. Indeed, epigraphical evidence indicates that the Serchio River valley as far north as fifty kilometers away belonged within the city's gravitational field.[33]

Imperial networks and the geographical coherence of Lucca's hinterland gave it stability into the later years of the Roman Empire. Near Castelnuovo di Garfagnana, about forty kilometers north of Lucca along the Serchio River, evidence for a new late antique settlement comprised of timber huts has been identified, based on a leveling layer of ceramics dating to the fourth and fifth centuries; these ceramics circulated on a regional level within the state systems

[31] Agathias, *The Histories*, trans. Joseph Frendo (Berlin: De Gruyter, 1975), 1.19, pp. 27-8.
[32] For the ecological contexts of the Garfagnana, see C. Wickham, *The Mountains and the City: The Tuscan Appennines in the Early Middle Ages* (Oxford: Clarendon Press, 1988), pp. 15-39.
[33] Menacci and Zecchini, *Lucca Romana*, pp. 159-246.

of supply, and originated from Lucca itself.[34] Its excavator postulates this late-antique timber village sprang up as a response to the fuel demand for the metal furnaces of Lucca's imperial sword making industry.[35] While this settlement was new, other dispersed agrarian settlements in the Lucchese plain remained stable in late Antiquity, as demonstrated by the accumulation of fourth and fifth century ceramic evidence around farms in the Cerbaie hills, roughly fifteen kilometers southeast of Lucca.[36] West of Lucca, along the Versilia coast, fourth and fifth century oil amphorae from northern Africa and Spain have been uncovered, likely from proximate markets centered on either Lucca or Luni.[37] Taken together, Lucca's traditional hinterland, on the plain, surrounding hills, and Garfagnana valley, was stabilized by the city's favorable position within imperial networks of production and exchange in the fourth and fifth centuries.

Northwestern Tuscany included other major centers of production and consumption that continued to operate in a classical, Roman manner. Stunning floor mosaics from a late antique villa built at Torretta Vecchia di Castell'Anselmo, about forty kilometers south of Lucca, near the mouth of the Arno River, date to the late fourth century and display an unusual north African style that suggests patrons linked to a Mediterranean-wide artisanal network; the building itself was erected *ex novo*.[38] Along with this material evidence, there is Rutilius Namatianus' early fifth century travel account of his voyage from Rome to Gaul, which included a visit to the villa of his friend, Albinus, who lived along the Tyrrhenian coast at a site called Vada (roughly fifty

[34] G. Ciampoltrini, "Materiali tardoantichi ed altomedievali dalla valle del Serchio," *Archeologia Medievale* 18 (1991), pp. 699-715; discussion about ceramics from Volcascio on page 706.
[35] Ibid.
[36] Ibid, p. 708.
[37] Ibid, pp. 712-715.
[38] G. Ciampoltrini, "Aspetti dell'insediamento tardoantico ed altomedievale nella Tuscia: due schede d'archivio," *Archeologia Medievale* 18 (1991), pp. 687-697. Early fifth century floor mosaics in Ostia also reveal north African connections, and here the explanation can clearly be attributed to the presence in the port town of people involved with shipments of foodstuffs across the Mediterranean. See S. Lind Hansen, "The embellishment of Late-antique domus in Ostia and Rome," in *Patron and Pavements in Late-Antiquity*, ed. S. Isager and B. Pousen (Odense: Odense University Press, 1997), pp. 111-124; north Africa in Italy on page 113.

kilometers southwest of Lucca).[39] One certainly gets the impression from Rutilius' description that this villa, with its series of locks and dams, was a major producer of salt, which likely entered one of the nearby markets at Lucca or Pisa. Rutlilius also gives a lively portrait of Pisa, whose port (Triturritam) impressed travelers with its rich emporium. The author then travels inland to pay homage to his father, since Pisa's forum was adorned with a statue dedicated to that man (he had governed Tuscany for a stint).[40]

Patterns of land ownership around Lucca remained tied to broader, late ancient trends, even at the end of the Gothic War, judging by a property contract from that period. In 553 CE (the same year as Narses' siege of Lucca), the heiress Ranilonis commissioned the redaction of a charter in Ravenna that alienated her property to an unnamed church; according to the document, a portion of her land was in Lucchese territory (in territorio Lucense).[41] The contract identifies the property by calling it a *massa*, a late antique term for an estate, a private collection of properties near a city. [42] The estate was defined, according to the charter, simply by boundaries (finis and terminus), which must have been legally determined since no there is no recourse to social confirmation (ask my neighbor) or geographic features (to the river), unlike early medieval charters. Though the formation of *massae* was unrelated to fiscal matters the reliance upon abstract boundaries suggests faith in the late antique institutions that determined and protected property ownership. [43]

[39] Rutilius Namatianus, *Il ritorno*, eds. S. Pozzato and A. Rodighiero, (Turin: N. Aragno, 2011), I.453-474, p. 238.
[40] Ibid, I.527-596, pp. 242-246.
[41] *Die nichtliterarischen lateinischen Papyri Italiens aus der Zeit 445-700 (Acta Inst. Rom. Sueciae 19, no. 1),* ed. J.-O. Tjäder (Lund: Gleerup, 1955), #13, p. 304.
[42] On *massae*, see D. Vera, "Massa fundorum. Forme della grande proprietà e poteri della città in Italia fra Costantino e Gregorio Magno," *Mélanges del'Ecole française de Rome. Antiquité T.* 111, no. 2 (1999), pp. 991-1025.
[43] Ibid, p. 1013.

To summarize, multiple kinds of evidence related to sites throughout Tuscany point to a general sense of metabolic continuity in and around Lucca, from the fourth to the sixth century. The city was intimately tied to Roman imperial systems in this period as a producer of arms and consumer of foreign foods and ceramics. Lucca's hinterland, moreover, prospered in this relationship through symbiotic lines of exchange that provided their urban center with timber, grain, or reprieve from the bustling urban contexts. Durable social and legal institutions underpinned this continuity. A visitor to Tuscany would still go immediately to the civic forum to commemorate former political leaders in the fifth century, or expect to be impressed by mosaic floors in a rural villa. Most importantly for my argument here, late antique Lucca was a regional engine that gave an orientation to its surroundings.

II. Dead Cities: The End of Empire in Historiography

Between the sixth and seventh centuries the principal north-south thoroughfare that bisected Roman Lucca (modern Via Buia) was interrupted. During that time a layer of organic material, called by archaeologists "dark earth," accumulated on the branch of the street north of the forum.[44] The precise meaning of these layers remains a matter of some debate, which I shall discuss below, but meanwhile "dark earth" found on top of a road does unequivocally indicate a rupture in the original use of that artery. Similar archaeological indicators have been discovered for the early medieval layers in the area of the Roman-era forum as well, which intimates more than simple rerouting of traffic, but rather fundamental shifts in the social and economic life of Lucca.[45] This evidence is significant to my discussion of olives and oil not only because it suggests a shift in flow between Antiquity and the early Middle Ages, but also because it

[44] G. Ciampoltrini, "Cittá "frammentate" e cittá-fortezza. Storie urbane della Toscana centro-settentrionale fra Teodosio e Carlo Magno," in *La Storia dell'Alto Medioevo italiano (VI-X secolo) alla luce dell'archeologia, Convegno Internazionale (Siena, 2-6 dicembre 1992)*, eds. R. Francovich and G. Noyé (Florence, 1994), p. 618.
[45] Ibid, p. 616.

connects Lucca to long standing, economically-centered debates regarding the survival of the ancient city and the disintegration of classical forms of power, not just in Lombard Italy, but for the entire western Mediterranean.

A generation ago, Lucca's early medieval "dark earth" would have been explained as a clear sign of urban collapse. The underlying macroeconomic processes were provided by Henri Pirenne, who, as outlined in the introduction, argued that Muslim conquest of the southern Mediterranean in the 640s CE ended long distance trade, crippling city markets and the ancient economy. In addition to this, Pirenne believed that the breakdown of sea-borne commerce led to western Europe's reorientation away from the Mediterranean and toward the agriculturally rich, inland heart of the Frankish Empire.[46] For Pirenne, the early medieval city, without commercial activity, was only a protective shell inhabited by a bishop, whose presence became the marker of an ersatz urbanity.[47]

Indeed, when Italian archaeological excavations in the 1970s and 1980s turned their trowels to early medieval settlements, the new data—including "dark earth" layers—were initially interpreted as an affirmation of the Pirennian, urban-economic disintegration.[48] Richard Hodges deployed the seventh-century evidence to push back the chronology of the political and economic breakdown to the fifth and sixth centuries, viewing the Islamic expansion as a

[46] H. Pirenne, *Medieval Cities: Their Origins and the Revival of Trade* (Princeton: Princeton University Press, 1969). For Italy, this view conflicted with that of a pioneer of early medieval urban sudies, Guido Mengozzi. Mengozzi examined the textual evidence available to him and saw continuity in the city—as *civitas*—in sources like Paul the Deacon and above all the Lombard law codes. See G. Mengozzi, *La cittá italiana nell' alto medio evo: Il periodo langobardo-franco*, (Rome: E. Loescher, 1914).
[47] Ibid, pp. 56-63.
[48] The debate over early medieval urbanism in Italy during the 1980s and 1990s largely divided along methodological grounds, with archaeologists on one side and historians on the other. The former, including Richard Hodges, tended to see in their material evidence signs of rupture, whereas historians saw signs of continuity in the written sources. For the contours of this historiography, see Ward-Perkins, "Continuitists, catastrophists, and the towns of post-Roman northern Italy," pp. 157-176.

consequence, not the cause of the fraying Roman fabric of inter-regional exchange.[49] Hodges fundamentally agreed with Pirenne, however, that the decline of intense, long-distance economic activity caused demographic entropy, which in turn destabilized ancient structures. The archaeological evidence seemed to confirm a causal link between the decline of long-distance items of trade and the population of the city; the former was evidenced by dwindling ceramic wares and the latter proved by the disuse of public space and a long caesura in new stone residential building. For Pirenne and Hodges, the late ancient city experienced a rapid deterioration that occurred as a consequence of economic fragmentation and the Roman state's failing capacities to protect and maintain channels of trade.

Chris Wickham characterizes changes within early medieval cities differently. The key element of early medieval urban transformation for him was the break-up of Roman fiscal coherence starting in the fifth century, as tax collection increasingly bypassed the city or disappeared altogether.[50] When tax infrastructures dissolved in the western Mediterranean, Wickham argues, some aristocrats no longer felt compelled to associate with the city and transferred their wealth elsewhere. Without the private wealth of aristocrats and the reliable flow of state-generated money, cities failed to maintain economic vitality. Within this general picture, however, Lombard Italy was something of an outlier in the early medieval western Mediterranean; the ruling class collected no taxes, yet remained devoted to urban living. As a result, the Lombards and their cities remained relatively poor compared to their Roman predecessors (and contemporary aristocrats in other parts of the Mediterranean), but nonetheless

[49] Hodges developed this thesis over the course of two monographs, printed a year apart. The first deals substantially with the development of towns in northern Europe, while the second places this work within the broader context of the Pirenne thesis. See R. Hodges, *Dark Ages Economics: The Origins of Towns and Trade, A.D. 600-1000* (London: Duckworth, 1982), and R. Hodges and D. Whitehouse, *Mohammed, Charlemagne & the Origins of Europe* (Ithaca: Cornell University Press, 1983).
[50] Wickham, *Framing the Early Middle Ages*, p. 670.

their symbiotic presence generated enough small-scale economic life to preserve the population of most Italian cities.

As a center for imperial affairs in northwest Tuscany during late Antiquity, the macroeconomic pressures described by both Pirenne and Wickham came to bear upon Lucca. The underlying cause of the "dark earth" accumulating in the city's forum and principal arteries can likely be linked to both the dissolution of long-distance trading networks and monumental decentralization that accompanied moribund fiscal institutions. The question remains, however, whether "dark earth" represents the absence of people or a material reconfiguration of urban fabric to meet new, early medieval contingencies. Wickham's identification of a poor, but enthusiastic urban aristocracy in Lombard Italy—and specifically in Lucca, as we shall see below—suggests that "dark earth" might be read as the latter.

This interpretation receives some support from material remains uncovered in the now-defunct (and thus easily accessible) city of Luni, located about 50 kilometers northwest of Lucca, along the Ligurian coastline (see map 3). In the late sixth or early seventh century—the same chronology as Lucca's "dark earth"—wooden homes were built over the paving stones of the classical forum in the center of Luni.[51] These were simple two-room homes, whose walls comprised vertical timbers, topped by a timber roof. Other parts of Tuscany, such as Poggibonsi, also exhibit prevailing wooden residential architecture at the end of the sixth and seventh centuries.[52] If Lucca's forum was also subsumed by timber homes—ephemeral buildings not

[51] B. Ward-Perkins, "Two Byzantine Houses at Luni," *Papers of the British School at Rome*, 49 (1981), pp. 91-98. For context and maps, see the more recent A.-M. Durante, ed., *Città Antica di Luna: Lavori in corso* (La Spezia: Luna Editore, 2001).

[52] R. Francovich and M. Valenti, "The Poggibonsi Excavations and the Early Medieval Timber Building in Europe," in *Archaeology and History of the Middle Ages (XIII International Congress of Prehistoric and Protohistoric Sciences Forlí-Italia-8/14 September 1996)*, eds. R. Francovich et al. (Forlí: A.B.A.C.O., 1996), pp. 135-149. It

easily recognizable in the small, rescue excavations performed in that city—then the "dark earth" there might be interpreted as waste derived from the inhabitants of those homes, or even traces of soil dedicated to urban agriculture. Judging by the flooring in the homes in Luni, half of the space within the timber structures was dedicated to sheltering animals, whose accumulated fecal matter would register as "dark earth" to modern archaeologists; to early medieval Lunigiani, however, this would have been the stuff of fertilization.

In summary, Lucca's "dark earth" marks a historical rupture and helps to configure the early medieval city both within important macroeconomic trends and the re-imagination of urban space. Unquestionably, the city experienced a financial collapse in the latter half of the sixth century. Wars and failing Roman institutions deprived Lucca of both long-distance trade and fiscal revenue. Nevertheless, if we allow that the accumulation of "dark earth" might not be a sign of failure, but rather material reconfigurations of the post-Roman city, then it would suggest that people continued to congregate within the civic armature, though in vastly poorer conditions. In this vision of Lucca, the history of the city becomes one of diminishing horizons, from existing within Mediterranean networks, to depending increasingly on the resources around (and within) urban space. Without imperial control, the city's immediate catchment area would have become more important for supplying inputs, and the environmental configuration of the Lucchesia more directly reflected the needs of the early medieval city. In short, these prevailing changes reinforce the imperative to investigate the metabolic flow of an early medieval city like Lucca.

III. Settlements and Olives in the Lucchese Countryside: 713-750 CE

should be noted that the wooden huts that comprised the village of Poggibonsi were erected on a site previously uninhabited.

During the first wave of the Lombard invasion, King Alboin extended the territorial limits of his new kingdom into central Italy, where he seized parts of Tuscany from the Byzantine Empire. In addition to the cities of Rome and Ravenna, the Byzantine military managed only to maintain a string of "forts established along the Tyrrhenian coast," according to Paul the Deacon.[53] Lucca's inland position suggests that the city fell to the Lombards during Alboin's push into Tuscany, between 571 and 572 CE, although the narrative evidence does not provide a list of conquered sites. A *terminus post quem* for the Lombard takeover can be linked to the decade between 574 and 584 CE, when the kingdom fragmented into urban political units, run by independent dukes. A beneficiary of this political dispersion appeared in Pope Gregory I's sixth century hagiographical story about the bishop of Populonia, who was harried by "the most cruel Lombard duke called Gumari."[54] Since we know this portion of the Maremma to have been under Lucchese control in the seventh century, it stands to reason that the pope's literary antagonist was likely based on a real, contemporary duke in Lucca, though he declines to associate a particular city to the fiendish man.[55] Thus, by the turn of the seventh century it is safe to say that the city was occupied by members of the Lombard aristocracy who either controlled parts of the region as a duke or stood waiting in the wings, ready to vie for that position.

Along with dukes, Lucca was home to a prominent set of religious officials in the early Middle Ages. In the late sixth century Pope Gregory I offered a story about a "Bishop of Lucca

[53] Paul the Deacon, Historia Langobardorum, 2.26: "Interim Alboin, eiectis militibus, invasit omnia usque ad Tusciam, praeter Romam et Ravennam vel aliqua castra que erant in maris litore constituta." Paul's statement has been confirmed archaeologically. One of the best excavated of these Byzantine maritime fortresses is around Cosa; see, E. Fentress, *Cosa V: An Intermittent Town, Excavations 1991-1997* (Ann Arbor: University of Michigan Press, 2003), pp. 72-91.
[54] Gregory the Great, *Dialogues*, vol. 1, ed. A de Vogüé, Sources chrétiennes 251 (Paris: Éditions du Cerf , 1978), 3.11.6, "Quam mox ut intrare potuerunt, in eodem loco, ubi uir Domini sepultus fuerat, Langobardorum dux crudelissimus Gumari aduenit."
[55] W. Kurze and C. Citter, "La Toscana," in *Cittá, castelli, campagne nei territori di frontiera (secoli VI-VII), 5° seminario sul tardoantico e l'altomedioevo in Italia centrosettentrionale, Monte Barro-Galbiate (Lecco) 9-10 giugno 1994*, ed. G.P. Brogiolo (Mantova: SAP, 1995), pp. 159-181.

called Frigdianus," who famously rerouted the Serchio River after its repeated inundations of the city and its crops.[56] The aquatic exploits of Frigdianus, later called Fredianus in the hagiography, made him one of the most famous saints in Tuscany.[57] Whether a consequence of miraculous or logistical acuity, the reliance upon Fredianus' hoe suggests that the episcopal seat was entrusted with some aspects of civic administration by the turn of the seventh century. The continuing prominence of this position can be detected in a charter dating to 685 CE, the earliest in the archdiocesan collection, when the Lucchese bishop, Felix, squelched the aspirations of a secular, wealthy man called Faulo, who tried to interject upon the affairs at the monastery dedicated to Saint Fredianus.[58] It should also be noted that Felix seems to have traveled with an extensive retinue by this point, as this charter was signed by an archpresbiter and four additional presbyters. Judging by Fredianus' fame and Felix's potency in both religious and secular affairs, it seems likely that the Lucchese bishopric was a lofty position by the end of the seventh century. Most importantly, the regional valence of these positions likely drew an aristocracy looking to exploit the resources and prestige of the titles.

Seventh century Lucca offered an aspiring Lombard aristocracy access to significant positions of power in northwestern Tuscany. However, we know very little else about the place during this period. Only at the beginning of the eighth century does the written evidence attain a critical mass to ascertain the contours of Lucca's metabolic profile. Relative to other Italian archives, this is an early and extensive corpus of charters; forty two survived from between 713 and 750 CE. For comparison, the abbey of Farfa, which kept another major collection of early

[56] Gregory the Great, *Dialogues*, vol. 1, 3.9.1: "Lucanae namque ecclesiae, sibimet propinquae, fuisse mirae uirtutis uirum Frigdianum nomine narrauit episcopum."
[57] See "Vita Sancti Fridiani," in *Vita Sancti Frediani. Contributi di storia e di agiografia lucchese medioevale*, ed. G. Zaccagnini (Lucca: Pacini Fazzi, 1991), pp. 151-208. On Lucchese water, see P. Squatriti, "Water, nature, and culture in early medieval Lucca," *Early Medieval Europe* 4, no. 1 (1995), pp. 21-40.
[58] *Memorie e documenti per servire all'istoria del ducato di Lucca* (hereafter M&D), vol. 4.1, ed. D. Bertini (Lucca, 1842), #32, p. 63.

eighth-century charters in Italy (and the subject of the next chapter), preserved only sixteen before 750 CE. Using Lucca's forty two charters as the principal evidence, this section establishes that the city's hinterland gained a new level of autonomy from the metropolis after the Lombard conquest, which manifested in independent rural settlements with only tenuous connections to the city, thus marking a significant change from the late-ancient territorial relationship between city and countryside. I first outline some of the basic structures underpinning organization in the countryside and then discuss how the flow of olives helps to contextualize its separation from the city.

In 713 CE Fortunato and his son, Benualdo traveled to Lucca in order to receive permits from both the duke and bishop of the city and obtain an official charter to confirm their foundation and endowment of a proprietary church. Their charter—the oldest original document in the episcopal archive[59]—is representative, with Lucca playing an administrative role. A charter dated to 719 CE and composed in a place called Vaccole (Actum in Vaccule), a village five kilometers south of Lucca, reveals that scribes could travel to the countryside to redact a document, and so the city's centrality was not necessarily linked to a monopoly on literacy.[60] However, the predominance of forms signed in Lucca—the majority were "Actum Lucae"—was probably due to the convenient shared space of recognized officials that regulated land use and religious practice as well as a class of scribes. If in Lucca to receive a permit, it made some sense to solicit a charter there, too.

Fortunato and Benualdo ordered the redaction of this charter because it provided proof of property ownership that could be used in a court of law. They did so because early medieval

[59] For the relationship between the copy originally redacted and the one found today in the Lucchese archive, see P. Guidi, "Alcune note intorno alle quattro carte piu antiche dell'Archivio Arcivescovile in Lucca," in *Atti della Reale Accademia Lucchese in Scienze, Lettere ed Arti* 33 (1907), pp. 377-406.
[60] M&D, vol. 4.1, #35, p. 67.

Tuscan people believed that legal recourse protected against incursions onto their land. Maintaining and enforcing a common set of laws was one of the ligaments that held the otherwise decentralized Lombard kingdom together; during this period three major proclamations of law occurred, first in 643 CE, under Rothari, and then again when these were modified by Liutprand (713-44) and Ratchis (744-56), all of which included provisions that protected private property. Thus, while no judges or courts appeared explicitly in the Lucchese charters, their presence is implied by the creation of the documents themselves.[61] The setting for these cases and officials involved would have been in Lucca, in ducal or episcopal courts.

The administrative and bureaucratic centrality of Lucca intimates a degree of continuity with its ancient predecessor, when the city acted as a focus for territorial organization. The rich content of Lucca's early charters allows us to follow this line of inquiry and discern whether the presence of dukes, bishops, and scribes elicited the development of other types of cultural, social, and economic vitality. The forty-one documents written between 713 and 750 CE included records of several different types of legal and religious procedures: confirmations of office,[62] legal decisions,[63] retirement packages,[64]several donations of property to the church, and many proprietary foundations. For all intents and purposes, the activities recorded in the charters represent only the affairs pertaining to the bishop of Lucca, in whose archive the documents were deposited. Nevertheless, not all of these documents derived from the moment of episcopal acquisition. There are several charters, like Fortunato and Benualdo's, that pertain to the endowment of a private church; at a later date that institution came into the possession of the

[61] There are a handful of extant court cases from Lombard Italy (less than twenty). For an overview, and citations to particular cases, see C. Wickham, "Land disputes and their social framework in Lombard-Carolingian Italy, 700-900," in *The Settlement of Disputes in Early Medieval Europe*, eds. W. Davies and P. Fouracre, (Cambridge: Cambridge University Press, 1992), pp. 105-124.
[62] M&D, vol. 5.2, ed. D. Barsocchini (Lucca, 1837), #3, pp. 3-4.
[63] Ibid, #5, pp. 5-6.
[64] M&D, vol. 4.1, #34, pp. 65-66.

bishop, and the original charter, written decades earlier, accompanied the transfer of property to the episcopal archive.[65] The imperative to retain charters permits a panoramic view of early medieval Lucchese society, in terms of secular and rural affairs.

Indeed, one of the most significant features of the Lucchese archive in the early eighth century is the prevalence of rural endowments. Though the people who regulated the legal affairs in and around early medieval Lucca resided in the city, those buying and selling real estate overwhelmingly lived in the countryside. In a charter from 723 CE, for instance, the brothers Aurinand and Gaudifrid erected and endowed a chapel and monastery in their rural territory in the Garfagnana Valley.[66] Those men intended to keep their families planted on that land for the long haul, too, setting up provisions so that all of their children could enter their proprietary monastery. The brothers sought a license from the bishop before building, and the charter was written in Lucca, but otherwise they had no relationship to the city, as far as we can tell.[67] The same can be said for several other rural property owners improving and investing their resources in the countryside: Transualdo in Vico Colonia, the brothers Baronta and Auderat in Laveriano, and the widow Anstualda in Noctuno.[68] The percentage of transactions pertaining to landowners living in the countryside in these forty charters suggests a significant shift from late ancient models, when propertied interests lie predominantly with urban dwellers.

Rural landowners lived in a particular type of settlement in the first half of the eighth century, one called both *locus* and *vicus* in the charters.[69] When used to describe settlement

[65] On the composition of archives, see Wickham, *Framing the Early Middle Ages*, pp. 388-9.
[66] M&D, vol. 5.2, #11, p. 9.
[67] Id: "et accessimus ad v.b. Talesperiano Deo gratia Episcopo in X.to pater nostro, ut cum ejus consilio, seo licentia oraculum S. Dei vertutis construere deverimus…"
[68] M&D, vol. 5.2, #15, p. 12; M&D, vol. 4.1, #38, pp. 72-3; M&D, vol. 4.1, #40, pp. 75-6.
[69] For the historiography of settlement patterns and questions of continuity between Antiquity and the early Middle Ages, see G.P. Brogiolo, "La campagna dalla tarda antichità al 900 ca. d.C.," *Archeologia Medievale* 10 (1983), pp.

patterns, these words were synonyms, as shown by their application to a single toponym within a charter; the *vicus Pontoni* was referred to as *locus Pontoni* in one charter from 740 CE.[70] In a charter written six years later, the place called *vicus Civiliano* was called *locus Civiliano* by the end of the document.[71] What did *locus* and *vicus* mean, and how were these places organized? Both terms were modified by proper names in the charters, which together formed a toponym meant to indicate fairly precise terms the location of a site. The early medieval authors presumed that offering a particular *locus* or *vicus* was enough information to identify the whereabouts of a single edifice on the Lucchese plain; in 718 CE, the bishop of Lucca, Talesperian, concedes to a loyal follower a church dedicated to S. Properus, which stood simply *in loco Intracule* (Antraccoli), with no further geographic specificity.[72]

The sheer quantity of *loci* around Lucca militates against this term representing a large unit of land, and several stand in close proximity to one another. In 746 CE, for instance, the bishop of Lucca renewed the lease for a house owned by the church *in loco Wamo* (Gaumo), a toponym within a kilometer or so of the *locus Intracule*, in the plain east of Lucca.[73] Likewise, *locus Aponniano* (Pugnano) and *locus Limite* stood cheek by jowl on the sinuous banks of the

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73-88. Wickham tells us that these terms were interchangable and used for villages, but uses that word neutrally and connects no particular settlement pattern to it. However, in his analysis of three early medieval villages in the Lucchesia—Toringo, Lammari, and Moriano—he starts with the year 750 CE, and thus has not concerned himself with the earliest era of the charters studied here, one in which the balance of landed power in the Lucchesia seems to have been in the countryside. See C. Wickham, "Settlement problems in early medieval Italy: Lucca territory," *Archeologia Medievale* 5 (1978), pp. 495-503; on terminology see page 496, note 9.

[70] M&D, vol. 5.2, #29, pp. 18-19. The term locus could also be applied informally, as in the phrase, "in this holy location," in reference to a church. For the latter usage, see M&D, vol. 4.1, #36, pp. 68-70. Typically, one can discern a technical usage based on the pairing of a proper name to form a full toponym.

[71] M&D, vol. 5.2, #36, p. 23.

[72] According to E. Repetti, *Dizionario geografico fisico storico della Toscana* (henceforth DGT), vol. 1 (Prato: Cassa di Risparmi e Depositi, 1972), "Antraccoli," p. 95, Intracule, now Antraccoli, was three kilometers east of Lucca, in the Lunata.

[73] Guamo was located where modern Capannori sits today. See S. Pieri, *Toponomastica delle Valli del Serchio e della Lima* (Lucca: Accademia Lucchese di scienze lettere e arti, 2008), p. 208.

Serchio River west of Lucca; [74] *locus Noctuno* (Montecalvoli) and *vicus Pontoni*, too, shared close proximity in the Val d'Era (see map 3).[75] Thus, within the relatively narrow sample size of forty charters, separate landowners held property in three distinct regions, east, west, and south of the city; each region included adjoining or nearly adjoining *loci* or *vici*. The prevalence of shared boundaries in these forty charters suggests that *loci* and *vici* were not exceptionally large units of land, in which case a single toponym would have dominated a region, as with the *gualdi* in the Farfa charters.[76]

Though *vici* and *loci* seem to have been fairly compact, the charters also indicate that they comprised multiple discrete units. For example, the bishop Walprand organized his donation of property according to a terminological hierarchy—in *loco* X, there are Y units of *terra*—suggesting that there were multiple parcels within a single *locus*.[77] A well documented *vicus* called Campulo (Campori)[78] in the Garfagnana Valley served as a staging ground for the aristocratic aspirations of a certain Gundualdo, who owned and leased several properties under that toponym.[79] Similarly, in 739 CE when Giusto sold to the abbess of the convent dedicated to Mary his vineyard *in loco Casisi* for six gold *solidi*, he mentioned five adjoining properties around his grapes, including a public road, three vineyards belonging to other people, and a *casa* belonging to Raduald.[80] In short, one could have several neighbors within a *locus* and *vicus*.

[74] For Aponiano, see M&D, vol. 5.2, #14, p. 11; and for its location, see DGT, vol. 4, "Pugnano," p. 680. For Limite, see M&D, vol. 5.2, #26, p. 17; and DGT, vol. 2, "Limite," p. 698 for its location.
[75] For Noctuno, see M&D, vol. 4.1, #40, p. 75; for location, see DGT, vol 3, "Montecalvoli," p. 330. For Pontoni, see M&D, vol. 5.2, #29, p. 18; the charter claims that this *vicus* was located on the River Arme, which was a rivulet that poured into the Arno. That rivulet is called today the Usciana or Gusciana, which can be read about at DGT, vol. 2, Gusciana," p. 566.
[76] On the gualdi, see E. Migliario, *Strutture della proprietá agraria in Sabina dall'etá imperiale all'alto medioevo* (Florence: La Nuova Italia, 1988).
[77] M&D, vol. 4.1, #39, pp. 73-5.
[78] This *vicus* first shows up in the charters in 740; see M&D, vol. 5.2, # 28, p. 18.
[79] Wickham, *The Mountains and the City*, pp. 40-67.
[80] M&D, vol. 5.2, #26, p. 16.

Before further evaluating the meaning of the terms *locus* and *vicus* around Lucca in the first half of the eighth century, it is worth noting the variety of words used to describe land, its purpose, and mode of habitation in these charters. In a single charter from 721 CE, for instance, different units of property are called *casa*, *terra*, *curtis*, and *campus*, presumably because each was arranged in a way that corresponded to particular physical and social relationships in the mind of the charter's author and patron.[81] Not to say that there was a precise meaning, widely understood with these words, but simply that the early medieval property-holder had a varied and intricate lexicon with which to describe land and its status. Therefore, the fact that the major actors in Lucchese real estate in the first half of the eighth century derived from contexts they uniformly and independently called either *locus* or *vicus*, strongly suggests that there is something meaningful about that terminological relationship.

The *loci* and *vici* that appeared in early eighth-century documentation were populated by independent landowners, who lived in the countryside, but who also lived in close proximity to other landowners. Judged on these facts, the *loci* and *vici* share some of the qualities of habitation and settlement often attributed to a village. Wickham admits the temptation to intrepret these as such settlements, but stoically resists any firm connection between the usage of *locus* and *vicus* and a picture of densely clustered homes, positioned around a central axis. His reluctance derives from contradictions in the charters that exhibit fluid or uncertain boundaries regarding where one *locus* ends and another begins; a presumably immobile church is described, in separate charters, as standing in two distinct would-be-villages.[82] On the other hand, it is difficult to imagine how, other than through settlement and social ligatures, geographic

[81] M&D, vol. 4.1, #36, pp. 68-9.
[82] See Wickham, "Settlement problems," pp. 495-503. For a discussion of the geographic properties of a single vicus, see Wickham, *The Mountains and the City*, pp. 35-6. Wickham seems to have softened his tone more recently; see the disucssion at the end of Brather, "Dwellings and Settlements among the Longobards," p. 60.

toponyms endured across centuries and partible inheritance in the absence of state taxation. What sustained the 727 CE toponym *in loco Aponiano* such that the village is called today Pugnano, an obvious derivation of the early medieval toponym?[83] Despite the lack of clarity from the charters, *loci* and *vici* must have achieved a density of settlement and articulated mode of social organization that gave them staying power in the otherwise highly fragmented landscape of the early medieval Lucchesia. Wickham's objection can be mitigated if we take the term to mean village-territory, thus comprising both the dense social networks of a nucleated village and nebulous peripheral space, which might be confused with surrounding settlements.

Why would people congregate into meaningful and enduring units across the Lucchese countryside? Several forces likely bound the agriculturalists who organized themselves by *loci* and *vici*, but in the context of the present discussion the organizing principle found in the charters that matters most is the presence of olives. To see how the link between olives trees and rural settlement might have emerged we must return to the charter written for the brothers Aurinand and Gaudifrid in 723 CE, which centered on the new construction of a church dedicated to S. Peter the Apostle, *in loco Castellione*.[84] This is a case of an exceptionally enduring toponym, as the same site is known today as Castiglione di Garfagnana (see map 3), in the valley of the Esarulo, a tributary of the Serchio River. Despite its position in the upper Garfagnana, more than forty kilometers north of Lucca and deep into the Apennines at 545 meters above sea level, the early eighth-century soils of *locus Castellione* supported oleiculture, a feat made possible in part because they were warmed by a southern-facing exposure. The brothers endowed the church dedicated to St. Peter with "that bit of land around the church—

[83] M&D, vol. 5.2, #12, p. 11.
[84] Ibid, #11, pp. 9-10: "…et quamuis breuite ad fondamentis fabricis ecclesiam constituimus in honore beati sancti Petri apostoli in loco qui uocitator Castellione."

seven measures worth," and, they nearly forgot to add, a subsequent gift of twelve measures (forma) of olives as well as nine measures acquired from Gaulistolo (comparationem da Gualistolo).[85]

The oleicultural gift here is provocative in several regards, beyond its improbable geographic setting. Most instances of olives in the charters take the form of trees, as orchards or individual trees.[86] While early medieval Latin maintained the same ambiguity as English around the word olive—as both a tree and a fruit—the term *forma* in the charter pertaining to *locus Castellione* implies that this gift occurred in the form of a bulk measure, presumably of raw fruit.[87] The standard measure for raw olive in the early medieval charters was expressed in weight, the *decima*, about sixty pounds; oil was sometimes given in money-value (i.e. one tremissis worth). [88] The term *forma* appears in connection with olives only in this instance in the Lucchese charters. This idiosyncratic expression suggests a local unit of measure and an oleicultural practice that operated within a closed economy, as might be expected from a village in the high Garfagnana valley.

Aurinand and Gaudifrid were not the only olive producers *in loco Castellione*, since their endowment included nine measures obtained from a certain Gualistolo. Unfortunately, the charter did not specify who this person was or his relationship with St. Peter's patrons. The owners made specific provisions for one of their sons, a man called Gaiduald, to join their religious community and also reserved the right for any of their other children to join as well, which might suggest that the mysterious olive donor, Gualistolo, belonged to the same family

[85] M&D, vol. 5.2, #11, p. 10: "Et quod superius minime memoravimus, duodeci forma olive que novi ex comparationem da Gualistolo advinet;"
[86] For the latter, see ibid, #112, pp. 66-7.
[87] Du Cange has *forma* as: "modus seu ration agendi in negotiis quibusque." See C. Du Cange, *Glossarium ad scriptores mediae et infimae latinitatis*, vol. 2, no. 1 (Paris, 1762), c. 342.
[88] For the former, see M&D, vol. 4.1, #36, pp. 68-70; for the latter, see M&D, vol. 5.2, #132, p. 77 and #142, p. 83.

tree. But this was a proprietary ecclesiastical institution, an extension of the interests of the donors themselves. Why would Aurinand and Guadifrid extract olives from one of their sons, who already held special status at that church?

While a filial relationship cannot be ruled out, it seems more likely that Gaulistolo's endowment of olives was an expression of an alliance or perhaps dependent relationship with the church patrons. The important social function of the olives at Castellione is made evident in later charters pertaining to the village. The olives connected to Saint Peter's church, established in Aurinand and Gaudifrid's original charter, came into the possession of the Lucchese bishop in 768 CE, when a certain Anacardo—a person unrelated to the founders, as far as can be determined—transferred the ownership of that institution to episcopal holdings in Lucca.[89] Two years later, in 770 CE, two south Tuscan monasteries, Monteverde and Saint Regulus, exchanged a tenant home connected with multiple olive orchards in Castelione.[90] In 771 CE the oleicultural wealth of Saint Peter's church in Castellione was augmented when a man from the neighboring village endowed it with two additional olive orchards in the valley below.[91] That person, Perforeo, qualified one of the orchards, saying that he actually held rights to half of the trees, from which his wife collected usufruct on its revenue.

A stunningly ample web of alliances, involving some of the most powerful religious institutions in Tuscany, centered on the olive orchards at Castellione. Those oleicultural networks also extended to personal relationships; Perforeo's orchard was, in the moments before

[89] M&D, vol. 4.1, #23, pp. 31-2.
[90] Ibid, #70, p. 119: "et tradere prevideo casa massaricia Ecclesiae nostrae in loco vocaboli Castelione, ubi ante os annos abitavet qd. Mereholo coma….ipsa, cum fundmento, curte, orto, terris, vineis, pratis, pascuis, silvis, olivetis, cultum adque incultum, mobile vel immobile, seo semoventibus…"
[91] At M&D, vol. 5.2, #125, p. 73, Barsocchini refers to M&D, vol. 4.1, #22 for the original text, but this is not the proper charter. For the document pertaining to Perforeo, see *Codice diplomatico longobardo* (henceforth CDL), vol. 2, ed. L. Schiaparelli, Fonti per la storia d'Italia 63 (Rome: Istituto storico Italiano, 1933), #250, pp. 328-330.

the charter was signed, owned by at least two aligned parties. We know the fate of only half, which seems to have come under the control of Perforeo's wife; was this orchard, then, part of a dowry? Did the other half perhaps belong to the wife's sibling? At any rate, after the charter was signed, rights over the half-orchard passed to the rector of Saint Peter's church in Castellione (in the 771 CE charter), which ultimately fell under the hegemony of the Lucchese bishopric (according to the 768 CE charter). These olives, then, were the stem of an alliance based on ownership, undergirded a marriage, and formed social ligaments between villagers and important officials on the local and regional level.

Returning to Aurinand and Gaudifrid's original charter of endowment in 723 CE, it is easier now to imagine that Gaulistolo fell somewhere on a matrix of economic and social partnership or dependency; the same way the division of the olive orchard was used to align interests and ascend social hierarchies in the Lucchesia, we might imagine the same phenomenon occurring on a more local basis, within a single group of trees. Indeed, the idiosyncratic language associated with measures of olives in Castellione—a *forma*—supports the notion of a locally determined currency held by the olive within the village.

It cannot be coincidence that the seven geographically identifiable olive orchards (one cannot be localized) that appear within the first forty charters of the Lucchese archive derive from contexts not unlike that of Castellione: in *loci* and *vici* upon the hills and mountains around Lucca. An orchard described as *in vico Coloniensi* lies even further up the Garfagnana valley than Castellione, in the Lunigiana.[92] The charters pertaining to *locus Noctuno* and *vicus Pontoni* both included olive orchards in the hills of Val d'Era, while Fortunatus endowed his church in

[92] M&D, vol. 5.2, #15, p. 12. This toponym is identified as the modern Colognola in Lunigiana, based on the continuity to the dedication to S. Terrence. See CDL, vol. 1, #42, p. 144, note 1.

vicus Cassiana with an olive orchard on monte Pisano, about five kilometers south of Lucca. The resources of each of these orchards, moreover, were kept within the contexts in which they grew (i.e. the olives were not flowing into the city). To these can be added a rural orchard in *loco Ferunnianus* also in the Val d'Era, but the olives from this orchard were directed to Lucca. [93] As emphasized above, there was a rich and varied lexicon for units of land in the Lucchese charters, so that no olive-bearing parcels were identified as *terra* or *casa* or *curtis* indicates that the village prevailed as the primary site where olives were grown in the early eighth century.

What can be made of this relationship between the olive and the *vicus* and *locus*? Most significantly, these olives should be read as a component of new, rural settlements in seventh century Italy. Material evidence from elsewhere in Tuscany has convincingly shown that villages—defined here as nucleated settlements comprised of individual farms and households—sprang up across the region in the seventh and eighth centuries.[94] Excavations at three sites in particular—Montarrenti, Poggibonsi, and Rocca San Silvestro (the first two are located near the city of Siena and the latter in southwestern Tuscany, near Massa Marittima)—have revolutionized our understanding of rural settlements in Tuscany during the early Middle Ages.[95] Each of these settlements comprised timber structures, including homes, buildings, and

[93] M&D, vol. 5.2, #10, pp. 8-9.
[94] For the best overview of this development, see R. Francovich and H. Hodges, *Villa to Village: The Transformation of the Roman Countryside* (London: Duckworth, 2003), pp. 11-30. And with particular focus on Tuscany, see R. Francovich, "The Beginnings of Hilltop Villages in Early Medieval Tuscany," in *The Morning of Medieval Europe: New Directions in Early Medieval Studies*, eds. J. Davis and M. McCormick (Aldershot: Ashgate, 2008), pp. 55-82.
[95] For Montarrenti, see the overview of the excavations at F. Cantini, ed., *Il Castello Montarrenti: Lo scavo archeologico (1982-1987). Per la storia della formazione del villaggio medievale in Toscana (secc. VII-XV)* (Florence: All'insegna del giglio, 2003). There was also a series of articles published about the site in the sixteenth volume of *Archeologia Medievale*; see first, R. Francovich and R. Hodges, "Archeologia e storia del villagio fortificato di Montarrenti (SI): un caso o un modello?," *Archeologia medievale* 16 (1989), pp. 15-38. On Poggibonsi, see M. Valenti, ed., *Poggio Imperiale e Poggibonsi (Siena)*, vol. 1 (Florence: All'insegna del giglio, 1996). For Rocca San Silvestro, see R. Francovich and C. Wickham, "Uno scavo archeologico ed il problema dello sviluppo della signoria territoriale: Rocca San Silvestro e I rapporti di produzione minerari," *Archeologia medievale* 21 (1994), pp. 7-30.

barricades, positioned upon a hilltop. Given the charter evidence discussed above regarding *vici* and *loci*—primarily the enduring toponyms, density of settlement, and hilltop position—and the resemblance of these features to those in the villages excavated around Tuscany, it is reasonable to categorize the rural settlements around Lucca in the same wave of development.[96]

Within Lucchese villages, the olive must have contributed to the articulation of settlement by acting as a target for cooperative labor. In the early months of winter (November, December, and January) members of the village collaborated to harvest their trees, moved the fruits into the village, and then processed the olives into oil, likely with shared equipment. In different Tuscan contexts archaeologists have successfully determined similar agricultural efforts that justified nucleated living. At Montarrenti, for instance, in the center of the village (on top of the hill) stood a large wooden grain silo, the place where the village's farmers stored their grain collectively.[97] The silo's prominent location, as the nucleus of the settlement, acted as a spatial testament to the village's *raison d'êtret*. The picture at Rocca San Silvestro in the high Middle Ages is even more suggestive, as the cooperative mill and press have been uncovered near the village church, a position that offers a "clear indication of the importance of this structure for the economy in San Silvestro."[98] The excavation of this site, in fact, offers an unparalleled view of the collaborative resources shared by medieval Tuscan villages, with traces of a forge, ceramic and bread ovens, iron smiths, and copper workshops.[99]

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[96] It should be noted that Wickham's article denying village settlement associated with the terms locus and vicus was written before the explosion of archaeological data affirming such sites in other parts of Tuscany.
[97] Cantini, *Il Castello Montarrenti*, pp. 25-29. For typologies of these granaries in northern Europe, where their forms are better developed, see H. Hamerow, *Early Medieval Settlements: The Archaeology of Rural Communities in Northwest Europe 400-900* (Oxford: Oxford University Press, 2002), p. 36.
[98] C. Citter and G. Velluti, "Il frantoio di Rocca San Silvestro (Campiglia M.-LI): Appunti per la recostruzione del ciclo dell'olio di oliva," *Archeologia medievale* 20 (1993), pp. 151-184; quote on page 153.
[99] Francovich and Wickham, "Uno scavo archeologico ed il problema," pp. 7-30.

No archaeological finds directly from early medieval Tuscany can be marshalled to confirm an olive-centered village life, but two things militate against such a discovery: one, we have little idea what seventh and eighth century village-oleiculture looked like (i.e. wooden oleicultural containers, tools, and buildings?) and two, subsequent iterations of olive-processing equipment tended to reuse the same space. At Rocca San Silvestro, for instance, the olive mill discovered by archaeologists was installed during the thirteenth century, but the structure housing the processing equipment dated back to at least the eleventh century.[100] Moreover, the discovery of this mill is owed to the fact that Rocca San Silvestro was abandoned in the fifteenth century, not long after the machine was put to use, thus preserving its form. Even so, only the durable stone basin of the mill remained fully intact; the millstone was later found in pieces outside of the room and only sockets in the wall attest to the press that likely accompanied the mill in this room.[101] In other words, the contours of olive-processing at Rocca San Silvestro have been faintly discerned, despite a sequence of events that lent itself to preservation; we should not be surprised that Tuscan villages predating this one by half a millennium have not yielded archaeological traces of olive machinery. Thus, the concept of cooperative labor as a nucleating force is strongly supported by archaeological contexts, but its application to the olive must be derived from the charters alone.

The prevalence of olives around *vici* and *loci* highlights the ecological differences between Italian Dark Age villages and their counterparts in northern Europe, which tended to focus on cereals of different kinds. Historians of that region (where archaeological investigations were conducted much earlier) have established much of what we know about village formation in this period and persuasively argued that post-Roman settlements organized themselves in

[100] Citter and Velluti, "Il frantoio di Rocca SanSilvestro," p. 153.
[101] Ibid, pp. 157-159.

order to collectivize and focus labor resources for working the rich soils of open lands, which required coordinated timing for field rotation and plowing.[102] Early medieval Tuscan villages, however "often took root close to the upper limits of agricultural soils, halfway between the cultivated land in the valley, and the uncultivated land on the mountainside."[103] More specifically, early medieval Lucchese *vici* and *loci* were built upon soils worked by a hoe rather than plow, and thus precluded cooperation based solely on the demands of intensive cereal production. The olive, however, clings perfectly well to shallow, inclined soil, while demanding a certain amount of chronologically focused labor. Thus, if we accept that similar imperatives drove the creation of village settlements in northern Europe and Italy—namely the desire to increase efficiency by sharing in certain aspects of agricultural labor by coordinating efforts—then the olives that regularly grew in the vicinity of Lucchese rural settlements might be read as the ecologically suitable catalyst for nucleation in those contexts.

Looking for parallels between lowland, northern-European villages and their hilltop, Lucchese counterparts suggests another role the olive might have played among the latter. Historians and archaeologists of northern Europe believe that early medieval villagers aggregated around durable agricultural infrastructure; ditches, berms, and hedges that gave form to those villages.[104] This stands in contrast to domestic structures, which—like in Italy—were constructed from timber and lasted as few as ten years.[105] Durable agricultural infrastructures, in other words, gave a sense of permanence to a settlement, lending form to daily routines

[102] Perhaps the most influential work has been J. Chapelot and R. Fossier, *The Village & House in the Middle Ages*, trans. H. Cleere (London: B.T. Batsford, 1985), a translation from their original 1980 publication, *Le village et la maison au Moyen Age*.
[103] Francovich, "The Beginnings of Hilltop Villages," p. 63.
[104] See R. Noël, "À la recherche du village médiéval. Hier et aujourd'hui," in *Autour du "village": établissements humains, finages et communautés rurales entre Seine et Rhin (IVe-XIIIe siécles)*, eds. J.-M. Yante and A.-M. Bultot-Verleysen (Louvain-la-Neuve: Institut d'Études Médiévales de l'Université Catholique de Louvain, 2010), pp. 3-75.
[105] This is the minimalist estimate for sunken timber structures in northern Europe. See, Hamerow, *Early Medieval Settlements*, p. 31.

generation after generation. Given the thin soils and the relief of Mediterranean hilltops, earthen works like those found in northern France would have been impossible for early medieval villages in Tuscany.[106] The olive, however, stands as a suitable substitute to embankments. Though a plant that generated regular agricultural obligations, the olive was a quasi-permanent structural force in the landscape, with a monotonous lifecycle that stretched across more than a millennium. Such longevity informed the structures of everyday life: olive trees encouraged human developments around those axes of routine. The olive and the ditch might have performed similar functions, not in the sense of agricultural duties they created, but as psychological anchors that undergirded rural settlement and a shared sense of unity based on shared labor relations.

Nothing conclusive can be said about how Lucchese villages imagined their olives, but it is easy to see how their unique properties could have fulfilled multiple roles in those settlements—agricultural, social, ideological—which parallel features in other villages both in Tuscany and further abroad. But also beyond the village community, within a larger discussion of civic metabolism, the presence of the olive mattered. Rural communities developed a sense of autonomy among the jurisdictional hegemony of Lucca in the seventh and early eighth-century also thanks to their olives. A shared sense of identity, created in part through ancient, reiterated relationships with stands of olives, prevailed over the magnetism of political and ecclesiastical institutions in cities in this period. Thus, in this early era of Lombard rule, we can speak of a legal metabolism in Lucca—rural landowners still viewed the city as a center for bureaucracy and territorial leadership. But if rural people moved in and out of the urban space to attain

[106] Perhaps the terrace occuppied a similar organizational role on the hillside, but unfortuantely these are difficult structures to date and do not appear in the charters. On Mediterranean terraces, see Grove and Rackham, *The Nature of Mediterranean Europe*, pp. 107-118.

assurance that their private property would be protected, the flow of olives was confined to the social space of the village.

IV. Urban Olives: Sicherad, Pertuald, and Sigemund

In the seventh and early eighth centuries, villagers around Lucca retained a tight grip on their olives. Metabolically speaking, the fruits circulated only within the urban periphery, a vivid sign of the countryside's autonomy. Around the time the rural landowners Aurinand and Gaudifrid consolidated their oleicultural power in the village of Castellione (723CE), however, parallel developments began to unfold in Lucca that changed the city's metabolism. Starting in 720 CE, aristocratic families increasingly deployed the city as a launching pad for efforts to achieve greater political or religious authority. They did so by creating suburban estates, where they consumed olives in a variety of ways. By tracing the ever-increasing geographic scope of olive flow, this section reveals a process of regional centralization in the mid-eighth century, wherein aristocratic families tapped the oleicultural wealth of the countryside to fuel urban endeavors.

The ascendant families in early medieval Lucca took advantage of legal provisions that enabled them to concentrate their wealth into a material expression of power, by building proprietary churches and monasteries.[107] They often established these religious institutions as the beneficiary of their wealth, giving them rights of ownership over private property. For real estate in particular, transferring property to religious communities was a strategy for maintaining the

[107] Following Susan Wood, I use "proprietary" to approximate the German word *Eigenkirche*, to denote a church that was some person's or group's "own." This possession included the building with its contents as well as the land, buildings, stock, tithes, dues, and offerings, and the appointment of the priests associated with it. See S. Wood, *The Proprietary Church in the Medieval West* (Oxford: Oxford University Press, 2006), p. 1. Chris Wickham demonstrates the effectiveness of building and endowing proprietary religious organizations by examining the familial church of Gundualdo, who resided in the Garfagnana valley, in village called Campori. From 740 to 948 CE, the family of Gundualdo controlled this church, leveraging it to accumulate property in their village, and gain influence in the city of Lucca, particularly with the bishop. See Wickham, *The Mountains and the City*, pp. 40-67.

coherence of land holdings; instead of splitting an estate, parcel, or even a single vineyard on account of inheritance procedures, the immortal church held the property in perpetuity. Aristocratic families ensured their continued control over property by maintaining positions of authority at their proprietary churches and monasteries (sometimes written into the charter, and sometimes as a tacit agreement); thus one family might control the abbacy of a monastery over several generations, giving them de facto control over their family's endowment for many years.

The most successful pioneer of this strategy in Lucchese contexts was a man called Pertuald, who in 720 CE endowed a church and monastery dedicated to Michael the Archangel. He had erected the religious structures at an earlier date but, according to the charter, desired at a later date to transfer the bulk of his property to their ownership.[108] The list of property transferred to his religious institution was extensive. Judging by the descriptions of the land being exchanged, this included four partial (i.e. a parcel or estate shared with other owners) and eleven full properties; the former included long descriptions of ownership and the latter (all *casa* in this charter) were simply delivered "in full (integrum)." Pertuald claimed that he wanted no further involvement from his family in this institution, and that the fruits of his endowment should sustain the performance of the religious offices (more will be said about this below), and to care for widows, orphans, the poor, travelers, and pilgrims.[109] Nevertheless, as was often the case, in later years we find that Pertuald's son assumed control over the church and monastery dedicated to Michael.[110]

[108] M&D, vol. 4.1, #36, pp. 68-70: "Idcirco ego Pertuald uir deuotus offero Deo et tibi ecclesie Beati Sancti arcangeli Michaeli, quem a fundamentis fabricis uestublis in honore Christi Domini constitui prope domus cellula mea ubi cummanire uideor, quem et ad eius monasterium, id est:…"
[109] Ibid: "…qui iniui constitutes est aut fueri, pro meis facinoribus Dominum deprecari debeat, officium Dei peragendum, uiduam, orfanum et pauperem consulandum, eginum et peregrinum recipiendum, iuxta Dei preceptum omnium opem ferre non desinat.".
[110] On this family, see Schwarzmaier, *Lucca und das Reich*, pp. 78-85.

Two other proprietary institutions in early medieval Lucca closely resembled Pertuald's in terms of the proprietor's social status, location of the religious foundation, and, most importantly, the consumption of olives. One was erected shortly after Saint Michael's church, in 729 CE, by a group of people led by a man called Sigemund. They founded and endowed an oratory (oraculum) and a *diaconia*, dedicated to the holy confessors of Christ, Secundus, Gaudentius, and Columbanus (eventually the first two names were dropped, and it was known only by the name of Columbanus).[111] And in 757 CE, Sicherad, along with his brothers, founded and endowed a church dedicated to the saints Geminianus, Paul, and Andrew, which they called a *xenodochium* (the final two names were eventually dropped here, and it became known as the church of Saint Geminianus).[112] Both Sigemund and Sicherad described their organizations as places that provided charity to needy people and pilgrims: *diaconia* and *xenodochium*.[113] However, as in the charter for Pertuald, the declared purpose of these institutions should not distract from the fact that they were also strategic elements of aristocratic property-owning in the mid-eighth century, as we shall see more clearly below.

Pertuald, Sigemund, and Sicherad each recognized advantages in channeling olives to their proprietary institutions. Before examining their oleicultural exploitation, however, I first

[111] M&D, vol. 4.1, #37, pp. 70-72.
[112] M&D, vol. 5.2, #55, pp. 33-34. *Dicaoniae* were typically charitable institutions writ large, and *xenodochia* were primarily for pilgrims and travelers in particular. Both terms were fluid in the eighth century, however. See F.R. Stasolla, "A proposito delle strutture assistenzia," *Archivio della Societá romana di storia patria* 121 (1998), pp. 1-40; on terminology see pages 7-9. Also, H. Dey, "Diaconiae, xenodochia, hospitalia and monasteries: 'social security' and the meaning of monasticism in early medieval Rome," *Early Medieval Europe* 16, no. 4 (2008), pp. 398-422; terms disucssed on pages 402-9.
[113] Stasolla, "A proposito delle strutture assistenzia," p. 27. Little evidence for the administration of these organizations survives. Pertuald does indicate that a priest (*sacerdus*) from S. Michael Archangel was obliged to administer the care, and at Sicherad's *xenodochium*, it can be inferred that the organization was run by the church dedicated to S. Silvester, located nearby. Thus, the administration of the *diaconiae* and *xenodochia* in Lucca seems to have differed from those in contemporary Rome, which were run by monks. See Dey, "Diaconiae, xenodochia, hospitalia and monasteries," pp. 398-422, where he argues that the adoption of the Benedictine Rule in the ninth century in Rome effectively limited the monastic imperative to care for crowds of travelers and pilgrims in *diaconiae* and *xenodochia*.

illuminate the structural similarities among the institutions founded by these families, establishing the basis for treating them as a cohesive phenomenon in early medieval Lucca. Given that almost no written evidence pertaining to seventh-century Lucca exists, it is difficult to trace the social interconnections that underpinned the lofty status of the families studied here. However, in each case, charters of endowment betray relationships that extended beyond the Lucchesia. For instance, Pertuald claimed that a parcel of land given to the St. Michael's church was conceded to him by the crown.[114] Likewise, Sicherad's charter claimed that one of the parcels passed to his proprietary *xenodochium* was, "a gift of the lords, kings."[115] Even more obvious was Sigemund's ties to the crown, as his oratory was cosigned by a group of royal officials.[116] Thus, these men operated with social circles that allowed them to engage in networks of gift exchange that flowed through Pavia. Moreover, these families understood Lucca within the broader contexts of Lombard Italy, and held aspirations that extended beyond the Lucchesia.

A second commonality among the proprietary institutions founded by Pertuald, Sigemund, and Sicherad was their orientation within the city. Portions of Pertuald's familial church and monastery dedicated to Saint Michael remain visible today in the walls of extant *Chiesa di San Micheletto*, just inside the city's monumental 16th century enceinte.[117] In the eighth century, however, Saint Michael's buildings stood outside the more diminutive, Roman-era walls. Pertuald's property was roughly one hundred meters east of Lucca's eighth-century

[114] M&D, vol. 4.1, #36, p. 69: "Et terra ad Arina, qui mihi a Regia potestate concessa est, in integrum."
[115] M&D, vol. 5.2, #55, p 34: "Simul et reddito de casa in Terpiniana, qui mihi per dona Dominorum Regum abui, ubi Auduald residet in integrum."
[116] Three men who endowed the oratory, Theutpert, Ratpert, and Godepert, claimed to be "Gasindi" of the King, which incidates that they were retainers of the crown. They might be interpreted as direct vassals. See C. Wickham, "Social Structures in Lombard Italy," in *The Langobards Before the Frankish Conquest*, eds. G. Ausenda, P. Delogu, and C. Wickham (Woodbridge: Boydell, 2009), pp. 118-148; gasindi on page 128.
[117] I. Belli Barsali, "La togografia di Lucca nei secoli VIII-X," in *Atti del 5° Congresso internazionale di studi sull'alto medioevo* (Spoleto: Presso la sede del Centro studi, 1973), pp. 461-554; on Saint Michael's monastery, see page 532.

eastern gate (dedicated to S. Gervase), through which ran the *decumanus*, the main east-west thoroughfare of the Roman city plan. According to the charter, the early medieval institution was bound on one side by the "old well and public road," suggesting that this Roman-era road remained viable, or at least visible, in the eighth century.[118]

Sigemund also delineated his property by referencing public features. The institution dedicated to Columbanus was bound by "the public road, with one side touching the walls of Lucca."[119] The author of the charter added that the buildings were located "in Apulia," a toponym associated with the suburban neighborhood south of the city. No traces of this structure remain, but if the 16th century rampart dedicated to S. Columbanus is any indication of the location of Sigemund's oratory and *xenodochium*, the buildings stood near the southeast corner of the early medieval walls.[120] Similarly, Sicherad's estate was "built near the wall of the city of Lucca, where we own all of the ground…close to the church of Paulecio."[121] One historian placed the latter institution near the gate on the west side of Lucca (dedicated to S. Donato). Taken together, the families each colonized a different portion of Lucca's (roughly) rectilinear Roman-era walls—Pertuald to the east, Sigemund to the south, and Sicherad to the west. Each family, moreover, secured a physical plant close to one of Lucca's principal gates and arteries of movement.

The new religious institutions founded and endowed by Pertuald, Sigemund, and Sicherad shared one last element: a remarkable network of olives that flowed into the family estates. None of the suburban centers grew olives on-site. Rather, they were fed through the

[118] M&D, vol. 4.1, #36, pp. 68-70
[119] Ibid, #37, pp. 70-2: "…seu uia publica, tenente capite prope murus suprascripte ciuitatis Lucensis."
[120] See I. Belli Barsali, "Problemi della topografia di Lucca," *Actum luce* 7 (1978), pp. 63-84; on Saint Columbanus' rampart, see page 68.
[121] M&D, vol. 5.2, #55, pp. 33-34.

families' networks of patronage and land around Tuscany.[122] The family of Sicherad, for instance, held an olive orchard in the coastal Versilia region, an area roughly twenty kilometers west of Lucca, on the westward, Tyrrhenian facing slopes of the Alpuan Alps.[123] Versilia was well connected to Lucca, however, as the Via Cassia ran directly through the region on its way to Luni. The Versilian olive orchard featured prominently in the family's endowment of their church and *xenodochium* in 758 CE.[124] Alapert, one of Sicherad's brothers, endowed the place with "full rights over a third share of the olive orchard" in Versilia.[125] The Versilian olives appeared again in 769 CE, eleven years after the initial endowment, when Sicherad noted that he had given a significant quantity of young shoots from the olive orchard (aliquantas plantas de aulivas) to a man called Teudicus, suggesting that this remained a productive group of trees from which Saint Geminianus' church profited.[126] In addition to this orchard, the proprietary institution also received three "containers" with oil annually, from another of Sicherad's brothers, Filerad, perhaps from his share of Alapert's olive orchard in Versilia.[127]

On the south side of the city, Sigemund's estate was fed by olive orchards that derived from endowments from his extended family, which had begun erecting buildings in the southern

[122] See B. Andreolli, "Contratti agrari e patti colonici nella Lucchesia dei secoli VIII e IX" *Studi Medievali, Serie Terza* 29 (1978), pp. 69-158. There he provides an analysis of all of the tenant contracts, including the mode of payment, involving Lucchese aristocrats.
[123] DGT, vol. 5, pp. 702-3.
[124] M&D, vol. 5.2, #55, pp. 33-34.
[125] Ibid: "et tertia parte de oliveto meo in Versilia in integrum."
[126] Ibid, pp. 66-67. This charter is difficult to make heads or tails of; it seems that the purpose of the document lies in Sicharad's attempt to rectify an illicit gift of olive shoots to this Teudicus. Sicharad appears to think that the shoots were perhaps not his to give away, since they originated with Alapert's part of the endowment. Added to this, Alapert seems to have died, perhaps prompting Sicherad's feelings of regret.
[127] There is an important error in the Barsochini edition of the M&D in this sentence. It reads: "Seo vero omnisque annus tam ego quam heredis meus inivi dare deveamus congias tres." However, in the Schiaparelli edition, the first word is not "Seo" but rather "Oleo." See CDL, vol. 2, #127, p. 9. I have not consulted the original, but "oleo" does make more sense here, as Filerad described the measure of the gift in "congias" a corruption of "concha," a container and unit of measure. See, DuCange, vol. 1, "Concha (definition 3)", c. 497. I will return to this term below. Moreover, in M&D, vol. 5.2, #94, p. 55, the author describes provisions for the poor in terms of "congia" of wine and and crushed beans (pulmentario faba), suggesting that this was a unit commonly understood and could be used for both liquid and solid measures.

suburb of Lucca by 722 CE. In that year Sigemund's nephew, Ursus, founded a monastery there dedicated to Saint Mary.[128] Sigemund himself continued to invest in south Lucca after his 729 CE establishment of the oratory dedicated to Saint Columbanus; in 740 CE, he offered to the basilica dedicated to Saint Peter the property where he resided and other parcels as well.[129] The apostle's church, one of the oldest in Lucca, was located just outside of the south gate of the city, in close proximity to the family's earlier endowments.[130] In the 740 CE charter, moreover, he mentioned twice that Saint Peter's was the church he had attended as a youth (ubi ego quamvis indignus ex infantia deserbire visus fui), which would suggest that his family had been planted near the south gate for some time. Most importantly here, the 729 CE charter of endowment to Saint Columbanus' oratory did not represent the full extent of resources available to the Sigemund's family on the south side of Lucca; rather, we must consider together the 722, 729, and 740 CE charters to get a sense of the scale of that family's impact upon Lucca's metabolic flow.

Sigemund's oratory dedicated to Saint Columbanus left us no metabolic trace—perhaps olives were grown on this land, but we cannot be sure without botanical attention in the charter.[131] When he provided his house to Saint Peter's church in 740 CE, however, it was accompanied by two olive-bearing properties. One included an olive orchard that grew on "empty land, near the City."[132] The other parcel was described as a part of his wife's dowry, originating with his father-in-law.[133] These endowments, while geographically ambiguous,

[128] M&D, vol. 5.2, #10, p. 8
[129] M&D, vol. 4.1, #41, p. 76.
[130] Belli Barsali, "La topografia," pp. 532-533.
[131] M&D, vol. 4.1, #37, pp. 71-2.
[132] Ibid, #41, p. 77: "Simol et terra vacua hic prope Civitatem cum vinea, oliveta, silvis, vergariis, castanetis, cultis et incultis movilia vel inmovilia, serbis vel ancillas, omnia et in omnibus, que ex jura parentum advinet."
[133] Ibid: "Sindi socero meo, qui mihi advinet per conjuge mea Auria, tam cases, terra, vina, oliveta, cultis et incultis, omnia et in omnibus, jam dixi quidquid..."

demonstrate Sigemund's effort to link olives to his family estate. Happily, Ursus' 722 CE charter—the earliest from the Sigemund family—provides a sense of networks, as it included an olive orchard that grew within the boundaries of a known toponym, Ferronianus. This area was located in the Val d'Era, not far from modern Palaia, roughly twenty kilometers southeast of Lucca.[134] In addition to the endowments of Sigemund and his nephew Ursus between the years 722 and 740, Saint Columbanus' church received additional supplies of oil through rent. In 772, a certain Lucifred alienated his house to the religious institution and promised to deliver fifteen pounds of oil annually.[135] Lucifred gave the oil with the agreement that the new owner allow him to remain living in his house.[136] Although the church of Saint Columbanus had by this time passed from the ownership of Sigemund's family, the later oil payment does testify to a demand for finished olive products, namely oil, there.

In the eastern suburb of the city, Pertuald donated to Saint Michael's church one *decima* (about sixty pounds) of the wine and olives annually from both a site called Sancto Pancratio and one called Muriatico.[137] These parcels were located in the Serchio Valley north of Lucca, near Marlia, about five kilometers from the city. In addition to those olives, Pertuald donated to his estate some *decimas* of oil from all of his properties, which, he noted, will vary depending upon the vicissitudes of the season (quot mihi Dominus dederit). Pertuald's distinction between the fruits of Sancto Pancratio and Muriatico (olibas) and his own finished product (oleum) suggests

[134] M&D, vol. 5.2, #10, p. 8: "Sala in loco Ferruniano. cum duas casas tributarias. una qui regitur per Candido, alter per Majoriano cum familia eorum. vinea oliveto silva. peculiare prato in ipso loco." For its location see DGT, vol. 2, pp. 102-103. Repetti links this 722 CE loco Feroniano with one that appeared in a 980 CE charter, where the Lucchese bishop came into the possession of a church dedicated to Saint Gervasio. That church was located in the Val d'Era, according to DGT, vol. 2, p. 434.
[135] M&D, vol. 4.1, #75, p. 125.
[136] Ibid: "et in ipsa casa redere debeam."
[137] Ibid, #36, p. 68: "et decimas de uinea et olibas quemquem hauire uideor at Sancto Pancratio; et decimas de vineas et olivas, quam havire videor de proprio peculiare in loco qui dicitur Muriaticuo super Sancto Petro: similique decimas de omnem lavorem meum, tam vinum, quam granum, oleum, vel de quot mihi Dominus dederit inivi persolvere debeam." For location, see DGT, vol. 4, "Pancrazio (Pieve di S.)," p. 49.

that a portion of his oleicultural wealth was delivered to S. Michael arrived raw, in need of pressing and packaging.

That Pertuald's urban estate processed the olives grown in the Lucchese countryside has some support within the charter, as the two olive-bearing properties included neither tenant houses nor estate managers. This stands in contradistinction to the majority of other property given to Saint Michael's church, which followed a regular formula: "Property in [toponym] X which is controlled by Y the estate manager." In other words, the grapes and olives on Sancto Pancratio and Muriatico included neither supervision, nor space, nor equipment for processing. It was highly unusual in the Lucchese charters of this period for olives to appear detached from their contexts, as units of property separate from the homes and real estate supporting them. The only other olives without attached tenancy in these documents were those of Sicherad, whose propriteary estate in the western suburb received a portion of an orchard in the Versilian hills.

The absence of direct supervision over Pertuald's and Sicherad's olives intimates an unusual mode of organization among their properties. A different and more typical relationship between olives and their handlers can be seen clearly in the monastic endowment of Saint Peter of Monteverde (in Palazzuolo) in 754 CE.[138] This was a rural community, founded by a Pisan called Walfred, on the banks of the Cornia River in the Maremma (see map 3).[139] Walfred endowed the monastery with a massive list of properties, and the olive-bearing properties (five of them), were described within the context of multi-faceted agricultural places, with vines and

[138] For the critical documents on this foundation, see *Vita Walfredi und Kloster Monteverdi: Toskanisches Mönchtum zwischen langobardischer und fränkischer Herrschaft*, ed. K. Schmid (Tübingen: Max Niemeyer Verlag, 1991).
[139] This monastic community was made famous by the descenents of Walfred, the Della Gherardesca family, who controlled vast stretches of Italy until the fifteenth century.

woods and pastures, all organized according to estate centers run by managers.[140] Oleicultural organization based on satellite, rural production centers can also be seen clearly in the 752 CE sale of land in Soana, in southern Tuscany. There, two sets of olives appear in the charter: one on the demesne and one in the context of tenant homes and their bounded occupants, but together acting as a single site of production.[141] In this charter, then, we can visualize the origins of both the labor for the olive trees (the indentured tenants), as well as the site of processing (the demesne); both were located in Tusciano, a rural toponym near the headwaters of the Albegna River.[142] Most importantly, these charters demonstrate that olives were rarely viewed as independent pieces of property, but rather taken as a part of a more complex system of agricultural production.

Because Pertuald's and Sicherad's olives were described without reference to terrain or labor, it seems that our estate owners managed the olives themselves. The raw fruits of the trees and orchards on the rural parcels were likely loaded onto carts and connected to the city via its network of roads. Once there, the olives would be stored, pressed, and packaged in the buildings on the suburban estates. The waste might add to the "dark earth" layers at Lucca. Sicherad's suburban property was certainly equipped for these processes, as it included "our workshops, and that house that is a Solario (a two story home)…with the foundations, where they were laid, with

[140] CDL, vol. 1, #116, pp. 337-352. The olive bearing properties included: "portione mea de basilica Sancti Filippi," "curte iuris mei in Castagnieto," "portiionem meam de curtis iuris mei in loco qui uocatur Septare," "portiionem meam de curte mea castello Faolfi," "portiione mea de oliueto in Uerriana,"

[141] M&D, vol. 5.2, #44, pp. 27-28: "sundriale quem avire visum sum in loco, qui dicitur Tocciano cum terra, et vinea, sylvis vergaria olivis pumis arboribus, simol et casas massaricia in ipso loco Tocciano cum territuri vineis sylvis vergarias olivis pumis arboribus cum cultum, et incultum, cum movile, vel immovile seo semoventibus cum serbus vel ancella, quem avire visum sum in ipso loco, omnia, et in omnibus meam portionem in integrum, excepto Teudifridulo cum uliere sua, ut uno filios suum, nomine personali alii infantis sui." I have "sundriale" here as demesne; see Wickham, *The Mountains and the City*, p. 42. These were indentured tenants, as made clear through a clause exempting a single tenant, Teudifredulus, along with his wife and infant son (presumably there were others), from the exchange.

[142] See B. Andreolli, "I prodotti alimentari nei contratti agrari toscani dell' alto medioevo," *Archeologia medievale* 8 (1981), pp. 117-126; toponym on page 124.

a courtyard, a garden, and a granary with all of their associated materials, along with the stone buildings…"[143] Thus, infrastructure of Sicherad's estate, with its workshops and a granary, provides additional evidence for centralized agricultural production. If Pertuald and Sicherad indeed managed and processed their olive trees from suburban institutions, we can divine an effort to create a hybridized site that blended some of the functions of rural administration and urban administration. Perhaps this was a deliberate translation of oleicultural resources, from the countryside to the city, in order to concentrate not only ownership but also means of production closer to Lucca's urban fabric and consumer metabolism. Clearly these places were not the sole centers of the local oleicultural system, since each also received shipments of oil from elsewhere in Tuscany, but the alignment of evidence pointing toward some aspects of production at Pertuald's and Sicherad's estates indicates that their power was expressed through both production and consumption.

To conclude, Pertuald, Sigemund, and Sicherad followed strikingly similar paths in eighth century Lucca, sharing social background, location of their family estate, and interest in olives. The coherence of this phenomenon accounts in part for changes in eighth century olive ownership; in the first thirty documents of the Lucchese archive (up to 740 CE), five of the seven orchards were held by landholders inhabiting the countryside. In the remaining one hundred and twenty charters redacted in the Lombard era, fourteen olive orchards appeared, but only four belonged to rural olive owners.[144] As always, this statistical shift could be a consequence of the vagaries of the archive. However, it seems more likely that the triumph of urban agents over the Lucchesia's oleicultural affairs derived from a recognition by city-dwellers that the olive could

[143] M&D, vol. 5.2, #55, p. 33: "qui ad nus fabricata videris esse, et casa illa qui est Solario, qui novis nic prope jam dicta Ecclesia ad Paulecio nobis obvinent, cum fundamento, ubi ipsa posita est, cum curte orto granario vel omnis fabricis, cum suis edificiis cum petras et…"
[144] M&D, vol. 4.1, #62, pp. 108-9; ibid, #99, p. 59; ibid, #126, pp. 73-4; ibid, #134, p. 78.

be transformed into prestigious materials that catalyzed social preeminence. The institutions founded by Pertuald, Sigemund, and Sicherad demonstrated the most direct and complete efforts to harness the power of the olive as aristocratic strategy. These were not the only aristocrats to control the olive, but they demonstrate a degree of urban control not evident elsewhere in the eighth century charters. Some possible reasons for their laser-like focus on the olive will be explored in the next sections.

V. Sustaining Bodies, Souls, and Walls: Olives in Early Medieval Tuscany

There was unanimity within the charters on one purpose of these estates. Each was intended, in part, to serve a particular segment of society: the *pauperes* of Christ, a diverse range of people. On the one hand, the endowments aimed at "protecting" a certain number of vulnerable people in Lucca, including orphans and widows.[145] On the other hand, it implied "receiving" pilgrims. What precisely these services included remains vague, save for a provision in Sicherad's endowment to feed four souls every week.[146] If the contemporary charitable institutions in Rome are any guide, the Lucchese estates might have also provided a range of other services, including medical treatment, baths, and lodging for those on a holy trip.[147] In the case of Pertuald, there should be no doubt that Saint Michael's institution was designed in part to serve pilgrims , as the donor reveals that the foundation of that institution came in response to his own pilgrimage to Rome. Pertuald could sympathize with the travails of life on the road.

[145] For Pertuald, S. Michael's group was formulated to protect (*protegendum)* the poor; Sigemund's institution was for sustaining pilgrims (*susceptione peregrinorum* (a type of *pauperes*, he says)); Sicherad's charter, the most explicit said: "et iniui pauperos adque eginos modernos et futuris temporibus consolationem accepiant, per omnisque ebdomatas animas quattuor pascentur…"

[146] For the services provided by these types of institutions, see Dey, "Diaconiae, xenodochia, hospitalia and monasteries," pp. 405-407.

[147] Some of these other services clearly were offered on the estates, for reasons I will discuss below.

Lucca was a well known to medieval pilgrims. Apennine topography limited the range of paths for people traveling by land between Tuscany and Emilia-Romagna, and Lucca's fortuitous position near the Cisa Pass (monte Bardone, see map 3)—one of the few ways to pass through the Ligurian mountains—made it a critical junction for travelers.[148] From Lucca, travelers to Rome could head immediately east to Florentia along the Via Cassia (which then curved southward to Rome), or southeast through valleys carved by tributaries of the Arno, the Era and Elsa, which linked to the Via Cassia further south.[149] The later, of course, became the basis for the high medieval pilgrimage route known as the Via Francigena.

Though the Via Francigena became famous in the Middle Ages, Lucca's role as gateway to central Italy was established much earlier. All literary and pictorial geographic representations of Italy produced during late Antiquity—the *Itinera Antonini Imperatoris*, the *Peutinger Table*, the *Cosmography of the Anonymous Ravennate*, and the *Geography of Guido*—have Lucca as a notable rest stop.[150] On his eight year voyage connecting England to Jerusalem, which began in the year 720 CE (the same year Pertuald endowed S. Michael's church), S. Willibald stopped twice at Lucca.[151] On the first visit, moving toward Rome, Willibald's father died and was interred at the church of S. Fredianus. He then spent two years in Rome before sailing off to the Levant and Asia Minor, where he spent a few more years, sometimes against his will. He stopped at Lucca again before landing at Bavarian Eichsätt. Sadly, Huneberc did not record the

[148] Wickham, *Mountains and City*, p. 17.
[149] For the importance of Lucca's position, see F. Schneider, *Die Reichsverwaltung in Toscana von der Gründung des Langobardenreiches bis zum ausgang der Staufer (568-1268)* (Rome, 1914), pp. 62-65. On the geological factors making Lucca's position important, see pp. 25-61. With particular attention to the roads, see A. Esch, *Zwischen Antike und Mittelalter: Der Verfall des römischen Strassensystems in Mittelitalien und die Via Amerina, Mit Hinweisen zur Begehung im Gelände* (Munich: Verlag C.H. Beck, 2011), pp. 51-71.
[150] Menacci and Zecchini, *Lucca Romana*, p. 252.
[151] The critical edition of the life is *Vita Willibaldi episcopi Eischstetensis et vita Wynnebaldi abbatis Heidenheimensis auctore sanctimoniale Heidenheimensis*, in *Monumenta Historica Germaniae, Scriptores* 15, no. 1 ed. O. Holder-Egger (Hanover, 1887), pp. 80-117.

saint's accommodations in Lucca, though it is enchanting to imagine Willibald and Pertuald dining together, discussing (in Latin?) the road ahead to Rome.[152]

How many adventurous souls like Willibald were trekking from northern Italy (and further abroad) to central Italy, thus requiring a stop in Lucca, during this period?[153] Rome experienced enough traffic to warrant the circulation of two pilgrim guides to that city by the mid-seventh century, the *Notitia Ecclesiarum Urbis Romae* and the *De Locis Sanctis Martyrum.*[154] Michael McCormick recently offered another method for measuring the scale of movement between northern Europe and the Mediterranean. By tracing the origins of the relic hoards in Sens and Chelle using authentics—the accompanying scraps of paper that provide the provenance of the relics—McCormick suggests that pilgrims from seventh and eighth century Gaul seem to have been ceaselessly carrying bits of saints back from Rome.[155] The Lucchese accommodations for pilgrims, in other words, probably did not remain idle. A steady stream of Roman saint seekers in the eighth century poured forth from the Apennine pass looking for hospitality.

Olives and pilgrims, then, both flowed toward the aristocratic estates located near Lucca's main gates. One way olive oil could have potentially contributed to sustaining pilgrims was as food. Indeed, Sicherad intended his endowment to feed four souls per week, though with no explicit menu. The evidence for dietary consumption of olive oil in early medieval Lucca, and

[152] It is worth noting, too, that the "other" great Anglo-Saxon pilgrimage account from the early Middle Ages, the Archbishop Sigeric's 990 CE itinerary, includes a stop in Lucca. See V. Ortenberg, "Archbishop Sigeric's journey to Rome in 990," In *Anglo-Saxon England* 19, ed. M. Lapidge (Cambridge: Cambridge University Press, 1990), pp. 197-246; for central Italy, see 230-1.
[153] For pilgrimage to Rome in this period, see D. Birch, *Pilgrimage to Rome in the Middle Ages: Continuity and Change* (Woodbridge: Boydell, 2000).
[154] *Notitia Urbis Romae*, pp. 49-66. And, *De Locis Sanctis Martyrum* in *Codice Topografico della Cittá di Roma*, vol. 2, ed. R. Valentini and G. Zuchetti, Fonti per la Storia d'Italia 88 (Rome: Tipografia del Senato , 1944), pp. 101-131.
[155] See M. McCormick, *Origins of the European Economy: Communications and Commerce, A.D. 300-900* (Cambridge: Cambridge University Press, 2001), pp. 281-313.

all of Italy for that matter, is exceptionally thin. One of the few dietary provisions from this era can be found in serial biography of the bishops of Rome called the *Liber Pontificalis* (much more about this document will be said in subsequent chapters, particularly chapter 3). There, Pope Hadrian's biography provided a list of rations distributed by that pontiff to the *pauperes* at the Lateran: 50 loaves of bread, each loaf weighing 2 pounds, and 2 *decimas* of wine, each *decima* weighing 60 pounds, and a cauldron full of meat or fish broth were disbursed every day.[156] Bread, wine, and meat broth, were given to pilgrims in late eighth-century Rome, but no olives.[157]

A different way to access dietary trends, specifically in Lucca, is to discern what non-elite agricultural tenants kept after dividing their agricultural surplus with the property owner. Bruno Andreolli has organized this material by sifting out tenant contracts that pertained to small-level farmers within the Lucchese charters. The criteria for qualifying as non-elite farmers included the obligation to reside on the farm, no indication of subletting, and minimal penalties for breaking the contract.[158] Because the renters in this category occupied a precarious economic state, with less room for non-dietary production, it can be assumed that their negotiated portion of the agricultural surplus went predominantly to the table. Andreolli found fourteen eighth century contracts that met his criteria. Within that group of charters, only one, a lease from 764 CE, indicated that the farmer was able to keep a share of the olives from the property.[159] In addition to the other half of the olives raised on the property, the renter, Liutpert, paid to the bishop two *modia* of grain and two *modia* of flour, five amphorae of wine, one animal, two

[156] *Le Liber Pontificalis: texte, introduction et commentaire* (henceforth LP), vol. 1, ed.L. Duchesne (Paris: Écoles Francaises d'Athénes et de Rome, 1886), p. 502: "et L panes, pensantes per unumquemque panem lib. II, simulque et decimates vini II, pensantes per unamquamque decimatam lib. LX, et caldaria plena de pulmento."
[157] It is noteworthy that the domuscultae that supplied the food grew olives, though they evidently were not distrubted in Rome.
[158] B. Andreolli, "Contratti agrari e patti colonici" p. 70.
[159] Ibid, p. 71. For the contract, see M&D, vol. 5.2, #85, p. 51.

chickens, ten eggs, and labor service. Thus, Liutpert's contract hints at dietary olives, but their absence in the majority of agrarian arrangements indicates a general dearth of alimentary oil in most rural homes.

If the olives were not intended to sustain the bodies of pilgrims, perhaps they played a role in sustaining their souls. Each of the estates included a building that could house an audience for participating in Christian rites. Pertuald's property had a church (ecclesia), Sigemund's an oratory (oraculo) as well as the conjoined church of S. Peter, and Sicherad's property included a church (ecclesia). Charters pertaining to two of the estates made explicit that the proceeds delivered to them were meant to sustain the practice of saying prayers, singing hymns, and keeping the offices of the church.[160] Sicherad endowed his *xendochium* without clerical stipulations, but this was probably because he served as presbyter and rector of the institution. When pilgrims came for shelter and food at these estates, they likely participated in the local religious rites. These buildings, then, served as a stage upon which the Lucchese aristocrats could demonstrate their piety and social status.

Upon that stage two of the Lucchese families, Pertuald's and Sigemund's, produced olive-consuming light.[161] The third chapter of this dissertation examines the adoption of hanging lamps in Rome, and how that technical achievement created a culture of light, influencing art, inscriptions, and the overall visual experience in the churches there. However, the private endowment of churches in Lucca, while certainly a part of the illuminative turn in early medieval

[160] The priest (sacerdus) of S. Michael's church was obliged to, "pro meis facinoribus Dominum deprecari debeat" and make the "officium Dei." See M&D, vol. 4.1, # 86, pp. 137. Upon Sigemund's endowment of the church of S. Peter in 740 CE, he ordered a priest (sacerdus) "Dominum exorare…et missarum precibus at Dominum non cesset cantare." See ibid, #41, p. 75.

[161] Pertuald's son, Peredeus, in his last will and testament asked that clergy in each of his ecclesiastical buildings, specifically the church of Saint Michael Archangel, "which My Lord Father, Pertuald, of Blessed Memory built," make lights (luminaria faciant). See ibid, # 86, p. 139. Sigemund, in 740 CE, ordered the clerics at S. Peter's to make the lights of the saints. See ibid, #41, p. 76.

Italy, belonged to a different strand of that story. Aristocrats endowed lights in their churches not to produce overwhelming visual effects as in Rome, but to participate as known patrons in early medieval religious practice, as keepers of churches. Particularly Lucca's elite used oil to elbow into the cult of the saints.

Donors who prescribed making of lights at churches like those in Lucca might also have had in mind specific practices of illumination during the daily office—different kinds of lamps placed in different locations around the church—but any such link remains too dim to discern in the available evidence.[162] Even if the Lucchese offices included the full eight of monastic, Benedictine hours, taking the chanting and singing into the dark moments of the night, the single lamp that was to remain perpetually burning would have been enough illumination in these small buildings for people to assemble.

More importantly, the production of light in early medieval Lucca enabled the donors to participate in exchanges with Christianity's special dead. Sigemund seems to have had this purpose in mind, as his endowment was intended to fuel, "the lamps of the saints of God."[163] In religious terms, the production of flame by votive lamp was intended to demonstrate an offering in its expenditure of fuel. As such, the lights were burned for redemptive effect. There was a practical distinction, then, between the clerical obligation to keep the church illuminated perpetually and on special occasions, and endowments of a lamp or lamps at the cult site of the saints. For the former, lamps gave the building an authenticity, a means of demonstrating that the building was a legitimate holy house. For the latter, the consumption of lamp oil was a means of supplicating and communing with the saints.

[162] For the development of the daily office in western Europe, both monastic and cathedral, see P. Bradshaw, *Daily Prayer in The Early Church: A Study of the Origin and Early Development of the Divine Office* (London: SPCK, 1981), 111-149.
[163] M&D, vol. 4.1, #41, pp. 76-78.

Beyond the prescriptions for ordering votive light, there is little evidence for how the system of votive illumination worked in early medieval Lucca. A charter from 820 CE provides the most explicit instructions for cult lamps. In it, Alprando donated property to the Church of Domini Salvatoris, inside the city of Lucca, and in recognition of this act he ordered that the proprietors give oil for specific lamps—hanging lamps—in the cathedral:

> "…and in recognition of the donation of this land, you should deliver oil for those three lamps , which are silver "Concalias," hanging on the pergola in front of the altar of S. Martin, so that in the apse, in the day and night, there will be oil for lights, just as is customary for those lamps…"[164]

The evidence for the hanging lamps is late, but the qualification that those lamps be burned "according to custom," suggests that they derived from an earlier period. According to this document, votive lamps were supposed to burn perpetually and in close proximity to important cult sites, such as the altar (which perhaps contained a relic of the saint?).

Participation in illuminative exchanges with saints in early medieval Lucca was limited by one's resources, judging by the evidence in the charters. The warrior Gaiprando, in his last will and testament, written before marching against the Franks in 755 CE, offered his estate to the Church of S. Fredianus, and the presbyter of that institution was to, "from this smallest of gifts, make the lights of the saints."[165] Likewise, the widow Anstrualda left her property to the Church and Monastery of S. George (in Nottuno), with the proviso that a priest "of her choosing" will burn the lights of saints.[166] And in 755 CE, the *religiosa femina*, Cleonia, founded a church

[164] M&D, vol. 5.2, #434, p. 261: "pro justitia de ipsa terra vos oleum mittere debeatis in illas tres lampadas, qui sunt in Concalias argenteas pendentes in pergula ante altare S. Martini, ut absidue die et nocte abeant oleum ad luminaria, sicut usque modo cusuetudo fuit ipsas lampadas aberent…"
[165] Ibid, #51, p. 31: "…ut de ipso parbo monuscolo luminaria sanctorum faciat…"
[166] M&D, vol. 4.1, #40, p. 75.

dedicated to Saint Cassian, and she reserved the right to name the priest of the institution, who was obliged to "make the lights of the saints."[167]

Three of these illuminative commands were accompanied by the donation of property to the target institution. Only Cleonia's request lacked land, but even here a badly mutilated and illegible addendum to the charter indicates that her family had previously endowed the church. Even more importantly for the present disucssion, in the three charters that included legible transfers of property, the parcels included olive orchards. Only about one in five of the Lucchese charters dating to before the Frankish conquest included any mention of olive trees, making the link in all three extant cases in Lucca statistically significant. It would appear that access to the production of the votive lamps in Lucca in the eighth century was confined to the wealthy, and perhaps even only to those with direct access to olives.[168]

In addition to visual effects, olive-fueled votive lamps offered their handlers access to other aspects of religious culture in early medieval Italy. For this practice, however, we must turn to the Treasury of the Monza Cathedral, just north of Milan. That institution displays a set of early medieval glass vials which once held oil. These vials were accompanied by tags of papyrus corresponding to a single inventory sheet, which details the contents and provenance of the vials.[169] This sheet reveals that the vials of oil had been collected from lamps that burned near burial places of important Christians around Rome during the pontificate of Gregory I and that they been delivered to the Lombard queen, Theodelina. If Theodelinda's efforts to acquire

[167] Ibid, #48, p. 88.
[168] In a charter from Novara, dating to 730 CE, a man donates the proceeds from his property for funding a lamp burned for S. Martin, suggesting that elsewhere, money could buy oil for votive lamps. See *Historiae Patriae Monumenta*, *Chartarum*, vol. 1, ed., C. Alberti (Augustae Taurinorum: E region typographeo, 1836), p. 18.
[169] See *I Papiri di Monza*, in *Codice Topografico dell Città di Roma,* vol 2, eds. R. Valentini and G. Zucchetti, Fonti per la storia d'Italia pubblicate dall'Istituto storico italiano per Medio Evo 88 (Rome: Tipografia del Senato, 1942), pp. 29-47.

Roman oil were representative of pilgrimage practices more generally, then votive lamps also functioned as a sort of dispensary for locally-produced religious substance. Were Lucchese saints as efficacious as Rome's powerful pantheon? Theodelinda's inventory would certainly suggest so, as several vials simply contained the oil "from many thousand saints." Given that names need not even be attached to the oil, it would seem that oil dedicated to minor saints was also worth collecting. Moreover, a pilgrim's portable oil vial need not remain unadulterated with oil from a single lamp, but rather could contain a heady mixture from various sites and saints, including those from Lucchese patrons.

At the suburban accommodations on the property of Pertuald, Sigemund, and Sicherad in Lucca, weary pilgrims found a source of bodily and spiritual succor. If they arrived with some sort of affliction, as Willibald's father evidently did, the oil burning in the "lamps of the saints of God" at these hostels might have served as welcome medicine. For collectors, a few drops of local, Lucchese oil could be added to a flask that contained fuel from thousands of other lamps. Many flagging travelers must have recovered in places like these, and the holy patrons of the institutions—Michael, Columbanus, and Geminianus—must have been afforded some agency in that process. The retrieval of their lamp oil represented a commemorative act of their healing or even a way to ensure their assistance again sometime in the future, after they had departed from Lucca. It was an early medieval form of collecting that depended on the salvific properties only oil could absorb.

The creation and maintenance of a successful cult site in the city, particularly along the walls, could also be translated into a kind of civic role by the proprietors. As early as 739 CE, portions of the wall in Lucca were associated with particular saints. In that year a certain Iustu sold to Ursa, the abbess of the church of S. Mary (and niece to Sigemund, incidentally), a

vineyard, and gave his identity not in terms of city, but in terms of position along the wall. He referred to himself as "from the gate of S. Gervase," the eastern portal of Lucca.[170] The micro-toponym itself is fascinating, and hints at an early development of zones of identity in the city, but it also reveals a sense of holy patronage over the city's defenses.

The defensive and apotropaic powers of certain saints were applied to walls almost immediately after the Peace of Constantine; Constantinople's enceinte, for instance, was protected by Mary.[171] Julian Gardner highlights the ubiquitous role of the archangel Michael near gateways, as evidence of his patronage has been discovered in Syria, Burgundy, Trier, Fano, and Rome.[172] That same holy patron, of course, was selected by Pertuald for his estate near the eastern portal of Lucca, and thus he might have selected that most martial saint as a means of spiritually defending that gate. Keeping the lamps burning at the church of Saint Michael the Archangel was not only a matter of religious duty, then, but a proactive, defensive measure for the city. The 739 CE poem praising Milan's walls, in which the civic saints were explicitly described as defenders of the circuit, suggests that there was a strong impulse in that period to not only associate saints with walls, but more particularly to defense.[173]

We have now explored how the flow of olives and the imperative to care for pilgrims can be understood as a coherent phenomenon in early medieval Lucca. As a holy ointment, souvenir, and votive light, olive oil provided those who sheltered pilgrims with sundry ways to accomodate Lucchese sojourners. The intercessionary powers of oil in its various forms were evidently known wide and far, and provided a common idiom for visitors from around Europe

[170] M&D, vol. 5.2, #24, pp. 16-17.
[171] J. Gardner, "An Introduction to the Iconography of the Medieval Italian City Gate," *Dumbarton Oaks Papers* 41 (1987), pp. 199-212; Constantinople on page 202.
[172] Ibid, pp. 202-208.
[173] See *Versus de Verona. Versum der Mediolano civitate*, ed. G.B. Pighi (Bologna: Nicola Zanichelli, 1960), pp. 145-147.

and the Mediterranean to express their religiosity away from home. Communing with saints appealed to pilgrims, but also provided local prestige, as a happy saint was willing to ward off enemies from the city's walls. Considering all of these factors together provides a clearer explanation as to the peculiar topography of the estates belonging to Pertuald, Sigemund, and Sicherad. By planting their flags in the suburbs, these aristocrats became highly visible, acting as intermediaries between the road and the city, drawing Lucca's pilgrims into their institutions of hospitality. Thus, part of the olive's metabolic changes in the mid-eighth century can be read as a response to a larger metabolic system, the flow of humans into and out of northern Tuscany.

VI. Accessing the Arcane: Olives in Systems of Medical Knowledge

Access to olives allowed Pertuald, Sigemund, and Sicherad to participate in a specialized form of material culture. Though I have thus far focused upon the religious components of the estates, these suburban properties were also critical for elite participation in terrestrial economies. In addition to olives, the estates drew various resources and were outfitted with buildings and equipment for processing the things that arrived there. Sicherad's property included "a garden, a granary, with all of its infrastructure, and the outbuildings, including their stones and…the trees on the lot"[174] Sicherad's brother provided that estate with all of the firewood (lignamen) from his forest in Faexo. Additionally, the institution received "mules, a cow, a calf, a bull, some twenty head between nanny goats, sheep, and pigs (iumenta, vacca, una vitellata, uno bove, et inter capras pecoras et porcus capitas vigenti)." The quantity of animals, as well as the attention to gender suggests that animal husbandry was an integral part of the institution's economic livelihood. The mules, of course, would have been used for traction,

[174] M&D, vol. 5.2, #55, p. 33-34: "orto, granario, uel omnis fabricis, cum suis edificiis, cum petras e[t…]is uel arboribus …"

possibly even carting the family's olives to the estate from their orchard in Versilia. The other animals could have provided a range of products, including cheese, leather, rope, tallow, wool, and meat. Sigemund's estate included a garden and tenant houses, indicating that he and his tenants shared the land, and provided labor service for him there a few days a week.[175] Pertuald's land enjoyed access to running water, as the property was bound by a ditch (fossato), a potential source of energy for propelling equipment or washing away waste, and there was also a well (antico puteo).

Unfortunately, the narrow scope of the charter elides how these components interacted on a day to day basis. If the estate could be animated, the moving parts would reveal the essential role played by olive oil. The wooden machinery involved for presses, wheels, and mills would have taken some lubricant.[176] Ropes, leather containers, and wooden handles and ladders were likely conditioned with a bit of oil. The ancient Roman agronomist, Varro opined that *amurca*, the watery and toxically acid byproduct of olive pressing, was an excellent pesticide, and thus the perfect chemical for pouring over the threshing floor, in order to keep it clear of weeds.[177]

In addition to managing its agricultural pursuits, Pertuald ordered the monks on his estate to tend the estate's *pigmentarium*. This is an unusual word, and appears only this once in the Lucchese charters.[178] Its meaning can be confidently discerned, however, by collating several instances of its appearance, from very different kinds of early medieval sources. The first comes from the early seventh century encyclopedia, the *Etymologies*, by Isidore of Seville, who connected the term to medical practice:

[175] M&D, vol. 4.1, #41, p. 76-7.
[176] See J. Muendel, "Friction and Lubrication in Medieval Europe: The Emergence of Olive Oil as a Superior Agent," *Isis* 86, no. 3 (1995), pp. 373-393; for oil reducing the coefficient of friction in wood on wood machines, see pp. 383-4. For olive oil as lubricant, see pp. 388-392.
[177] Varro, *On Agriculture*, trans. H.B. Ash (Cambridge: Harvard University Press, 1934), p. 285.
[178] Belli Barsali, "La topografia di Lucca," p. 492.

> "Mortar (pila) from crushing (pisere, i.e. pinsere) seeds, that is, grinding them up. From this also 'crushed herbs' (pigmenta), because they are made (agere) in a mortar with a pestle (pilum), as if the word were *piligmentum.* A mortar is a concave vessel suited to use by physicians, in which, properly, grains are usually ground for tisanes and herbs for drugs (pigmenta) are crushed."[179]

At least five eighth-century manuscripts of Isidore's *Etymologies* resided in Italy (three at Bobbio, one at Benevento, and one as Cassino), making it one of the best attested works on the peninsula in this period.[180] We can add to Isidore's medical etymology a letter dated to 801 CE in which Alcuin defended the practice of pharmacology, arguing that practitioners are agents of God, combining ingredients provided by the deity:

> For doctors are in the habit of concocting a certain type of remedy from many species of herbs (pigmentorum) for the health of an enquirer; they do not presume themselves the creators of the herbs and other species, from whose concoctions the well-being of the sick is truly effected, but rather as helpers in combining [those parts] into a single medication with pharmaceutical (pigmentaria) expertise, thus strengthening the body.[181]

Though deriving from distinct geographies, both well afield from Italy, the synchronous use of the word in the two works suggests that when Pertuald deployed the term *pigmentarium* he had medical purposes in mind.

Recipes for medical remedies like those outlined by Isidore and Alcuin exist in several early medieval manuscripts. In fact, pharmacy is the best attested aspect of medicine in this period, as very few treatises on theory or medical science seem to have circulated, based on the

[179] Isidore of Seville, *Etymologiarum sive originum*, vol. 1, ed. W.M. Lindsay, Scriptorum Classicorum Bibliotheca Oxoniensis 20 (London: Clarendon Press 1911), IV.xi.4:"Pila a pisendis seminibus, id est terendis. Hinc et pigmenta, eo quod in pila et pilo aguntur, quasi piligmenta. Est enim pila vas concavum et medicorum aptum usui, in quo proprie ptisanae fieri et pigmenta concidi solent."
[180] Ibid, vii.
[181] Alcuin, "Epistolae," in *Monumenta GermaniaeHistorica, Epistolarum, Karolini Aevi*, vol. 2, ed. E. Duemmler (Berlin, 1845), pp. 356-7:" Solent namque medici ex multorum speciebus pigmentorum in salute poscentis quoddam medicamenti conponere genus, nec se ipsos fateri praesumunt creatores herbarum vel aliarum specierum, ex quarum conpositione salus efficitur egrotantium, sed ministros esse in colligendo et in unum pigmentaria manu conficiendo corpus." Alcuin seems to be drawing upon Cassiodorus' instructions to Vivarium for the argument. See Cassiodorus, *Institutiones*, ed. R.A.B. Mynors (Oxford: Clarendon Press, 1937), XXXI.1.10-24.1.10-23.

paltry number that have survived.[182] A representative example of this literature, and a work linked to early medieval Lucca in various ways, was the *Alphabet of Galen*, a "handbook of ancient Greek pharmacy transmitted in Latin to the Middle Ages under the name of a famous doctor." [183] This text included recipes for 300 "simples"—the term Isidore used for unguents comprised of one ingredient—for medicinal use, arranged alphabetically.[184] The earliest manuscript containing the *Alphabet of Galen* derived from seventh or early eighth century Italy; its precise geographic origins cannot be rendered, unfortunately.[185] The Biblioteca Statale in Lucca possesses a ninth century copy of the text (one of the first illustrated medicinal manuscripts), along with several other pharmaceutical works, like Dioscorides' *De Materia Medica*, which begins provocatively with the phrase, "Incipit liber pigmentorum…(Here begins the book of drugs)," recalling Pertuald's *pigmentarium* and providing a regional *terminus ad quem* for the use of the word.[186] This Lucchese manuscript derived originally from Mantua, and the chronology of its arrival to the Tuscan city remains unknown. Even so, it provides local evidence, albeit late, for reading *pigmentarium* as a pharmaceutically oriented endeavor.

In a different manuscript from a different library in Lucca, MS 490 of the Biblioteca Capitolare, folios dated to the eighth century contain language drawn directly from the *Alphabet*

[182] Several historians of early medieval medicine have commented upon this discrepancy. For a sanguine interpretation of the imbalance between theoretical works and recipe books, and of early medieval medicine in general, see J. Riddle, "Theory and Practice in Medieval Medicine," *Viator* 5 (1974), pp. 157-84. For more trenchant analysis of the available texts, see F. Wallis, "Signs and Senses: Diagnosis and Prognosis in Early Medieval Pulse and Urine Texts," *Social History of Medicine* 13, no. 2 (2000), pp. 265-278. Discussion of types of medical writings extant in the early Middle Ages on page 266. Also, see P. Horden, "What's Wrong with Early Medieval Medicine?" *Social History of Medicine* 24, no. 1 (2011), pp. 5-25.
[183] N. Everett, *The Alphabet of Galen: Pharmacy from Antiquity to the Middle Ages* (Toronto: University of Toronto Press, 2012), p. 3.
[184] For an overview of the medical knowledge received from Anitquity and its theoretical structures, see V. Nutton, *Ancient Medicine* (New York: Routledge, 2013), pp. 299-324.
[185] It is housed now at the Vatican. See Everett, *The Alphabet of Galen*, p. 10. One of the peculiar aspects of this manuscript is that the abbreviations conform to Irish or Anglo Saxon practice.
[186] For this manuscript, see M. Collins, *Medieval Herbals: The Illustrative Tradition* (London: British Library, 2000),, pp. 158-162. The manuscript is called *Biblioteca Statale, MS 296*.

of Galen.[187] This manuscript was comprised of several discrete works, including an early copy of the *Liber Pontificalis*, but the redaction was uniformly undertaken in Lucca, at roughly the same time.[188] Sandwiched between the Apostolic Canons of Clement and a hymn attributed to Pope Gregory I, a set of folios in the manuscript included recipes for the creation of dyes or paints, among many other things.[189] One of those recipes deployed rock alum (chalcitis), and drew its descriptive language from its corresponding entry in the *Alphabet of Galen*.[190] Since the contents of the two recipe books derived in part from ancient sources, and yet the earliest manuscripts of both date to the seventh and eighth centuries, it is nearly impossible to say when MS 490 borrowed the language from the *Alphabet of Galen*. Nicholas Everett, for one, believes that the presence of the medical language in the collection of paint recipes indicates that the *Alphabet of Galen* circulated in Lucca before the illuminated version from Mantua arrived.[191] Though the limited evidence does not permit us to follow the *Alphabet of Galen* into the decade of Pertuald's foundation in the 720s CE, the contextual evidence for the circulation of medical texts in Lucca later in that century, and possibly before, bolsters the earlier philological associations between his *pigmentarium* and pharmaceuticals.

The full range of ingredients included in the *Alphabet of Galen* was probably not available to early eighth-century Lucchese pharmacists. Some of the simples in that collection derived from remote parts of Eurasia and Africa, including Ethiopia (#26), Arabia (#39), Egypt

[187] For chronological and paleographic analysis of MS 490, see L. Schiaparelli, *Il Codice 490 della Biblioteca Capitolare di Lucca e la scuola scrittoria Lucchese (Studi e Testi 36)* (Rome: Presso la Biblioteca Vaticana, 1924), pp. 1-20. The text explicitly says it was written "ad presens annum Caruli regis in Langubardiam, in mense septembrio, quando sol eglypsin patuit, in indictione X, anni sun DCCLXII menses V." Schiaparelli calculates, based on the mention of the eclipse and regnal dating, that the redaction took place in 787 CE.
[188] For geographic provenance, see Schiaparelli, *Il Codice 490*, pp. 5-6.
[189] Ibid, p. 14. For a recent critical edition (and Italian translation) of the folios dedicated to paint recipes, see A. Caffaro, *Scrivere in Oro: Ricettari medievali d'arte e artigianato (secoli IX-XI) Codici di Lucca e Ivrea*, (Naples: Liguori, 2003).
[190] See Everett, *Alphabet of Galen*, p. 181, note 1.
[191] Ibid, pp. 120-133.

(#54), Persia (#235), and India (#73); postclassical economic constrictions limited the geographic horizons from which imports could be drawn. In other words, the full boutique of drugs found in early medieval manuscripts might not correspond perfectly with contemporary practice. Nevertheless, in the range of simples found in the *Alphabet of Galen* distinctive patterns of preparation can be discerned, which might usefully reflect general practice in pharmaceutical production in later periods. Most notably, the authors of the text prescribed several of the simples to be mixed with various types of liquid olive. For instance, the preparation of bryony (#43), coriander (#68), myrtle (#188), stavesacre (#247), shepherd's-purse (#283), stinging nettle (#288), and even wine (#292) included their mixture with olive oil before use as topical or ingested drugs. The entry for olive oil (#203) also describes its syncretic properties, and mentions therapeutic advantages of mixing it with rose oil, chamomile, berries, bay laurel, seeds of the mastic tree, dill, quinces, wild cucumber, and iris. And it was not only the oil of the olive that was efficaciously mixed, but also its amurca, the bitter byproduct of olive pressing. Once boiled down amurca could be mixed with dyer's buckthorn (#146) and scammony (#252), as well as having therapeutic results taken alone (#144). The sap of wild olive (#96) was prescribed for improving dim eyesight. In short, olives and their byproducts were fundamental, base ingredients for a range of drugs prescribed in pharmaceutical literature circulating in early medieval Italy. Isidore confirms this impression, writing that all drugs, simples (simplicia) and composites (conposita), were to be suspended in common oil (communi oleo).[192]

The limited contexts of Pertuald's charter of endowment, unfortunately, leave opaque the nature of drug production and distribution in early medieval Lucca and its social and cultural impact. Surprisingly little is known about medical practice in general in early medieval Italy,

[192] Isidore of Seville, *Etymologiarum sive originum*, IV.xii.10.

despite the preponderance of pharmaceutical texts.[193] Were Pertuald's drugs bound for medical practitioners, or for consumption at the monastery and xenodochium? It is perhaps easiest to imagine this *pigmentarium* serving the limited confines of the complex dedicated to Saint Michael the Archangel. Precedence for this type of on-site, monastic production and consumption can be found in sixth-century Calabria, where Cassiodorus founded Vivarium and instructed the monks to heal sick pilgrims by learning about and compounding drugs (discite…naturas herbarum commixtionesque specierum). Cassiodorus left the monks medical works in the library, including treatises by Dioscorides, Hippocrates, and Galen.[194] Pertuald's institution probably did not have had the extensive textual resources of Vivarium, but there is evidence that men like Pertuald kept a library on these estates. Sigemund, for instance, included his books (codicis) in the endowment of his ecclesiastical estate.[195] Pulling these various jig-saw puzzle pieces together, the ubiquity of medicinal texts combined with monastic and aristocratic evidence for book owning suggests that Pertuald's *pigmentarium* likely had access to drug recipes like those in the *Alphabet of Galen*, though perhaps in fragmented state.[196]

Pertuald's drugs might have even circulated in a medical economy beyond the borders of his estate. There are very few examples in the available evidence of specific persons whose vocation involved the administration of drugs—*medici*—in the early Middle Ages.[197] Yet, their

[193] Patricia Skinner discusses the disparity between the evidence for the prescriptive texts and the social context in which they were deployed. See P. Skinner, *Health and Medicine in Early Medieval Southern Italy* (Leiden: Brill, 1997), pp. xi-xvii.
[194] Cassiodorus, *Institutiones*, XXXI.1.10-24.
[195] M&D, vol. 4.1, #37, pp. 70-2.
[196] For the fragmented nature of medicine texts in this period, see Horden, "What's wrong with Early Medieval Medicine?," pp. 16-19.
[197] See P. Horden, "Sickness and Healing," in *Cambridge History of Christianity, Vol. 3: Early Medieval Christianities, c. 600-1100*, eds. T.F.X. Noble and J. Smith (Cambridge: Cambridge University Press, 2014), pp. 416-432. For the historical obscurity of doctors in this period, see 422-4. In early medieval Italy, the term *medicus* can be translated as *doctor*, but not necessarily with the sense of professionalism implied by the term in English. Skinner says that it was probably applied to people who practiced medicine. See Skinner, *Health and Medicine in Early Medieval Southern Italy*, p. 80.

presence is presumed in contemporary writings. For instance, the early seventh century Lombard Edict of Rothari included several scenarios in which doctors' fees were included in procedures of compensation.[198] And contemporary saints' *vitae* often set up the *medicus* as the "fall guy" for demonstrating how inefficacious medicine was compared to the healing powers of holy men and women.[199] Among this sea of inconspicuous and impugned doctors, there is one we know by name: a certain Gaidoaldus.[200] Intriguingly, he practiced in the year 767 CE and owned a great deal of property in Tuscany, including a parcel near Lucca's territorial limits (finibus Lucensis). Gaidoaldus, then, was a near contemporary of our drug maker, Pertuald. According to the charter in which he endowed a monastery in Pistoia, Gaidoaldus' title was that of doctor of the king (medicus regum), indicating that he served in a royal or ducal capacity. Might there have been an institutionalized medical hub in early medieval northern Tuscany?[201] One of the earliest instances of a civically appointed doctor—a *medico condotto* called Ugo Borgognoni—derives from Lucca, although several centuries later.[202] Even if Pertauld's pharmacy was not directly supplying drugs to physicians like Gaidoaldus, the coincidence of their operations, as well as the contemporary manuscripts containing recipes for simples and composites, point to a culture that

[198] For instance, laws 38-40 of Rothair's Edict includes monetary provisions for "conpositiones plagarum" in the case that a slave or freeman strike a critical blow. See *Edictus Rothari*, in *Monumenta Germaniae Historica*, *Legum* 4, ed. G.H. Pertz, (Hannover, 1868), p. 19. In the case of various mutilations to an *aldius* (noses, fingers, hips), compensation for "mercedes medici," was explicitly given (see laws 82, 83, 84, 87, 89, and 94); see *Edictus Rothari*, pp, 25-6. Mutilations of field slaves carried similar provisions.

[199] V. Flint, "The Early Medieval 'Medicus', the Saint—and the Enchanter," *The Social History of Medicine* 2, no. 2 (1989), pp. 127-145.

[200] CDL, vol. 2, #203, pp. 205-212.

[201] Medical historians of the Middle Ages have justifiably focused on southern Italy, where Salerno developed an early reputation for its medical school, possibly the first in the Middle Ages. This reputation is traditionally linked with the 11th century translations of Constantine Africanus of Arabic medical texts into Latin. Even before this, however, the town was known for its book market and collection of medical texts (for books, see Skinner, *Health and Medicine*, p. 80; for circulation of medical texts, see ibid, pp. 127-136). The small bits of evidence for medical practice in early medieval Tuscany suggests a need to expand the geographic scope of this type of history, and include the dark ages in that discussion.

[202] V. Nutton, "Continuity or Rediscovery? The City Physician in Classical Antiquity and Mediaeval Italy," in *The Town and State Physician in Europe from the Middle Ages to the Enlightenment*, ed. Andrew W. Russel (Wolfenbüttel: Herzog August Bibliothek, 1981), pp. 9-46; high medieval Lucchese doctor on page 26.

embraced therapeutic treatment with drugs. Whether bound for the monastic context or a broader medical community, Pertuald's *pigmentarium* ought to catalyze a re-conception of the argument that early medieval monasteries kept medical texts predominantly for liturgical concerns, as sources for assessing signs of death.[203]

Thus olives allowed their owners to participate in rarified, scientific systems of knowledge that existed in parallel to the religious modes of knowledge examined in the previous section. Pertuald's *pigmentarium*, when read in the broader context of medical literature that circulated in Lucca during the eighth century, suggests the aristocrat's family estate engaged in the production of potions whose efficacy was attested by some of the most famous ancient healers. For these classical medical writers, it was assumed that Roman imperial networks would provide access to both arcane and common substances that might heal various ailments: the "Cucurbita syluatica (#54)" found solely in upper Egypt would always be available to Mediterranean consumers, not to mention olive oil. Obviously, they had not anticipated a world without Roman hegemony. The subsequent breakdown of the Mediterranean's connectivity placed increased pressure on the ability of medical practitioners to acquire not only written knowledge, but also the materials of healing. Pertuald evidently had access to both, which made him a very powerful person in early medieval Lucca.

VII. Lubricating Industry: Olives in Metal Production

When Pertuald endowed the church and monastery of Saint Michael the Archangel, he described the property as "next to my manor house…comprising of a paved courtyard" (prope

[203] F. Paxton, "Signa Mortifera: Death and Prognostication in Early Medieval Monastic Medicine," *Bulletin of the History of Medicine* 67, no. 4 (1993), pp. 631-650.

domus cellula mea…curte[204] cum fundamento[205]), a structure of some sophistication. The land on which Sicherad erected the church and monastery dedicated to Germinianus included his mansion—a *solario*—a stone, multi-storied building, along with an adjacent courtyard.[206] Though Sigemund called the domicile in which he resided simply a house (casa…ubi cummanire uideor), the description of its contents indicates a place of some pretention.[207] He included in the donation the domestic decorations: the tapestries (pannis), the copper and golden adornments (eramen, uel auricalco), as well as the books (codicis). In addition to the master house, the transaction for the property also included the tenant homes (casas massaricias) and the families that dwelled in them.

The suburban estates around Lucca performed religious and agricultural functions, but they were also sites of ostentation, which demonstrated the patron's wealth. An early medieval visitor would have noticed the material composition of the estates. As discussed earlier, this was an era of timber buildings, so stone foundations, courtyards, and even homes would have been immediately recognized as a sign of wealth. The other materials associated with these properties, too, must have signaled membership in the aristocratic class: fabric tapestries, parchment, and metal objects. Other evidence from the Lucchese archive demonstrates that the suburban estates had a particularly close relationship with metal, which will be the focus of this section.

Metalwork constitutes perhaps the best-attested aspect of material culture in Lombard Italy, thanks in large part to its prevalence in burials. Funerary practices changed at the end of the sixth and seventh centuries within the Lombard *Regnum* and increasingly included valuable

[204] For the definition of the term *curte*, see Belli Barsali, "La topografia di Lucca," p. 488. She argues that the courtyard could be in front of or behind the adjacent building and was probably incorporated structurally, as well. The curte was an urban architectural form in Lucca.
[205] For the definition of the term *fundamentum*, see ibid, p. 490.
[206] On solario, see ibid.
[207] M&D, vol. 4.1, #37, pp. 70-2.

metal treasures.[208] Moreover, these tombs had particular "kits" of objects that signified the dead's particular class.[209] Among the most ubiquitous objects in these "kits" were metal weapons and jewelry. Two well-preserved necropolises in central Italy, at Castel Trosino (near Ascoli Piceno) and Nocera Umbra (near Assisi), provide well stratified data for discerning social patterns within Lombard burials .[210] Enthusiasm for metal objects can also be detected in the charters, as several iron workers, gold, silver, and bronze smiths, sword makers, and merchants appear in documents written during the eighth century.[211]

In Lucchese contexts, the people who identified as metalworkers gravitated toward the same suburban locations controlled by Pertuald, Sigemund, and Sicherad. Most notably, Sigemund's ecclesiastical organization dedicated to Saint Colombanus occupied a central position among metal-working artisans in the eighth century. Three people identify as professional goldsmiths (aurifice) in the charters written before the Frankish conquest, and two appear as signatories in charters related to the estate dedicated to Saint Colombanus. [212] The third, a certain Iusto, lived near the gate of S. Gervase, the eastern portal of the city—the area dominated by Pertuald.[213] Gold was not the only metal associated with these estates; in a last will and testament in which the church and monastery of Saint Columbanus was the primary

[208] C. La Rocca, "Segni di distinzione. Dai corredi funerari alle donazioni 'post obitum' nel regno longobardo," in *L'Italia centro-settentrionale in età longobarda, Atti del Convegno Ascoli Piceno, 6-7 ottobre 1995* (Florence: All'insegna del giglio, 1997), pp. 31-54.
[209] Ibid, p. 38.
[210] See L. Paroli, "La necropoli di Castel Trosino: un laboratorio archeologico per lo studio dell'età longobarda," in *Sepolture tra IV e VIII secolo: 7° seminario sul tardo antico e l'alto medioevo in Italia centro settentrionale: Gardone Riviera 24-26 ottobre 1996*, eds. G.P. Brogiolo and G. Cantino Wataghin (Mantova: Società archeologica padana, 1998), pp. 91-111. Also, see C. Rupp, "La necropoli longobardi di Nocera Umbra: una sintesi," in same collection of essays, pp. 167-183.
[211] For a complete list from all the Lombard charters, see C. Citter, "I corredi nella Tuscia Longobarda: Produzione locale, dono or commercio?: Note per una storia della attività produttive nella Toscana alto medievale," in *Sepolture tra IV e VIII secolo: 7° seminario sul tardo antico e l'alto medioevo in Italia centro settentrionale: Gardone Riviera 24-26 ottobre 1996*, eds. G.P. Brogiolo and G. Cantino Wataghin (Mantova, 1998), pp. 179-195; list on p. 184.
[212] M&D, vol. 5.2, #107, pp. 63-4; M&D, vol. 4.1, #75, pp. 125-6.
[213] Ibid, #26, p. 16.

beneficiary, one of the signatories identified as a *caldarius*, a producer of silver-iron vessels. It should be reiterated here that these suburban estates were not central cult sites in the city, and, in fact, have not constituted a unit of analysis in previous scholarship. There is nothing in the hierarchy of religious buildings in Lucca, in other words, that explains the clustering of metal-workers in charters pertaining to these estates, and at Saint Colombanus in particular.

While we have the names of agents responsible for working metal in Lucca, and some of their finished products, we know virtually nothing about the social context of their work. Did eighth century gold-working signatories simply share a chosen suburban geography with the founders of the aristocratic states?[214] Perhaps, rather, they were clients of the wealthy families, laborers at the centers of production, whose emergence in the eighth century we reconstructed in the foregoing pages. Since most of the metal-workers appeared only as signatories, we know almost nothing about them. Only Iusto featured in his charter, but even here the document captured a simple transaction of one vineyard for six Lucchese solidi. The precise ligaments connecting metal workers to the estate dedicated to S. Colombanus, then, are not yet perfectly visible to historical perception. Nonetheless, placing the metalworkers in the larger economic contexts of early medieval Lucca does provide some parameters for beginning to form a better understanding of their place in the city.

The most outstanding feature of the aristocratic estates analyzed here, in terms of the economic processes vis-à-vis their urban counterparts, was the control of oleicultural resources. Thus, in assessing the degree to which the early medieval metal-workers were associated with the estates, it might be worth asking whether mineralogical modes of production in this period

[214] An extensive collection of Dark Age bronze objects were uncovered in the northern suburb of Lucca, near the church dedicatd to Saint Vincent. This has led its excavator to suggest that this area was a site of production, which would lend support to the notion that suburban contexts suited the process of shaping metal. See Ciampoltrini and Notrini, "Lucca tardoantica e altomedievale," p. 585.

overlapped with networks of olive. The relationship between plant and metal seems improbable, yet Codex 490 of the Biblioteca Capitolare in Lucca reveals surprising connections.

Codex 490 contains thirty four sections, concerning a wide range of topics, secular and religious. One of those sections comprises a collection of anecdotes and recipes concerning artisanal processes, primarily that of coloring various materials (one section provides instructions for constructing an underwater workshop!).[215] The manuscript has no official title, but is known as the *Compositiones Variae* or *Compositiones ad tingenda Musiva*. Luigi Schiarparelli convincingly argued that it was written by Lucchese scribes, around the end of the eighth or beginning of the ninth centuries.[216] Rozelle Parker Johnson, who provided the most exhaustive examination of the text's content, was assured of its utility: "…the *Compositiones Variae*, contains recipes which could have been and, as I believe, actually were put into practical application by the members of the [monastic] school. This would be almost the only, and without doubt the main, reason for the preservation of such a collection of technical-chemical recipes."[217]

According to the utilitarian recipes in the *Compositiones Variae*, olive oil was a vital ingredient in the production of gold foils for use in gilding. Because gold is a relatively soft metal, it must be alloyed with other metals for greater durability, particularly silver and copper. The early medieval recipe for gold foil prescribes that sheets of gold, copper, and silver be

[215] This portion of the manuscript was first edited and published in the eighteenth century, in L.A. Muratori, *Antiquitates Italicae Medii Aevi*, vol. 2 (Milan: Typographia Societatis Palatinae, 1739). The best edition presently available, with a full color reproduction of the original manuscript, is Caffaro, *Scrivere in Oro*, which offers the Latin and an Italian translation.
[216] Schiaparelli, *Il Codice 490*, pp. 66 and 106.
[217] R.P. Johnson, *Compositiones Variae: From Codex 490, Biblioteca Capitolare, Lucca, Italy, An Introductory Study (Illinois Studies in Language and Literature 23, no. 3)* (Urbana: University of Illinios Press, 1939), p. 17. The author provides several convincing points concerning the use of the text. For one, it lacks alchemical mysticism that pervades late Greek and Latin prescriptions (p. 61). Also, the manuscript sometimes presents several recipes for any one process, suggesting an accretion of knowledge that would be useful for a practitioner with local constraints—he or she could mix and match recipes to accommodate available resources. However, this haphazard and inelegant accretion likely would have been refined if this text was primarily a literary concern (p. 62).

coated in olive oil before layered on top of one another and lightly hammered. The oil seems to have aided in the fusion of different metals. Silver foil, the recipes prescribe, was produced using the same process.[218] Oil also was an essential ingredient in the refinement of gold, in hardening lead, processing chrysocolla (a hydrated copper silicate mineral), and producing litharge (a lead by-product).[219]

Olive oil was hardly the most important component of metal working in early medieval Lucca—more critical aspects included high temperature furnaces, fuel, and iron tools for manipulating molten metal—but its linkage with processes of refinement provides a different perspective for understanding the obscure, early medieval means of metal production. In other words, the domination of oleicultural resources by Lucchese aristocrats might be read, in part, as a way of controlling the last phases of mineralogical production. It cannot be coincidence that, other than the church, the only indication in the written sources of finished metal products in eighth-century Lucchese society derived from the domestic contexts of Sigemund, the founder of Saint Colombanus, the magnetic center of metal-working artisans in the pre-Carolingian charters.[220] Thus, there was a shared geography among where metal-working laborers dwelled and the space of consumption, which coincides with the area in which olives, and other agricultural products, were being delivered and processed in eighth century Lucca.

Nothing in the written evidence suggests how or where the Lucchese aristocrats might have obtained the raw materials for processing metal. Tuscany was, however, a renowned mineralogical region in Italy during both Antiquity and the high Middle Ages suggesting that locally available resources, particularly iron, copper, silver, lead and tin, were available for

[218] Caffaro, *Scrivere in Oro*, p. 104
[219] Ibid; for gold, see chapter 103, p. 128; for lead, see chapter 105, p. 130, which calls for soap from oil (sapone ex oleo); for chrysocolla, see chapter 113, p. 126; for litharge, see chapter 131, p. 146.
[220] M&D, vol. 4.1, #41, pp. 76-8.

exploitation in the early Middle Ages, as well.[221] Archaeology has made great progress in identifying the small-scale contexts in which Dark Age metal production must have taken place.[222] The most intriguing discoveries related to our era have been found near Follonica, at a rural site at the foot of the hills lining the Pecora River, five kilometers from its mouth. An estate called Aione was settled in the early Middle Ages (i.e. no settlement existed there in late Antiquity) and has yielded ceramic fragments dated between the eighth and tenth centuries, as well as vitreous wares that have been dated to the late sixth or seventh century.[223] Among these early medieval fragments were found iron slags, byproducts of smelting, and unprocessed iron ore.[224] Though Aione does not appear in the charters, a nearby site called Pastorale (roughly a kilometer away) was exchanged in 779 CE, passing from an agent of Charlemagne, identified as "from the Bath of the King," to the church of Saint Fredianus in Lucca.[225]

The Follonica Gulf, including Popolonia (see map 3), was not particularly rich in minerals, despite the enormous number of metal slags found in the region.[226] The Colline Metallifere, the principal source of Tuscany's mineral wealth, began about 20 kilometers from the coast.[227] A more probable source of the iron ore smelted near Follonica, including the early medieval estate of Aione, was the island of Elba, only 10 kilometers from Piombino, and

[221] See R. Farinelli and R. Francovich, "Potere e attivitá minerarie nella Toscana altomedievale," in *La Storia dell'Alto Medioevo italiano (VI-X secolo) alla luce dell'archeologia: Convegno Internazionale (Siena, 2-6 dicembre 1992)*, ed. R. Francovich and G. Noyé (Florence: All'Insegna del Giglio, 1994), pp. 443-465.
[222] See, for instance, V. La Salvia, *Iron Making during the Migration Period: The Case of the Lombards*, BAR International Series 1715 (Oxford: Archaeopress, 2007).
[223] C. Cucini, "L'insediamento altomedievale del podere Aione (Follonica—GR)," *Archeologia Medievale* 16 (1989), pp. 499-512.
[224] Ibid, p. 511.
[225] M&D, vol. 5.2, #173, p. 99.
[226] P. Crew, "The iron and copper slags at Baratti, Populonia, Italy,"*The Journal of Historical Metallurgy* 25 (1991), pp. 109-115.
[227] By the high Middle Ages, moreover, the towns in the Colline Metallifere near Follonica were processing primarily non-ferrous metals, like copper, silver, and lead. See A. Manasse, "Chemical and textural characterisation of medieval slags from the Massa Marittima smelting sites (Tuscany, Italy)," *Journal of Cultural Heritage* 3 (2002), pp. 187-198.

renowned for its accessible and plentiful iron deposits in Antiquity and the high Middle Ages.[228] Though no early medieval evidence of iron extraction on Elba has turned up, the northern coast of Sardinia has yielded a remarkable Roman-era villa retrofitted for early medieval iron processing.[229] If the Sardinian furnace is representative of a significant set of early medieval iron furnaces—built within the skeletons of ancient Roman structures—it is hardly any wonder more traces of post-classical smelting have not been found. Traces of iron working, like evidence for so many other early medieval pursuits that redeployed ancient forms, were likely discarded by earlier generations of archaeologists who rushed to arrive to ancient era contexts. The more important point here, however, is that increasing amounts of archaeological evidence point to limited, but continuous, mining and smelting operations around the Follonica Gulf in the early Middle Ages. Moreover, the city of Lucca was well connected to this region by seaways, as detected in a charter from 768 CE, when two brothers agree to transport grain and salt from their property on the Maremma coast to a port where the bishop can receive them.[230]

In summary, the estates owned by Pertuald, Sigemund, and Sicherad were outfitted with buildings and amenities that articulated their owners' class. Contemporary burial contexts demonstrate, moreover, that metal objects constituted one of the most prevalent means for

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[228] A. Corretti, "Siderurgia in ambito elbano e populoniese: un contributo dale fonti letterarie," in *Materiali da construzione e produzione del ferro: studi sull'economia populoniese fra period etrusco e romanizzazione*, eds. F. Cambi, F. Cavari, and C. Mascione (Bari: Edipuglia, 2009), pp. 133-139. For continuous relationship between Elba and the Maremma coast, see M.E. Cortese and R. Francovich, "La lavorazione del ferro in Toscana nel medioevo," *Ricerche Storiche* 25, no. 2 (1995), pp. 435-457; Elba on page 436.

[229] For an overview of the excavation, see D. Rovina, et al., "L'insediamento altomedievale di Santa Filitica (Sorso-SS): interventi 1980-1989 e campagna di scavo 1997. Relazione preliminare," *Archeologia Medievale* 26 (1999), pp. 179-216. For an archaeological discussion of the retrofitted furnace, see D. Rovina, E. Garua, and P. Mameli, "Attivitá metallurgiche presso l'insediamento tardo antico di Santa Filitica a Sorso: dati preliminari archeologici e archeometrici," in *L'Africa romana: le ricchezze dell'Africa: risorse, produzioni, scambi: atti del 17. Convegno di studio, 14-17 dicembre 2006, Sevilla, Spagna* (Rome, 2008), pp. 2673-2696. For a geochemical evaluation of the slags found in Sardinia, see P. Mameli et al., "First Finding of Early Medieval Iron Slags in Sardinia (Italy): A Geochemical-Mineralogical Approach to Insights into Ore Provenance and Work Activity," *Archaeometry*, Published Online 5 February, 2013 (not in print), pp. 1-25. The results determined that the 6th century slags derived from Sardinian ore.

[230] M&D, vol. 5.2, #111, pp. 65-66.

expressing one's place in Lombard society, which would suggest that both our aristocrats and their estates were likely adorned with such objects. Indeed, Sigemund explicitly mentioned the copper and golden trapping in his residence. Combined with the contexts for demand, the charters indicate that people who shaped and supplied metal objects lived in close proximity to the family estates examined here. The cumulation of the evidence suggests that Pertuald, Sigemund, and Sicherad might have had a hand in the metallurgical processes around Lucca, a city tapped into the mineralogical resources around the Follonica coast. Improbably, the relationship between metal and the suburban estates is bolstered by the availability of olive oil there. Codex 490, a Lucchese manuscript created the same century as those estates, explicitly called for oil as an essential material for producing fine metal objects.

VIII. Conclusions: New Settlements, New Olives

How might a historian characterize the suburban estates founded by Pertuald, Sigemund, and Sicherad? Were these agricultural centers, aristocratic palaces, industrial zones, or religious spaces? They simply do not fit entirely into any existing category. Even their location, just outside the Roman walls, represents a liminal state that cannot be easily explained. Taken individually, it would be easy to dismiss one of the estates as an idiosyncratic religious foundation with some mixed purposes. Taken together, however, we can see that this was a cohesive phenomenon in suburban development and its multifaceted nature, in fact, defined it. This picture only emerges, however, when the city's metabolic processes are evaluated. In other words, it is the distinct flow of olives to the estates owned by Pertuald, Sigemund, and Sicherad that alerts one to the patterns that illuminate their role in early medieval society. Like the plant they utilized, these were hybrid institutions.

The early medieval suburban estates had no equivalent in Roman era Lucca. These sites were not centers of political, legal, or religious power. A study concerned with principal institutions of the city, therefore, would have likely overlooked the important role these places held in Dark Age Lucca. The aspect of Pertuald, Sigemund, and Sicherad's estates that made them extraordinary among their peers was the effort to condense the flow of materials near the civic armature. There, the patrons accumulated resources that could transform those materials into cultural and ideological influence. The consumption of that influence was targeted locally, but with much bigger spheres of influence in mind, too. Pertuald, Sigemund, and Sicherad each had a relationship with royal officials, and these estates served as a showpiece for hosting friends and officials from Pavia, Spoleto, and Benevento. The city's strategic position at the base of the Apennines all but assured them of frequent high-status visitors.

By the eighth century, the fiscal engine that drove the foundation and initial development of Lucca was dead, but new forms of urbanity had taken root on top of the Roman city. Without offering a series of benchmarks for "cityness" it would be futile to argue that the suburban institutions founded by Pertuald, Sigemund, and Sicherad "made" Lucca a city. And anyway, the point of metabolic analysis was to avoid preconceived notions of urbanity (particularly those informed by Roman precedents). Rather, by examining the flow of olives in the eighth century Lucchesia this chapter has revealed some particularly animated pockets within the early medieval urban armature. In these contexts, olives fueled a multitude of endeavors, including religious practice, the production of medicine, and lubricating industrial processes; pools of olives drew to them people from different social classes and possessing different skills. At the estates of Pertuald, Sigemund, and Sicherad, the olive catalyzed increasing complexity and signals the reemergence of the city's hegemony over the country.

Chapter 2
The Fruits of Farfa: Dark Age Sabina

The settlement of the Lombards in the central Sabina at the end of the sixth century, around the same time they were taking Lucca, provoked great consternation in Rome. The Pannonian migrants, in Pope Gregory's view, irreparably damaged the material and human mechanisms for administering Christian care to the flock in that area of low hills about 30 km northeast of Rome. In a letter sent to the bishop of Nomentum (modern Mentana, a town just north of Rome), the pontiff described the grim aftermath of their arrival: "the hostile impiety [of the Lombards] has desolated the churches of several cities with their pernicious sins. Because the population has been reduced to such an extent, no hope of repairing them remains. And we are constrained with an even greater worry: with the priests of that flock dead, [we must act now] lest the remains of the plebeians have no staff of leadership to guide them, or they be dragged off onto the shadowy path of the cunning enemy of the faith—God forbid such a snare!"[1] The Sabina's imperiled state compelled Gregory to eliminate one of the region's three bishoprics: the diocese centered around Cures (see map 4), a town about twenty five kilometers north of Rome. The thorny task of caring for the souls within the dangerous, abrogated diocese fell to the letter's recipient, the bishop of Nomentum, a certain Gratiosus.

[1] Gregory the Great, "Epistolae," vol. 1, in *Monumenta Germania Historica, Epistolae 1*, eds. P. Ewald and L.M. Hartmann, (Berlin, 1887), ep. III.20, p. 178: "Postquam hostilis impietas diversarum civitatum ita peccatis facientibus desolavit ecclesias, ut reparandi eas spes nulla populo deficente remanserit, maiori valde cura constringimur, ne defunctis earum sacerdotibus reliquiae plebis, nullo pastoris moderamine gubernante, per invia fidei hostis callidi rapiantur quod absit insidiis."

Sometime between 574 and 584 CE a contingent of Lombard soldiers migrated to central Italy under the leadership of Faroald I, and established a microstate in the city of Spoleto.[2] By the 590s he had annexed land up to the 22nd mile marker of the Via Salaria (that is, roughly 22 miles north of Rome).[3] The duke of Spoleto and his principal agent in the region, the gastald of Rieti, martially overrode the claims of ownership held by several Rome-based landlords, who had long used the Sabina's twin assets, easy access to the Tiber and rich soils, to profit from supplying food to the city.

The pope was among those landlords whose ownership of Sabine land the Lombards had rendered precarious. In the last lines of Gregory's letter to Gratiosus, he asked the bishop, practically as an afterthought, to keep an eye on S. Peter's Sabine patrimony.[4] The absence of any real attention to the management of the papal holdings in the letter probably indicates that Gregory had already conceded their loss. In effect, then, this letter recorded the withdrawal of the pope's spiritual and temporal authority from the region.[5] And Gregory's retreat was representative of the general flight of Roman aristocrats from the region in the 6th century. This mass departure marked a momentous change. After over 600 years of direct control, Rome had lost its grasp on the Sabina.

Even for a city that in the 590s had become accustomed to watching its empire contract, the capitulation of the Sabina was a particularly terrible blow—it was an intimate region, sharing

[2] See Migliario, *Strutture della proprietá agraria*, p. 33.
[3] S. Gasparri, *I duchi Longobardi*, Studi storici 109 (Rome: Istituto storico italiano per il medio evo, 1978), p. 73.
[4] In this respect, the bishop of Nomentium filled the vacant position of *defendor* of the Sabine patrimony. Previously, this had been an autonomous secular office in the Sabina that dispensed justice and financial affairs on papal property. The pope wrote to the decedents of a certain Urbicus, who acted as *defendor* of the Sabina before his death, regarding the payment of the debts of the deceased. See Pope Gregory I, Epp., III.21. For a general sense of the role of a *defendor*, see Gregory's letters to Cyprian, the *defendor* of the Sicilian patrimony, Epp., IV.6.
[5] In effect, Gregory's letter recorded the withdrawal of papal authority from the central Sabina. (the de facto elimination of the bishop of Cures and *defendor* of the Sabine patrimony). The pontiff maintained a pretense of power by consolidating those positions into the bishopric of Nomentanum, who resided at a safer proximity to Peter's chair

a deep history and close geography. [6] This chapter investigates the aftermath of this rupture. In particular, it examines the environmental changes associated with the retrenchment of Roman influence in the Sabina, using the olive tree as its heuristic. The degree of familiarity with the olive among the two hegemonic powers of the first millennium in Italy, Rome and the Lombards, could not be drawn into a starker relief. The Romans, of course, held the tree in the highest regard, especially those grown in the Sabina, according to the ancient agronomists. The Lombards, on the other hand, were strangers to the Mediterranean environment and its botanical regime; many had probably never seen an olive before they arrived in the peninsula. Nevertheless, this is not a history wherein the ignorance or insensitivity of an invading force altered the ecology of their new home, as in the case of the British settlement in the eastern U.S. or the Portuguese in Brazil.[7] Rather, the Pannonian migrants elevated the olive within the botanical pantheon early in their tenure, ensuring by fiat that the tree was protected. Even if the Lombards had been antagonistic to the olive, setting fire to its gnarly branches whenever encountered, they were probably too few to wipe out the tree in one terrible holocaust. Only a few thousand or so soldiers held the duchy of Spoleto, and the Sabina was actually a peripheral part of this polity.

In what sense, then, did they cause a historical rupture to the region? The Lombards changed the environmental dialectic by profoundly altering the economics of the Sabina. Using their military prowess, they cut off routes of exchange to Rome. Moreover, the Lombards did not

[6] For an overview of the Sabina's ancient history, see Migliario, *Strutture della proprietá agraria*, p. 38-40.
[7] I am thinking here of Cronon's discussion regarding the introduction of English cattle, which quickly destroyed the native grasses that were unaccustomed to grazing patterns of English cows. See W. Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill and Wang, 2003), pp. 127-158. A similar situation occurred in Brazil, where the Portuguese introduced pigs, which retarded the growth of the Atlantic rainforest. See W. Dean, *With Broadax and Firebrand: The Destruction of the Brazilian Atlantic Forest* (Berkeley: University of California Press, 1998), pp. 66-90. In both cases, the changes wrought by the invading forces had mostly to do with the incompatibility of the group's "cultural package," that is its domesticated animals and dietary preferences, as transported to a new land.

replace the Roman systems of rent extraction that had oriented the nature of agricultural production in much of the Sabina, as described in the introduction. The duke of Spoleto, in other words, did not directly fill the void left by the aristocratic and state mechanisms (like the bishopric or defendor) that had directed the resources of the region to the caput mundi. From an environmental perspective the differing "strengths" of the states bears greatly on this discussion because it signifies their desire and ability to dictate the botanical composition of the rent. [8] Strong states of pre-modern Europe generally enforced botanical homogeneity, which made counting and transport easier for the hegemonic entity. The producers within a weak state tended to diversify their alimentary mode and rely upon marginal space. In the late sixth century, as the Lombard military prized Roman agents from the region and the subsequent "strength" of state oversight in the Sabina declined rapidly, the humans and environment began a decidedly new phase of their dialectical relationship.

The foregoing allows me to frame the goals of this chapter more precisely. I analyze here how the economic changes wrought by the Lombards affected the cultivation of olive trees in the Sabina, a region famous for that type of arboriculture. The way I have framed the pivot of this transformation, the moment of "Lombard rupture," misrepresents the real agents of change here—local farmers and their ecology. In short, the Lombards transformed the context, but the choice to grow olives, or not, within the "weak" Lombard state was one that was negotiated in hundreds of homes across the Sabina. Would Sabine farmers choose to capitalize upon their

[8] See T. Lewit, "Pigs, presses and pastoralism: farming in the fifth to sixth centuries AD," *Early Medieval Europe* 17, no. 1 (2009), pp. 77-91, for a broad look at the differing agricultural trajectories of western and eastern Europe in Late Antiquity. In western Europe during the fifth and sixth centuries she sees a trend away from specialized cereal production and cattle raising associated with the decline of the Roman state and its market, army, and taxes. In the Byzantine eastern Mediterranean, on the other hand, she argues that rural settlement expanded, and the land use intensified in order to meet an increased demand for agricultural production for the state.

structural oleicultural inheritance—presses, mills, and, of course, the trees— or forsake their olive trees with their newfound economic autonomy?

To construct a post-Lombard portrait of oleiculture in the Sabina, I compile and interpret the evidence from several hundred early medieval legal documents, pertaining to the sale, exchange, donation, and inheritance of land in the region. When disputes regarding property arose in Italian courts during the early medieval era, these contracts were the principal means for proving ownership. The peninsula was awash in these types of contracts at this time—each parcel required a charter—but water, bugs, and fire, among other destructive agents, severely winnowed the extant collection. Like in Lucca, the subject of the previous chapter, a cache of charters happened to survive from the Sabina because they were recorded and stored by a powerful, local institution, the monastery dedicated to S. Mary, along the Farfa River. This monastery, called Farfa for short, arose on Mt. Acuziano, about five kilometers northeast of Cures, the "lost" city whose bishopric pope Gregory decommissioned.

The first half of this chapter is dedicated to understanding the economic trends of the Sabina before the Lombard arrival, during the era in which it remained connected to the city of Rome. Nothing like the seventh to tenth century written documentation of Farfa's archive exists for the earlier period, making the olives of late antique Sabina more evasive. However, a substantial cache of archaeological evidence has been collected, providing the raw material for the development of a social and economic picture of the region. The archaeology reveals glimpses of where people lived, how they organized themselves, and with whom they traded. The dynamics of life reconstructed through the archaeological evidence illuminates some of the principal factors affecting their agricultural choices. Moreover, the economic and social trends that can be articulated through the archaeological evidence provide an excellent set of

comparanda for the post-Lombard oleicultural portrait available through Farfa's charters. In other words, by comparing these two sets of evidence, I determine to what degree the late antique social and economic context affected the early medieval cultivation of olives.

I. The Late Antique Landscape; Rome's Hinterland

In order to understand the economic structures of late antique Sabina, one starts best in Etruria, the region directly across the Tiber River (see map 4). Etruria and Sabina shared a proximity to Rome, access to the Tiber River, and access to important roads north of the city. Developments in Etruria, then, provide a rough guide to how things unfolded in the Sabina, and, importantly, the former has been studied more comprehensively.[9] From the 1950s to the 1970s the British School at Rome archaeologically investigated the region in a project called the South Etruria Survey; they examined where and how densely humans lived over a long arc of time. The principal indicator of late antique occupation, quantitatively speaking, was a particular type of pottery imported from northern Africa, called African Red Slip, whose features enable dating within a decade. The methodology of collecting the ceramic was novel to this study, as teams of surveyors systematically walked the terrain looking for pieces of pottery, particularly in freshly plowed areas; if ceramic fragments were found, it was presumed to indicate that humans occupied the site during the decade in which the African Red Slip was produced.[10] The British School at Rome found that the number of sites yielding ceramic evidence dating to the year 80 CE (the Imperial period), was 86% greater than the number of sites yielding African Red Slip

[9] The touchstone for all developments in the Roman hinterland during late Antiquity is the South Etruria Survey conducted by John Ward Perkins in the 1950s to1970s, and synthesized in T.W. Potter, *The Changing Landscapes of South Etruria* (London: Palgrave Macmillan, 1979). It should be noted that the survey included data and analysis regarding a broad chronological spectrum, as far back as the Bronze Age. I focus here upon the results for Late Antiquity, and the subsequent scholarly debate that ensued.

[10] This method was different than site-based archaeology, where a single structure was examined in depth.

around the year 450 (late Antiquity), and the number of settlements stayed at this nadir until the eighth century.

What could cause such a drastic decline in ceramics in Etruria? Richard Hodges and David Whitehouse paint the gloomiest picture of the evidence, interpreting the ceramic reduction during late Antiquity as a demographic collapse in Rome's northern hinterland on the scale the Black Death.[11] The quantitative reduction in African Red Slip over time seemed to bear out the tangible results of the late imperial economic crisis described by A.H. Jones and M. Rostovtzeff, which ultimately made the empire economically unsustainable in the west.[12] The South Etruria evidence, in this view, perfectly illustrated the decline of Rome. Social networks decayed, the economy flagged, and people fled (some died, too). Alas, the last few decades have witnessed a reinterpretation of the earlier, dire scenarios.

The discipline of archaeology has made several strides that help to better interpret the British School's work from the 1950s-1970s. In particular, the Tiber Valley Project, the organizational successor to the South Etruria Survey, has re-populated the dreary picture of the

[11] Hodges and Whitehouse, *Mohammed, Charlemagne and the origins of Europe*, p. 53.

[12] The most important histories that shaped the narrative of a late Roman economic crisis were M. Rostovtzeff, *The social and economic history of the Roman empire* (Oxford: Biblo & Tannen Publishers, 1926), especially its final chapter, pp. 449-487 and A.H.M. Jones, The *later Roman Empire 284-602*. For Rostovtzeff, the crisis occurred due to a rupture in the ancient social fabric (an ascendible hierarchy, in Rostovtzeff's view, held together by the city-state) caused by the 3rd century civil war, and the subsequent failure of Diocletian's and Constantine's reforms. The replacement of civic administration by centralized, imperial bureaucracy, the regularization of taxation in kind, the assessment of taxes according to the *iugum* and *capita*, and the binding of the curial class to their *origo*, each contributed to the decline in social relationships, and thus economic failures of the later empire. On page 471 Rostovtzeff writes, "Commerce decayed, not because of piracy and barbarian inroads, but mainly because customers disappeared. The best clients, the city bourgeoisie, decreased constantly in numbers and purchasing power and reverted to an almost pure 'house economy', each home producing for itself what it needed. The only customers left were the members of the privileged classes, the officials, the soldiers, and the large landed proprietors, and they were provided for, as far as the necessities of life were concerned, either by the state (their salary being paid in kind) or by the produce of their own estates." The South Etruria Survey seemed to confirm the kind of rural decline one would expect from this crisis. For an excellent historiographical summary of the late antique economic crisis, see T. Lewit, *Agricultural Production in the Roman Economy, A.D. 200-400*, BAR International Series 568 (Oxford: Tempus Reparatum, 1991), pp. 1-11.

Roman hinterland painted by the earlier work. [13] On the most basic level, a better understanding of the chronologies of African Red Slip show that the numerical decline was not as drastic as previously thought. Even more importantly, the new archaeology has shown that the presence of African Red Slip is probably not the best indicator for rural settlement in late Antiquity. For instance, the preponderance of rural chapels, catacombs, and cemeteries provides ample, non-ceramic evidence of a populated countryside in late Antiquity, a point emphasized by Vincenzo Fiocchi Nicolai.[14]

Moreover, it is better understood now that the communities of late antique Etruria became partially invisible to earlier generations of archaeologists when cultural and social transformations changed the nature of the evidence that provided proof of their lives. One element of that change was an increasing preference for timber construction. Wooden posts and shingles replaced bricks and tiles in many places, especially in rural areas, like Etruria, the

[13] The light cast upon this rural region by Ward-Perkins and Potter, in turn, generated more scholarly consideration as subsequent generations were drawn to rethink and refine the archaeology. In the late 1990s the British School mobilized an initiative to reexamine and contextualize the results of the South Etruria Survey, the Tiber Valley Project. As its title would suggest, the project takes the Tiber River as its geographic starting point (rather than the Etrurian region), an approach that emphasizes economic connections and the movement of people, and encourages archaeologists to expand their analysis and comparisons to the east side of the river. It also thematically reorients the project, making the city of Rome a more central component of the analysis of the data. The Tiber Valley Project has not received a monographic synthesis, like Potter's for South Etruria. Rather, Helen Patterson has offered short summaries of the project's goals and progress. For these, see H. Patterson, "Introduction" in *Bridging the Tiber: Approaches to Regional Archaeology in the Middle Tiber Valley*, ed. H. Patterson (London: The British School at Rome, 2004), pp. 1-10; H. Patterson, H. Di Giuseppe, and R. Witcher, "Three South Etrurian 'crises': first results of the Tiber Valley Project," *Papers of the British School at Rome* 72 (2004), pp. 1-36; and for a summary of the results pertaining to the early Middle Ages, H. Patterson, "Rural Settlement and Economy in the Middle Tiber Valley: AD 300-1000,"*Archeologia Medievale* 37 (2010), pp.143-161. A collection of conference papers regarding the findings of the Tiber Valley Project has also recently been published. See H. Patterson and F. Coarelli, eds., *Mercator placidissimus: the Tiber Valley in Antiquity: New Research in the Upper and Middle River Valley: Rome, 27-28 February, 2004* (Rome: Edizioni Quasar, 2010).

[14] See V. Fiocchi Nicolai, "Cimiteri paleocristiani e insediamenti nel territorio meridionale della Sabina Tiberina," in *Bridging the Tiber: Approaches to regional archaeology in the Middle Tiber Valley*, ed. Helen Patterson (London: British School at Rome, 2004), pp. 111-124; on page 116 he writes, "[t]ali aree funerarie talvolta costituiscono l'unica documentazione dell'esistenza di un abitato in quel period; la loro presenza va spesso felicemente ad integrare quei vuoti di informazione che la ricognizione di superficie è costretta in più di un caso a rilevare."

Sabina, and, as we saw in the previous chapter, the Tuscan hills.[15] Even when villas adorned with marble and mosaic floors seem to have been available for habitation, late antique communities in Etruria often preferred to use them as religious or production sites, and build wooden huts nearby.[16] The direct evidence of those huts, of course, rotted and disappeared long ago, causing earlier archaeologists to confuse decomposition for depopulation.

Though a more nuanced position regarding evidence for the rural communities north of Rome has increased our awareness of their presence in Late Antiquity, even the most sanguine interpretation of the evidence would not claim perfect demographic equilibrium there between the first and fifth centuries.[17] One factor that must have thinned the population there was a second century epidemic, the so-called Antonine plague.[18] It is estimated that the plague killed 20-30% of the population of Italy.[19] R.P. Duncan-Jones links the chronological coincidence of the quantitative decline in the tax rolls, leases, and army diplomas in Egypt, inscriptions, brick stamps, and minted coins in Rome, to the wide-ranging effects of the pestilence. It is worth noting, however, that the data used by Duncan-Jones also tends to reflect an almost immediate quantitative increase in these markers after the year 170 CE or so, suggesting that, while the Antonine plague ravaged widely, it did not suppress society for long.

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[15] For wooden shingles in early medieval charters, see P. Arthur, "Appunti sulla produzione laterizia nell'Italia centro-meridionale tra il VI e il XII," *Archeologia medievale* 10 (1983), pp. 525-537; wooden shingles on page 527. For wooden building as a shift in cultural patterns, see Brogiolo, "La campagna dalla tarda antichitá," p. 85. There he writes, "La mia impressione è che tale tecnologia, documentata come è noto anche dalle fonti che contrappongono una tecnica more romano ad un'altra more gallicano, rappresenti il riemergere di modi di costruzione tradizionali, risalenti alla protostoria e mai venuti meno in età romana, seppure relegati ad aree marginali e a strutture povere archeologicamente non ben riconoscuite."

[16] Lewit, *Agricultural Production*, pp. 41-46.

[17] E. Lo Cascio and P. Malanima, "Cycles and Stability. Italian Population before the Demographic Transition (225 B.C.-A.D. 1900)," *Rivista di Storia Economica* 21 (2005), pp. 5-40; the authors suggest a decline in the population of Italy between its demographic height of 15 million inhabitants in the early Empire (ca. 1st century), and 7-8 million in the 8th century. The precise mechanism of that decline is not perfectly understood, though they point to the Antonine plague, the Gothic War, famines from 538-42, and the Justinianic plague in 541.

[18] For the Antonine Plague, see R. Duncan –Jones, "The Impact of the Antonine plague," *Journal of Roman Archaeology* 9 (1996) , pp. 108-36, and W. Scheidel, "A model of demographic and economic change in Roman Egypt after the Antonine plague," *Journal of Roman Archaeology* 15 (2002), pp. 97-114.

[19] Lo Cascio and Malanima, "Cycles and Stability," p. 24.

Perhaps an even greater factor in the demographic decline can be linked to changes in the position of the city of Rome, vis-à-vis its empire. For instance, starting around the end of the third century, the city was no longer the political stage upon which the emperor demonstrated his grandiosity. After this point emperors tended to be soldiers, and demonstrated their might differently, away from Rome.[20] The peripatetic nature of the late antique emperorship meant that the mechanisms for keeping the population of Rome artificially high, by drawing tens of thousands of new souls every year to live there, were no longer maintained. In the decades following, the city and its hinterland experienced a return to a relatively closed demographic equilibrium, based more upon local birth and death rates than immigration.

Along with the demographic changes, the countryside experienced a reorganization of the administration of the land around Rome, a product of increased intervention there by the senatorial aristocracy.[21] Domenico Vera argues that the urban aristocrats literally changed the way late antique people talked about farmland. That is to say a novel term arose in the third and fourth centuries that reflected changes in the landscape—*massa* (a word that would become commonplace in the early Middle Ages).[22] Functionally, the term implied a bundled unit of several farms, or *fundi* (of varying sizes and number), for administrative purposes. Small, independent farms, mixed among larger productive units, gave way to conglomerations of units that shared resources and paid rent to same master; the age of the landlord had begun. There is some evidence that this phenomenon began around Rome, likely because the wealthiest

[20] Van Dam, *Rome and Constantinople*, pp. 18-25.
[21] The rise of the senatorial aristocrats in Rome during the third and fourth centuries corresponds to the city's adaptation to life without an emperor. Moreover, the senatorial aristocracy's material ambition was matched by a newfound cultural prominence in the city. See R. Chenault, "Rome without Emperors: The Revival of a Senatorial City in the Fourth Century CE," (PhD diss., University of Michigan, 2008), pp. 51-86. Sam Barnish argues that the senatorial aristocracy consolidated property during this period in Italy in order to pay their considerably more cumbersome taxes more efficiently. See S. Barnish, "Transformation and Survival in the Western Senatorial Aristocracy, CAD 400-700," *Papers of the British School at Rome* 56 (1988), pp. 120-155; taxes on page 142.
[22] Vera, "Massa fundorum," p. 993.

aristocracy, those families who occupied senate seats, could afford to take advantage of the changing tides there.[23]

Consolidation and centralization of estates in South Etruria went hand in glove with material and settlement changes in the countryside.[24] Principally, rural villages, comprised of the laboring masses, replaced villas, and there was a general "rustification" of the countryside.[25] A remarkably clear archaeological picture of how this process unfolded over time in South Etruria was provided by Timothy Potter, in his analysis of a site in the Ager Faliscus, called the Mola di Monte Gelato.[26] The chronology of the site began in the Augustan period, when a series of rooms and a corridor laid around a large court was laid out. This complex included sculptures, a fountain, and a marble labrum, and later a bath-house and temple-mausoleum were constructed. This was, Potter believed, a classical villa rustica, a place for the accumulation of agricultural produce, but also the practice of the highly refined conceptualization of *otium*, aristocratic leisure.

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[23] In the period between Sylvester's biography and Pope Gregory's letters (ca. 600), *massa* appeared 75 times in the extant evidence; in every case, the source was Italian (i.e. no one outside of the peninsula seems to have been using *massa* as part their proprietorial vocabulary), suggesting that this was a local, ad-hoc phenomenon in the beginning. See Ibid, pp. 995-1000. The occupants of the Senate in this period were filled predominantly by a few noble families. See Barnish, "Transformation and Survival," pp.128-9, where the author shows that up to 80% of the official appointments necessary for inclusion into the Senate were held by "high families." New men were not very common.

[24] For Spain, see A. Chavarrìa Arnau, "Interpreting the Transformation of Late Roman Villas: The Case of Hispania," in *Landscapes of Change: Rural Evolutions in Late Antiquity and the Early Middle Ages*, ed. Neil Christie (Burlington: Ashgate, 2004), pp. 67-102; on page 87 she explicitly links the material changes of villas there with the "agglomeration of rural ownership," as proposed by Domenico Vera.

[25] Marazzi, "The destinies of the late antique Italies," p.122. The degree and timing of the transformation has been a matter of debate. See Francovich and Hodges, *Villa to Village*, p. 36, for instance, where they say that the late antique economic decline did not affect the fundamental patterns of settlement. Rather, they contend that the landscape remained populated by dispersed settlements, as in Antiquity, and that the major shift occurred in the sixth and seventh centuries, when hill-top villages began to dominate the landscape (as opposed to the tenth century, as proposed by Toubert). Also, see Arthur, "From Vicus to Village," p. 123, where he posits an intermediate step, where towns declined but vici, administrative centers, rose in importance. He writes, "From Late Antiquity the ratio of towns to vici perhaps changed in favour of the latter, implying substantial structural changes, involving a more centralised administration and changing ideological values, partly brought about by Christianity."

[26] T. Potter, "The Mola di Monte Gelato: a microcosm of the history of Roman and early medieval Rome?" in *La Storia economica di Roma nell'alto Medioevo alla luce dei recenti scavi archeologici. Atti del Seminario (Roma 1992)*, eds. L. Paroli and P. Delogu (Florence: All'Insegna del Giglio, 1993), pp. 137-154.

Starting around the fourth century, the site took on a more industrial and agricultural tone; the inhabitants developed a lime kiln, the bathhouse was partitioned with wooden walls, and exterior timber structures that were probably storage bins were built. The last datable activity from late Antiquity was the construction of two churches, from around the end of the fourth or beginning of the fifth century. What had once been a lavish residence for Rome's elite had been transformed into a functional center for rural production; this transformation included a reduction in the consumption of aristocratic goods at the site and a transfer in the predominant building material from stone to wood. In short, what Potter illuminated as the material shifts associated with the social changes in rural landscape would have previously been registered as the collapse of a site.

In summary, during the third to sixth centuries the area north of Rome experienced a general demographic decline, but recent findings and recalibrations of old data suggest that this was not as precipitous as previously thought. Because these areas became more reliant upon timber constructions in late Antiquity, and a greater percentage of them labored from a position of servitude or near-servitude, the presence of imported ceramic evidence purchased in a market setting, African Red Slip particularly, declined in the region. Moreover, in certain areas the senatorial aristocracy conglomerated groups of farms into individual territorial units, resulting in an increased level of bureaucratic oversight and a more condensed arrangement of rural habitation. Most importantly, the Etrurian evidence suggests that rural area north of Rome was in a process of transformation centuries before the arrival of the Lombards. A variety of forces were actively changing the shape of the land in late Antiquity. In the next section, I examine the evidence from the Sabina to see how the forces illuminated by the Etrurian evidence intervened across the Tiber.

II. Pope Gregory's Sabina

The heart of central Sabina during Antiquity was the town of Cures, the ill fated bishopric of Pope Gregory's letter that began this section. Cures stood on a small hill overlooking the Corese River on its last bend before reaching the Tiber, near modern Talocci (though the former was south of the river).[27] Despite the glut of evidence for public theater in Antiquity found there, Cures was a small town, geographically and demographically speaking. [28] All of the finds from around this hill dating to the first to third centuries consist of dedicatory inscriptions intended for public viewing or components of public buildings, like temples and baths; no trace of residential structures has been found.[29] Cures, it seems, was principally an administrative hub, serving as a place of congregation for the wealthy and dispersed agricultural habitations around it. Indeed, H. di Giuseppe found 22 sites, agricultural in nature, in a small, five km^2 wedge of land just west of Cures; at least seven of these were opulent villas. [30]

[27] A summation of the archaeological history of Cures can be found in M.P. Muzzioli, *Cures Sabini. Forma Italiae: regio IV*, vol. 2, (Florence: Leo S. Olschki Editore, 1980), pp. 26-76. The picture of Cures remains hazy for several reasons. First, in the Middle Ages, a fortified village called Arci grew in the same general vicinity of the town (about 200 meters east of Cures, on a different summit of the same hill), and sorting out the materials of each site has been confusing, not least of all because Arci reused material from Cures. Adding to the confusion, a church dedicated to Mary was built on a third summit, between the summits of Cures and Arci. Muzzioli has tried to distinguish between the three sites, calling the site of Cures' acropolis the western hill; the sites of Arci she calls the hill of S. Maria degli Arci and the hill of the Casino of Arci. Also, archaeological descriptions of the town derived from the 18th and 19th century (Muzzioli provides snippets from letters from those centuries, from Giuseppe Gagliardi and Lorenzo Fortunati), when the discipline was in its infancy.

[28] Its archaeological trove includes several inscriptions testifying to the completion or restoration of public works, the erection of statuary to members of the imperial house or benefactors, and to works of the *ordo* of *decuriones*, and of the *seviri Augustales* (civic officials). See ibid, p 45. For a record of the epigraphy and other archaeological finds from the town, see ibid, pp. 53-73.

[29] Ibid, p. 44. A recent archaeological study of the nearest Sabine town to Cures, a place called Forum Novum (about 25 km north), has revealed a similar proportion of public buildings to residences, suggesting that the archaeological picture privileging remains of public buildings accurately relate a sense of the town's regional role in the ancient world. See V. Gaffney, H. Patterson, and P. Roberts, "Forum Novum-Vescovio: From Roman Town to Bishop's Seat," in *Lazio and Sabina*, vol. 1, eds., J. Brandt, X Dupré Raventós, and G. Ghini (Rome: De Luca, 2003), pp. 119-125; on page 125 the authors write, "Throughout its long history, Forum Novum-Vescovio remained a small centre. The most significant factor is that the Roman town appears to have had no real urban population."

[30] H. di Giuseppe et al., "The Sabinensis Ager Revisited: A Field Survey in the Sabina Tiberina," *Papers of the British School at Rome* 70 (2002), pp. 99-149; villas on page 118.

The archaeological reports from around the Sabina suggest that its landscape, from the high valleys to the Tiber River, was much like that around Cures during the imperial age—a mixture of modest and wealthy rural habitations. Within the Monti Sabini, in the Riana valley (see map 4), for instance, John Moreland uncovered several settlements upon the slopes, and a line of fine, southern facing villas continuously occupied from the first to the third century.[31] Likewise, Moreland found 14 villas around the Tiber-Farfa confluence, north of Cures.[32] In her report based on earlier archaeological papers and visible remains (i.e. not as comprehensively examined as in Moreland and di Giuseppe's studies), Muzzioli lists 77 villas for the area between the Tiber River and the Monti Sabini.[33] Even in the high valleys, the Turano and Salto (see map 4), A. Staffa lists the remains of many imperial era agricultural villas, several with olive and grape mills. Perhaps most famously, the Roman poet Horace owned a villa in the hills of southern Sabina, near Licenza. Generally speaking, then, in the third century, Sabine habitations were evenly spread, in the plains, hills, and mountains, and followed a dispersed settlement pattern. The ubiquity of the villas across the Sabina is especially important here, because that type of settlement was closely associated with olive production.

At the end of the third century, the same forces that came to bear on S. Etruria intervened in the Sabina. The impact of the late Antique social, cultural, and economic changes, however, affected the various parts of the Sabina in very different ways. For instance, in the high valleys, late Antiquity marked a complete erasure of previous patterns. The two small *municipia* in the valleys, Cliternia and Nersae, which divided the administration of this part of the Sabina during

[31] J. Moreland, "Ricognizione nei dintorni di Farfa, 1985. Resoconto preliminare," *Archeologia medievale* 13 (1986), pp. 333-344; Riana valley settlements on page 337.
[32] J. Moreland, "The Farfa survey: a second interim report," *Archeologia medievale* 14 (1987), pp. 409-434; villas near Cures on page 413.
[33] Muzzioli, *Cures Sabini*, p. 42.

the imperial age, were abandoned.[34] Moreover, only one site in the mountainous portion of the Sabina, a villa, showed a faint trace of continued occupation in the fifth and sixth centuries.[35]

Further west, in the hills of the Riana Valley, the end of the third century witnessed fewer total sites being occupied, but the types of settlements were not uniformly affected. The villas within the hills continued to support human activity, while the small farms, which tended to be located at a slightly higher elevation, were abandoned.[36] In the fourth century all settlements in the hills, including the villas, ceased to yield signs of settlement (including the site of Farfa). In the fifth century the valley sites were no longer occupied as well. Closer to the Tiber River, however, J. Moreland discovered two villas in his field surveys that were continuously occupied at least into the sixth century.[37]

The findings from A. Staffa's report on the Sabina's high valleys and J. Moreland's two seasons of landscape survey subtly suggest that the lowland parts of the region, especially the plains close to the Tiber, experienced a greater degree of continuity than the areas of higher elevation during late Antiquity with regards to site occupation. Indeed, the British School's analysis of lands around Cures, in the plains near the confluence of the Tiber and Corese Rivers, reveals a high degree of steady habitation during late Antiquity, confirming a portion of these trends. By the sixth century, 8 of the 22 sites (34%) that were occupied in the imperial period continued to be so, a much higher rate than that of the high valleys and hills of the Monti

[34] A. Staffa, "L'assetto teritoriale della Valle del Salto fra la tarda antichità ed il medioevo," *Xenia* 13 (1987), pp. 45-84.
[35] Ibid, pp. 46-52; though Staffa argues for a general sense of continuity in the valley during late Antiquity (a very minor point in the article at large; he directs most of his energies to the Middle Ages and *incastellamento*), the ARS in this one villa is the only location to which Staffa points for evidence bridging the fifth and sixth centuries, when most other Roman-era forms of settlement seem to have been abandoned. It should be noted, though, that the villa with the late ARS was near a prominent site in the Farfan charters, called Cliviano (Clividiano in 791, Clivigianus in 813; S. Stefano di Cliviano was an important church, as well); the early medieval villa is "number 27"on Staffa's maps and notes.
[36] Moreland, "Ricognizione nei dintorni di Farfa," p. 337.
[37] Moreland, "The Farfa survey, a second interim report," p. 414.

Sabini.[38] All of the surviving settlements were previously elaborate villas, and clustered around an ancient road that followed the curve of the Corese River, and connected Cures to the Tiber River; di Giuseppe calls these "ribbon settlements."

A marble epigraph found in the Tiber River and dating to the fourth century helps to make sense of these developments. The epigraph commemorates the patronage of a man who paid for renovations to the bridge across the Tiber, near Cures, and a port there in the early fourth century.[39] The port investment, a clear means of connecting the agricultural surplus of the region to the Tiber River, suggests that the region continued to play a crucial part in filling the demand for food downstream, at Rome. If the evidence from S. Etruria provides a good guide here, we might infer that the Sabine villas that "survived" into late Antiquity were no longer luxury housing for wealthy aristocrats, but rather industrial centers for newly conglomerated sets of farms. Perhaps the 8 villas near Cures were, like T. Potter's villa at Monte Gelato, divided by wooden partitions and storage bins, with wooden huts for habitation clustered around the stone edifice.[40] The abandonment of some of the small dispersed farms might be attributed to nucleation, centered around the productive centers. The authors of this type of settlement change, wherein villas became centers of production for a conglomerated set of farms around them, would have been the aristocracy in Rome.

In the mind of the fifth century cosmographer, Pseudo-Eticus, the Sabina remained an integral part of Rome's agricultural hinterland, indeed greatness, during the century following

[38] di Giuseppe et al., "The Sabinensis Ager Revisited ," p. 121.
[39] The renovations are attested by a fourth century marble tablet housed at the Museo Nazionale Romano. See A.M. Reggiani, "Il portus curensis e gli scali della sponda sinistra nella sabina tiberina," in *Tevere: un'antica via per il mediterraneo*, ed. A.M. Reggiani (Rome: Mostra, 1986), pp. 210-211.
[40] The type of project conducted by H. di Giuseppe during the early 2000s was landscape survey, and thus did not conduct the type of detailed analysis at each site that would have resulted in evidence for the wooden subdivisions Potter found at Monte Gelato.

Cures' port renovation.[41] For the author of this document, the eternal city owed its success to the ease of the movement of goods facilitated by the Tiber River. Thus, the meritorious points of the river were those that connected it to land: "King of rivers, sweet Tiber, to which the singular greatness of the eternal city of Rome attributes its supremacy… [The Tiber] receives sea-worthy boats and leads Mediterranean ships from Etruria and the Sabina. It enters the portal dedicated to the Apostle Peter, between the portal to Ostia, which is dedicated to the Apostle Paul, and the road to Portus, which is dedicated to the martyr Saint Felix. [Thence, the Tiber] exits the city, from which boats leave the ports of the city to Rome, master of the entire world."[42] In Pseudo-Eticus' cosmography, the Tiber existed only where people and goods could be moved into the city of Rome. It is significant, then, that at the end of late Antiquity, the river still flowed past the Sabina.

The port and bureaucratic infrastructure in and around Cures probably enticed the papacy to establish a diocesan seat in the town around 465, the year when its bishop first appeared in a list of synod attendees (called by Pope Hilarius).[43] The popes had held territory in the Sabina since the early fourth century, when Constantine donated several Sabine properties to the patrimony. [44] The creation of two new bishoprics in the region during the mid-fifth century

[41] Pseudo Eticus, "Cosmographia," in *Codice Topografico dell Città di Roma*, vol 1, eds. R. Valentini and G. Zucchetti, Fonti per la storia d'Italia pubblicate dall'Istituto storico italiano per Medio Evo 81 (Rome: Tipografia del Senato, 1940), pp. 311-316. This cosmography was principally a compilation of works by Julius Honorius and Paul Horosius, but the portion about the Tiber River was the author's own creation.

[42] Ibid, p. 315: "Fluviorum rex, pulcher Tiberis, cui primatum aeternae urbis Romae singularis tribuit magnitudo, nascitur…et maritimas naves suscipiens et mediterraneas adducens de Eturia vel Sabinis, ingressus per domni Petri apostoli portam, inter Ostensem portam, quae est domni Pauli apostoli, et viam Portuensem, quae est sancti Felicis martyris, urbem egreditur, qua naves de portu urbis ad dominam totius mundi Romam ascendunt."

[43] The other Sabine bishopric that can be attested to in 465 (during a synod called by Pope Hilarius), at Forum Novum, shared several features with Cures. It too was located on a tributary of the Tiber (the Aia for Forum Novum), near their confluence. And, like Cures, Forum Novum was well connected by roads, with direct routes to the Via Flaminia and the Via Salaria. The similarities in the two bishoprics might suggest that their access to the Tiber was a consideration in such matters. See Gaffney et al, "Forum Novum (Vescovio)," p. 238.

[44] LP, vol. 1, pp. 170-187: To the titulus of Equitius, in Rome: "the farm Valerianus, Sabine territory, revenue 80 solidi," "the farm Statianus, Sabine territory, revenue 55 solidi," "the farm Duae Casae, Sabine territory, revenue 40

(Cures and Forum Novum) suggests a movement by the papacy to control more directly these properties and whatever land they had accumulated in the region subsequently.[45] The timing of Cures' elevation corresponded with the first instance in the papal biographies of a pope's "delivering the city of Rome from famine." If the provisions for hunger derived directly from the papal patrimony, these acts demonstrated an extensive and careful control over the delivery of food to Rome by the end of the fifth century. This feat would have been made possible by more direct oversight of their territorial possessions in the northern hinterland, in the form of bishoprics in rural areas.[46] Sadly, no archaeological finds from Cures date to the diocesan period.[47] By the late sixth century, less than a century after it had been named a bishopric, architectural components of Cures were being disassembled from their urban contexts and reused in the countryside.

Why did Cures survive the late antique changes, despite not ever having a significant population, and then decline so quickly in the sixth century? The portrait, obviously, is fragmentary, but some trends within these fragments permit the construction of a tentative narrative. First, the type of settlement that continued to display evidence of occupation in the

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solidi," the farm Percilianus, Sabine territory, revenue 20 solidi," To the holy font of Constantine: "the estate Statiana, Sabine territory, revenue 350 solidi," To the basilica dedicated to St. Lawrence on the Via Tiburtina: "the property of Augustus, Sabine territory, revenue to the account of the Christians, 120 solidi," To the basilica of Saints Peter and Marcellinus: "the property called Duae Casae, Sabine territory, under Mons Lucretilis, revenue 200 solidi," To the basilica of blessed apostles Peter and Paul and of John the Baptist, in Ostia: "the estate Mallianum, Sabine territory, revenue 115 solidi, 1 tremiss," To the titulus of Silvester: "the farm Percilianus, Sabine territory, revenue 50 solidi."

[45] The timing of this fits roughly with Federico Marazzi's suggestion that the papacy of Gelasius marked a significant moment of centralization relating to the organization structure of papal property, as indicated the mention of a Gelasian polyptich in a 9th century letter by Giovanni Immonide. See F. Marazzi, *I «Patrimonia Sanctae Romanae Ecclesiae» nel Lazio (secoli IV-X): Strutture amministrativa e prassi gestionali* (Rome: Istituto storico italiano per il Medioevo, 1998), pp. 56-7.

[46] The first description of a pope's munificence regarding food for the city is, not coincidentally, in the biography of Pope Gelasius, who was elected in 492. Pope Boniface also assists the city during a time of famine (530-2). In the biography of Pope Sabinian, church granaries are mentioned.

[47] This phase of the town's history can only be discerned faintly through synod records. In the list of synod attendees for later in the fifth century, this bishopric was given the title of a local martyr, named Anthimius. The name change might suggest that the diocese might have been moved from the town and relocated in the countryside, just south of the town, near the Correse-Tiber confluence. See Muzzioli, *Cures Sabini*, p. 48.

plain around Cures during late Antiquity, the eight largest villas, suggests that their size contributed to their function. The Etrurian evidence showed that, in late Antiquity, villas were often refitted as industrial centers by aristocratic owners. Indeed, the largest villas would have provided the most space for storage and other industrial activities within the structure, making them attractive sites for investment by those who could afford the consolidation of people and land in this period. In short, the preponderance of a single type of site that continued to produce evidence of occupation in late Antiquity, large villas, is one indication that the area around Cures, and along the Tiber River, was consolidated by senatorial aristocrats, much like that we saw in S. Etruria. That the villas near Cures lie along a road that connected the town to the Tiber suggests that the town played a fundamental role in administering these industrial centers. The quick collapse of Cures provides further evidence that its late Antique success was directly tied to Rome. When the ties between the city and the Sabina were severed by the Gothic war and then the Lombard migration, the economic and social context supporting the function of industrial nodes no longer made sense. Cures, and its mechanisms for storing and tallying the surplus sent to Rome had no role to play in the Lombard Sabina.

Evidence for settlements around Cures helps to understand why the area near the Tiber River tended to remain occupied longer into late Antiquity. However, this does not reveal much about the hills and mountains in the eastern portions of the Sabina, where settlements no longer participated in the larger economy starting in the third century. The evidence from this part of late antique Sabina is even more fragmentary than its riparian counterpart. However, as the Tiber Valley Project showed, an absence of ceramic indicators need not imply an absence of people. And, indeed, some promising bits archaeology suggest that people continued to live there, but in a different way than those in the western Sabina.

A few decades after Pope Gregory sounded the death knell for Cures, a new church was rising10 kilometers east of the town. The edifice called S. Maria de Viconovo sat at the foot of Monte Calvo, in the interior of the Sabina, within the Monti Sabini (see map 4).[48] It was this part of the Sabina in which J. Moreland could find no evidence of human habitation in the fifth century. This building, however, was hardly the creation of a moribund region. Rather, Branciani and Mancinelli state that, "the fact that it was a structure of impressive dimensions, allows one to make a historical hypothesis that it held a role of certain importance…"[49] Remains of the original church reveal artistic pretensions, as well. The fabric of the walls consisted of an alternating pattern of tufa and brick with an impressive level of craftsmanship; this technique has no parallels elsewhere in the Sabina.[50] The interior comprised a variety of decorative themes: zoomorphological, vegetative, and geometric, with a strong presence of wicker ribbons. S. Maria de Viconovo supported, it would seem, a large and discerning community of Christians in the hills of the Sabina. The building itself offers a competing narrative to Gregory's letter—it was not a helpless population brought to heel by the Lombards. In fact, pockets of the Sabina seem to have been thriving while Cures decayed.

S. Maria de Viconovo was built at the location of a Roman *statio*, a waystation, along the Via Salaria. Traffic along the Via Salaria accounted for the existence of the *statio*. However, the road itself is not the key to understanding the vitality of the early medieval community there. Goods had stopped traveling along the Via Salaria into the central Apennines, and vice versa, during the fifth century; by the sixth century, the Lombards ensured that Roman goods rarely traveled further than twenty two miles north of the city upon the Via Salaria. Moreover, early

[48] The site and dating of the church has been interpreted in L. Branciani and M.L. Mancinelli, "S. Maria de Viconovo: un esempio di continuitá insediativia," *Archivio della Societá Romana di Storia Patria* 116 (1993), pp. 5-52.
[49] Ibid, p. 20.
[50] Ibid, p. 50.

medieval representations of the road indicate that it changed course during this period, a good sign that people no longer maintained or used the path. The Via Salaria was not the only course that passed the *statio*, however. Rather, Viconovo stood along a crucial path that led eastward, into the high Apennine valleys—a route commonly used by transhumants during Antiquity.[51] The *statio* at Viconovo connected the interior portions of the Sabina to the pre-Apennine hills, a route that increased in importance during the early Middle Ages.

The divergent fates of Cures and S. Maria Viconovo in the late sixth and early seventh centuries are illustrative of the differences in the Sabina's economic relationship with the city of Rome during late Antiquity. On the one hand, Cures was one of the few towns to survive the rural reorganization depicted in the South Etruria findings from the third and fourth centuries.[52] It seems to have done so because it occupied an important administrative role for delivering goods down the Tiber River to Rome, a task that became more important during late Antiquity when some provincial resources were being redirected to Constantinople. Late antique Cures represents a microcosm of how the Roman aristocracy responded; it was precisely the type of place that would have been attractive for administering the consolidated tracks of land described by Domenico Vera—a center for running the massae. When the civic aristocrats were forced to withdraw from the central Sabina on account of the Lombards, Cures and places like it faced an abrupt end to life as they had known it and subsequently collapsed.

S. Maria Viconovo, on the other hand, was built in a place where the influence of Rome had dimmed much earlier. By the time papal officials were relocated to Nomentum, the communities around S. Maria Viconovo had already calibrated their lives to local horizons, apart

[51] Ibid, p. 13.
[52] Arthur, "From Vicus to Village," p.104.

from Roman aristocratic intervention. The impressive structure erected at the former Roman *statio* reveals a community that operated in a self-contained, probably mountain-oriented economy. Indeed, during J. Moreland's survey during the 1980s he discovered a datable ceramic sequence from the sixth and seventh centuries, a form of coarseware—this indicates cooking utensils, like casserole dishes, jars, and jug—which was found exclusively in the hilly and mountainous portions of the Sabina, away from the Tiber River.[53] Moreland's courseware corroborates the notion of a closed local economy, separate and independent from Roman markets.

These two sites, separated by only ten kilometers, represent respectively what Paul Arthur calls, "two opposing aspects of the breakdown of Roman Italy: a very strict state regulated exchanges system on the one hand, and a more spontaneous system of exchange on the other."[54] The key factor that influenced the divergent development of these two sites was access to the Tiber; elements of the Roman aristocracy had no interest in the remote hills and mountains east of the Tiber due to the increasing friction of terrain there. In short, because of the limits of Roman hegemony, there were, in fact, two developmentally distinct portions of the central Sabina when the Lombards arrived: the riparian portion, represented by Cures, and the mountainous portion, represented by S. Maria de Viconovo.

[53] This courseware has been found in several locations in the Sabina: at Casale San Donato (just north of Farfa), the site of the monastery, the Piazza San Rufo in Rieti, and the villa site of Madonna del Passo, northeast of Rieti. The centrality of the hills and mountains with regards to the provenance of these ceramics is emphasized in in J. Moreland, "Transformations in a Sabine Landscape, 200-1000AD," in *Papers in Italian Archaeology VI: Communities and Settlements from the Neolithic to the Early Medieval Period*, eds. P. Attema, A. Nijboer, and A. Zifferero (Oxford: Archaeopress, 2005), pp. 930-934. That portions of the Sabina near the Tiber have were examined by Moreland himself and reexamined by the British School in Rome as recently as 2002, and none of these coursewares have been discovered, indicates that the division between the Tiberine and hilly Sabina was real, and not just a consequence of improper diagnostics at the time of the archaeological investigation.

[54] Arthur, "From Vicus to Village," p. 110.

Above, I offered that the arrival of the Lombards, in general terms, caused a rupture for late antique Sabina because they severed the economic ties to Rome. The final moments of this break were signaled in Pope Gregory's letter to the bishop of Nomentum. However, the archaeological picture, tenuous as it might be, suggests that the pontiff only spoke for the riparian parts of the Sabina, which seem to have been controlled by S. Peter's heir and other aristocratic citizens of Rome. This group was allergic to higher elevations, however; probably for reasons of diminished efficiency with regards to the movement bulk goods out (further from the Tiber River), as well as the problems of maintaining mechanisms of control in the hills and valleys, they decided not to ascend the foothills of the Apennines. Though Roman agents found the Monti Sabini unpalatable in late Antiquity, the area did remain occupied, as S. Maria de Viconovo and Moreland's rustic ceramic evidence testify to an established society there.

The factors that determined agricultural production in the Sabina during late Antiquity, then, changed according to geography. Farmers along the Tiber River probably produced in response to the demand of the city. Farmers in the hills, however, seem to have evaded the most powerful aristocracy of late Antiquity, and must have had a greater degree of autonomy. The following section will examine the agricultural practices of the Sabina as it emerged from the seventh century. Of primary interest is how Lombard hegemony affected the two economies of the region, and particularly the growth of olives there.

III. Mountains and Valleys: The Rise of Farfa

For much of the seventh century, evidence for life in the Sabina is exceptionally rare. Without well attested ceramics and coins flowing into the region from Rome, archaeologists are unable to follow change with much precision. However, around the year 700, the monastery

dedicated to S. Mary along the Farfa River began to preserve legal documents pertaining to the community's acquisition of property.[55] The charters in Farfa's archive that managed to survive the vicissitudes of the early Middle Ages arrived on the desk of Gregory of Catino around the end of the twelfth century, where that monk further winnowed the collection and copied chosen documents into a bound edition of charters, a cartulary, called the Regesto. The earliest charters (from 700-900) that made the improbable journey to the present represent precious written evidence for this period known for being short on words. For the period of their survival, Farfa's charters allow a nuanced portrait of olive culture in the early Middle Ages.

A Farfan charter dating to 761 demonstrates the remarkable history that can be unpacked from this type of evidence. In it, two monks from San Vincenzo al Volturno, a large monastery in southern Italy (see map 2), Allonem and Albuhinum, sold to Farfa "land with its olive orchard, located in the Sabina."[56] The charter's scribe, perhaps with instructions from his patrons, emphasized the importance of the orchard to the territorial unit by using a possessive pronoun to describe its relationship with the land (oliueto suo). These trees were not "on the land" or "pertain to the land," common phrases regarding the relationship between plants and their soil, but rather they belonged to the land. The orchard occupied such a central role in the minds of the buyers and sellers that no other elements of the parcel were even mentioned, as was also common in Farfa's cartulary. And one certainly would have anticipated a more varied accounting of the land's features, natural and human-built, considering that it supported at least four tenants, who were named and given varying degrees of freedom before the sale.

[55] The earliest of Farfa's charters, those redacted between 700 and 900, arrived to the present because of the diligence of a 12th century monk, Gregory of Catino, who compiled and copied those documents into a cartulary.
[56] See Gregory of Catino, *Il regesto di Farfa* (henceforth RF), vol. 2, eds. I. Giorgi and U. Balzani. (Rome: Presso la società, 1879), # 43, p. 50. They claim to be monks "monasterii sancti uincentii, una cum concessione domni hermeperti abbatis,…"

A market of sorts obviously existed for olive trees in the early medieval Sabina, as the charter itself proved that Farfa was willing to pay good money (100 *solidi* in this case) for arboreal acquisitions. Other charters, too, attested to the monastery's desire to accumulate olive trees. The supply of stock for new olive trees, however, was sorely lacking, judging by the contents of Farfa's charters. Of the 349 documents in Farfa's cartulary from the period between 705 and 898, only 43 (or about 12%) made any mention of olives; for comparison, vines appear in around 80%. And, of those charters that mention olives, only twelve pertain to the type of arrangement from which stock could be readily taken, the olive orchard.[57]

Allonem and Albulhinem's charter reveals a compelling urgency regarding the control and distribution of olive trees in the year 761. One of the factors that influenced that dynamic, I believe, was the scarcity of olive orchards in the region. The numerically insignificant number of orchards in Farfa's charters suggests that the parameters which would support the cultivation of several olive trees upon a parcel of land were not typically met in the period leading up to the mid-eighth century. Either humans or the environment, or perhaps both, tended not to support such an enterprise. In this sense, olive orchards were anomalous components of the landscape in the early Middle Ages. In this first part of this section, I illuminate the history of Farfa's early medieval olive orchards, and attempt to uncover why those few properties would support the unorthodox ecological arrangement of large-scale olive culture in central Italy.

The intense attention given to the presence of the olive orchard in Allonem and Albulhinem's charter was as extraordinary as the trees themselves in the early Middle Ages. The charters' juridical description of the property was rarely as dynamic as in that charter. Often,

[57] The distinction here between olive trees and olive orchards is a matter of linguistic differentiation in the charters. Scribes, faithfully I believe, used different terms for a small number of trees and a large number of trees. Properties with a handful trees were described as having "olives (oluis)," whereas several trees farmed systematically was referred to as an "olive orchard (oliuetum)."

individual components, such as trees, marshes, and meadows, were simply enumerated as identifying characteristics of the parcel, in case a dispute arose regarding ownership. The shape of the land and its botanical composition was presumed static. The process of beating olives from the trees, netting fish from the waters, or grazing sheep in the grasses of a high valley, was mostly beyond the descriptive scope of Farfa's cartulary. As such, my history of the monastery's olives moves between two scales of analysis. Individual charters must be read carefully and critically for small clues, as shown in case of Allonem and Albuhinum's charter. More broadly, the full context of those charters can only be understood by comparing details across all of the 349 documents in the cartulary before 900, as well as the monastery's numerous leases.

Farfa's documentary cache is rich enough that the geography of the toponyms associated with olives as well as well as their proprietorial history can often be traced. I have pieced together this information by inter-referencing all iterations of the property in Farfa's massive corpus of legal documents. A charter written in 749 beautifully illustrates the complexity of this process. In it, the brothers Benedictum and Teuderadum sold to Farfa a parcel of property called casale Paternus, located "in the Sabina," and among an array of other ecological features (cultivated and uncultivated land, vines, pasture, a mill), it included an olive orchard. They fetched a hefty payment from the monastery, collecting six horses, worth 60 solidi, and 340 solidi of melted gold. In a magnanimous gesture, the brothers allowed the residents of Paternus (coloni)—six heads of households are named in particular (four are allowed to leave with their possessions, two are simply given their freedom)—to decide whether they wanted to leave the estate or stay and negotiate with the monastery.

For an exchange that pertained to what must have been a large parcel of land, in addition to at least six tenant households, it is surprising that Benedictum and Teuderadum are otherwise

unknown figures, which is to say that they donated no other property to Farfa. Though the brothers appeared just this once in the cartulary, the property they sold to the monastery and its constituent parts had a lively record. In 766, seventeen years after the sale of casale Paternus, Duke Theodicius of Spoleto affirmed Farfa's possession of casale Paternionem located "in the Sabina." Theodicius claimed that the property had originally been donated to the monastery by King Aistulf, who succeeded to that position in 749, the same year Benedictum and Teuderadum sold casale Paternus (also with the toponymic epithet "in sabinensis"). The orthographic similarity between these toponyms and chronological coincidence of the exchanges of these properties suggests that they referred to the same estate. The acquisition of part of the estate likely compelled the monastery to solicit the other from the king or fraternal pair, whichever came second, in order to consolidate the property.[58] The casale Paternum probably once belonged to a single owner, but was broken up into smaller parcels; given that part of the property belonged to the crown, it seems likely that the original estate constituted part of the royal fisc, the well from which King Aistulf dipped for his own donation to Farfa.[59]

Where did casale Paternum lie? The 766 charter from Duke Theodicius also revealed that the casalis Paternum belonged to a broader territorial unit called the curtis of Germaniciana (see map 4).[60] Indeed, this toponym referred to a massive estate owned by the Lombard crown, along the central portion of the Corese River. It comprised several units which were slowly peeled away by Spoletan dukes and given to the monastery. The process began in 740, when Duke Transamund II of Spoleto gave to Farfa a parcel of land ("terra") in Germaniciana.[61] Two

[58] It could also be the very common situation wherein Benedictum and Teuderadum had no clue that their property constituted a part of the royal fisc.
[59] Another portion of the casale Paternus appeared in a list of properties belonging to Probato and Picco from 802, in RF, vol. 2, #158, p. 132; the latter iteration also contained an olive orchard.
[60] Ibid, vol. 2, #68, p. 67.
[61] Ibid, vol. 2, #7, p. 27.

charters from before 747 attest to the theft of property from Germaniciana by an administrator called Liutpert, who took it "from the public (i.e. fisc)." Indeed, the combination of "private" and "public" intervention in Germaniciana must have made it unwieldy, as in 757, after its full transfer to the monastery, Farfa hired an administrator to organize the labor on its various components, as well as "end any further disaggregation."[62] It is perfectly within the historical context of the estate that the brothers Benedictum and Teuderadum, or perhaps their ancestors, were able to privately acquire Paternum from the royal patrimony (perhaps from the shady Liutpert) before selling to Farfa.

The casalis Paternum represents the first piece of an interesting pattern in Farfa's accumulation of olive orchards: several collections of trees derived from fiscal property. Half of all of Farfa's orchards derived from or near three of the most prominent fiscal units in the cartulary: the aforementioned Germanicianus, the gualdus Pontianus, and the gualdus of Hyacinth (see map 4). Together, these three properties comprised a wedge of land bound by the Tiber River on the west, the Farfa River on the north, the Corese River to the south, and the first line of major peaks of the monti Sabini (including mt. Acuziano, on which Farfa stood) to the east. An olive orchard in Pontianus was donated in 766 by the gastald of Rieti.[63] The gualdus of S. Hyacinth held two of Farfa's olive orchards.[64] The first came from a widow of a gastald, who

[62] Ibid, vol. 2, # 40, p. 48. Clearly the administrator was not entirely successful considering the duke of Spoleto had to reaffirm Farfa's ownership of the property nine years later.

[63] Ibid, vol. 2, #84, p. 78. This toponym was associated with a gualdus in an earlier charter, ibid, vol. 2, #15, p. 31. Pontianus was a contentious piece of property, as I will discuss below. It is not surprising, then, that parts of it had to be re-donated to Farfa in 814, as recorded in ibid, vol. 2, #210, p. 171, which also listed an olive orchard as part of its ecological package.

[64] The gualdus Hyacinth was centered around a basilica dedicated to the saint, built upon a hill about half way between the Tiber River and Mt. Acuziano, and just south of the Farfa River. See ibid, vol. 2, #10 (746), p. 29, a charter that contains an informative description of its boundaries, saying, "ex gualdo nostro, qui dicitur ad sanctum iacintum, petiam unum per loca designata, id est a fluuio farfa iuxta fractam arnois anteriorem, et per finem de corneliano, quod descendit per fossatum, quod nominatur ponticulum, et coniungit agello et fornicatae una cum casaliculo, qui uocatur caesarianus in integro." This charter, then, makes it clear that the gualdus was bound on the north by the Farfa River and on the south by the Ponticullum stream.

donated it with the casale Fornicata. The charter specified that this casale was part of the gualdus of Hyacinth.[65] Longitia was an orchard bearing toponym never placed specifically within the gualdus Hyacinth, but was located just east of sites associated with the gualdus, within the foothills of the Monti Sabini.[66] And just north of the Farfa River, a casalis Tervillianus was donated in 802, and this site, too was a component of a gualdus.[67] The high percentage of orchards associated with royal land might suggest that the Lombard crown was directly responsible for large scale oleiculture in the early medieval Sabina. Indeed, in a charter from 740 the Spoletan duke Trasimund donated a year's worth of "wine, grain, and oil," to the monastery, suggesting that he had some access to olive production.[68]

The supposition that Farfa's olive orchards grew predominantly upon fiscal territory because of an interest in olive culture by the Lombard crown, however, ignores much of what we know about Lombard royal land holdings, and particularly land called gualdus, as two of the three fiscal units of the Sabina were labeled. Chris Wickham studied the socio-economic meaning of this nuanced, Germanic term. In fact, he looks specifically at the gualdus S. Hyacinth, one of the units discussed above. This land was given to Farfa in pieces by the duke of Spoleto and Lombard king from 745-7, and the inhabitants sued the monastery in order to protect the rights they previously had been afforded as tenants of this territorial unit. Judging by their defensive stance, Wickham argues, "these [rights] were evidently worth fighting for. They were not standard tenant rights, but rights of possession, by free men, on fiscal land, in return for

[65] Bona donated the casale Fornicata twice. See ibid, vol. 2, #20, p. 34, and ibid, vol. 2, #27, p. 38. Both times Fornicata included an olive orchard. The duplication either represented legal problems with the first, or perhaps a piecemeal donation.
[66] Ibid, vol. 2, #39, p. 47. More will be said of this toponym below.
[67] Ibid, vol. 2, #158, p. 32, This was a large site bound to west by the Tiber River. See Gregory of Catino, *Liber largitorius vel notarii monasterii pharphensis* (henceforth LL), ed. G. Zucchetti, vol. 2 (Rome: E. Loescher , 1913), #960, p. 14. The same lease makes clear that Tribilianus was also considered a gualdus. See LL, vol. 1, #277, pp. 163-4, where Tribilianus was located within the gualdus Rosia.
[68] RF, vol. 2, #7, p. 27.

relatively low dues to the duke."[69] In other words, the lawsuit from the inhabitants of the gualdus Hyacinth proved that, while ostensibly under ducal control, the region enjoyed a remarkable degree of autonomy through an untraditional landlord-tenant relationship. Wickham links this case to one in nearby Abruzzo, where Lombard king Desiderius ceded a tract of land called a waldo (a cognate of gualdus), to S. Vincenzo al Volturno in 760.[70] The monastery believed the inhabitants of the land came to them as serfs, whereas the latter argued that they owned the land outright, and had been paying dues of allegiance to the king.

Wickham's article helps to contextualize the growth of olives on the gualdi donated to Farfa. First, he rightly emphasizes that the term primarily implied a special relationship with the crown, and thus disabused it of the previous environmental connotations attached to it. Second, the untraditional association between the inhabitants of the gualdi and royal owners (practically rent-less), as illuminated by Wickham, militates against attributing the presence of olive orchards there to royal prerogative. That is, if the lawsuit pertaining to the gualdus Hyacinth is representative of the low level of ducal intervention throughout the gualdi, they were probably not responsible for careful attention required to start an olive orchard there. Finally, when the crown distributed their fiscal land, the unorthodox relationships of ownership and tenancy that occurred within the gualdi began to break down. Ducal gifts became gastaldate gifts, which became private gifts, which became monastic gifts, and so on. In this complex web of relationships, it is little wonder that there were often disputes regarding ownership of the land.

Aside from the olive orchards discussed above, all other olive orchards in Farfa's cartulary were located outside of the central Sabina. One orchard, for instance, grew as far west

[69] C. Wickham, "European Forests in the Early Middle Ages," in *Land and Power: Studies in Italian and European Social History, 400-1200* (London: British School at Rome, 1994), pp. 155-200; fiscal rights on page 163.
[70] Ibid, p. 165.

as Viterbo, a city more than 50 km away. These trees were transferred to Farfa when a certain Ursus sold to the monastery a casale Antoniano that he had received as inheritance, and included, "territory and an olive orchard with its trees and its attachments, all sold together…"[71] Most of the other orchards came from areas northeast of the monastery. Paul and Tassila, members of the aristocratic Pandoni family, left an olive orchard to Farfa near Ascoli Piceno, more than 100 km away across the Apennines.[72] Including the two discussed here, Farfa acquired six orchards between 700 and 900 that grew outside of the Sabina. [73] And with the exception of one orchard near Rieti, they tended to originate from non-fiscal land, usually coming from the estates of aristocrats.

What accounts for the geographic and proprietorial patterns of Farfa's olive orchards? The olive orchards in the central Sabina tended to derive from within or near property that had been previously part of the fisc. But not all fiscal property grew olives. In fact, the gualdi in the

[71] RF, vol. 2, #253, p. 209: "Idest omnes res uel substantias meas quas habere uisus sum in finibus uel territoriis castri ueterbensis uel orclani…Idest vineas, territoria et oliuetum cum arboribus uel accessionibus suis in integrum…"

[72] Ibid, vol. 2, #126, p. 107: "Idest partem de curte nostra et de casa masculo, in loco qui dicitur murrus, cum uineis et terris, oliuetis, siluis, pomis, pratis, ripis, salictis, cultis et incultis…"

[73] In 777, directly next to Rieti, "just off the bridge (foris ponte)," duke Hildeprand and the bishop of Rieti donated to Farfa the monastery of the Blessed Archangel, Michael, which included an olive orchard, among other amenities. See ibid, vol 2, #105, p. 94. Another acquisition of an olive orchards near Rieti was from the Massa Nautona. There, the monk Fulcoaldus donated three houses in 768, with olive orchards. For the donation, see ibid, vol. 2, #71, p. 68. For Casule's location see A. Staffa, "L'assetto territoriale della valle del Turano nell'alto medieovo," *Archeologia classica* 36 (1984), pp. 231-265, who definitively places Casule in the Massa Nautona. In 778 duke Hildeprand donated all of his possessions in the Massa Nautona, "which pertained to our Rietine curtis," to Farfa. See RF, vol. 2, #115, p. 100. Moving further to the east, Goderisius donated a property in Preturo, a site just west of Amiterno (L'Aquila), with olive orchards. See ibid, vol. 2, #124, p. 106. A man named Spento, who incidentally was Goderisius' brother in law and son of the gastald, Lupo, donated property with olive orchards located in Teramo. See ibid, vol. 2, #220, p. 180. For his familial history, see M. Costambeys, *Power and Patronage in Early Medieval Italy. Local Society, Italian Politics and the Abbey of Farfa*, c. 700-900 (Cambridge: Cambridge University Press, 2007), p. 251. South of the monastery, around the town of Roviamo, Teudapertus donated an olive orchard, which had been passed to him by his parents. See RF, vol. 2, #112, p. 99: "et oliuetum in fundo robiano, quatum ibidem habuit genitor meus ipsum oliuetum in integrum in ipso sancto monasterio tradimus." Another olive orchard was given to the monastery in a property called Aufigianus. See ibid, vol. 2, #140, p. 118. This site was later called Offiano and was located near Pozzaglia Sabina, about 20 km southeast of Farfa. For the name change, see E. Saracco Previdi, "Lo sculdahis nel territorio longobardo di Rieti (secolo VII a IX)," *Studi medievali (ser. III)* 14 (1973), pp. 626-76; name change on page 672, note 362. For the location, see Staffa, "L'assetto territoriale della valle del Turano," p. 258.

Sabina Tiberina seem to be the exception to the rule, in terms of their agricultural production. It is worth asking, then, how and why this portion of the Sabina became the property of the Lombard crown. I would contend that, whereas the motivation for creating a gualdus elsewhere was related to centralizing dispersed and wooded landscapes (thus the confusion over its environmental connotations), the area of the Sabina Tiberina was ripe for this treatment because it was rendered acephalous upon the Lombard conquest. The olive orchards in Farfa's cartulary were located near the Tiber River because Roman aristocrats dictated the parameters of agricultural production there much later than other parts of the Sabina, as was shown in the previous section. Furthermore, the Sabina Tiberina was consolidated into a gualdus, not because it was dispersed like its counterparts, but because the previous owners mostly resided in Rome and had been severed from their property there. Thus, the duke of Spoleto assumed ownership, and enticed allegiance from the locals by presenting them with the advantageous parameters of residency within a gualdus, as outlined by Wickham.

From the perspective of the aristocrats in Rome, of course, the Lombard acquisition of their land was illegal and invalid. Only one, however, had the institutional longevity to challenge this seizure when finally the Lombards looked politically vulnerable beneath Charlemagne's heel. In a letter from Pope Hadrian in 778, he credits Charlemagne for the Constantinian-like concession of "Tuscany, Spoleto and Benevento, Corsica, and the **Patrimony of the Sabina**, to Blessed Peter, Apostle of God and to the Apostolic Church of Rome; the lands originally stolen by the impious people of the Lombards for several years."[74] The properties had been rightfully

[74] *Codex Carolinus*, in *Monumenta Germaniae Historica, Epistolae 3*, ed. W. Gundlach (Berlin, 1892), pp. 469-657; Pope Hadrian to Charlemagne in ep. 60, page 587: "…Tusciae, Spoletio, seu Benevento atque Corsica simul et Savinensae patrimonio beato Petro apostolo sanctaeque Dei et apostolicae Romanae ecclesiae concessa sunt et per nefandam gentem Langobardorum per annorum spatia abstulta atque ablata sunt…"

restored, the pontiff wrote, to the patrimony of S. Peter. Finally, Pope Gregory's office got its revenge upon the damnable Lombards.

The "restoration" of the Sabina was not a fait accompli in 778 as Hadrian had cheerfully assumed. The pope continued to ask that Charlemagne take action regarding the Sabina (but not the other places mentioned in the previous letter) in five consecutive letters from 781 to 782.[75] One gets a sense of Hadrian's frustration in a particular missive: "Getting, then, to the matter of our Sabine territory and your most faithful missi, our son, Itherius the venerable abbot and Maginarius, the religious chaplain; as per your good assignment, they have wished to deliver fully the aforementioned Sabine territory, but have been able to do very little regarding these matters, disregarding various occasions of perverse things and iniquitous men. Still, the aforementioned missi are able to relay to you some changes I have in mind."[76] Hadrian suggested to the Frankish King that he swap out one of the feeble missi for a papal replacement; the more competent successor, he hoped, would help to get the patrimony of the Sabina back, to its "ancient boundaries."

The pope's difficulties in "restoring the patrimony" lie in the fact that the dukes of Spoleto had distributed much of their fiscal territory in the central Sabina to private and monastic ownership. The gualdi had been broken up, with much of them going to Farfa, one of the most powerful institutions in central Italy by the end of the eighth century. Nevertheless, Hadrian continued to pursue the "patrimony of the Sabina" from its monastic owners. Farfa preserved in their cartulary a judgment from 829 in which the monastery sued the papacy to get back property

[75] Ibid, ep. 68, 69, 70, 71, 72, pp. 597-603.
[76] Ibid, ep. 71, pp. 601-2: "Euntes autem apud Savinensem territorio nostros vestrosque fidelissimos missos, videlicet filius noster, Ittherius venerabilis abbas, seu Maginarius religiosus cappellanus, sicut per vestrum bonum dispositum voluerunt nobis contradere in integro iam fato Savinense territorio, et minime potuerunt, mittentes varias occasiones perversi et iniqui homines. Tamen et ipsi iam fati fidelissimi missi omnia vobis subtiliter vice nostra referre possunt."

taken by the popes Hadrian and Leo.[77] Which properties had Hadrian seized in the name or returning the patrimony of the Sabina to its ancient boundaries? One was a curtis dedicated to S. Vitus, a site near the former gualdus of Hiacinth. Another was the curtis dedicated to S. Mary, a site within the former gualdus of Germinicianus. A third was the curtis of Pontianus, the site within the former gualdus of Pontianus. These were the three principal gualdi in the central Sabina and each, remember, included olive orchards in their charters.

In a letter to Charlemagne regarding the restoration of the Sabine patrimony, Pope Hadrian explained why the returning these properties to papal control was of paramount importance: "Therefore we, asking that your regal clemency be advanced by God, beg that, just as by your earlier, most upright excellence, **for the lighting of the lamps** and also alms for the poor beneath living conditions, that the Sabine territory be conceded to blessed Peter through your sustenance…"[78] The Sabina, in other words, and specifically its olives, were necessary to fuel "the poor," but also the lights that illuminated the basilicas of Rome, the subject of the next chapter of this dissertation.

The geographic overlap of the most dense archaeological record of Roman influence in the central Sabina during Late Antiquity, the location of olive orchards within Farfa's cartulary from the eighth and ninth century, and the portion of the region which was the object of papal ambition in the late eighth century, is not mere coincidence. Hadrian's pursuit of properties in the gualdus Hyacinth, gualdus Pontianus, and curtis Germanicianus, might have been motivated by a couple of factors. Perhaps the pope focused on these areas because he possessed real

[77] RF, vol. 2, #270, pp. 221-2: "Ibique ueniens ipse ingoaldus abbas monasterii sanctae dei genitricis Mariae quod situm est sabinis, in loco qui nucupatur acutianus, cum audulfo aduocato suo, retulit nobis, quod domni adrianus et leo pontifices per fortia inuasissent res ipsius monasterii."
[78] *Codex Carolinus*, ep. 68, pp. 597-8: "Et ideo poscentes vestram a Deo promotam regalem clementiam petimus, ut, sicut a vestra prerectissima excellentia beato Petro, nutritori vestro, pro luminariorum concinnationes atque alimoniis pauperum Savinense territorium sub integritate concessum est…"

evidence in the curia of former (i.e. pre-Lombard) proprietorial rights there. Alternatively, Hadrian might have anticipated a legal wrangle with Farfa regarding any attempt to remove property from the monastery's holdings, and simply selected the most appealing parts to call papal patrimony, hoping for a favorable decision from the Frankish crown. Either way, the olive orchards played a significant role in these developments. On the one hand, if the orchards were targeted because they were once owned by the Roman bishop, then they stood as botanical reminders of past ownership. On the other hand, if Hadrian chose to pursue the olive orchards not because of any real juridical connection to previous ownership, but rather because of his dogged pursuit to illuminate the basilicas of Rome, then the reliably flammable oil produced by olives can be viewed as a crucial factor in the confrontation between the pope and Farfa. My sense is that both explanations, that some of these olives historically belonged to the papal patrimony and that they enticed because of their illuminating potential, probably influenced the papal pursuit of the Sabina's orchards to varying degrees.

The orientation of Farfa's central Sabine olive orchards toward the Tiber River indicates that they did not derive from post-Lombard contexts. Rather, they represent a vestige of the divided Sabina that developed in late Antiquity, adding a botanical component to the economic division illustrated by the ceramic evidence. Devoting a piece of land to growing several olive trees only made sense in terms of time and economic investment, if the cost of transporting the surplus consistently ran less than any profit made at its end point. Indeed, one major drawback of growing perennial crops of any kind vis-à-vis annual crops is that farmers cannot quickly change the type of crop being grown on their land in order to better respond to the evolving nature of demand.[79] Olive orchards were ubiquitous in the ancient Sabina because the city of Rome

[79] D. Grigg, *An Introduction to Agricultural Geography*, 2nd ed. (London: Routledge, 1995), p. 12.

reliably lapped up oil, and the Tiber River provided an economical means of transporting bulky oil containers to their destination.

The surprisingly few orchards in the Farfan charters might indicate that even in late Antiquity, Rome consumed less oil than in the previous era. Certainly its population had declined since the 1st century, but even a city of 50,000 to 100,000 souls would have required a significant agricultural catchment, comprising the entirety of the Tiber Valley, according to Federico Marazzi. Perhaps the late antique and early medieval inhabitants of the city used less oil per capita due to cultural and social changes unrelated to diet. For instance, ancient conceptions of massage and public bathing involved copious amounts of oil, but these social institutions came under attack in the fourth century. Also, as the gears that had propelled Rome to the center of the Mediterranean world—namely in the importation of foods, people, and animals, and the erection of public buildings and amenities—stopped whirling in Late Antiquity, they would have required less olive oil as lubricant. Although quantifying types of consumption is impossible at the moment, these late antique social and cultural changes might have had an effect on the demand for olive oil in the city's hinterland.

Without access to Rome any production of surplus olives and oil, the risk abatement of an olive orchard made little sense as an agricultural choice. After the conquest, the Sabina Tiberina remained peripheral to other Lombard urban territories, such as Rieti and Spoleto, and certainly the overland trip would have made transport to these towns prohibitively expensive. Moreover, the Lombard state was uninterested in maintaining an apparatus in the Sabina for extracting rent in kind, especially in their gualdi. Without pressure to produce and without any outlet at which to unload excess olives in the early Middle Ages, most of the orchards that had survived late Antiquity, save the five that appeared in Farfa's cartulary, were abandoned.

The cultivation of a handful of olive trees, on the other hand, would have been a manageable affair and could produce a suitable amount of oil for a single household, if it so desired. Even if the political and economic conditions were unfavorable for large-scale olive production, a few trees could be tended by a family per personal consumption. Peregrine Horden and Nicolas Purcell emphasize the suitability of the olive tree to contexts of labor shortage: "in stable conditions, it represents a useful way of extending both the range of productions and the cultivated area, without—the "colonial" case excepted—committing very much labor."[80] In places, the charters reveal a remarkable attentiveness to small quantities of olive trees. For instance, fifteen trees were enumerated as a gift in a charter composed by agents of Rotarius and his wife Itta.[81] Zaro donated three olive trees as part of an exchange in Flaciano.[82] Siso sold eight olive trees in the gualdus Hyacinth, and Duke Trasimund donated three trees in the fundus Germanicianus.[83] In each of these exchanges, the olive trees were elevated as a crucial component of the donation or sale. For Rotarius and Itta, they comprised the only tangible good of their donation. For Zaro, Siso, and Trasimund, the trees were sold and donated alongside parcels of land, but the olive trees (even as few as three) were held as equivalent parts of the exchange. No other botanical element of the land received such careful enumeration in Farfa's charters. Vines, for instance, do not receive the same treatment.

The four instances of explicit enumeration in Farfa's register suggest that, as far as the monastery was concerned, any presence of olive trees was worth recording. Often, however, the trees were not counted explicitly, but rather listed as an identifying feature of an exchanged parcel. A property might be said to be "with olives" (oliuis) or "with olive trees" (arboribus

[80] Horden and Purcell, *The Corrupting Sea*, pp. 209-216.
[81] RF, vol. 2, #32, p. 43.
[82] Ibid, vol. 2, #125, p. 106.
[83] Ibid, vol. 2, #7, p. 27; ibid, vol, 2, #60, p. 61.

oliuarum) by a scribe, as part of that parcel's pertinence clause. Trying to quantify these words is impossible, but it is safe to assume that such terms denoted an arrangement less formal than orchard, and probably more akin to the three to fifteen tree range given in the enumerated charters. The crucial sentiment here is that people involved with the creation of the charters seemed keen to note when any olive trees grew on the property, sometimes enumerating, but sometimes simply making note of their presence. Thus, it is feasible that a "mapping" of these trees might reveal the extent of small scale, household olive production in the Sabina.

The small arboreal gifts of Siso and Trasimund grew upon components of familiar toponyms, Hyacinth and Germanicianus—these units supported olive orchards in exchanges discussed above. Indeed, several properties said to be with olive or olive trees appeared in toponyms associated with orchards. For instance, in 754 the brothers Bonualdus and Radulus conceded to the monastery their portion of land in the monastery's casale called Fornicata, an area that grew "with vines and olives…"[84] Six years earlier, the widow Bona had donated an olive orchard in very same parcel. In three other instances an exchange of property " with olives" has a direct toponymic relationship with an exchange that included an olive orchard.[85]

In addition to those "olives" that can be linked directly to entire "olive orchards," several more charters with a small number of trees derived from the broader contexts of familiar fiscal areas. Three charters mention olive trees from around the gualdus Hyacinth, the region just south of the Farfa River. Two of the properties were acquired in 764, Pinianus and Antianus, from this

[84] Ibid, vol. 2, #36, pp. 45-6.
[85] For the first example, see ibid, vol. 2, #98, p. 90. This charter pertains to a donation that includes a *casa* called Valerianus, which included "lands, vines, cultivatable and non-cultivatable areas, olives, woodlands, all mobile and immobile property." This toponym was associated with olive orchards. See ibid, vol. 2, #43, p. 50. Also, see ibid, vol. 2, #108, p. 96, where the olives (oliuas) derived from the same toponym, Teruilianus (spelled Tribilianus in the latter), as one of the olive orchards (oliueta) from Probato and Picco's list of properties, in ibid, vol. 2, #158, p. 132. The fundo Ausigianus (as well as Ilianus and Casalia) possessed "uineis, terris, siluis, oliuis, cultis uel incultis;" Romualdus donated everything he owned in Aufiginaus, including an olive orchard. See ibid, vol. 2, #140, p. 118.

area.[86] Farfa had some familiarity with the latter, as years before they had acquired four "olive cuttings" from Antianus.[87] The monastery also gained the casalis of Atrianus in 778, a site with olives located near the church of S. Vitus, near a bridge that crossed the Farfa River near the monastery.[88] Within the curtis Germanicanianus, the brothers Probato and Ravenno gave the "olives" on the fundus Cesinianus.[89] Later, a different unit of Cesinianus (spelled in this instance "Sisinnianus") was donated to monastery, and this parcel also contained olives (oliuis).[90] From a village called Vico Flavianus, just west of the gualdus Pontianus, the monastery received a portion of planted olives (rationem facendarum oliuarum in uico flauiano) in 838.[91]

Another prominent area for small growths of olive trees was the western-most foothills of the Monti Sabini; the western-facing portion of those foothills was called Postmontem in early medieval charters. Farfa acquired a casalis in this region called in 752 for twenty pounds of silver, from a representative of the monastery of S. Salvatore, located on Monte Letanano, just

[86] Farfa acquired Pinianus in as part of a property swap, and purchased Antianus from Siso, for the price of one horse. See ibid, vol. 2, #57, pp. 59-60 and ibid, vol. 2, #60, p. 61, The latter charter makes clear that the two properties were contiguous: "…terram de casale qui dicitur antianus petiam unam sub ripa modiorum decem, qua infra congruum casalis uestri qui dicitur pinianus esse uidetur…" The river mentioned in this charter was the Farfa, as evidenced by LL, vol. 1, #625, p. 305, which bound a leased property by the rivers of Pinianus and "super flumen Pharphe." In Migliario, *Strutture della proprietá agraria*, pp. 26-28, she places the two casale near the modern town of ponte Sfondato, where a bridge that crossed the Farfa led north to Forum Novum, at which the saint Antimus was venerated. For the cult of Antimus, see E. Susi, "I culti farfensi nel secolo VIII," in *Santi e Culti del Lazio: Istituzioni, societá, devozioni: atti del Convegno di studio, Roma, 2-4 maggio 1996*, ed. S. Boesch Gajano and E. Petrucci, (Rome: Presso la Società alla biblioteca vallicelliana, 2000), pp. 68-75.

[87] RF, vol. 2, #4, pp. 25-6.

[88] Atrianus was donated by a certain Hebremundus. See ibid, vol. 2, #122, p. 105. The property went by several names, as shown in LL, vol. 1, #68, p. 65: "…in territorio Sabinensi, in loco qui vocatur Urbana, et ad Cligianum, siciuti Flourus filius Iohannis negotiantis a parte ipsius monasterii per prestariam habuit, in loco qui dicitur Atrianus, et Urbana, et Accligiano." The toponym "Urbana" was linked with a water mill, powered by the Farfa River. See ibid, #706, p. 339: "Et alias res in Urbana, suptus ecclesiam Sancti Viti, aquimolum in Pharpha." The church of S. Vitus was located on the Farfa River, near a bridge, as indicated in RF, vol. 2, #15, p. 31.

[89] Ibid, vol. 5, #1220, p. 210. The charter says they belonged to the patrimony of the cell of S. Peter, the administrative center of the curtis Germanicianus.

[90] Ibid, vol. 2, #72, pp. 69-70. The editors of the *Regesto*, Giorgi and Balzani agree that these were different spellings of the same toponym; they cross listed the different spellings.

[91] Ibid, vol. 2, #283, p. 239.

north of Rieti.[92] One of the two residents of Longitia mentioned in the charter from S. Salvatore, Felix, evidently disputed the monastery's rights to disperse of this land, because only five years later Farfa received a donation from Felix pertaining to the fundo Longitia.[93] Hidden in the documentary lacunae between these two charters Felix fought and won his status as a free man, as opposed to being human property associated with Longitia, as was assumed in the charter from S. Salvatore. Moreover, he must have been able to show that S. Salvatore did not own the entirety of the casalis Longiita, as they claimed, and could prove that he owned at least a slice of that property, which he subsequently gave to Farfa anyhow (though he reserved the usufruct until death). The confusion regarding Felix's status and that of his property, might indicate that the tenant-landlord relationship had, sometime in the past, been a bit unorthodox, and perhaps akin to those enjoyed by residents of the gualdi, as described by Wickham. Furthermore, one of the most salient points regarding this double acquisition of Longitia by Farfa was that both charters described the land as growing olives, affirming that trees were grown in this region.

The Postmontem region was a valuable resource for Farfa's accumulation of olive trees. In one of its earliest charters, from 718, the monastery purchased an "immature olive orchard," located "next to the border of Scappligiani," a site just northwest of Longitia.[94] The vendors, three brothers called Barbatus, Valerianus, and Baronicio, clearly plied the art of olive culture, as the adjective for their olive orchard, *novellum*, indicates that it had been recently planted and not

[92] See ibid, vol. 2, #33, p. 43. For information on the monastery dedicated to S. Salvatore, the only other major monastery in the region, see L. Pani Ermini, "Gli insediamenti monastici nel ducato di Spoleto fino al secolo IX," in *Il ducato di Spoleto, Atti del IX congresso internazionale di studi sull'alto medioevo* (Spoleto: Centro italiano per lo studio dell'alto medioevo, 1983), pp. 541-577; S. Salvatore on page 571. Longitia's location can be inferred through an aggregate of clues. First, see LL, vol. 1, #859, p. 400 and #933, p. 429, which both reveal that this site lie along a road that traveled up a mountain to the monastery. Not long after Farfa acquired the site, it became associated with a church dedicated to S. Gordianus; see ibid, vol. 1, #121, p. 94. The church dedicated to S. Gordianus, as we see in these leases, lie next to the casalis Cassianus, which was in the Valley Lupone, just below Fara in Sabina. This location fits with the descriptions of Longitia being along a road to the monastery, as Cassianus was along the modern Via Farense, the most convenient path for ascending Mt. Acuziano, approaching from the south side.
[93] RF, vol. 2, #39, p. 47.
[94] Ibid, vol. 2, #3, p. 25. For the location of Scappligiani, see Migliario, *Strutture della proprietá agraria,* p. 95.

yet bearing olives. Moreover, the brothers sold several more "olive cuttings," to the monastery, from olive orchards in unidentified locations. It is also noteworthy that in the very next charter of Farfa' register, the monastery acquired fifteen more "olive cuttings"

Unlike the geography of Farfa's olive orchards, very few of the charters that described small numbers of olive trees derived from regions distant from the monastery. Interestingly, all olives that grew outside of the central Sabina were located in the same general vicinity, in the Massa Nautona, just south of Rieti, in the lower Turano valley. In 778 Bassellus donated all of his properties, which included the church of S. Victor, portions around Pantanum, portions in Pittinianus, and a domuscultus in Octavo. The pertinence clause for this large donation includes varied terrain, with houses, vines, lands, forests, apples, meadows, olives, cultivatable and un-cultivatable land.[95] Though one cannot tie the olive trees to any one property, all of these toponyms were in the Massa Nautona, where the Via Salaria and the Turano Valley meet (indeed, the Massa Nautona belonged to the Rietine diocese).[96] And very near here were the olive trees donated by Rotarius and his wife Itta, married monks, in 752.[97]

IV. Conclusions: Shunned Olives

It is admittedly a bit dizzying to make sense of the blizzard of property names that included olive trees in Farfa's charters between the years 700 and 900. The most important trend

[95] Ibid, vol. 2, #118, p. 102.
[96] See A. Staffa, "L'assetto territoriale della valle del Turano," pp. 238-247.
[97] This donation appeared in RF, vol. 2, #32, p. 43. It is noteworthy that they donate 15 "oliuas tallias" located where it is called Mussinus, but not the land beneath them. Farfa must have eventually gained control of the land beneath the olives sometime after the donation, as the monks began leasing the property in 936. See LL vol. 1, #99, p. 83. In that lease it was described as a parcel bound by the Nucarius River and the lands of S. Eleutherius. This saint helps to further the story. See A. Staffa, "L'assetto territoriale della valle del Turano," p. 236, where the author notes that the monastery dedicated to this saint was located in the Massa Nautona, along the border of the Rietine diocese. See V. Saxer, "I santi e i santuari antichi della via Salaria da Fidene ad Amiterno," *Rivista di archeologia cristiana* 66 (1990), pp. 245-305; in particular see pages 273-277, where the author says that a cult to Eleutherius developed along the Via Salaria at the 50th milestone, and that he was a Rietine bishop.

that can be discerned from the foregoing is the limited geographic extent of olive growing in the lands acquired by the monastery. Though several charters mention olives, the effort of locating those toponyms reveals a layered affiliation between these properties, like a matryoshka doll. That is, most of properties that seem to have grown olive trees—on a large scale or small scale—at the point when acquired by Farfa belonged to one of the larger fiscal units in the wedge of land between the Farfa River, Tiber River, Corese River, and western-most foothills of the Monti Sabini; nearly all of the olive-bearing toponyms belonged to, or lie next to, one of three exterior shells, the gualdus Hyacinth, curtis Germanicianus, and the gualdus Pontianus, all in the Tiber valley. I surmised above that this portion of the Sabina seems to have contained all of the olive orchards in the region because they were vestiges of the high level of aristocratic intervention from Rome during late Antiquity. The results of the last part of this section, which mapped instances of small-level olive growth, however, present a more puzzling phenomenon in their geographic parochialism.

The eastern portions of the Sabina rise in elevation, with the concomitant phenomena of cooler air and earlier frosts, the principal ecological constraints in olive growth. Perhaps climate changes during late Antiquity, overall a cooling, limited olive growth in the hilly and mountainous portions of the Sabina by the time Farfa began to keep records. Indeed, Michael McCormick offers a slew of data from around the world between 100 BCE and 800 CE to argue that the empire's vicissitudes corresponded to environmental changes caused by volcanoes and shifts in precipitation and air temperature.[98] In particular McCormick posits that the "sixth century looks to have been cooler in the post-Roman west," a phenomenon he links with the

[98] M. McCormick et al., "Climate Change during and after the Roman Empire: Reconstructing the Past from Scientific and Historical Evidence," *Journal of Interdisciplinary History* 43, no. 2 (2012), pp. 169-220.

empire's decline.[99] However, data for environmental changes in Italy, a land of particularly great ecological variation, remains as yet inconclusive regarding environmental shifts in this period, so no overarching conclusions can be derived from them.[100]

A few pieces of evidence from the early Middle Ages suggest that climate change, particularly a cooling, was not responsible for limiting olive growth in the eastern Sabina. For one, vineyards, which share similar climatological parameters as the olive, were ubiquitous in Farfa's earliest charters, even in the high valleys. Moreover, the continued presence of olives in the Turano Valley, near Rieti, militates against the presumption that the olives were unsustainable in the interior of the Monti Sabini. In short, for now it does not seem that environmental conditions profoundly changed the olive growing potential of the eastern Sabina.

A second possible explanation for the erasure of olives from the eastern Sabina is that the region became depopulated and the ancient olive trees there were destroyed by neglect.[101] The departure of humans from landscapes that tended olives in the ancient period might affect the plant negatively in two ways. On the one hand, agricultural structures that supported production on sloped terrain, stone terraces, would have degraded and failed without persistent tending,

[99] Ibid, p. 195. At the very best, these few data seem to indicate a mixed bag with regards to temperature in these centuries, and certainly do not merit continent-wide generalizations. Moreover, the mechanisms whereby environmental "stability" would support the construction of empire, as McCormick and others postulate for the period between the first century BCE and the second century CE, are not made explicit in the article. One could just as easily suggest that, in times of relative agricultural prosperity, local groups would be harder to conquer because they were better provisioned and had more to protect. In fact, periods of environmental change could, conceivably, be the best time for an empire like Rome, which controlled vast agricultural resources and the ability to move those resources, to exert power over desperate populations.

[100] See P. Squatriti, "The Floods of 589 and Climate Change at the Beginning of the Middle Ages: An Italian Microhistory," *Speculum* 85 (2010), pp. 799-826; Squatriti warns that the effects of natural forces struck on a microregional level, and thus the mouth of the Tiber might not reflect violence further up-river.

[101] McNeill takes this position with regards to hill agriculture in the early Middle Ages. See J.R. McNeill, *The Mountains of the Mediterranean World: An Environmental History* (Cambridge: Cambridge University Press, 1992), p. 85, where he writes, "I think the best explanation is that low slopes cleared for vines and olives no longer received the care and maintenance of earlier times, for want of labor, and perhaps for want of knowledge lost in the collapse of Roman civilization." He also accepts the theories of Vita-Finzi regarding increased erosion during the early Middle Ages, and that the breakdown of the hydraulic works of the Romans increased the prevalence of malaria, which further discouraged production in the lowlands.

changing the composition of the soil, according to J.R. McNeill.[102] Moreover, less anthropogenicaly reliant botanical entities, such as oaks, firs, and beech trees would have towered over the shrubby maquis, eventually depriving them of sunlight.[103] Once the terrace has broken, or fir surpassed the olive, any subsequent inhabitants of the region might have been discouraged to resume oleiculture by the sheer amount of effort required to bring delinquent property back online, a phenomenon described for early medieval Ravenna by L. Ruggini.[104] Prior to the archaeological recalibrations of the S. Etruria evidence, this seemed an obvious answer. However, a growing amount of data, discussed above, suggests that, in fact, the slopes and valleys of places like the eastern Sabina were inhabited in late Antiquity, but not in way that left much recognizable evidence for archaeologists.[105]

Indeed, a very small number of datable coins or foreign ceramics have been found in the eastern Sabina, but this should be expected in a closed economy. J. Moreland's ceramic sequence from the hills and valleys suggests that enough people occupied this area to participate in regional exchange there. The elaborate church at Viconovo also hints at a critical mass of humans in the hills during late Antiquity. This population, with excellent access to timber, would have been early adapters to the late Antique trend toward wooden construction, which tended to go undetected in earlier modes of archaeology. Although it is dangerous to project too far back from the Farfan documents, it might also be significant that, in the eighth century, the charters

[102] Ibid.
[103] See O. Rackham, "Land-use and the Native Vegetation of Greece," in *Archaeological Aspects of Woodland Ecology*, eds. M. Bell and S. Limbrey, BAR International Series 146 (Oxford: British Archaeological Reports, 1982), pp. 177-98. Interestingly, this notion has some support among the ancient agronomists, as Cato warns to keep oaks away from olive trees.
[104] She calculates that slaves require five years to pay for themselves, deserted land required ten years to return to normal, and a vineyard called for spending double the value of the land in order to bring it back online. These economic constraints discouraged investment by minor owners and producers after the Gothic War. See L. Ruggini, *Economia e societa nell' "Italia annonaria": rapporti fra agricoltura e commercio dal IV al VI secolo d.C.* (Milan, Giuffrè, 1961), p. 447.
[105] See Lewit, "Pigs, presses, and pastoralism," p. 79

depict lively activity in the valleys. In, fact the few aristocratic families that do emerge in the early medieval period in the Sabina all were based in the hills and valleys, suggesting that they had been there long enough to accrue more wealth than others in the Sabina, particularly the inhabitants along the Tiber River. [106]

A third possible explanation for the disappearance of most of the olive trees in the eastern Sabina, after the ecological and the economic one, is that the local population simply chose not to cultivate the plant. The olive tree offers so many advantages in most conditions, ecological and nutritional, that the suggestion might seem absurd. Indeed, the tree seems perfectly suited to the interior hills of the Sabina, as its strong roots provide a very useful way to make use of sloped terrain, especially hills sides. And the fats of the olive, as mentioned in the introduction, can be preserved for a long period of time and excellent fuel for hard labor. What factors could possibly lead early medieval Sabines to forego their environmental heritage?

The answer lies, ironically, in the Sabine olive orchards that grew along the Tiber River in late Antiquity. The archaeological and oleicultural evidence from this part of the Sabina points to a high degree of aristocratic intervention in the period, as I discussed above. Wealthy Romans, including the popes, had consolidated farms, several of which included olive orchards, around industrial centers in order to send food to Rome along the watery highway of the Tiber River. One way a population can avoid being intruded upon by state-like forces, as in the Tiber Valley, is by altering their agricultural regime to favor hidden, mobile, and wild sources of food. Peasants can evade forces of the state, in short, by appearing not to be "settled." The olive tree, on the other hand, by virtue of its tenacity for life and nearly mythical longevity, is the very embodiment of long term settlement.

[106] Costambeys, *Power and Patronage*, p. 37.

Peasants in late Antiquity chose not to grow the olive tree as a strategy for avoiding the type of aristocratic intervention that they saw in the Tiber Valley. These types of measures have been discussed elsewhere, particularly by James Scott. For Scott, the southeast Asian massif, comprising parts of six states (Vietnam, Cambodia, Laos, Thailand, and Burma, and China), called Zomia, represents the type of geographical and ecological arrangement—peripheral to traditional centers, with varied terrain and several elevation changes—suitable for fleeing the nation-states, which tend to be located in valleys. This area was a "zone of refuge or "shatter zone," where the human shards of state formation and rivalry accumulated willy nilly…"[107] Scott's principal historiographical intervention is to assert that the populations in these shatter zones chose their location, their subsistence practices, and their social structure to maintain their autonomy, though perspectives from state-centers often view these choices, indeed portray them, as barbaric.

The conditions of late antique eastern Sabina fit Scott's notion of a shatter zone remarkably well. The Roman Empire was powerful enough in Antiquity to assert political control over the entirety of the region, but the reach of that polity was anomalous in the pre-modern world by nearly every measure. Starting around the third century when the economic, demographic, and social changes began to occur in Italy, the centralizing power of Rome diminished, and some space for evading the state was created, particularly in places with an increased "friction of terrain," as Scott calls it. The eastern Sabina is not the most rugged terrain in Italy, but certainly provides more obstacles in the form of hills and peaks than the Tiber Valley.

[107] J. Scott, *The Art of Not Being Governed: An Anarchist History of Upland Southeast Asia* (New Haven: Yale University Press, 2010), p.7.

The types of agricultural regime that states have difficulty appropriating, according to Scott, are those that forage, practice swidden techniques, and conduct forms of pastoralism. The first of these methods, foraging, becomes more attractive during times of demographic decline, as more land becomes available.[108] Indeed, this scenario unfolded in the Roman hinterland starting around the third century, for reasons I discussed above. Pastoralism, moreover, is difficult for the state to track because of its inherent mobility; the animals must be moved by season to different locations and different elevations.[109] Here again, the eastern Sabina was an excellent place for practicing pastoralism, especially with its long valleys, the Turano and Salto, that connected the Rietine plain with the Abruzzi mountains. Even in Antiquity, this part of the Sabina was famous for its transhumance routes.

In some ways the olive tree could be imagined as an excellent partner in a state-evading agricultural strategy. For one, for much of the year the tree is maintenance free, allowing the producer a great degree of mobility. Also, the tree can be grown on sloped terrain, away from the valleys that states tended to inhabit. These botanical qualities of the tree might be attractive, but the factors of olive oil production create some prohibitive constraints if one's objective is to remain unencumbered. For instance, the olive harvest only occurs once per year, meaning that, if one were to rely on its fats for daily use, one would have to find a way to store or carry that harvest's yield for 365 days. In the pre-modern world, ceramic provided the best storage container for olive oil, as it could be hold large amounts of oil and seal it off from oxygen, which spoils the oil over time. The creation of large ceramic containers required, of course, access to clay, potters, and kilns, a situation more likely for valley populations than hill. Animals hides could also be sewn to store and carry oil, but the ability to seal these containers seems

[108] Ibid, pp. 188-9.
[109] Ibid, p. 191.

questionable, and lugging them up and down the hills of the Sabina unlikely. Finally, an excellent substitute for the olive's fat would have made the cultivation of the tree even less appealing for the population of the eastern Sabina; that is, with access to great stores of animal fats, a result of being a pastoral society, olive fats were unnecessary. The great advantage of animals fats, moreover, is that they move themselves by hoof up and down mountains and can be "harvested," whenever needed.

What is the role of the Lombards in this peasant-driven departure from oleiculture? Clearly at least portions of the Sabina had begun to turn away from the olive some time before Faroald made his way to Spoleto. The Lombards certainly did nothing directly to halt that trend. Perhaps the most striking facet of Farfa's register, agriculturally speaking, is the almost complete absence of olive oil from the charters dating from 700-900. In the host of exchanges that occurred between the monastic community and local inhabitants, which included grains, clothes, cheese, and several animals, oil is mentioned only twice, and once as a substitute for wax. The shocking paucity of oil suggests that shifts had occurred not only in the parameters of production, as discussed above, but also of consumption. Although the precise factors that might change the composition of diet remain elusive, the rise of a Sabine aristocracy based within the hills of the Sabina, a phenomenon traced by Marios Costambeys, must have played a role in the development of tastes. In a sense, then, that the Lombards allowed the pastoral elements of the interior Sabina to fully develop within the regional economy, might have dampened the cultural allure of the olive, the primary competitor in the lipidic market.

By the end of the seventh century, the wedge of land between the Tiber, Farfa, and Corese rivers represented the periphery of the Sabina, politically and economically. One consequence of its marginal nature was that the duke of Spoleto chose Thomas of Maurienne's

monastery near the Farfa River for an extensive endowment. Most likely Faroald II, the namesake of the Lombard warrior who founded the duchy, viewed his gift to Farfa as the first step in an alliance that would solidify a favorable view of his hegemony over the outer reaches of the Sabina. The endowment of Farfa gave the duke a local, spiritually-backed agent who would, in theory, protect against meddling in the area on the part of other regional powers, most notably the bishop of Rome.

In its initial support of Farfa, the Lombard crown may have became indirectly responsible for the revival of oleiculture in the Sabina by the central Middle Ages. The monastery, as the charters above show, used its wealth to acquire and cultivate olive plants. Although the eleventh and twelfth century composition of Farfa's leases is beyond the scope of this paper, an analysis of the documents from those centuries conducted by Graeme Barker and Tersilio Leggio shows that the growth of olive orchards had far exceeded their early medieval confines.[110] Their map reveals olive orchards in the hilly terrain northeast of the Riana valley. Based on the contents of its charters, Farfa was at least partially responsible for the spread of olives, by purchasing raw olive stock from Sabine Tiber Valley and marching them into the eastern hills.

[110] G. Barker, T. Leggio, and J. Moreland, "Insediamento altomedievale ed uso della terra nei dintorni di Farfa approccio storico archeologico," *Archeologia Laziale* 9 (1988), pp. 424-31.

Chapter 3
Combusting the Olive: Artificial Illumination in Early Medieval Italy

Ancient Roman arboriculture valued the olive tree for its oily fruits. Once ripe, these were processed and packaged and disseminated in various forms throughout the empire, with, as we saw in the introduction, a special regard for the city of Rome. But everywhere their primary destination was Roman bodies. In the domestic setting, Romans ate olive oil as a cooking fat and condiment, which delivered a rich package of nutritional lipids to their diets. At the bathhouse, olive oil was slathered on the skin as a detergent and emollient, providing Roman dermis with a culturally esteemed scent and luster. In varied contexts—private and public, in the digestive system and upon the skin—olive oil was a constitutive element in the maintenance of the Roman body. As the body was, "the basic nexus of colonialism—the target and agent of practices of control and the instrument of the embodiment and performance of identity," the olive also served as a flag of Roman hegemony.[1] Even non-Mediterranean geographies of the empire such as Britain, unable to support oleiculture, were supplied with a steady stream of olives and oil from

[1] M. Dietler, *Archaeologies of Colonialism: Consumption, Entanglement, and Violence in Ancient Mediterranean France* (Berkeley: University of California Press, 2010), p. 13. For his discussion on food as a colonial agent, see pp. 183-256, which focuses mostly on wine, but ventures into a wide range of alimentary topics, including preparation and storage, and ultimately shows a blend of local and colonial material cultures. On bodies in colonial projects in non-Mediterranean contexts, see A. Stoler, *Carnal Knowledge and Imperial Power: Race and the Intimate in Colonial Rule* (Berkeley: University of California Press, 2010), whose work on Java and other southeast Asian European colonies in the nineteenth and twentieth century provides a rich starting point for understanding state strategies of controlling bodies.

the first to the fourth century.[2] Particularly vivid in frosty colonial contexts, the olive stood as an embodied form of Roman culture, a tangible sign of its power. With the political decline of the empire in the fourth and fifth centuries, however, the imperial infrastructure that had supported the trans-continental distribution of the olive failed, and different associations with the fruit and its oil emerged throughout the former provinces of the Roman Empire and in Italy itself. One of the salient shifts in this period, as imperial hegemony retreated everywhere in the west, was the uncoupling of olive and body. In early medieval Italy, between the fifth and ninth century, buildings, not bodies, became the dominant site for oil consumption.

This chapter analyzes the contours of that transition. No single mechanism was responsible for the rise of oil consumptive buildings. Rather, this development can best be understood by examining together cultural, technological, political and environmental factors. For now, it is enough to say that the buildings where the shift occurred belonged to Christians. In particular, changes in the interior of the church, the gathering place of Christians for the communal celebration of the mass and other liturgies, altered the way people imagined oil and its uses. Oil played a well-known role in the sacramental components of Christian worship, namely as chrism, used in the act of anointing, but this was not its principal destination.[3] The bulk of its

[2] M. van der Veen, A. Livarda, and A. Hill, "New Plant Foods in Roman Britain—Dispersal and Social Access," *Environmental Archaeology* 13, no. 1 (2008), pp. 11-36. All but a handful of the olives found in ancient Britain derived from the contexts of military barracks or London. The narrow scope of the archaeological finds suggests that its consumption remained closely linked to Roman officials in Britain, and did not dissipate into indigenous contexts in the countryside, unlike several other imported exotics, such as figs or the oily poppy seed. The failure of market development for olives and oil in the countryside might indicate a lack of demand there for such things. On the other hand, it could be interpreted as a strategic limitation in the geography of supply, emphasizing the exclusivity of access to the quintessential Mediterranean plant.

[3] The indispensable work on the chrism mass is P. Maier, *Die Feier der Missa chrismatis: die Reform der Ölweien des Pontifcale Romanum vor dem Hintergrund der Ritusgeschichte* (Regensburg: Verlag F. Pustet , 1990). For a condensed history of the mass, though with a northern European focus, see C. A. Jones, "The Chrism Mass in Later Anglo-Saxon England," in *The Liturgy of the Late Anglo-Saxon Church*, eds. H. Gittos and M. Gredford Bedingfield (Woodbridge: Boydell, 2005), pp. 105-142.

consumption in early medieval Italy occurred within novel systems of artificial lighting that changed large amounts of olive oil into visual energy.

Olive oil combusts when drawn up a wick through capillary action and heated by flame. The liquid is first gasified into particles of carbon, which are burned up in the outer mantle of the flame, causing the formation of light waves.[4] Though the cultural and social significance of that act was heightened in early medieval Italy, the technological means for doing so and its practice had a long history on the peninsula. Knowledge of wicks[5], wick holders, wick trimmers, lamp design, filling mechanisms and fuel in the early Middle Ages were all borrowed largely from ancient predecessors.[6] In fact, by the fifth century CE, oil lamps had burned in Italy for about a millennium.[7] Though stylistically these lamps changed, their general characteristics remained largely static, based on the available written and archaeological evidence.[8] Small, ceramic disc lamps, with a single nozzle, handle, and flat base, remained the most common form of artificial illumination in the period. These lamps were designed for portability and casted illumination while resting upon a horizontal platform, from a lampstand, candelabra, table, or wall niche. This form of lamp accommodated travel with its bearer, with handles and a closed fuel reservoir.

[4] R.J. Forbes, *Studies in Ancient Technology*, vol. 6 (Leiden: Brill, 1966), p. 120.
[5] Wick technology, Schivelbusch notes, was as revolutionary in the development of artificial lighting as the wheel in the history of transport. See W. Schivelbusch, *Disenchanted Night: The Industrialization of Light in the Nineteenth Century*, trans. A. Davies (Berkeley: University of California Press, 1995), p. 6.
[6] Forbes, *Studies in Ancient Technology*, pp. 120-168.
[7] C. Pavolini, "Ambiente e illuminazione. Grecia e Italia fra il VII e il III secolo a.C.," *Opus* 1 (1982), pp. 291-313. For a broader geographic account of lamps and their spread, see F.W. Robins, *The Story of the Lamp (and the Candle)* (London: Oxford University Press, 1939), pp. 55-79.
[8] To my knowledge, the only attempt at a comprehensive treatment of systems of artificial illumination in the ancient Mediterranean is Y. Seidel, *Künstliches Licht im individuellen, familiären und öffentlichen Lebensbereich* (Vienna: Phoibos-Verl, 2009). An excellent starting point for ancient Italian lamps is H.B. Walters, *Catalogue of the Greek and Roman lamps in the British Museum* (London: The British Museum, 1914). The lamps in the catalogue derive chiefly from southern Italy, from Pozzuoli, but also Rome, Naples, Baiae, Armento, Torre Annunziata, and Civita Lavinia.

Part of the explanation for the rise of oil consumptive buildings in the early Middle Ages lies with technological improvements made to ancient lighting technology. During this period, for the first time in Mediterranean contexts, glass was incorporated into lighting systems. These lamps used the same technological mechanisms of combustion as earlier models, with linen wicks and wire wick-holders for drawing oil up from a storage chamber, but the fuel reservoir was composed of vitreous fabric. Transparent glass fixtures had two comparative advantages over their opaque counterparts. First, glass lamps enabled more lumens, about twice as many, to be emitted per flame, as compared to ceramic and bronze lamps.[9] Second, the transparency of glass made its position overhead more tenable, as the body of the lamp would not prevent light from passing through. As such, glass lamps were often hung from the ceiling, instead of rested upon flat surfaces below the sightline

In addition to the technological changes in artificial lighting, the location of its production in early medieval Italian society also experienced a sharp shift away from earlier modes. For ancient Romans, the oil lamp was a key instrument in casting the meaning of domestic space; the cult of household gods among polytheists and the celebration of Sabbath among Jews called for domestic lamp-lighting rituals.[10] The material remains of the town of Pompeii indicate that commercial space, too, was activated by artificial lighting. Bodegas along the main thoroughfare had lamp niches in the walls and sometimes a single hanging lamp over

[9] The scholarship pertaining to glass and its functional advantages will be presented in the relevant section below.
[10] For Jewish practice, see Flavius Josephus, *Against Apion*, ed. J. Barclay, Translation and Commentary 10 (Leiden: Brill, 2007), 2.82, pp. 327-8. For household gods, see Juvenal, *Satires*, trans. N. Rudd, (Oxford: Oxford University Press, 1999), 12.84-93. pp. 109-10. For general discussion of ancient domestic flame, see F. De Coulanges, *The Ancient City: A Study on the Religion, Laws, and Institutions of Greece and Rome*, trans. W. Small (London: Simpkin & Marshall, 1916), pp. 29-41. For the appropriation of domestic lighting rituals among Christians, see K. Bowes, *Private Worship, Public Values, and Religious Change in Late Antiquity* (Cambridge: Cambridge University Press, 2008), p. 78. The domestic lamp had practical uses, too, judging by the classical topos of the writer fighting against the night with his faint lamp. See J. Ker, "Nocturnal Writers in Imperial Rome: The Culture of Lucubratio," *Classical Philology* 99, no. 3 (2004), pp. 209-242.

the counter, to illuminate transactions below.[11] Some shops seem to have hung a bronze lamp outside, over the architrave.[12] Thus, artificial light from private homes or shops bled over into public space beyond the threshold and into the streets.

Surprisingly, the obliquely-lit roads at Pompeii represent one of the few pieces of evidence for artificial light in Roman public space. The written evidence overwhelmingly indicates that the roads of Rome remained dark in Antiquity. The regular presence of nocturnal lamp carriers for hire, for instance, implies an otherwise dark streetscape.[13] The public baths enjoyed a brief moment of state-funded artificial lighting in the third century CE, but this was fleeting, as the emperor Tacitus quickly ended the practice, "that no disturbance might arise during the night."[14] Public temples kept votive lights, single lamps, positioned near the altar, primarily for symbolic effect.[15] A remarkable papyrus from Arsinoe, Egypt, dated to 222 CE, indicates that, among all the expenses a temple incurred throughout the year, lighting provisions drew a very small proportion of the available funds.[16]

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[11] G. Spano, "La illuminazione delle vie di Pompeii," *Atti della reale accademia di archeologia, lettere e belle arti (Nuova Serie)* 7, no. 2 (1920), pp. 3-128; bodegas on pages 4-5.
[12] Seidel, *Künstliches Licht,* p. 103.
[13] See C. Holleran, "The Street Life of Ancient Rome," in *Rome, Ostia, and Pompeii: Movement and Space*, ed. R. Laurence and D.J. Newsome, (Oxford: Oxford University Press, 2011), pp. 245-261; dark streets on page 249. Seidel agrees, arguing for a general dimness on public streets; see Seidel, *Künstliches Licht,* p. 104. And for the general experience on Roman streets, see J. Hartnett, "Streets, Street Architecture, and Social Presentation in Roman Italy" (PhD diss., University of Michigan, 2003).
[14] The baths were first illuminated by Severus Alexander (222-235 CE). See *Scriptores Historiae Augustae*, vol. 2, p. 225: "addidit et oleum luminibus thermarum, cum ante et non ante auroram paternent et ante solis occasum clauderentur." The provision of oil for light in the baths probably came from the same channels as the oil dole, from northern Africa, a privilege he "restored" from the time of his ancestor, Septimius Severus, after falling into abeyance under his predecessor, Elagabalus. For oil dole, see ibid, vol. 2, p. 219. For the cessation of artificial light, see ibid, vol. 3, p. 10: "thermas omnes ante lucernam claudi iussit, ne quid per noctem seditionis oriretur."
[15] M. Nilsson, "Pagan Divine Service in Late Antiquity," *The Harvard Theological Review* 38, no. 1 (1945), pp. 63-9. Also, F. Dölger, "Untersuchungen zum abendlichen Licht-Segen," *Antike und Christentum* 5 (1936), pp. 1-4.
[16] *Select Papyri*, trans. A.S. Hunt and C.C. Edgar, vol. 2 (Cambridge: Harvard University Press, 1884), #404, pp. 526-531. Whereas lighting consumed 4 *drachmae* of oil during celebratory days, 24 *drachmae* were needed for decorations (crowning) at the temple, and 32 *drachmae* were given to the porters who carried the icon during a procession. Thus, while some light was clearly intended for public consumption, its production was limited, and occurred mostly in symbolic forms.

For ancient Romans, artificial illumination was ubiquitous, but largely confined to individual and domestic uses. In early medieval Italy, this chapter argues, the scope of artificial light was drastically reduced, becoming associated primarily with public houses of Christian worship. The narrowed contexts of artificial illumination in early medieval Italy spurs the question as to how this time and place could have experienced a heightened emphasis on lights and their use, compared to the broadly lit peninsula of Antiquity.

Paradoxically, the increased social significance of artificial lighting in early medieval Italy was engendered by a quantitative decline in oil supplies. As outlined in the introduction, the empire's powerful mechanisms for importing and producing olive oil—as part of the *annona*—ensured that massive quantities of it were available for fuel in ancient Italy. At its height, the city of Rome alone received somewhere around 104 shiploads of olive oil, containing about 18,000 metric tons of oil per year from its colonies.[17] The quantity of oil flowing into the peninsula and its distribution by a highly complex, imperial infrastructures made the practice of keeping domestic and commercial light economically viable for the vast majority of its population.

When Mediterranean connectivity faltered in the late fifth and sixth centuries, disabling the liquid routes that the Roman Empire used to transport oil's bulky ceramic containers, a profound olive dearth ensued.[18] Amid the prevailing darkness of early medieval Italy, however, land-owning aristocrats saw opportunity. They increasingly activated gleaming metals, marbles,

[17] Mattingly and Aldrete, "The Feeding of Imperial Rome," p. 154.
[18] Wickham, *Framing the Early Middle Ages*, pp. 87-93. For the archaeology of Libya during the moments of political transition in Late Antiquity, see I. Sjöström, *Tripolitania in Transition: Late Roman to Early Islamic Settlement* (Aldershot: Ashgate Publishing, 1993). For Roman oil production in Libya, see D.J. Mattingly, "Olive Oil Production in Roman Tripolitania," in *Town and Country in Roman Tripolitania: Papers in Honour of Olwen Hackett*, eds. D.J. Buck and D.J. Mattingly, BAR International Series 274 (Oxford: BAR Reports, 1985), pp. 27-46. The decline in shipments from northern Africa to Rome may have preceded the Vandal invasion, suggesting that other factors contributed to the disintegration of the Roman annona—the reduction of population in Rome, for instance—but there seems to be consensus that the sack of Carthage represented the decisive and fatal blow. For discussion, see McCormick, *Origins of the European*, pp. 100-101, and note 70 for relevant bibliography.

and glass of the interiors of basilicas by enflaming prodigious amounts of locally produced oil, arresting the attention and imagination of those in eye-shot. In short, penumbra created by economic and political fragmentation made olive oil's combustibility an attractive and useful trait for those who could afford to own and cultivate the tree.

The first half of this chapter explores the physical manifestations of the relationship between olives and aristocratic modes of artificial illumination that developed in early medieval Italy. It does so by investigating the development of lighting systems in Christian basilicas, particularly in Rome, and the environmental strategies deployed to keep them aflame. This part of the study begins with an inscription from Pope Gregory II, which intimates the scale of oil provisions in early medieval Rome. It then turns to papal donation lists, documents positively full of lighting fixtures, for a better understanding of the placement of the lights in this period. The archaeology of glass is also addressed in order to assess the chronological importance of its rise as a central fabric in lighting fixtures.

In the second half of the chapter, I analyze the discursive strategies that accompanied these illuminative changes. Early medieval aristocrats used light as an idiom of power. The potency of artificial light as discourse in this time and place has fascinating and instructive parallels with later periods. Craig Koslofsky shows how the first oil-burning street lights in early modern Europe, which were suspended by cords over the middle of the street, were interpreted as the hegemonic concerns of the contemporary nobility and bourgeoisie. These street lights became sites of resistance among the previous nocturnal masters: servants, prostitutes, criminals, and youth, who regularly destroyed the lamps with clubs and rocks.[19] In a similar vein, Wolfgang

[19] C. Koslofsky, *Evening's Empire: A History of the Night in Early Modern Europe* (Cambridge: Cambridge University Press, 2011), pp.157-197.

Schivelbusch examines the advent of gas lighting in eighteenth century England, where light articulated class struggles; the factory, more than any other place, was the first space utilized for gas-fueled illumination, because it enabled the extension of work hours.[20] A fruitful foil for interpreting early medieval matters of light exists in the present context of urban darkness. In post-industrial cities like Detroit, the absence of artificial light—specifically street lighting—possesses a valence that vividly represents distinctions of class and race.[21]

Artificial light, as Koslofsky and Schivelbush show us, was more than a vehicle for enabling sight. Its use was closely connected to systems of authority, a result of the close association between labor and the production fuel. In early medieval Italy, the dramatic decline in lighting fuel as a result of the disintegration of Mediterranean shipping networks, made the production of light a particularly acute symbol of power. The intricacies of this topic are addressed in the latter part of the chapter, first through an examination of use of mosaic and the meaning of their reflective properties. Finally, the contribution of artificial lights in the production of liturgy, and its effects on the contemporary imagination are each highlighted before some concluding remarks on late eighth and ninth century papal lighting programs.

I. Papal Dearth: Supplying Rome's Lights

An olive crisis in eighth century Rome left a clear manifestation of the ever-increasing pressures of oil demand that had developed in accord with the systems of artificial illumination during the previous three centuries. A key piece of evidence for understanding this crisis and in

[20] Schivelbusch, *Disenchanted Night*, pp. 9-18.
[21] See "Darker Nights as Some Cities Turn Off the Lights," in Dec. 29th 2011 New York Times. In Highland Park, MI, a suburb of Detroit, 1100 of the city's 1600 streetlights were pulled out of the ground within a 2.9 square mile area, as a result of an accumulated debt of over 4 million dollars to the energy provider, DTE Energy. In addition to the financial strain, Highland Park has experienced precipitous population decline, dropping from 50,000 residents in the 1950s to 12,000 residents today. Moreover, nearly half of the people who remain, 42 percent, live in poverty, which a medium income $30,000 below the state average.

turn the advent of artificial light in Christian space hangs today in one of the most conspicuous places in the city, in the porch of S. Peter's basilica on the Vatican Hill. That space is adorned by a few vestiges of its fourth century predecessor. One of the decorative pieces removed from the old building and moved to the new in the sixteenth or seventeenth century was a large lapidary inscription dating to the papacy of Gregory II (715-731 CE).[22] Gregory's stone words have largely been overshadowed by those of a fellow pope from the same century, Hadrian I (772-795 CE), whose black marble epitaph, commissioned by Charlemagne, hangs nearby.[23] Unlike Hadrian's stunning black slab, which was a potent symbol of the convergence of papal and Carolingian affairs during the life of the pope, Gregory's inscription remembers more terrestrial matters, the endowment of property to the basilicas dedicated to Peter and Paul. For medieval Italy, such an act was not typically commemorated in stone—a material usually reserved for church dedications or tombs of the wealthy—but rather was written upon parchment and stored in an archive.[24] Its prominent position, moreover, seems out of place for seemingly mundane matters. However, as a detailed analysis of the inscription shows, Gregory's gift was something quite more than property: it represented fuel for enlivening the artistic splendor of Rome's churches with artificial light. Moreover, this inscription fits within the broader contexts of Gregory's papacy, one preoccupied with oleicultural matters.

The inscription indicates that Gregory donated an extensive set of properties, with seventy four toponyms—place names—in all. The gift had a specific purpose: "I establish [this endowment] and set up its guardianship by my successors without any resistance so the places or

[22] *Inscriptiones Christianae Urbis Romae: Septimo Saeculo Antiquiores*, vol. 2, ed. G.B. de Rossi (Rome: Pontifico Istituto di Archeologia Cristiana, 1888), 209.39.
[23] J. Story, et al., "Charlemagne's Black Marble: The Origin of the Epitaph of Pope Hadrian," *Papers of the British School at Rome* 73 (2005), pp. 157-190.
[24] For the ubiquity and placement of tombs, see A. Yasin, *Saints and Church Space in the Late Antique Mediterranean: Architecture, Cult, and Community* (Cambridge: Cambridge University Press, 2009).

farms with olive orchards which are described below might be distinguished from others, for the purpose of maintaining your lights…"[25] The properties were organized under three principal administrative rubrics, the Appian Patrimony, the Labicanian Patrimony, and the Tybertine Patrimony; the term patrimony here connotes a high level of organizational complexity, and it is the first unit of property mentioned in the inscription, suggesting a heading of sorts.[26] After the identification of the patrimonial unit the inscription provides a toponym pertaining to a *massa*, a term that implied a bundled unit of several parcels or estate; next came the associated *fundum*, a geographically cohesive unit of land or parcel.[27] In turn, olive orchards were associated with particular parcels. The first line of the donations appears thus: "There is in the Appian Patrimony the Victoriolian Estates. The olive orchard in the Rumelianan Parcel, totally intact. The olive orchard in Octavianan Parcel."[28] It then proceeds to a different estate within the Appian Patrimony and lists nine parcels within that unit containing olive orchards, and so on. The endowment remembered by the inscription, in other words, centered on the donation of olive orchards. Though a complex language of estate hierarchy was employed, these terms were supplied to identify the administrative jurisdiction and geography of the olive orchards involved. Given the mono-cultural nature of this gift, and the functional relationship between its content (olive trees) and its purpose (maintaining the lights), it is safe to assume Gregory's endowment was not income generating property for the church, but intended for direct production of the fuel necessary to illuminate buildings. In other words, this was a pope intimately invested, linking particular orchards with particular lamps, in the production of artificial light in his churches.

[25] *Inscriptiones Christianae Urbis Romae*, 209.39: "Statuo enim et a meis successoribus servandum sine aliqua refragatione constituo ut loca uel praedia cum olivetis qui inferius describuntur quos pro concinnatione luminariorum vestrorum a diversis quibus detinebantur..."
[26] Ibid, 209.39: "Id est in patrimonio Appiae…"
[27] Vera, "Massa fundorum," pp. 991-1025.
[28] *Inscriptiones Christianae Urbis Romae: Septimo Saeculo Antiquiores*, Vol. 2, No. 1, ed. G.B. de Rossi (Rome, 1888), 209.39: "Id est in patrimonio Appiae massas Victoriolas. Olivetum in fundo Rumeliano in integro. Olivetum in fundo Octaviano in integro…"

Gregory's trees were located throughout the eastern and southern suburbs of Rome. Though patrimony and estates were not necessarily contiguous, nor were the parcels within the estate, the terms were based upon a broad geographic coherence. The Labicanian and Tybertinian patrimonies shared a border along the Via Prenestina, which ran due east from Rome, the former south of the road and the later north.[29] Within the Tybertinian Patrimony, the Alianan estate—a unit listed in Gregory's inscription as olive bearing—was localized around the 15th mile marker of the Via Prenestina, or about fifteen miles east of Rome.[30] The Appian patrimony comprised the area around the Via Appia, south of the city, and included all properties between the Tiber and the Tuscolani hills.[31] Gregory endowed the basilicas of Peter and Paul with fifty three olive orchards in all, a massive number for the early Middle Ages, and the magnitude of the gift grows in accord with the geography of those trees. The labor required to maintain, pick, and press the olives within fifty three orchards would have required an army in key moments of the oleicultural cycle; moving that oil across the vast suburbs of the city to two of the pope's principal churches required a logistical miracle. The geography traveled by his lighting fuel produced an oily map of the pope's hegemony, over not only the city of Rome, but also its immediate hinterland. In this way, the oil procession into the city of Rome, and then dispersed by the popes to the subordinate churches throughout the city acted as a secondary, more informal, performance of the stational liturgy, a vehicle for expressing the pope's civic dominion.[32]

[29] Marazzi, *I «Patrimonia Sanctae Romanae Ecclesiae» nel Lazio*, p. 124.
[30] Ibid.
[31] Ibid, pp. 127-131.
[32] T.F.X. Noble, "Topography, Celebration, and Power: The Making of Papal Rome in the Eighth and Ninth Centuries," in *Topographies of Power in the Early Middle Ages*, eds. M. de Jong, F. Theuws, and C. van Rhijn (Leiden: Brill, 2001), pp. 45-91; processions from pages 83 to 91.

Alternatives for the production of flame existed in early medieval Italy, such as linseed oil and candles, but the botanical singularity of the lighting provisions of Gregory II made plain his preference for olive oil. The wording of the inscription—the pope's command to maintain the lamps (pro concinnatione luminariorum)—reveals the theological underpinnings of his oleicultural endowment. The noun here, *concinnatio*, was a rare word in early medieval Latin, invented by the fourth century Christian translator Jerome, who deployed the neologism in his translation of the Septuagint into Latin, in the twenty-fourth chapter of Leviticus:

> "And the Lord communicated to Moses, saying: "Order the children of Israel so that they bring forth to you **the purest and most clear olive oil** to furnish the lamps continually (ad concinnandas lucernas iugiter), beyond the veil of the testimony in the tabernacle of the faithful. And Aaron shall set them from vespers until the morning before the eyes of the Lord, in a perpetual rite and service for your generations. [These lights] shall be sat above the purest candelabra before the attention of the Lord."[33]

Gregory's use of a cognate of Jerome's gerund consciously recalled the deity's Levitical prescription to supply holy houses with only "the purest and most clear olive oil." Olive oil was God's choice for illumination, a preference the deity had transmitted directly to his representative on earth.

While the symbolism of olive oil and the papal precedent for keeping churches illuminated has been established within Gregory II's inscription, the motivations for publicizing that donation in such a prominent fashion remain vague. Thankfully, more can be added to the eighth century marble slab. The contemporary account of Gregory's life recorded in the papal biographies generated from the Lateran writing office, the *Liber Pontificalis*, reveals that he was also the first pope to leave a personal fund for the maintenance of lights (ad luminaria) at S.

[33] Leviticus 24.1-4: "et locutus est Dominus ad Mosen dicens praecipe filiis Israhel ut adferant tibi oleum de olivis purissimum ac lucidum ad concinnandas lucernas iugiter extra velum testimonii in tabernaculo foederis ponetque eas Aaron a vespere usque in mane coram Dominio cultu rituque perpetuo in generationibus vestris super candelabro mundissimo ponentursemper in conspectu Domini."

Peter's basilica, a gift of 1000 *solidi*.[34] Other popes had left posthumous stipends, according to their vitae, but these had been gifts to clerics and other officials.[35] Gregory, rather, intended the money for lights, a category that pope associated with olives and their oil.

Putting Gregory's lighting fund into real, early medieval oleicultural terms further demonstrates the commitment of this pope to matters of illumination. Just north of Rome, in the Sabina, two productive olive trees could be purchased for one *solidus* in the year 720 CE, suggesting that many trees—2000 judging by the Sabine evidence—could be obtained with Gregory II's monetary endowment.[36] In the early twentieth century, the Greek community in the Fourni valley—a time and place before the advent of modern cultivars and fertilizer—expected one tree to produce about 25 kilograms of olives each year, which would have yielded roughly 3–4 kilograms of oil.[37] Using the higher figure, Gregory's endowment, if spent on trees, would have ensured an annual production approaching 8,000 kilograms of olive oil for S. Peter's lights. And given that a kilogram of oil with a single wick burns for about 78 hours, the endowment could also be translated as 71 lamps burning for 24 hours a day for an entire year.[38] Gregory's 1000 *solidi*, if put toward olive trees, can be read as a massive investment in the creation of lumens at the basilica dedicated to S. Peter.

By virtue of his office, Gregory II had more than land and money to offer to the olive. In 721 CE that pope convened a synod in Rome with the intent of tightening up discipline among

[34] LP, vol. 1, p. 410: "…et ad luminaria beati Petri apostolic solidi mille."
[35] Upon his death, Pope Deusdedit (615-18 CE) left a stipend for the entire clergy. See ibid, vol. 1, p. 319: "Hic demisit pro obsequias suas ad omnem clerum rogam unam integram." Pope John (685-686 CE) left 1900 solidi for clerics, monasteries, diaconiae and mansionares. See ibid, vol. 1, p. 367: "Hic dimisit omni clero, monasteriis diaconiae et mansionariis solidos MDCCCC."
[36] RF, #6, p. 25.
[37] N. Gavrielides, "A study in the cultural ecology of an olive growing community in the southern Argolid, Greece," (PhD diss., University of Indiana, 1974), p. 92.
[38] C. Pavolini, "L'illuminazione delle basiliche: Il Liber Pontificalis e la cultura materiale," *Mededelingen van het Nederlands Historisch Instituut te Rome* 60-61 (2001-2), pp. 115-134; lamp figures on page 116.

the clergy. The seventeen canons of the council dealt with prohibitions on marriage—priests marrying nuns or family members for instance—and also included canons forbidding the use of superstition and restricting hair length. The canons appear fairly boilerplate, except the thirteenth entry, which made anathema anyone who violated the commands of the church with regards to its olive orchards.[39] The botanical attention to the olive tree at the church council was, to the best of my knowledge, an unprecedented occurrence. For the first time, the pope's spiritual protection extended to the arboreal members of his see, particularly those that fed the lights of the church.

Together, the novel treatment of olives during the papacy of Gregory II—in stone, biography, and church council—indicates that control over oil supply had become an acute problem in the functioning of the church of Rome by the early eighth century. The only piece of evidence with a certain date, the church council of 721 CE, confirms that the olives were a matter of concern early in Gregory's pontifical reign, before tensions rose with the Byzantine Emperor on the matter of taxes and iconoclasm.[40] And the Lombards, too, were generally friendly with Rome in this period, making it difficult to imagine any external pressures affecting Gregory's maintenance of Rome's lights. That his actions represented a response to perennial pressures pertaining to oil for lights, and not simply an idiosyncratic fixation of Gregory II, can be demonstrated in the continuation of anxiety over illumination among his immediate heirs. Gregory III (731-741 CE) wrote two letters to Charles Martel, seeking the Frankish leader's assistance against the Lombards; in both letters he referenced the constraints on the church's

[39] *Sacrorum Conciliorum: Nova, et Amplissima Collectio*, vol. 12, ed. G.D. Mansi (Florence, 1766), p. 262: "Si quis in quamlibet partem praecepta ante emissa apostolicae ecclesiae de olivetis et locis diversis temeraverit, et non in omnibus observaverit, anathema sit. Et responderunt omnes tertio: Anathema sit."
[40] T.F.X. Noble, *The Republic of St. Peter: The Birth of the Papal State, 680-825* (Philadelphia: University of Pennsylvania Press, 1986), pp. 15-60. Emperor Leo III issued a tax decree in 722 or 723 CE, which doubled payment on papal estates, an increase Gregory was unwilling to brook.

ability to maintain their illumination, in Rome and Ravenna.[41] And in 781 CE, as we saw in the previous chapter, Pope Hadrian I begged Charlemagne to return to the Roman see its Sabine patrimony, saying that it was necessary, "for the preparation of the lamps (pro luminariorum concinnatione)," using the same terminology as Gregory II earlier in the century.[42]

It is tempting, in light of the olive-anxiety from the pontificates of Gregory II and Gregory III, to read Pope Zachary's (741-752 CE) creation of *domuscultae*, militarized agricultural settlements around Rome, as a means of securing olive oil, but such connections must remain tenuous. The long term and wide ranging concerns over the provisions for lights in Rome make the logic of Gregory II's inscription more understandable. This pope carved out entire portions of papal patrimony to supply lights, donated a fortune from private funds, and protected his trees with spiritual measures. The lights of Rome could not burn without olive oil, and the effort to supply her with the necessary fuel was an act worthy of writing into rock, and a moment equal in import to summoning Charlemagne to Italy, the bequest that made Pope Hadrian—Gregory II's lapidary neighbor at S. Peter's basilica—worthy of prominent commemoration.

II. The Origins of the Eighth Century Olive Oil Crisis: An Illuminative Turn

The eighth century olive crisis in Rome strongly intimates the structural dependence on olive oil that had been developed in Christian churches in the preceding centuries. The scale of

[41] *Codex Carolinus*, epp. 1-2, pp. 476-479. In the first letter, he wrote, "Omnia enim luminaria ad ipsius principis apostolorum et quae a vestris parentibus vel a vobis offerta sunt ipsi abstulerunt." In the second letter, Gregory III wrote, "Propterea coartati dolore in gemitu et luctu consistimus, dum cernimus id, quod modicum remanserat preterito anno pro subsidio et alimento pauperum Christi seu luminariorum concinnatione in partibus Ravennacium, nunc gladio et igni cuncta consume a Liudprando et Hilprando regibus Langobardorum."

[42] Ibid, ep. 68, pp. 597-8. Arnaldi provides an excellent discussion of these letters. See G. Arnaldi, "Preparazione delle lampade e tutela del gregge del signore: alle origini del papato temporale," *La Cultura* 24 (1986), pp. 38-63. He argues that "the preparation of the lamps" became shorthand for general dearth in providing for papal matters. However, Arnadli does not treat the inscription from Gregory II, which shows that the call to maintain the lights of Rome was more than a literary trope.

this dependence, moreover, can be gleaned from the evidence left by Gregory II. Fifty three olive orchards were dedicated to providing oil for only two basilicas, and this number must represent only the bare minimum of oil, as the lighting fund mentioned in Gregory II's vitae in the *Liber Pontificalis* suggests that much more fuel was purchased on the market for those two basilicas. What kind of lighting program in the papal basilicas could have demanded such a large quantity of oil?

Liturgical manuals contemporary with Gregory II suggest that artificial lights were a critical part of the papal stational procession, whereby the popes walked in a ritualized manner from the Lateran to different churches around Rome, according to the feast day.[43] Yet, the manual indicates that wax, not oil, fueled those lights.[44] When in Rome, political officials, too, deployed wax fueled illumination in processional moments, judging by a seventh century account in the *Liber Pontificalis*.[45] If these two sources are representative, then wax lights seem to have dominated moments of ritual movement. Charter evidence from around early medieval Italy suggests that early medieval churches also burned votive lamps in non-liturgical settings, a second possible mode of oil consumption.[46] Indeed, this type of light was an integral part of

[43] The earliest manuscript of the *Ordo Romanus Primus* dates to the ninth or tenth century, but the provisions for worship within it, namely the *Agnus Dei* chant, suggest the remains of a late seventh century creation. See A. Griffiths, *Ordo Romanus Primus: Latin Text and Translation with Introduction and Notes* (Norwich, England: Hymns Ancient and Modern, 2012), pp. 19-21. For a critical edition of the manuscripts, see *Les Ordines Romani Du Haut Moyen Age*, vols. 1-5, ed. M. Andrieu (Louvain: Spicilegius sacrum lovaniense bureaux, 1931-1961).

[44] For historical context and description of papal procession, see S. De Blaauw, *Cultus et decor: Liturgia e architettura nella Roma tardoantica e medievale : Basilica Salvatoris, Sanctae Mariae, Sancti Petri*, Studi e testi 355-356 (Vatican City: Biblioteca apostolica vaticana, 1994), pp. 22-72 and Noble, *The Republic of St. Peter*, pp. 212-217. For the prescription, see Griffiths, *Ordo Romanus Primus*, p. 31: "Aquamanus, patena cottidiana, calicem, sciffos et pubillares et alios aureos et gemelliones argenteos, colatorio argenteo et aureo et alio maiore argenteo, amas argenteas, cantatorio et caetera vasa aurea et argentea, cereostata aurea et argentea de ecclesia Salvatoris per manum primi mansionarii sumunt et baiuli partant."

[45] LP, vol. 1, p. 343: "Dominicorum die processit ad sanctum Petrum cum exercitu suo, omnes cum cereis…" This comes from the vita of Pope Vitalian (657-672 CE), and describes a visit from Byzantine Emperor Constans II, who, paralleling the movements of the stational liturgy, processed with his entourage between several basilicas, each member of the army carrying a wax taper (cereis).

[46] The use of votive lamps predated the Peace of Constantine. Leclercq has an inscription dated to the emperorship of Diocletian (284-305 CE), which recorded a donation to a basilica "pro luminaria sanctorum" a phrase linked to

Christian practice, particularly among the laity, who used the flame to convene with saints. However, the maintenance of votive lights was tied in this period to non-clerical patronage, as we saw clearly in the Lucchese contexts in the first chapter . Popes, then, likely were not active participants in the production of votive flame. In short, the requirements of ritual and votive lights fail to adequately explain the eighth century lighting crisis in Rome.

A third category of illumination, perhaps best described as dispersive, functional lighting arose in Christian churches in Italy starting around the fifth century CE. The visual effect of these lighting programs was achieved through a combination of devices, but hinged primarily on the use of pendant fixtures that incorporated glass lamps. The glass lamps in those devices departed in form from the dominant vessels of artificial illumination in Antiquity, when the use of footings (even on hanging lamps) clearly indicated a preference for casting illumination upward from a fixed, horizontal platform. Early medieval glass lamps were stemmed, leaving them without a base for stationary projection, and providing a significant physical marker in this technological transition.

Glass goblets functioned most often within a complex fixture called "crown lamps" (coronae) in contemporary sources. The crown fixtures, as the term suggests, looked similar in shape and size to royal head apparel—a squat, vertical metal cylinder. This metal ring was suspended from a ceiling by means of chains, usually numbering three. Radiating outward from the upper lip of the crown were multiple metal brackets, called *delfini* because they often took the shape of dolphins. The "mouth" of the dolphin (i.e. opposite the portion attached to the crown) terminated in a metal hoop, roughly two centimeters in diameter, and within that hoop

votive light. See H. Leclercq, "Éclairage des Églises," in *Dictionnaire d'Archéologie Chrétienne et de Liturgie*, vol. 4, no. 2, eds. F Cabrol and H. Leclercq (Paris: Letouzey et Ané, 1921), col. 1726-1730.

rested the stem of a glass goblet. The number of dolphins and goblets on any one crown varied, but a range from 12 to 16 was typical. According to accounts from the *Liber Pontificalis*, a single metal fixture could support over one hundred glass lamps, a quantity that would have required layers upon layers of branching arms. Indeed, Paulinus of Nola, writing around the beginning of the fifth century, described the lamps not as crowns, but trees:

> "…and in the middle of the space hollow lamps hang by bronze chains from the tall ceilings; they appear as trees throwing out arms like vine-shoots and at their tips the branches bear glass goblets as fruit, and the lights bloom like spring blossoms."[47]

Early medieval churches were filled with a variety of lamps, as shown below, but crown lamps in particular mark a turn in the relationship between artificial illumination and interior space. Hovering above the sightline, the multi-armed crown lamp, blazing with anywhere from 12 to 120 lamps, cast an unprecedented amount of lumens in every direction. With this fixture, dim spaces could be bombarded with light and made a visual target; the night could be chased out of a roofed structure. In short, the crown fixture could meaningfully illuminate broad swathes of large public buildings.

Dating the advent of the illuminative turn proves difficult. Glass had been a fundamental part of Roman material culture from around the beginning of the first century CE, when the city of Rome emerged as a center of glass production in the Mediterranean world, with a "glass quarter" located in the Porta Capena neighborhood.[48] The fragility of the fabric made shipping difficult, so the best artisans, most of whom lived in the Levant and Egypt, relocated to the caput mundi in order to sell their skill in the wealthiest market. Around that time, a new technique of

[47] Paulinus of Nola, *Carmina*, in *Corpus Scriptorum Ecclesiasticorum Latinorum* 30, ed. G. de Hartel (Prague: F. Tempsky, 1894), 19.412-416, p. 132: "et medio in spatio fixi laquearibus altis pendebant per aena caui retinacula lychni, qui specie arborea lentis quasi uitea uirgis bracchia iactantes summoque cacumine rami uitreolos gestant tamquam sua poma caliclos et quasi uernantes accenso lumine florent …"
[48] E.M. Stern, "Roman Glassblowing in a cultural context," *American Journal of Archaeology* 103, No. 3 (1999), pp. 441-484; Rome's glass district on page 444.

glass production was perfected, in which molten glass was inflated by human breath through a long iron pole.[49] The forms achieved through blown glass could be spectacular, but the new method, more efficient and speedier than the traditional way of manipulating heat-softened glass paste in templates, also led to a popularization of glass vessels as tableware and cosmetic containers, and even glass panes for windows.[50] Despite its ubiquity and a remarkable formal creativity from the first to third century, the application of glass into luminescent contexts does not seem to have occurred, or at least the extant evidence for that period shows no sign that it did.

For Italy, the earliest conical glass forms, the kind that would have sat in the metal frame of a crown fixture, can be dated to the last half of the fourth century in archaeological contexts, though their use as lighting fixtures remains ambiguous.[51] In Rome, the Crypta Balbi archaeological trove provides a wealth of information on local glass production in the late antique period; its earliest cone lamps, however, date to the early fifth century.[52] Even in Egypt, another major center of glass production in late Antiquity, glass cone shapes for mixed domestic

[49] Stern argues that glass blowing reached its potential in this period because of introduction of a new type of glassworking furnace, the construction of an iron blowpipe, the use of molten hot glass, and the pontil technique for fire-finishing the rim of a vessel. See Stern, "Roman Glassblowing," p. 446.
[50] Ibid, pp. 460-465.
[51] M. Uboldi, "Diffusione delle lampade vitree in etá tardoantica e altomedievale e spunti per una tipologia," *Archeologia Medievale* 22 (1995), pp. 93-145. His discussion of type II, III, and IV cones (varied by length of the stem; none of these conical forms had handles), the forms associated with metal holders, begins on page 113 and ends on 124. Uboldi says that type II cones were predominantly used as kitchen ware. Their use as oil lamps might be possible, but it certainly was not their principal function (he is discussing the Karanis shapes here). A type II beaker was found at Trier and datable to the late fourth century. Type III beakers Uboldi firmly links to lamp fixtures. A cone III type was found in Rome in the first half of the fifth century; at Luni, however, it was discovered in a late fourth century context.This form of cone lamp spread throughout the empire. Type IV cone lamps were discovered in the Crypta Balbi project, and datable to the sixth century. At Cimitile and S. Vincenzo al Volturno, however, it appeared in earlier, fifth century contexts.
[52] For Rome, see L. Saguí, "Vetro," in *Roma dall'antichitá al medioevo. Archeologia e storia nel Museo Nazionale Romano Crypta Balbi*, eds. M.A. Arena et al. (Milan: Electa, 2001), pp. 307-322; L. Saguí, "Roma, I centri privilegiati e la lunga durata della tarda antichitá; Dati archeologici dal deposito di VII secolo nell'esedra della Crypta Balbi," *Archeologia Medievale* 29 (2002), pp. 7-42; and L. Saguí, "Glass in Late Antiquity: The Continuity of Technology and Sources of Supply," in *Technology in Transition, A.D. 300-650*, eds. L. Lavan, E. Zanini, and A. Sarantis, (Leiden: Brill, 2007), pp. 211-231.

use (drinking vessels and possibly lamps) in this case, can only be placed somewhere in the fourth and fifth centuries.[53] The archaeological evidence, then, suggests that the conical forms of glass that accompanied the metal holders did not appear anywhere in the Mediterranean until the late fourth century. This late dating is confirmed by what can be discerned in other media. The earliest pictorial representations of elevated glass lamps (conical even) appear in the cupola mosaic from Hagios Giorgos, in Thessaloniki, and in the triumphal arch in S. Maria Maggiore in Rome, both from the early fifth century.[54] The earliest verbal description of a hanging glass lamp is found in the hymns of Prudentius, written at the end of the fourth or beginning of the fifth century.[55]

Glass containers weighed significantly less than their ceramic and bronze counterparts, so more lamps could be carried in a single fixture, without the ratio of holder to lamp coming out of reasonable proportion and blocking the illumination. The only way to produce more lumens in the pre-modern world was to increase the number of burning wicks, at least until Argand's invention of a wickholder with a central air supply in 1784 CE. [56] And in addition to enabling a practical increase in the number of flames per fixture, the translucent nature of glass allowed direct and ambient light to pass through it. With ceramic or bronze lamps, the body of the lamp

[53] G. Crowfoot and D.B. Harden, "Early Byzantine and Later Glass Lamps," *The Journal of Egyptian Archaeology* 17, no. 3/4 (1931), pp. 196-208. Crowfoot and Harden's work on the glass cones from the Karanis finds represents an early and influential step in understanding the archaeological history of glass objects. They believed the cones to be lamps, based on oily residue within them. For a more recent analysis of the shapes, see E. Higashi, "Conical Glass Vessels from Karanis: Function and Meaning in a Pagan / Christian context in rural Egypt," (PhD diss., University of Michigan, 1990). On page 374 she presents her conclusions on the chronology and use of the cone glass beakers in Karanis, and affirms that they can only be narrowed no further than a window of two centuries. Furthermore, Higashi believes that the cone vessels served two functions, as drinking goblet or as lamp, depending on specific circumstances. Ceramic lamps were also numerous in these contexts, which might suggest that the finds at Karanis represent a transitional moment in artificial illumination.

[54] The mosaic at Agios Giorgos was executed between 431 and 450 CE. See G. Matthiae, "La cultura figurativa di Salonicco nei secoli V e VI," *Rivista di archeologia cristiana* 38, no. 3-4 (1962), pp. 163-213; a photograph of the mosaic with the crown lamp appears on page 193. For S. Maria Maggiore, see Uboldi, "Diffusione delle lampade," p. 105.

[55] Prudentius, *Carmina*, ed. T. Obbarius (Tübingen: H. Laupp, 1845), 5.141-144, p. 22: "pendent mobilibus lumina funibus, quae suffixa micant per laquearia, et de languidulis fota natatibus lucem perspicuo flamma iacit vitro."

[56] Forbes, *Studies in Ancient Technology*, vol. 6, p. 121.

itself blocked some of the light it produced. In her tests on the emission of light in terracotta and glass lamps at the University of Michigan, Elizabeth Higashi showed that, with both types burning oil, the former produced a candle power of .843, while the latter produced at 1.36—the glass lamp was almost twice as bright as the terracotta.[57] The effects of its translucence were vital for the clustering of lamps in the crown fixtures, so that the light of each lamp could pass through the other lamps, and the illumination was aggregate, rather than blocked in many points by opaque lamp bodies. The crown lamp, in short, was a revolutionary piece of lighting technology that emerged around the beginning of the fifth century CE.

III. Locating the Lights: The *Liber Pontificalis*

The evidence for how and where glass lamps were deployed derives almost exclusively from written accounts, and overwhelmingly from a single source, the *Liber Pontificalis*, an institutional history of the papacy, arranged chronologically to follow the lives of successive bishops of Rome.[58] In addition to the invaluable details the document provides for the theological disputes, civic squabbles, and regional politics of the early popes, the *Liber Pontificalis* also provides, for certain basilicas, a program of illumination with careful attention to type of fixture, its material of composition, fuel, and position within the building. The most complete lists of lighting fixtures derived from the vita of Pope Sylvester, which recorded the extensive gifts provided by the Emperor Constantine to several basilicas around Italy, at the

[57] Higashi, "Conical Glass Vessels from Karanis," p. 381.
[58] Noble provides the best discussion as to what the *Liber Pontifialis* "was"; see T.F.X. Noble, "A New Look at the *Liber Pontificalis*," *Archivum Historiae Pontificiae* 23 (1985), pp. 347-358. He concludes, on page 356, that the document served several purposes simultaneously, as, "one part textbook for young clerics, one part ready reference, and one part archive inventory…" He stretches too far the paltry evidence that the LP served as curriculum in the schools attached to the Lateran, the *schola cantorum* and *cubiculum*, which he infers based on the presence of the LP in a single Lucchese codex, tenuously connected to a program of study for young clerics (see page 353, and note 18). Noble emphasizes the didactic dimension of the text in order to explain its perceived unpretentious Latinity. Even if the text was not "part textbook," Noble's larger point remains well taken that the *Liber Pontificalis* cannot easily be classified within a familiar genre of writing.

beginning of the fourth century. Noteworthy in that account is the presence of several glass-carrying crown fixtures.

On matters of lighting, then, the *Liber Pontificalis* is a vexed document. On the one hand, it provides the richest source of evidence, but on the other, it appears anachronistic in the details of its lighting fixtures, attributing glass fixtures to a period well before they show up in archaeological contexts. Can we trust the *Liber Pontificalis*? The compositional history of the document generates a degree of skepticism about the text's reliability for the luminescent events in Pope Sylvester's early fourth century churches. According to the dating of Duchesne, the first redaction of the text occurred in the 530s, and it recounted the lives of the popes from S. Peter up to the author's era.[59] Around 540, the first edition was expanded in content and extended in scope to the next decade.[60] After a brief hiatus, the practice of keeping an institutional history of the papacy resumed at the end of the sixth century, and was updated by authors contemporary with pontiffs' tenure, until the end of the ninth century. For the vita of Pope Sylvester, then, the redaction came more than two centuries after the events described in the account.

Despite the chronological distance of author from the era he described, a few features of the composition bolster a historian's confidence in the document. First, an independent list of the earliest popes and their chronologies for the period up to 354 CE exists, and the sixth century redaction of the *Liber Pontificalis* replicates the contents of that list perfectly, suggesting that the

[59] LP, vol. 1, p. XXXIII-XLVIII. For the relationship between source material and the Liber Pontificalis, see H. Geertman, "Documenti, redattori e la formazione del testo del Liber Pontificalis," *Mededelingen van het Nederlands Instituut te Rome* 60-61 (2001-2002), pp. 267-355.

[60] The main motivation for the re-write seems to have been to amend the history of the dispute between rival claimants to Peter's chair, Laurence and Symmachus, at the beginning of the sixth century. See R. Davis, *The Book of Pontiffs (Liber Pontificalis): The Ancient Biographies of First Ninety Roman Bishops to AD 715* (Liverpool: Liverpool University Press, 2010), pp. xiv-xvi.

author had some access to earlier records, and copied them accurately.[61] Moreover, starting with the vita of Pope Sylvester (314-335 CE) the biographies suddenly explode in detail and length. In the earlier vitae, those pertaining to the first three centuries of Roman bishops, the text included little more than a catalogue of names and dates, along with some information regarding the pontiff's provenance and number of ordinations performed. The biography of Pope Sylvester includes extensive details regarding the important events during the pontiff's life and the various gifts provided to the church by popes and political figures. This expansion, Duchesne argues, corresponded to the creation of the papal writing offices, which produced letters and inventories of the basilicas, in the comfortable confines of the Lateran palace.[62] Putative access to the writing office and the seemingly wholesale inclusion of church inventories in the *Liber Pontificalis* suggested to Duchesne a compiler from within the Lateran administration, specifically a cleric from the office of the *vestiarium*, the keepers of papal vestments, who managed the churches of Rome.[63] Members of that office, he figured, would have had an interest in church inventories and would have written in the plain Latin style of the document.

Not all details of the *Liber Pontificalis* in the early biographies, however, derived from the scrupulously researched contexts of contemporary sources. Some anecdotes, it seems, came from sources with a more mutable sense of the past, perhaps sixth-century legends, hearsay, or textual forgeries. For instance, the vita of Pope Sylvester (314-335 CE) provided the basis for the widely held belief throughout the Middle Ages, and utterly false, that Constantine was baptized in the Lateran baptistery. Moreover, the vita's description of S. Peter's tomb as a five-foot

[61] See Davis, *The Book of Pontiffs*, p. xii; he provides a brief explanation of the two extant lists, the so-called "Index Catalogue" and the "Liberian Catalogue."
[62] Geertman, "Documenti, redattori e la formazione," p. 269.
[63] LP, vol. 1, p. CLXII. Herman Geertman, however, probably contributes the most comprehensive scholarship to defend this position. See H. Geertman, *More Veterum: Il Liber Pontificalis e gli edifici ecclesiastici di Roma nella tarda anticità e nell' alto medioevo* (Groningen: H.D. Teenck Willink, 1975).

copper cube, has, upon excavation, been proven to be untrue, as well as the assertion that S. Peter's basilica was built directly over Nero's circus.[64] In these matters, the author of the vita seems to have tripped up on details, suggesting that the document was a complex fabric comprised of a several different patches of evidence, with varying degrees of historical accuracy.

Occasionally even the "reliable" lists of the *Liber Pontificalis*, the portions of the vitae supposedly torn directly from the Lateran writing offices, do not align with the material reality of the early fourth century as known by archaeologists. For instance, Robert Grigg notes the problematic nature of the description of the decorative architectonic feature called a *fastigium* (more will be said about this below), supposedly donated by Constantine, which, according to the text, depicted a seated Christ flanked by spear-carrying angels.[65] The overt presence of an anthropomorphic representation of Jesus, rather than metaphorical allusions, such as a lamb or shepherd, is unattested in the written record for the early fourth century, and, in fact, seems to fly in the face of a general disapproval of representational art by church fathers.[66] Moreover, the representation of Jesus, enthroned and flanked by four spear-carrying angels, has no parallels in Christian art until the late fifth century. Indeed, the enthroned Jesus alone does not appear before the middle of the fifth century, with the first evidence of such an image adorning the triumphal arch of S. Maria Maggiore (and that happens to be an enthroned Christ-child).[67] Grigg postulates that the author of the vita, though purporting to describe the *fastigium* donated by Constantine,

[64] Davis, *The Book of Pontiffs*, p. xvii.
[65] R. Grigg, "Constantine the Great and the Cult without Images," *Viator* 8 (1977), pp. 1-32. The same problem is addressed in J. Engemann, "Das 'Fastigium' Konstantins I," *Rivista di archeologia di Cristiana* 69 (1993), pp. 179-203 and H. Geertman, "Il fastigium lateranense e l'arredo presbiteriale. Una lunga storia," *Mededelingen van het Nederlands Instituut te Rome* 60-61 (2001-2002), pp. 29-43.
[66] Grigg, "Constantine the Great," p. 6. He argues later that Constantine might have avoided Christian icons altogether based on his aniconic advisor Ossius.
[67] Ibid, p. 10.

was in fact describing a later iteration of this feature, which originated during the pontificate of Sixtus III, the builder of S. Maria Maggiore, in the early fifth century.

The *Liber Pontificalis*, then, offers a mixed bag to historians. On the one hand, the redactor(s) possessed genuine knowledge of some affairs of the early church, such as the chronologies and burial places of the third century popes.[68] On the other, he also included data with a loose relationship with material reality, such as S. Peter's fictitious geometric tomb. The text is too complex, in other words, to extrapolate a general sense of veracity based on any one component. On matters of lighting, Herman Geertman has chosen to follow Duchesne's hypothesis regarding the contemporary and accurate nature of fixtures in the lists, believing that clerics at the Lateran kept up-to-date records of light fixtures in Roman basilicas after the Peace of Constantine, and these were used by the sixth century redactor of the *Liber Pontificalis* as elements of the papal biographies. [69] He notes that the slight variants in the terms applied to the fixtures across the papal biographies betrayed contemporary fashion in lighting or at least the words applied to the lighting.[70] For instance, the word *lampada*, a term meaning lamps, is found only in the vita of Pope Hilarus (461-468 CE), a lexical outlier that suggests an author independent from the document at large, with an idiosyncratic luminary lexicon. The strange use of *lampada*, then, indicates to Geertman that the first redactor faithfully included an inventory list for the light furnishings pertaining to the pontificate of Hilarus.[71]

Another factor supporting the reliability of the *Liber Pontificalis*' accounts of the lighting fixtures is their visibility to the authors' contemporaries. Though S. Peter's tomb and Nero's

[68] Davis, *The Book of Pontiffs*, p. xviii.
[69] H. Geertman, "L'illuminazione della basilica paleocristiana secondo il Liber Pontificalis," *Rivista di archeologia cristiana* 64 (1988), pp. 135-160.
[70] Ibid, p. 136.
[71] Ibid, p. 160. Despite the evident commitment to contemporary terminology, Geertman does think that the first redactor of the LP rearranged the ordering of the putative inventory lists.

circus could no longer be investigated in the sixth century, the lights of the basilicas were intimately familiar to other clerics in the Lateran and people of Rome. It seems deeply unlikely, then, that the redactor of the *Liber Pontificalis* invented a material reality that could so easily be verified as false by those around him. What, then, does it mean for the document's general reliability on matters of lighting that it incorrectly attributed glass fixtures to the munificence of Constantine? In widening the scope to include other vitae in this analysis, a possible explanation for the luminescent errors in the biography of Pope Sylvester suggests itself.

If the glass lamps attributed to the era of Constantine are removed from consideration, the first mention of lighting fixtures appears in the vita of Pope Damasus (366-384 CE). In other words, the author of the *Liber Pontificalis* described the papacies of Julius (337-352), Liberius (352-366), and Felix II (355-365), without any mention of lights, despite the fact that all of them oversaw building projects in Rome, the occasion that prompted a description of illumination in the vita of Sylvester.[72] Shortly after the papacy of Damasus (366-384), another extensive list of lighting fixtures appears in the biography of Pope Innocent (401-417), and they became standard for the fifth century popes. When viewed in the context of vitae of the fourth and fifth century popes, the glass lights in the biography of Pope Sylvester represent chronological outliers, a generation or two removed from other accounts of fixtures in the document. At the point when glass lamps became common in the *Liber Pontificalis*, in the fifth century, during the pontifical reign of Innocent, there is matching archaeological, pictorial, and textual evidence for the emergence of glass fixtures around Rome and other Mediterranean contexts.

[72] Julius built two basilicas and three cemeteries; Liberius "decorated the tomb of the martyr St Agnes with marble tablets," and built a basilica; Felix built a basilica on the Via Aurelia. See LP, vol. 1, pp. 205-211

Based on the sum of this information, one might imagine that the compiler of the *Liber Pontificalis* possessed real inventories for light fixtures in papal churches starting around the beginning of the fifth century. The sixth century redactor, either believing some of these lamps originated with the first Christian emperor, or perhaps in an attempt to further emphasize Constantine's relationship with Rome and its papal churches, assigned the origin of certain lights to its greatest patron. This scenario resembles the one suggested by Grigg in his work on the Lateran *fastigium*, whereby the sixth century author of the *Liber Pontificalis* provided an accurate and detailed account of the material reality available to him, but simply misunderstood (perhaps deliberately) its chronological origins.

Viewed together, the accounts of the glass lighting fixtures in the *Liber Pontificalis* correspond with external evidence for lighting trends in Italy, with the notable exception of those in the vita of Pope Sylvester. Though the lights in that biography were temporally confused, they probably represent an accurate account of the lights in those basilicas for a later period, in the late fourth or early fifth century, when glass lamps appeared in multiple forms of evidence. Again, this scenario would align with that suggested by Grigg regarding the Lateran *fastigium*. The real patronage of the glass lamps in the biography of Pope Sylvester has been forever obscured by the redactor's enthusiasm for Constantine, but it can be reasonably assumed that the Roman buildings described in that account were probably among the first to receive the new technology of glass lamps, based on their relative importance as churches in Rome. Informed speculation would suggest that Pope Damasus or Pope Innocent, two of the earliest documented popes to provide glass lamps, were responsible for the vitreous lighting arrangements ascribed to Pope Sylvester in the *Liber Pontificalis*.

IV. The Meaning of Light: Changes in the Church

The author of Sylvester's vita in the *Liber Pontificalis* credited that pope with overseeing the development of nine ecclesiastical buildings in Rome, funded by the emperor Constantine: the *titulus* of Equitius (Sylvester),[73] the Lateran and its baptistery, the basilica of S. Peter the apostle, the basilica of S. Paul the apostle, the basilica at the Sessorian Palace (S. Croce in Gerusalemme), the basilica of S. Agnes martyr, the basilica of S. Laurence above his crypt, the basilica of martyrs Marcellinus and Peter. Each building received an endowment of land, whose revenues were meant to generate perpetual income for the buildings, as well as lists of items made of precious metals, predominantly for the production of ritual services.

The lists associated with each building followed a regular pattern: the number of items donated, the substance of composition, and how much each piece weighed. For the *titulus* of Equitius, Sylvester gave: "2 silver scyphi, weighing 10 pounds each; a chalice of gold weighing 2 pounds; 5 service chalices, weighing 2 pounds each; 2 silver amae at 10 pounds each; a silver chrism-paten, with gold encrusting, weighing 5 pounds."[74] The *amae* were large basins, with a capacity of 50-150 liters, for holding the wine brought forth from congregants in offering; the wine was poured into smaller cups, called *scyphi* and chalices, before it was blessed and served for the Eucharist.[75] A paten was a plate for holding the bread which was consecrated for the same purpose.[76] In large part, then, these were the tools necessary to conduct the mass, particularly the Eucharist, the ritualistic consumption of bread and wine.

[73] This building is listed twice in the vita, at the beginning and end; in the second iteration, Sylvester's name is given prominance. See J. Hillner, "Families, patronage, and the titular churches," in *Religion, Dynasty, and Patronage in Early Christian Rome, 300-900*, eds. K. Cooper and J. Hillner (Cambridge: Cambridge University Press, 2007), pp. 225-261; the *titulus* Sylvester on page 230.
[74] LP, vol. 1, p. 170: "scyphos argenteos II, pens. sing. libras denas; calicem aureum, pens. lib. II; calices ministeriales V, pensantes singulos libras binas; amas argenteas II, pens. sing. lib. denas; patenam argenteam auroclusam chrismalem, pens. lib. V;"
[75] Davis, *The Book of Pontiffs*, pp. 106-7.
[76] Ibid, 121.

Following the liturgical utensils for the mass, the author of the vita listed the fixtures for producing artificial light, a material reality that probably derived from fifth century contexts, as discussed above. Although crown fixtures and their glass lamps received the most attention in the discussion of the chronology of the text, the lists of endowment included a wide range of lamps, including wax-burning fixtures. Geertman divides the lights into a tripartite typology: 1. the crown lamp (corona), a hanging oil burner with several arms, each supporting a glass lamp; 2. the hanging wax burner (cereostata), and; 3. the hanging oil lamp (fara canthara).[77] Like the liturgical vessels, the lists of fixtures under each building included the number, metal, and weight of these instruments. The most comprehensive list of lighting fixtures belonged to the crown jewel of the early churches, the Constantinian basilica at the Lateran, also called the "basilica of the Savior" in the early Middle Ages:[78]

> "A hanging crown lamp from pure gold, before the altar, in which burns nard oil, with 80 dolphins, weighing 30 pounds each.
> A hanging, silver oil burning fixture with 20 dolphins, which weighs 50 pounds and burns genuine nard oil;
> 45 hanging, silver oil burning fixtures in the nave of the basilica, weighing 30 pounds, which burn the aforementioned oil;
> In the right side of the basilica, 40 silver oil burning fixtures, weighing 20 pounds;
> In the left side of the basilica, 25 hanging, silver oil burning fixtures, weighing 20 pounds;
> In the nave of the basilica 50 hanging candlestick fixtures, weighing 20 pounds;
> 7 golden candlesticks, before the altar, 10 feet tall, adorned with sealed medallions of the prophets, weighing 300 pounds;"[79]

[77] Geertman, "L'Illuminazione della basilica paleocristiana," pp. 137-8.
[78] From the very beginning, the building was called by its toponym "Lateran." From the end of the fifth century it was called Basilica Constantiniana, and after 600 CE it was referred to as Basilica Salvatoris. See De Blaauw, *Cultus et decor*, p. 112.
[79] LP, vol. 1, p. 173: "farum cantharum ex auro purissimo, ante altare, in quo ardet oleus nardinus pisticus, cum delfinos LXXX, pens. lib. XXX; farum cantharum argenteum cum delfinos XX, qui pens. lib. L, ubi ardet oleus nardinus pisticus; fara canthara argentea in gremio basilicae XLV, pens. sing. lib. XXX, ubi ardet oleus suprascriptus; parte dextera basilicae, fara argentea XL, pens. sing. lib. XX; fara cantara in leva basilicae argentea XXV, pens. sing. lib. XX; cantara cirostata in gremio basilicae argentea L, pens. sing. lib. XX; metretas III ex argento purissimo, pens. sing. lib. CCC, portantes medemnos X; candelabra auricalca numero VII, ante altaria, qui sunt in pedibus X, cum ornatu ex argento interclusum sigillis prophetarum, pens. sing. lib. CCC;"

A similar list, though on a smaller scale, was also recorded for the basilica dedicated to S. Peter, on the Vatican hill. After the liturgical vessels, the light fixtures commenced:

> A golden crown above the body, which is a hanging oil lamp, with 50 dolphins, weighing 35 pounds;
> 32 silver oil burning lights in the body of the basilica, with dolphins, each weighing 10 pounds,
> on the right side of the basilica, 30 silver oil burning lights, each weighing 8 pounds;"[80]

The donation lists for these two buildings suggest that they were awash in light, fueled by both wax and oil, and cast from positions around the church.

Both buildings conformed to the basilican plan, meaning that they were timber-roofed rectangular halls with parallel aisles; the short sides of the central corridor consisted of an entrance opposite a semi-circular (apsidal) wall. The curved space of the apse was usually topped by a half-dome. The central corridor was called the nave or body (gremium) of the church in the *Liber Pontificalis*, and this area was divided from its more narrow parallel aisles by rows of columns. The basic terminology of a basilican floor plan, then, permits us to map some of the fixtures listed in the *Liber Pontificalis*. The lamps at the Lateran included 45 oil-burners in the nave, or central corridor, 40 oil burners in the right aisles, 25 oil burners in the left aisles, and 50 more wax burners in the nave, for a total in these areas of 160 fixtures. At S. Peter's basilica, the nave included 32 crown lamps and the right aisle held 30 oil burners. Though the descriptions are hardly precise in location, they do confirm that each lateral section of the basilica held instruments of illumination, and that these fixtures were intended to illuminate broadly, across the width of the building.

[80] Ibid, pp. 176-7: "coronam auream ante corpus, qui est farus cantharus, cum delfinos L, qui pens. lib. XXXV; fara argentea in gremio basilicae XXXII cum delfinos, pens. sing. lib. X; ad dexteram basilicae, fara argentea XXX, pens. sing. lib. VIII;"

Though early medieval basilicas included a wide dispersion of light, there was a disparity between the two poles of the building, the entrance and the apse. Overwhelmingly, the apse of the church received more artificial illumination.[81] The disproportionate allotment of lumens toward the apsidal wall can be read in association with two additional arrangements of the building, the place of the altar and, occasionally, remains of a saint. These features were typically enclosed within a short wall around the apse, which delineated the chancery, the area where the pope and other celebrants of the liturgy conducted the chief miracles of mass.[82] At the Lateran, the largest light fixture in the building, a crown fixture comprising 80 glass lamps, hung over the altar.[83] The main table in that church stood about 6 meters from the apse, so the massive fixture hovering over that table would have projected brilliantly into the building's broad apse, 15.6 meters wide and 18.5 meters high, directly behind it.[84] Just in front of the altar, another 6 meters into the nave, there stood a structure called by the author of the vita a *fastigium*, which art historians have argued was either a square canopy or a linear construction, like a portal or pergola, which seems to have marked the front line of the chancery.[85] In the center of the *fastigium* hung a crown fixture comprised of 50 lamps, and four others with 20 lamps each dangled from lateral parts of the feature.[86] In total, then, counting only the lights hanging from the ceiling, the Lateran basilica included 210 total lamps casting light into the building's apse, whereas the nave and aisles together held only 160 lamps.

[81] Geertman, "L'Illuminazione della basilica paleocristiana," p. 144.
[82] T. F. Mathews, "An Early Roman Chancel Arrangement," *Rivista di Archeologia Cristiana* 38, no. 1-2 (1962), pp. 73-95.
[83] LP, vol. 1, p. 173: "farum cantharum ex auro purissimo, ante altare, in quo ardet oleus nardinus pisticus, cum delfinos LXXX, pens. lib. XXX;"
[84] For the altar, see De Blaauw, *Cultus et décor*, pp. 120-5; for the apse, see ibid, p. 114.
[85] Ibid, p. 119.
[86] LP, vol. 1, p. 173: "…farum ex auro purissimo qui pendit sub fastidium cum delfinos L ex auro purissimo, pens. Lib. L, cum catenas qui pens. Lib. XXV;" For the association between the four fixtures and the corners of the fastigium, see Geertman, "L'Illuminazione della basilica paleocristiana," pp. 147-8.

At S. Peter's basilica, the apse was illuminated by lamps related to the trophy over the body of the first Roman bishop. A golden crown with 50 dolphin brackets, hung "above the body."[87] The scholarship of J. Ward Perkins and J. Toynbee in the 1950s demonstrated that the trophy of S. Peter, the monument that held the saint's remains, rose in the center of the cord of the apse of the basilica, within a gated pergola.[88] The Pola casket, an object dated to around 425 CE, presents an image of a wedding occurring in front of this architectural feature, from the center of which hangs a crown, a convincing confirmation of the lamp described in the *Liber Pontificalis*, and a *terminus ante quem* for hanging glass fixtures in the building.[89] The shrine of S. Peter (the trophy and pergola structure) rose between the altar and the apse. Only with Pope Gregory's reconfiguration of the chancel area around 600 CE did the altar and tomb of S. Peter become a single architectural feature.[90]

The prepositional clarity of the light descriptions at the Lateran and S. Peter's basilica, unfortunately, was unusual in the *Liber Pontificalis*. Most fixtures were listed without any indication of their position in the church, as with the basilica dedicated to the martyr, Agnes in the vita of Pope Sylvester:

> "a paten of gold, weighing 20 pounds;
> a gold chalice, weighing 10 pounds;
> **a golden crown fixture, with 30 dolphins, weighing 15 pounds;**
> 2 silver patens, weighing 20 pounds each;
> 5 silver chalices, weighing 10 pounds;
> 30 silver hanging oil lamps, weighing 8 pounds each;
> 40 brass hanging oil lamps;

[87] LP, vol. 1, p. 176: "coronam auream ante corpus, qui est farus cantharus, cum delfinos L, qui pens. lib. XXXV;"
[88] J.B. Ward-Perkins, "The Shrine of St. Peter and Its Twelve Spiral Columns," *The Journal of Roman Studies* 42, no. 1-2 (1952), pp. 21-33. On the excavations, see J.M.C. Toynbee, "The Shrine of St. Peter and Its Setting," *The Journal of Roman Studies* 43 (1953), pp. 1-26.
[89] For dating and discussion of the casket, see A. Soper, "The Italo-Gallic School of Early Christian Art," *The Art Bulletin* 20, no. 2 (1938), pp. 145-192; discussion of the Pola Casket starts on page 153.
[90] F.A. Bauer, "The Liturgical Arrangement of Early Medieval Roman Church Buildings," *Mededelingen van het Nederlands Instituut te Rome* 59 (2000), pp. 101-128.

40 brass wax-burning chandeliers, inlaid with silver and medallions;
a gold lantern with 12 wicks, over the baptismal font, weighing 15 pounds;"[91]

Noteworthy here is the unplaced crown lamp that appears within the list of liturgical vessels, separate from the other (unplaced) lighting fixtures. Geertman took discrepancies in lists like this seriously, and argued that the order of the description followed a purposeful visual and associative line.[92] The lists, in other words, described the arrangements of the building, starting from the space of the altar and moving outward from there, thus explaining why most lists began with the liturgical vessels found upon the main altar. For the basilica dedicated to Agnes, then, the crown fixture was listed before the other lights because it hung in close proximity to the altar, among the patens and chalices. As the last fixture listed, the golden lantern with 12 wicks was the furthest from the altar, near the entrance, by the baptismal font. The other fixtures could be found somewhere in between.

Geertman also notes that, among the three principal types of artificial illumination in early medieval basilicas—crown lamps, hanging wax burners, and hanging oil burners—that the crown lamp was often associated with "special contexts," like the altar, tomb, or reliquary.[93] These two observations on the internal logic of the lists within the *Liber Pontificalis* enable us to place lighting fixtures in other buildings within the chancery. For instance, at the basilica dedicated to the martyrs Marcellinus and Peter, the vita of Pope Sylvester specifies the following donation:

"a paten of the most pure gold, weighing 35 pounds
4 silver wax burning candelabra, encrusted with gold, 12 feet tall, weighing 200 pounds

[91] LP, vol. 1, p. 180: "patenam ex auro purissimo, pens. lib. XX; calicem aureum, pens. lib. X; coronam farum cantharum ex auro purissimo cum delfinos XXX, pens. lib. XV; patenas argenteas II, pens. sing. lib. XX; calices argenteos V, pens. sing. lib. X; fara cantara argentea XXX, pens. sing. lib. VIII; fara cantara aurocalca XL; cerostata aurocalca argenteoclusa sigillata XL; lucerna aurea nixorum XII super fontem, pens. lib. XV."
[92] Geertman, "L'Illuminazione della basilica paleocristiana," p. 136.
[93] Ibid, p. 141.

a gold crown fixture, which is a hanging oil burner, with 120 dolphins, weighing 30 pounds
3 gold chalices, each weighing 10 pounds, with prase and jacinth jewels;
2 gold amae each weighing 40 pounds;
an altar of pure silver weighing 200 pounds, placed in front of the sepulcher of empress Helena, being composed of porphyry with medallions;
20 silver hanging oil burners, weighing 20 pounds each;"[94]

As with the list of donations for the basilica dedicated to S. Agnes, the crown fixture was placed amidst the liturgical vessels. Moreover, the stunning number of lamps on this fixture—120, judging by the number of brackets—would suggest that it occupied a place of importance within the church. Thus, despite an absence of description, the crown fixture at the basilica dedicated to Marcellinus and Peter, martyrs, was almost certainly located over the altar.

The vita of Pope Sylvester includes the richest descriptions of lighting fixtures in the *Liber Pontificalis*, but it was far from the only account. The next mention of light production in the document occurred in the vita of Pope Damasus (366-384 CE), who gave 16 golden pendant wax burners to his eponymous titular basilica.[95] Pope Innocent's vita (401/2-417), included a large, 22 pound, hanging oil burner, 4 silver candelabra, 16 bronze oil burners at 10 pounds apiece, and 20 hanging, bronze wax burners, weighing a whopping 40 pounds each, in the body of the *titulus* of Vestina.[96] The account of Celestine's papacy (422-432) provided the first instance of duplicated light donations; that pope gave a 25 pound, silver hanging oil burner to both the basilica of S. Peter and the basilica of S. Paul, and an additional 24 hanging wax burners to the nave (gremium) of the former, though both had been endowed earlier with light, according

[94] LP, vol. 1, p. 183: "patenam auream purissimam, pens. lib. XXXV; candelabra argentea auroclusa in pedibus XII IIII, pens. sing. lib. CC; coronam auream quae est farus cantharus cum delfinos CXX, pens. lib. XXX; calices aureos III, pens. sing. lib. X, cum gemmis prasinis et yacintis; altarem ex argento purissimo, pens. lib. CC, ante sepulchrum beatae Helenae Augustae, qui sepulchrum est ex metallo purphyriticus excultpus sigillis; fara cantara argentea XX, pens. sing. lib. XX."
[95] Ibid, p. 212: "cantara cerostata aerea XVI…" Note, too, that Damasus also donated "crowns (coronas argenteas)," but whether these were lights or simply decorate remains ambiguous.
[96] Ibid, p. 220: "farum cantharum unum, pens. lib. XXII; cereostata argentea IIII, pens. sing. lib. XXV…fara canthara aerea XVI, pens. sing. lib X; fara canthara area cereostata in gremio basilicae XX, pens. sing. lib. XL."

to the vita of Pope Sylvester.[97] Celestine's vita also described making repairs after the Gothic invasion of Rome (410), so the duplication might represent the replacement of earlier fixtures that had been taken or sold. Alternatively, neither the basilica of S. Peter, nor of S. Paul had received fixtures over their principal altars, according to the vita of S. Sylvester, so Celestine's endowment might also have been filling a luminescent void there. The same pope gave 2 silver candelabra, weighing 30 pounds each and 24 hanging wax burners to the basilica of Julia.[98]

Celestine's successor, Pope Sixtus III (432-440) was the greatest papal builder of fifth century Rome. Most notably, he erected (or perhaps drastically remodeled) the basilica dedicated to S. Mary (S. Maria Maggiore), on the Esquiline Hill. Naturally, that building was filled with artificial light:

> "a silver crown fixture suspended over the altar, weighing 30 pounds;
> 34 smaller crown fixtures, weighing 10 pounds each
> 4 silver candelabra, weighing 20 pounds each;
> a silver censer weighing 5 pounds,
> 24 bronze, hanging wax burners, weighing 15 pounds each…"[99]

This account provides the first explicit mention of a crown lamp since the vita of Pope Sylvester. He also rebuilt the basilica of S. Lawrence, outside the walls, endowing that building, too, with an extensive lighting program:

> "a golden lamp with 10 wicks, weighing 10 pounds
> 30 silver crown lamps, weighing 6 pounds each
> 3 hanging oil burners, weighing 15 pounds each
> 2 silver candelabra, weighing 30 pounds;
> 24 bronze, hanging wax burners in the body of the basilica

[97] Ibid, p 230: "Ad beatum Petrum apostolum: farum cantharum, pens. lib. XXV, ex argento purissimo; canthara argentea cireostata in gremio basilicae XXIIII, pens. sing. lib. XX. Ad beatum Paulum apostolm: farum cantharum argenteum, pens. lib. XXV; canthara cyreostata XXIIII, pens. sing. lib. XX."
[98] Ibid, p 230: "candelabra argentea II, pens. sing. lib. XXX; canthara cereostata aerea XXIIII, pens. sing. lib. XXX."
[99] Ibid, p. 232-3: "coronam farum ante altare argenteum, pens. lib. XXX; coronas argenteas farales XXXIIII, pens. sing. lib. X; candelabra argentea IIII; pens. sing. lib. XX; tymiamaterium argenteum, pens. lib. V; canthara cereostata aurocalca XXIIII, pens. sing. lib. XV."

60 bronze lamps…"[100]

Sixtus' buildings may have been grandiose, but Pope Hilarus (461-468 CE) matched, if not exceeded, his luminescent efforts. At the oratories dedicated to the Holy Cross and John the Baptist built at the Lateran baptistery, he gave a golden crown lamp with dolphins, and 4 addition lamps for former, and gave 25 pound hanging oil burner in the latter.[101] At the baptistery itself, he gave a golden lantern with 10 wicks, and to the Lateran basilica the endowment included 10 silver oil burners that hang before the altar, weighing 20 pounds each; at S. Peter's basilica, 24 silver oil burners, weighing 5 pounds each; at the crypt of S. Lawrence, a lantern with 10 wicks, 2 golden lamps, a golden hanging oil burner, and 10 silver lamps, weighing 20 pounds each; and at the basilica of S. Lawrence, there were 10 silver oil burners, weighing a staggering 60 pounds each, 26 bronze, hanging oil burners, and 50 bronze lamps.[102]

Pope Hilarus' vita was the last account to provide an extensive list of donations pertaining to artificial lighting. As the fifth century wound down the authors of the *Liber Pontificalis* recorded fewer lights in Rome. Pope Simplicius (468-483 CE) gave 16 silver hanging lamps to the basilica of S. Peter and Pope Symmachus (498-514 CE) gave 20 hanging oil burners to the same church.[103] In the vita of Pope Hormisdas (514-523 CE) the author recorded a gift from Ostrogothic King Theoderic of 2 large silver candlesticks to the basilica of

[100] Ibid, p. 234: "lucernam nixorum X auream, pens. lib. X;…coronas argenteas farales XXX, pens. sing. lib. VI;fara canthara III, pens. sing. lib. XV; candelabra argentea II, pens. sing. lib. XXX; canthara cereostata in gremio basilicae aerea XXIIII; fara aerea LX."
[101] Ibid, p. 242-3: "coronam auream ante confessionem, farus cum delfinos, pens. lib. V; lampadas IIII aureas, pens. sing. lib. II…ante confessionem beati Iohannis: coronam argenteam, pens. lib. XX; farum cantharum, pens. lib XXV."
[102] Ibid, p. 243-4: "Item ad sanctum Iohannem, intra sanctum fontem: lucernam auream cum nixus luminum X, pens. lib. V…In basilica Constantiniana: fara canthara argentea qui pendent ante altare X, pens. sing. lib. XX…Ad beatum Petrum apostolum: fara canthara argentea XXIIII, pens. sing. lib. V…Ad beatum Laurentium martyrem: lucernam auream nixorum X, pens. lib. V; lampadas aureas II, pens. sing. lib. I; farum cantharum auream, pens. lib. II; lampadas argenteas X, pens. lib. XX…In basilica beati Laurenti martyris: fara canthara argentea X, pens. lib. LX; canthara aerea XXVI; fara aerea L."
[103] Ibid, p. 249: "canthara argentea ad beatum Petrum XVI;" also, see ibid, p. 263: "Item ad beatum Petrum XX cantara argentea fecit, pens. sing. lib. XV."

S. Peter. The pope gave 16 hanging lamps to the Lateran basilica and 16 to the basilica of S. Paul. [104] The next account of papal light derived from an entire century later, under the pontificate of Honorius (625-638 CE), who gave a pair of candlesticks for the space in front of S. Peter's body.

The decline of lighting fixtures within the vitae of the *Liber Pontificalis* around the beginning of the sixth century corresponds chronologically with the shift in nature of the document's composition. Whereas the vitae after the 530s were composed roughly contemporaneously with their subject, all of the preceding lives were produced from documents within the Lateran offices, predominantly from inventories. Lights became dim within this document during the sixth century, then, largely because the authors no longer had to work from inventories of the building's contents, which happen to have kept a close eye on lighting fixtures. Indeed, the sixth and seventh centuries lives take a narrative approach to papal lives, and the use of lists in general declines, resuming again in great scale only at the end of the eighth century, in imitation of the earlier vitae.[105] In the vita of Pope Honorius (625-638 CE), for instance, the author described the endowment of his greatest building, the basilica dedicated to S. Agnes martyr, in general terms: "He decorated all parts of the building, and, there, he sought out and gave many gifts…he made the apse of that basilica from mosaic, where he bestowed many gifts."[106]Whereas the trappings of fifth century buildings received careful enumeration, the decorations of seventh century churches, including their lights, represented only "gifts."

[104] Ibid, pp. 271-2: "Eodem tempore Theodoricus rex optulit beato Petro apostolo cereostata argentea II, pens. sing. lib. LXX…Hic fect in basilica Constantiniana…canthara argentea XVI, pens. sing. lib. XII. Item ad beatum Paulum fecit…canthara argentea XVI, pens. sing. lib. XV."
[105] More will be said about the late eighth and early ninth century vitae at the end of the chapter.
[106] Ibid, p. 323: "…quem undique ornavit, exquisivit, ubi posuit dona multa…fecit abside eiusdem basilicae ex musibo, ubi etiam et multa dona optulit."

The *Liber Pontificalis* does not provide a perfect window onto the shifting luminescent fashions of early medieval Rome. As the product of generations of different clerks with varying interests and relationships with the subjects of their accounts, its intent and focus changed accordingly. Lights left the purview of the authors around the beginning of the sixth century, but this represents a literary choice, not a reflection of the material reality of Rome. Rather, as we shall see below, different kinds of evidence indicate that the enthusiasm for ecclesiastical lighting continued well into the seventh, eighth, and ninth centuries. Nevertheless, the value of the *Liber Pontificalis* for matters of artificial illumination should not be underestimated. More than any other document, it presents a picture, albeit fragmented, of the expansive programs of illumination in Rome that developed around the fifth century. Based on the figures of the vita Sylvester in the *Liber Pontificalis*, Henri Leclercq estimated that 8,730 flames could be ignited at any one moment in the early medieval Lateran Basilica.[107] That church, as the foregoing discussion showed, was but one gem in a radiant crown of luminescent buildings.

The scale of artificial lighting in early medieval basilicas suggested by the *Liber Pontificalis* would have been unusual for public buildings in the ancient world, despite there being overwhelmingly more oil available for fuel within the contexts of the Roman Empire. It was also unusual in early medieval Europe, since no city had a late antique ecclesiastical legacy on anything like this Roman scale. The incongruence between available early medieval fuel supplies and emphasis on interior light within individual buildings can be read as a response by land-holding aristocrats to the disintegration of Mediterranean trading networks. The production of light for public consumption connoted, among other things, access to resources, including metals, glass, oil, and wax. Developing an idiom of power that expressed this over the resources

[107] Leclercq, "Éclairage des Églises," col. 1726-1730.

of Rome and its suburbs in the fifth century was a chief concern for the popes, as they were just one institution in that city vying for domination in the last century of western imperial rule.[108] The next section examines the nuanced ways postclassical aristocrats deployed artificial lighting to enhance their social, cultural, and religious prestige. It takes as its starting point two developments established in this section: the luminary prominence of the apse and the use of oil burning crown fixtures in that space.

V. Reflecting Light: Changes in Buildings

Contemporaneous with the clustering of lights around the altar was a marked shift in the decoration in the apse. Whereas the curved apsidal walls of the Lateran and S. Peter's basilica had been sheathed in gold foil in the early fourth century, churches a century later in Italy were decorated predominantly with mosaic tesserae. The apse mosaic in S. Pudenziana in Rome, dated to a period between 410 and 417 CE, is the earliest extant example.[109] Shortly thereafter, around the middle of the fifth century, the favored site for building inscriptions, texts commemorating the source of funds that enabled construction, migrated from the entrance wall to the apse.[110] Patrons of the church, in other words, had reevaluated the position of their inscriptions, and deemed the apsidal wall, not the main portal, a more vibrant billboard for commemorating their munificence: first the lights, then the mosaics, and finally the words of patronage.

[108] See Marazzi, "Rome in transition," pp. 21-41. For the end of this chronological arc, see Noble, "Topography, Celebration, and Power," pp. 45-91.
[109] See F.W. Schlatter, "The Text in the Mosaic of Santa Pudenziana," *Vigilae Christianae* 43, no. 2 (1989), pp. 155-165; F.W. Schlatter, "Interpreting the Mosaic of Santa Pudenziana," *Vigiliae Christianae* 46, no. 3 (1992), pp. 276-295; F.W. Schlatter, "A Mosaic Interpretation of Jerome, "In Hiezechielem," *Vigiliae Christianae* 49, no. 1 (1995), pp. 64-81.
[110] R. Krautheimer, "The Building Inscriptions and the Dates of Construction of Old St. Peter's: A Reconsideration," *Römisches Jahrbuch der Bibliotheca Hertziana* 25 (1989), pp. 2-23; migration of words on page 10.

The sequence of these developments cannot be established in firm causal terms, but their close timing suggests a strong correlation. The basilica was an ancient architectural plan, and the apse had always been the visual focal point, but its heyday for artistic expression and inscribed status only arrived with the advent of hanging glass lamps, which overwhelming cast their lumens into that space. To appreciate the role of artificial lighting within the apse mosaic, one must first take account of its position with regards to the building's natural light. In general terms, the shape and position relative to the main bank of windows in most basilicas, made the apse and its conch an area poorly lit by natural light. The clerestory windows above the columns of the nave were principal source of natural illumination in basilicas, but these were positioned at a perpendicular angle to the apse (thus receiving little to no direct light), and located in the upper reaches of the nave gallery. For most of the day, natural light entered the church at a downward angle, a problematic geometry for illuminating a downward facing apse mosaic. Some of the natural light reflected off the marble revetment on the walls and floors, but this would have provided only a dim glow in the apse. The limitations of natural light in early basilicas has been suggestively monetized by twenty-first century church officials; a visitor to S. Maria Maggiore, for instance, must now plug Euros into a meter in order to activate electronic flood lights that fill the conch with artificial light and make it fully visible.[111]

Though the half-dome of the apse was inherently dim under natural conditions, it became the space in the early Middle Ages where artists and patrons consciously invoked the metaphorical and physical presence of light, and implied a sense of ownership over its effects. In the fifth century, mosaicists began to tilt tesserae within the mortar bed, in order to create a

[111] The crepuscular environment of S. Maria Maggiore is due, in part, to the baroque alterations of the clerestory windows; they closed several along the nave.

sparkle effect within the composition.[112] The first known instance of this vitreous flare occurred on the fifth century triumphal arch of the now electronically lit Maria Maggiore, in Rome. Raking tesserae to cast wayward lumens became widespread in Italy during the sixth century, with extant examples in Ravenna and Poreč (Parentium), a town now in Istrian Croatia, but historically (i.e. before WWII) linked to Aquileia, Ravenna, and Venice.[113] Similarly, mortar was purposely applied unevenly to make waves in the bed, and tesserae were placed upside down in the bed, methods for creating shimmer and sparkle effects, respectively. Alterations in tesserae placement orchestrated by early medieval mosaicists registered to the human eye because they changed the perceived intensity of light emanating from small patches of the mosaic. This visual effect was magnified as more lumens entered the apse. Given the otherwise dim state of the upper regions of the apse, the subtlety of tilted tesserae suggests a conscious reliance upon sources of artificial illumination, precisely where the accounts in the *Liber Pontificalis* prescribed the greatest luminosity.

Patrons let their association with the building and its mosaic be known by inserting themselves into it, in name and visage. The first extant mosaic inscription in Rome belonged to Pope Celestine (422-432 CE) , who marked the entrance of the basilica dedicated to S. Sabina with his name, and he was followed closely by Pope Sixtus (432-440), whose name was prominently placed at the top of the triumphal arch at S. Maria Maggiore.[114] Starting around the beginning of the sixth century, mosaicists began to depict their patrons as figures in the apse, usually placed among prominent characters. In Rome, Pope Felix (526-30) appeared in the apse

[112] E. Borsook, "Rhetoric or Reality: Mosaics as Expressions of a Metaphysical Idea," *Mitteilungen des Kunsthistorischen Institutes in Florenz* 44, no. 1 (2000), pp. 2-18; tilted tesserae on page 9.
[113] A. Terry and H. Maguire, *Dynamic Splendor: The Wall Mosaics in the Cathedral of Eufrasius at Poreč*, vol. 1 (University Park: Pennsylvania State University Press, 2007), pp. 6-7.
[114] W. Oakeshott, *The Mosaics of Rome from the third to the fourteenth centuries* (Greenwich: Thames and Hudson, 1967), pp. 73-90.

mosaic at the basilica dedicated to SS. Cosma e Damiano, standing directly next to the titular saints, holding a scaled-down version of the building in his hands. Likewise, Pope Pelagius (556-561) at the basilica dedicated to S. Lawrence, outside the walls of Rome, and Pope Honorius (625-638) at the basilica dedicated to S. Agnes, on the Via Tiburtina, both resided in the apse mosaic and held miniature versions of the their buildings in close company with saints and apostles.

The bishops of Rome were not the only patrons practicing this technique. In Ravenna, the church dedicated to S. Vitale remains a warehouse of signs meant to convey responsibility for artistic endowments related to the building.[115] Perhaps most prominent is archbishop Maximian (546-556 CE), who appears next to the Emperor Justinian in the so-called imperial mosaic panels near the base of the apse; that bishop consecrated the church. Above him, in the conch of the apse mosaic, Ecclesius (522-532), the bishop of Ravenna who began construction on the church, offers the church, in miniature form again, to Christ. The capitals of the same church are emblazoned by the monogram of bishop Victor of Ravenna (538-545), the (middle) man evidently responsible for the columns along the nave. Not far from Ravenna, at Poreč (Parentium) in Croatia, the bishop of that town, Eufrasius, rebuilt a large portion of the city's cathedral, and he commemorated his role by placing himself in the apse mosaic, processing toward an enthroned Mary and Jesus, holding a scaled-down version of his building.[116] In plucking a single element from these mosaics without offering context, several levels of the meaning have been lost. However, the limited scope helps demonstrate the widespread prominence of figural depictions of patrons in the apse mosaics. The synchrony of figural

[115] I. Andreescu-Treadgold and W. Treadgold, "Procopius and the Imperial Panels of S. Vitale," *The Art Bulletin* 79, no. 4 (1997), pp. 708-723.
[116] Terry and Maguire, *Dynamic Splendor*, pp. 110-113.

patronage in the apse, the manipulation of optical effect there, and the development of artificial lighting systems centered on that area, must be read in concert. Together, they presented a visual tableau that communicated an array of messages (some of which will be dealt with below), but most importantly, they linked aristocratic patronage with the production and manipulation of light.

The theme of light was further developed iconographically in the apse of early medieval basilicas in Italy. The Eufrasian basilica in Poreč, built around the middle of the sixth century, stands as the most elaborate and best preserved example of the complex interplay of image, sensory effect, and text. The sixth century mosaicist manipulated the tesserae in ways described above, but also by employing glass plated gold tesserae to create a "glow" around holy figures, a luminescent quality absent in depictions of lay people. These sensory effects were complemented by a series of images and texts in the apse mosaic, which appeared in the five vertical layers: (from highest to lowest) the arch framing the apse, a ribbon of medallions running along the edge of the dome of the apse, the back of the dome, the inscription banner at the base of the dome, and on the piers between the windows on the level below the banner. Each level of the mosaic is heavily populated, with several figures from a variety of contexts: Mary, angels, local saints, Eufrasius, and Biblical characters. Like most mosaics, the central axis serves as the focal point; lateral characters move and look to the center, which, on each vertical level of the program, culminates in a depiction of Jesus. In the center of the upper arch, an adult Jesus sits in a blue mandorla, the ribbon culminated at the top in a lamb[117], at the back of the dome a child Jesus sits in the lap of Mary, and on the central pier an angel holds a blue globe that frames a golden cross.

[117] This tesserae of this medallion were entirely lost before the nineteenth century restoration. When restorations began, this area was ornamented with a frescoed christogram. The restored mosaic is entirely the work of Bornia,

Words and depictions pertaining to light unite the symbols of Jesus on each level. The enthroned Jesus on the arch holds a codex inscribed with the words, "Ego lux sum vera (I am the true light)."[118] The cross in the central pier of the lower mosaic gallery, several meters directly below the codex of the arch, responds directly to that text.[119] The cross appears radiant, with concentric rings of blue tesserae around it, moving from pale to dark blue, as if the cross was illuminating the center of the globe.[120] Twelve white lines flow outward from the cross, suggesting beams of light. At the back of the dome the child Jesus imitates the gestures of the adult Jesus on the arch above, with one hand held in oration and the other holding a text. Whereas adult Jesus' text referred to himself as light, the child's text is closed. On the same level of the mosaic, however, an enigmatic child processes from the left toward Jesus with two unlit wax tapers, perhaps an allusion to the open codex on the arch above.[121] Balancing the candle carrying child on the left, the right pier of the lower gallery is filled with a depiction of Zacharias, holding a censor with flames rolling out of the top.[122]

The inscription banner, between the dome and the lower gallery piers, recounts the circumstances under which Eufrasius erected this great cathedral, and his pleasure with the results. Of all the materials involved in its construction—the bricks, beams, and cement—the inscription dwells upon the effects of the mosaic. The earlier building had been, weak, small, filthy, and, most importantly, devoid of mosaic.[123] Eufrasius built "what you now see, shining

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but he claimed to have found drawings beneath the plaster that depicted a "lamb carrying a cross on its back." See ibid, p 21 and 166.
[118] Ibid, pp. 137-140.
[119] Ibid, pp. 128-131.
[120] For images of this angel and its globe, see Terry and Maguire, *Dynamic Splendor*, vol. 2, pp. 74-5.
[121] Terry and Maguire, *Dynamic Splendor*, vol. 1, pp. 140-142.
[122] Ibid, pp. 136-137.
[123] Ibid, pp. 4-5: "Terribilis labsu nec certo robore firmum. Exiguum magnoque carens tum furma metallo,"

with new and varied mosaic." The inscription links the sensory effects of the mosaic, the materials of the mosaic, and the motif of the central axis, a radiant Jesus.

Nothing pertaining to the physical remains of artificial lighting activating these associations survived at the Eufrasian basilica, but a contemporary and iconographic sister to the building (including a radiating Jesus in a blue mardorla), the Monastery of St. Catherine at Mount Sinai, built by the emperor Justinian, intimates the critical role artificial lighting played. At St. Catherine's, remains of a metal hook have been discovered at the top of the half-dome, a point of suspension for carrying a pendant lamp directly within the space of the apse.[124] The remains of hook at St. Catherine's, along with the evidence for chancel lamps in Rome, suggests that the early medieval tableaux of light at Poreč was very likely completed by a pendant fixture carrying glass, oil-burning lamps. The lamp itself would have added to an already complex artistic canvass, with a remarkable interplay of iconography, sensory effect, and text, all centered on the theme of light. The image of the patron, Eufrasius, and the text commemorating the gift, were, of course, embedded within this complex arrangement, claiming ownership over or at least responsibility for its spiritual and optical effects.

The Eufrasian basilica stands alone with regards to its overt integration of iconography, optical illusion and text. Several early medieval basilicas, however, possessed self-conscious apse inscriptions pointing to the radiant quality of its mosaic fabric. In the apse mosaic of SS. Cosma e Damiano, dedicated by Pope Felix III (527-530 CE), these words were inscribed: "the hall of the Lord shines brilliantly with its mosaics, on which glitters even more the precious light

[124] J. Miziolek, "Transfiguratio Domini in the Apse at Mount Sinai and the Symbolism of Light," *Journal of the Warburg and Courtauld Institutes* 53 (1990), pp. 42-60; hook on page 44.

of faith."[125] Similar constructions also appeared at Cimitile (early fifth century), in southern Italy, and Ravenna (late fifth century); both are gone, but remembered in literary form. Extant examples remain in the inscriptions at S. Agnes, outside of the walls (625-630), and in three apse mosaics from Pope Paschal I (817-824), at S. Maria in Dominica, S. Prassede, and S. Cecilia in Trastevere. Like at the Eufrasian basilica in Poreč, these inscriptions were created by their builders and exhibit an enthusiasm for the twinkle of light. Moreover, implicit in the "shining" praised on the mosaics of each of these buildings was a means of activating that effect, a source of artificial light.

Mosaic inscriptions calling attention to their luminescent effects waned in the ninth century, and disappeared entirely in the high Middle Ages. Likewise, the subtle effects of raking tesserae or manipulating the mortar bed to catch light fell out of style at the same time. The parallel development and decline of light-centered inscriptions and light-bending mosaic effect, rising in the fifth and falling in the ninth century, suggests to Eve Borsook a purposeful marriage, and a corresponding appreciation among mosaicists and patrons of physical light as a means for exploring and understanding the divine in that period. Borsook is absolutely correct, but the implications of this correspondence can be broadened in the context of artificial illumination. Taken together with the eighth century olive crisis in Rome, the extensive treatment of lighting fixtures in the *Liber Pontificalis*, and the attention called to the luminosity of the apse by patrons and builders, in their materials and texts, bolsters the sense that illumination and vision became a nexus in this period for expressing power. The sensory primacy of sight was further articulated through material changes in the way early medieval buildings reflected and spoke about light.

[125] *Inscriptiones Christianae Urbis Romae*, 71.41: "Aula dei claris radiat speciosa metallis in qua plus fidei lux pretiosa micat."

VI. Reading the Light: How Artificial Illumination Manipulated Time

Early medieval churches were a feast for the senses. During the liturgy, incense and pungent oils burned to mark a distinct olfactory experience.[126] Chants, antiphons, and later bells, echoed in the large halls.[127] And touching the blessed bread and chalice to the mouth made the hands and lips sites for holy remembrance. Above all, however, the church was meant to be encountered, explored, and consumed through the eyes in early medieval Italy. The supremacy of sight was hardly a given in this space and time, as the importance of vision in churches waxed and waned through time, depending upon a variety of factors. For instance, Gervase Mathew notes that around 1000 CE vision lost its primacy in the Byzantine East to hearing, because of an increasing belief in the power of rhetoric.[128] And Lucien Febvre penned a famous passage about late medieval senses, where he claimed that,

> "[t]he sixteenth century did not see first: it heard and smelled, it sniffed the air and caught sounds. It was only later, as the seventeenth century was approaching, that is seriously and actively became engaged in geometry…It was then that vision was unleashed in the world of science as it was in the world of physical sensations and the world of beauty as well."[129]

The church belonged to the mutable fabric of a society, and its sensory aesthetic changed in a dialectical relationship with the people in it. The rise of university-trained talkers around the millennium privileged the building's sonic space, whereas some pre-geometric Europeans found deep meaning in its olfactory emissions.

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[126] The important place of the sense of smell in early Christianity has received some recent attention. See S.A. Harvey, *Scenting Salvation: Ancient Christianity and the Olfactory Imagination* (Berkeley: University of California Press, 2006). Also, see S.A. Harvey, "St Ephrem on the Scent of Salvation," *Journal of Theological Studies* 49, no. 1 (1998), pp. 109-128.

[127] For bells, see J.H. Arnold and C. Goodson, "Resounding Community: The History and Meaning of Medieval Church Bells," *Viator* 43, no. 1 (2012), pp. 99-130.

[128] G. Mathew, *Byzantine Aesthetics* (London: John Murray, 1965), p. 132.

[129] L. Febvre, *The Problem of Unbelief in the Sixteenth Century: The Religion of Rabelais*, trans. B. Gottlieb (Cambridge: Cambridge University Press, 1982), p. 432.

Recent works by Ann Yasin and Cynthia Hahn make a strong case for vision's primacy among the senses in early medieval Christian buildings. Yasin's book interprets the placement of tombs and their inscriptions in early Christian edifices.[130] Unlike most scholarship on the matter, she focuses on the remains of the not-so-special dead—lay folk and clerics who were not saints. Yasin argues that the textual remembrance of these people throughout the building demonstrates that, in fact, relics were less central to the development of sacred space than has been allowed. Rather, the clustering of text on floors and walls away from the bones of saints shows that the patrons of these words considered their perpetual reading by congregants the primary impetus of their munificence. In other words, it mattered less to most people to be next to a saint than to be seen and remembered by successive generations of ordinary Christians. The building was sacred to those who wished to buried there because it offered visual access for remembering them after death.

Hahn, in her article about late antique saints' shrines, comes to a similar conclusion as Yasin, despite accepting the primacy of saint as the psychological and experiential climax in ecclesiastical architecture. Hahn argues that an architectural rhetoric, mainly visual, was designed to frame and prepare visitors to early Christian relics: "…through iconography, ornament, and even spatial placement, means were found to connect the shrine to the larger, mystical entity of Ecclesia."[131] Moreover, she argues that this emphasis on grandeur around the relic emerged as visual access to the relic itself was being suppressed, especially in western Christianity, so that the mystery of holy remains was increasingly supported by the suggestive vision elements of the building, and controlled by the clergy.

[130] Yasin, *Saints and Church Space*, pp. 1-13.
[131] C. Hahn, "Seeing and Believing: The Construction of Sanctity in Early-Medieval Saints' Shrines," *Speculum* 72, no. 4 (1997), pp. 1079-1106; for limitation on seeing, see 1105.

The studies of Yasin and Hahn demonstrate that other agents, lay folk and saints, were competing for visual attention in different areas of the church, on floors and walls. For those scholars, the physical plant of the building acted as the primary structural factor, shaping visual access. Undoubtedly, proximity and architectural framing were central elements in the creation of the sight-scape in early medieval churches, but layered over these factors (literally) were complex systems of artificial illumination. If controlling the timing and viewership of ecclesiastical, interior space was indeed a principal compulsion of early medieval Christians, as the evidence in apses, lay tombs, and saints' trophies seems to show the ability to cast light wherever and whenever one chose was a powerful instrument in the competition for eyeballs.

Vision is not a sense whose powers remain static over the course of a day, as with the other four senses. Under natural conditions, the blockage or setting of the sun greatly reduces our visual capacity, and, in fact, it changes the biological operation of the eyeball.[132] Thus, the effects of artificial lighting were most profoundly expressed in the absence of natural light. The hanging oil lamps of early medieval churches provided a productive substitute for the sun, and opened up the night as a time of visual opportunity. Early medieval poets often described church buildings and their lights in terms of the chronological submission of night. Prudentius provided a nocturnal measure of light:

> "So, by your gifts they shine, Father,
> with shifting flames, the hall, of course;
> and the rival light calls forth an absent day,
> as night flees with torn robes."[133]

[132] R.L. Gregory, *Eye and Brain: The Psychology of Seeing*, 5th ed. (Princeton: Princeton University Press, 1997), p. 74.

[133] Prudentius, *Carmina*, 5.25-28, p. 18:
"Splendent ergo tuis muneribus, Pater,
flammis mobilibus scilicet atria,
absentemque diem lux agit aemula,
quam nox cum lacero victa fugit peplo…."

Artificial light, here, is cast as the "rival light" (aemula lux)," which brings forth a day thought lost (absentem diem), suggesting that it compared in intensity to daylight. Its effect, of course, is measured in the shorn cloak of night, a sartorial destruction signifying the victory of the oil-fueled lamps. Describing his basilica in southern Italy at the beginning of the fifth century, Paulinus of Nola wrote in similar terms:

> "Lights are burning, and give forth the scent of the waxen papyrus
> Night and day they shine: **thus night with the splendor of daylight**
> **Blazes,** and day itself, made bright with heavenly beauty,
> Shines yet brighter, its lights by lamps innumerable doubled."[134]

For Paulinus even the daylight was intensified by artificial light. And at night, the boundaries of the daily chronological cycle have again been bent by artificial light. This analytical use of time and the night to discuss artificial lighting would find resonance among later generations of poets and patrons, in Italy and elsewhere throughout the Mediterranean.

Artificial lights continued to upend chronological boundaries in the sixth century, as seen in the accounts related to the Hagia Sophia, built by the Byzantine Emperor, Justinian (527-565 CE). Though it lies outside of the geographical parameters of this study, Justinian was intimately tied to Italy, having organized the expedition to the peninsula for ousting the Ostrogothic regime, from 534-554. He ultimately prevailed and ruled over the Italian territory for over a decade, until his death in 565. His artistic patronage was felt most readily in Ravenna, particularly in the completion of the mosaics at San Vitale, discussed above. Thus, accounts of Justinian's building campaign, particularly those composed for the emperor himself, have bearing on the patronage of sixth century Italian architecture.

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[134] Paulinus of Nola, *Carmina*, 14.98-103, p. 49:
"aurea nunc niueis ornantur limina uelis,
clara coronantur densis altaria lichnis,
lumina ceratis adolentur odora papyris,
nocte dieque micant. sic nox splendore diei
fulget et ipsa dies caelesti inlustris honore
plus nitet innumeris lucem geminate lucernis."

In the case of Procopius' description of the Hagia Sophia in Constantinople, the case for its pertinence to Italy is even stronger as the historian himself spent several years on the peninsula, recording the events of the Ostrogothic Wars. Around the 550s CE he began the project of recording the architectural works of Justinian, called *On the Buldings,* an unfinished treatise that deployed the language of ekphrasis, the textual orchestration of the mind's eye.[135] Regarding the Hagia Sophia's lights, he wrote: "Indeed, one might say that its interior is not illuminated from without by the sun, but that the radiance comes into being within it, such an abundance of light bathes this shrine."[136] The details of the ekphrasis in this work, Webb contends, were meant to imbue memories of Justinian's intelligence, piety, and munificence into the structure itself, suggesting that artificial illumination was central to imperial conceptions of architectural grandeur in this period.[137]

Paul the Silentiarius also composed an *ekphrastic* account of the Hagia Sophia for Justinian that was delivered orally over the course of the celebration of Epiphany, from December 24th 562 to January 6th 563.[138] The event marked the rededication of the church after a catastrophic earthquake in 557 that collapsed the great dome, only twenty years after its initial consecration. This *ekphrasis* fulfilled different political, cultural, and literary objectives than Procopius' account of the building.[139] Instead of a panegyrical cataloguing of Justinian's

[135] G. Downey, "The Composition of Procopius, De aedificiis," *Transactions and Proceedings of the American Philological Association* 78 (1947), pp. 171-183. On ekphrasis in Procopius, see R. Webb, "Ekphrasis, Amplification and Persuasion in Procopius' Buildings," *Antiquité Tardive* 8 (2000), pp. 67-71. On ekphrasis in general, see R. Webb, *Ekphrasis, Imagination, and Persuasion in Ancient Rhetorical Theory and Practice* (Aldershot: Ashgate, 2009).
[136] Procopius, *On Buildings*, trans. H.B. Dewing and G. Downey (Cambridge: Harvard University Press, 1940), I.i.28-35, p. 6.
[137] Webb, "Ekphrasis, Amplification and Persuasion," p. 71.
[138] M. Whitby, "The Occasion of Paul the Silentiary's Ekphrasis of S. Sophia," *The Classical Quarterly*, New Series 35, no. 1 (1985), pp. 215-228; on dates, see page 216.
[139] For the relationship between the two works, see R. Macrides and P. Magdalino, "The architecture of ekphrasis: construction and context of Paul the Silentiary's poem on Hagia Sophia," *Byzantine and Modern Greek Studies* 12 (1988), pp. 47-82; for Procopius, see 75-6.

buildings, for the purpose of making accessible their grandeur to those who had never seen them, Paul's poem was presented to an audience that stood in close proximity to the building, and perhaps even inside of it.[140] Paul's poem moves, at times, liturgically through the building, and at other others it seems to imitate, in its ordering, the construction of the building.[141]

Of critical importance here is Paul's treatment of the lighting at the Hagia Sophia. In a poem just over one thousand lines long, about one hundred were devoted to a deep description of the structure's artificial illumination. Possibly because the performance of this part of the poem (toward its end, starting in line 806) occurred in the evening of January 6th, the height of Epiphany's Feast of Lights, Paul had great occasion to describe how the building appeared at night.[142] He wrote, "But no words are sufficient to describe the illumination in the evening: you might say that some nocturnal sun filled the majestic temple with light...You might say you were gazing on the effulgent stars of the heavenly Corona close to Arcturus and the head of Draco." In addition to the visual effect of the light, Paul concerned himself with the linkages of the lights' suspensions chains, the height at which the fixtures hung, the material composition of the lamps (glass and bronze), and the architectural features of the church that supported the lights. Thus, Paul's poem suggests that the impact of artificial illumination conveyed more than the political might of Justinian at the Hagia Sophia; it connected the patronage of the emperor to the functioning of the building, its liturgical flow and lived experience. Because of the emperor, the Feast of Lights at the Hagia Sophia had a metaphysical referent in the surrounding darkness of night.

[140] Whitby, "The Occasion of Paul the Silentiary's Ekphrasis," p. 217.
[141] Macrides and Magdalino, "The architecture of ekphrasis," pp. 57-8.
[142] Ibid, p. 63.

For Paul, the hanging oil lamps of the Hagia Sophia suggested an artificial day, but also an artificial night; the lamps were the sun as well as the stars. Here the Silentiary was building upon preexisting metaphors of artificial stellar light, from the Latin west:

> "By swaying cords hang the lights,
> which, having been suspended from the paneled ceiling, twinkle,
> and nourished from a lazy swim [on top of oil]
> the flame hurls light through the clear glass.
> You might think that stars hang in the area above,
> and positioned like the twin oxen,
> from which the hitch guides the yoke of the morning star
> and that the dark red evening stars[hesperos] are strewn about everywhere."[143]

The influence of the attention to suspension and materials of composition of artificial illumination, as well as the astrological metaphors of Prudentius' poem, can all be read in Paul's later work.

Astrology remained a meaningful metaphor for matters of illumination in seventh century Rome, as evidenced by Pope Theodore's (642-649 CE) inscription in the apse at S. Stefano Rotondo: "Look at the roof with celestial gilding up high, and propped up stars twinkling clearly with light."[144] Oakeshott interpreted the "roof" (tectum) of this inscription as the building's apse mosaic, but declined to say what the pope meant by "stars."[145] Rather than interpreting *tectum* as a metaphor for the apse, which would be an unusual usage, the noun works better in its literal meaning, as "roof." As the poems from Paul the Silentiary and Prudentius demonstrate,

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[143] Prudentius, *Carmina*, 5.141-8, p. 22:
"Pendent mobilibus lumina funibus,
Quae suffixa micant per laquearia,
Et de languidulis fota natatibus
Lucen persipicuo flamma iacit vitro.
Credas stelligeram desuper aream
Ornatam geminis stare trionibus,
Et, qua bosphoreum temo regit iugum
Passim purpureos spargier hesperos."
[144] *Inscriptiones Christianae Urbis Romae*, 152:31: "Aspicis auratu caelesti culmine tectum Astriferumque micans preclare lumine fultum."
[145] Oakeshott, *The Mosaics of Rome*, p. 153.

suspended artificial lighting was imagined both as an extension of the ceiling and as metaphorical stars. Thus, when Pope Theodore commanded visitors to observe the roof and the stars, two concepts intimately linked with hanging oil lamps, he surely meant the gilded panels of the ceiling, which reflected nearby artificial light. Moreover, the architectural layout of S. Stefano Rotondo, with its curved walls and high central drum, provided a compelling frame for imagining hanging lamps as stars; it was a virtual dome, replicating the ethereal dome around earth.

The comparisons made between artificial light and the stars have more than visual appearances in mind. The fifth century writings of John Cassian and a sixth century astrological work from Gregory of Tours show that star formations were key markers for measuring time during the night.[146] Monks and clerics used the movement of stars as an indicator of when to begin the night offices. Indeed, the fundamental part of clerical and monastic practice in the early Middle Ages was the production of communal prayer at certain hours throughout the day, called the divine office.[147] The office of Matins, held roughly around 2 A.M., was the most important of the cycle, in terms of length and musical sophistication.[148] Monks and clerics watched the movement of the stars in order to determine when to begin the most critical celebration of their day. The metaphorical stars in buildings well endowed with oil across Italy differed from their analogues in one important respect: they did not move. The Taurus and Draco constellations read in the hanging artificial lights remained suspended in place over the congregation over the course

[146] For early medieval astrology, see S. McCluskey, *Astronomies and Cultures in Early Medieval Europe* (Cambridge: Cambridge University Press, 1998). For a critical edition, see John Cassian, *De institutis coenobiorum*, ed. J.-C. Guy, Sources Chrétiennes 109 (Paris: Éditions du Cerf, 1965), 2.1-3.6. For biography, see O. Chadwick, *John Cassian* (Cambridge: Cambridge University Press, 1968), with astrological time on pages 71-3. For the astrological perspective in Gual, see Gregory of Tours, *De Cursu Stellarum Ratio*, In *Monumenta Germaniae Historica, Scriptores Rerum Merovingicarum 1, no. 2.*, ed. B. Krusch (Hannover, 1885), p. 854-872.
[147] For an introduction to the divine office, see R.A. Baltzer and M. Fassler, *The Divine Office in the Latin Middle Ages: Methodology and Source Studies, Regional Developments, Hagiography* (Oxford: Oxford University Press, 2000); on the importance of the office, see vii.
[148] Ibid, p. 4.

of the night. Thus, the comparison of artificial lights to stars in the early medieval ecclesiastical context suggests control over time as measured by celestial bodies. Artificial light, then, changed conceptions of time, both by making the night more luminescent, but also by producing a static night sky.

Most of the poems or inscriptions discussed above make reference to artificial illumination as their source of luminosity. There are two further inscriptions from early medieval Italy whose content deals with light, yet they lack an explicit reference to artificial lighting. Moreover, their meaning approaches opacity in places. However, in the context of foregoing discussion, it is possible to read these inscriptions as additional early medieval literary treatments of ecclesiastical lighting. The first inscription was composed in the late fifth century, over the entrance to the chapel at the monastery of S. Andrew in Ravenna:

> "Either light was born here, or captured here rules freely:
> it is the Light, [149] from which the current glory of Heaven preceded.
> Either the ordinary ceilings produce gleaming daylight,
> or the enclosed starry radiance glows like a boxed-in Olympus."[150]

The first line of the couplet sets the stage, referring to a native light and an adopted light. Given the prevalence of the references to artificial lighting in the foregoing, this difficult line seems to indicate dual sources of illumination, from hanging lamps (born here) and solar (trapped here). In the following line, the Ravennan author offers a third, metaphysical source of light, with a capital *L*(ux), that of Jesus, which preceded the creation of the other forms.

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[149] The earliest manuscripts recorded *Lex*, or Law, but, as Deliyannis says, poetically it almost certainly should be *Lux*, Light, and was miscopied. See Agnellus of Ravenna, *Liber Pontificalis Ecclesiae Ravennatis*, ed. D.M. Deliyannis, Corpus Christianorum Series Latina 199 (Turnhout: Brepols, 2006), note 50, p. 366.

[150] Agnellus of Ravenna, *Liber Pontificalis Ecclesiae Ravennatis*, 50.157-176, pp. 214-5:
"Aut lux hic nata est, aut capta hic liber regnat:
Lux est, anteuenit caeli decus unde modernum.
Aut priuata diem pepererunt tecta nitentem,
Inclusumque iubar secluso fulget Olimpo."

The second couplet of the inscription is no less cryptic than the first. But these lines, too, can be rendered perceptible with luminescent contextualization. In the first line, the author says that the roofs (tecta) make a sparkling day (diem), a seemingly contradictory statement since the roof prevented a good portion of daylight from entering the church. However, as the previous poems and inscriptions showed, the roof was often shorthand for systems of artificial illumination, which were often called an artificial daylight. Moreover, the subject of the couplet's second line, an enclosed starry radiance (inclusum iubar), again connects conceptually non-congruent terms, interiority and astral luminescence. But here too, the perplexing meaning can be understood as a reference to the building's artificial lighting, as celestial bodies were stock metaphors for describing the appearance of hanging lamps.

The second inscription appears in the apse of the basilica dedicated to S. Agnes, just outside the walls of Rome. The text and art was funded by Pope Honorius (625-638 CE), beneath whose image was written:

> "The golden image bursts forth on cut tesserae, and daylight itself, having been seized, is enclosed. From snowy springs, you might believe that Aurora passes through the gloomy mist, moistening the fields with dew. Or what kind of light will Iris (the rainbow) offer among the stars, with the purple peacock, itself glittering in color. He was able to render a boundary of night or light, and with the tomb of a martyr that man repelled Chaos from here. With a turn upward, what is made evident to all, the patron Honorius gave this hallowed votive offering. With garment and gift are marked [his] visage and bearing a radiant soul, he shines, too."[151]

In several ways, this apse inscription represents the culmination of all the treatments of artificial lighting discussed above. For instance, it calls attention to the glimmering tesserae, credits Honorius with rendering a boundary between night and day, and invokes astrological metaphors.

[151]*Inscriptiones Christianae Urbis Romae*, 104:36: "Aurea concisis surgit pictura metallis et complexa simul clauditur ipsa dies fontibus e niveis credas Aurora subire correptas nubes roribus arva rigans vel quelem inter sidera lucem proferet irim purpureusque pavo ipse colore nitens. Qui potuit noctis vel lucis reddere finem martyrum e bustis hinc reppulit ille chaos erasum versa nutu quod cunctis cernitur uno praesul honorius haec vota dicata dedit vestibus et factis signantur illius ora excitat aspectum lucida corda gerens."

This inscription and its corresponding mosaic transcends earlier forms, offering self-conscious pun and liturgical references. For instance, *Aurora*, the morning light, appeared in a pastoral setting, dripping with moisture. Indeed, water takes three forms in the inscription, as snow, mist, and dew, an allegorical allusion to the trinity of the godhead, father, son and spirit. Moreover, the relationship between light and water was common in the contexts of early Christian practice, as early medieval Christians called baptism, the immersion of initiates into water, by its Greek term, *photisma*, the conferring of light.[152] Thus, the temporal setting of morning light here is significant, as the lives of the baptized were thought to be launched anew. This same line also puns on the orthographic similarity between *Aurora* and *Aura* (Morning Light and Gold). The majority of the apse mosaic in the basilica dedicated to S. Agnes was sheathed in gold tesserae, thus giving the light a golden hue, and drawing a conceptual connection between the two words. The light cast from the golden apse, when activated by artificial lighting, moreover, was like the morning light, in that it cast out the darkness of night, alluded to in the inscription as the "casting out of Chaos." The astrological reference was paralleled in the depiction of the martyr Agnes, who is framed with bed of blue tesserae spangled with golden stars.[153]

The inscription at S. Agnes church demonstrates with flair the multiplicity of meanings that could be generated from the interplay of mosaic, text, and artificial illumination. Only a few have been suggested above. The most significant element of the inscription, for our purposes here, is the ambiguity in the middle of the lines, wherein the subject of the one who rendered a boundary between night and day is given as a relative pronoun, *qui*. In most any other Christian

[152] J. Gage, *Color and Culture: Practice and Meaning from Antiquity to Abstraction* (Boston: Bulfinch Press, 1993), p. 45. Baptisms often took place at night, during the Easter vigil.
[153] A starry background is featured in several early medieval churches, such as S. Apollnare in Classe, and S. Mary Maggiore. The relationship between the mosaic stars and the lamps is intriguing, but beyond the scope of this chapter.

context, the inferred master of night and day would most assuredly be God the Creator, the one who divided temporal units in the book of Genesis. Or, a passage in the gospel of John might spring to mind: "And Jesus said to them, I am the light of the world, those who follow me will not walk in darkness but have the light of life." [154] Yet, as we discover by the end of the inscription, the author of that temporal division was the patron himself, Honorius, who could be seen glowing as a figure in the apse above. Artificial lighting was a powerful mechanism for enabling sight, which in turn allowed patrons to control the natural flow of time. Oil burning lights chased out the darkness and suspended the motion of celestial bodies. Hegemony over such temporal matters brought the masters of artificial lighting an exalted status, bordering on the divine. The ambiguity in the inscription at the basilica of S. Agnes, then, can be read as an intentional construction; Honorius asks the reader to fill in the pronoun, and then be surprised and edified by the substitution at the end.

VII. Defining Space; Lights in the Liturgy

Artificial lighting bent the normal rules of time. This section demonstrates that it also had profound effects on the way space was experienced in early medieval Italy. Returning to the spatial contexts of the Lateran Basilica in this period enables us to recreate part of the sensory experience of the liturgy. The apsidal wall of this building was dominated by light, from the lights over the altar of that building and hanging upon its *fastigium*, the pergola that separated the nave from the chancery. The altar was illuminated by a massive crown fixture, with 80 oil lamps.[155] The *fastigium* held five crown lamps; in the center was a 50 wick light, and four others,

[154] John 8:12: "iterum ergo locutus est eis Iesus dicens ego sum lux mundi qui sequitur me non ambulabit in tenebris sed habebit lucem vitae."
[155] LP, p. 173: "farum cantharum ex auro purissimo, ante altare, in quo ardet oleus nardinus pisticus, cum delfinos LXXX, pens. lib. XXX…"

with 20 lamps each dangled from the lateral parts of the feature.[156] This brief section will outline how these crown lamps might have been used to define space in the church.

The early medieval church was bathed in artificial light, but even amidst this radiant background, the crown fixture over the altar would have seized the gaze of congregation. This visual prominence performed several functions. First, the light identified the location of the main altar of the church, an important practical task in the papal basilicas, where several minor altars were positioned around the chancery for various functions of the liturgy. At the fifth century papal basilica dedicated to Mary (S. Maria Maggiore), for instance, the main altar was located well inside the nave, beyond the chord of the transept, before it was drawn back into the chancery by Pope Paschal I (817-824).[157]

The powerful visual effect of the crown fixtures in the chancery oriented the building toward the apse, and provided a spatial climax over the altar, where the largest lamp in the building cast a pillar of light that connected the table to the ether above. The emphasis on the altar can be read in two ways. First, it reinforced the social and religious authority of the popes, the sole actors who performed miracles upon it. Whereas much of the stational liturgy in Rome involved the pope's movement, across the city, through the church, and around the chancery, the static crown fixture located above the main altar of the Lateran anticipated the terminus of those processions and perpetually reinforced the site of the pontiff's holiest works. In this sense, the powerful lights over the altar represented the culmination of the pope's procession, which, for buildings distant from the Lateran, like the basilica dedicated to S. Peter (ca. 5 kilometers, as the crow flies), began in crepuscule hours, well before the beginning of 8:15 AM mass (during the

[156] Id: "farum ex auro purissimo qui pendit sub fastidium cum delfinos L ex auro purissimo, pens. Lib. L, cum catenas qui pens. Lib. XXV." For the association between the four fixtures and the corners of the fastigium, see Geertman, "L'Illuminazione della basilica paleocristiana," pp. 147-8.
[157] Bauer, "The Liturgical Arrangement of Early Medieval Church Buildings," pp. 101-128.

summer).[158] Through the pope's movement, then, the darkness of the early morning was physically juxtaposed to the artificial light waiting for him at the end of his journey.

The luminescent *fastigium* of the Lateran delineated the chancery of the building, the portion of the building that only clergy could enter to perform and observe the mass.[159] De Blaauw calls the physical structure of the *fastigium* a "portal between man and God, between reality and sacred mystery." The luminescent barrier played an important function for the congregation, who approached the chancery up to two times during the liturgy, in order to deliver their offering to the church and to receive the Eucharist.[160] Though the Lateran possessed the only known such architectonic device, archaeologists have discovered remains of similarly positioned edifices in other Roman churches, and based on the widespread development of crown lights over the altar, it stands to reason that lamps hung from these *fastigia* as well.

The fixtures over the altar and at the line of the chancery played an important role in the dramatization of the Eucharistic ritual, which, in the early Middle Ages, was already viewed as the principal and most frequent miracle in the Christian worldview.[161] In a recent article, Georgia Frank examines sermons from three late fourth and early fifth century Levantine ministers, Cyril of Jerusalem, John Chrysostom, and Theodore of Mopsuestia, who each offered advice on how

[158] De Blaauw, *Cultus et decor*, p. 73.
[159] An excellent discussion of the spatial division of a chancery, and its historical antecedents can be found in an article primarily about Jewish chancery screens: J. Branham, "Sacred space under erasure in ancient Synagogues and early Churches," *The Art Bulletin* 74, no. 3 (1992), pp. 375-394.
[160] Mathews, "An Early Roman Chancel Arrangement," pp. 90-1.
[161] Miri Rubin points to the turn of the millennium as the starting point for a "new order" ascribed to the Eucharist. She says: "The intensification of exchange, of enterprise in learning, government, trade and architecture, the diversification of a social body whose parts were all the more interdependent, created identities which came to be articulated in a unifying symbol of mediation and in a ritual of overarching universality—the eucharist." M. Rubin, *Corpus Christi: The Eucharist in Late Medieval Culture* (Cambrige: Cambridge University Press, 1992), pp. 12-13. The social changes combined with new appreciation for Aristotelian logic, caused an interrogation of the nature of the Eucharistic miracle, and the power of the clergy to perform the miracle. The Church responded with new claims to universality with regards to the ability of its agents to effect change in bread and wine.

to receive the Eucharist.[162] She traces a common emphasis in their lectures on the importance of visual preparation in receiving and eating the body and blood of Christ. Indeed, in their writings, the Greek-speaking church fathers addressed a widespread problem in late antique Christianity (in Milan, Ambrose articulated the same anxieties), wherein the results of the chief mystery of the religion, the transformation of bread and wine into elements of Jesus' body, could be contradicted by the physical senses of taste and sight. For these theologians, the sense of taste was to be subjugated to, or perhaps integrated with, the sense of sight in this ritual, confirming the Psalm's command to "taste and see that the Lord is good."[163]

The discontinuity between visual perception and spiritual reality at the Eucharistic meal was not overcome, however, by suppressing the former—quite the opposite, in fact. Frank argues that, in the late fourth century, the strategy for bringing the sense of sight up to speed was to look harder and more attentively with one's physical eyes, and then let spiritual sight comingle with those perceptions. For instance, in Theodore's rendering of the preparations, when the priest performing the Eucharist says,

> "Lift up your minds," the congregant ought to "look upwards towards heaven and to extend the sight of our soul to God, as we are performing the remembrance of the sacrifice and death of Christ our Lord, who for us suffered and rose, is united to Divine nature, is sitting at the right hand of God, and is in heaven, to which we must extend the sight of our soul and transfer our thoughts by means of the present remembrances."[164]

The tilting of the head and casting upward of the gaze called forth a mental structure of additional meaning for those about to consume the body and blood of Christ. Frank interprets this as a "steady layering of imaginal bodies over physical perceptions, [and thus] the initiate was

[162] G. Frank, ""Taste and See": The Eucharist and the Eyes of the Faith in the Fourth Century," *Church History* 70, no. 4 (2001), pp. 619-643.
[163] Psalm 34.8.
[164] Theodore of Mopsuestia, "Liber ad Baptizandos," in *Woodbrooke Studies* 6, ed. A. Mingana (Cambridge: W. Heffer & sons, 1927), p. 99.

prepared to perceive and receive the Eucharist."[165] Frank's scholarship about the leading late fourth and early fifth century Christian thinkers, and their concerns about the physical and sensory preparation for the Eucharist, suggests that the ritualistic function of the crown lights around the chancery should be reexamined. The massive light fixtures hanging at the boundary of the chancery, upon the *fastigium* or over the altar in the Lateran for instance, provided a visual target for the eyes during the holy meal. With heads tilted up and gaze intensified, those in preparation for the Eucharist would look upon the fiery lamps hanging nearby, consuming a common food, olive oil, which was converted by combustion into an intangible energy. This was a suggestive visual transformation for congregants wondering how physical bread could become mystical substance.

VIII. Conclusion: the Carolingians and Beyond

Artificial illumination was central to the demonstration of aristocratic patronage in early medieval Italy. By using the *Liber Pontificalis* to map out the lights of churches in that period, this chapter demonstrated that, starting at the beginning of the fifth century, the most powerful lamps hung from the ceiling near the apsidal wall, often over the altar, though other powerful lamps hung in close proximity as well. Shortly thereafter, the curved wall of the apse became covered in light-reflecting tesserae, an ancient artistic medium reimagined for Christian contexts. The mosaicists responsible for those depictions began to manipulate the tesserae within the mortar bed in the fifth century, in order to call greater attention to the interplay of form and physical light. At precisely this time, patrons adopted the apse mosaic as the venue in which to proclaim their good deeds, often invoking the effects of light and depicting themselves as luminescent.

[165] Frank, "'Taste and See,'" p. 642.

If artificial light is accepted as a means of accruing social and cultural prestige in early medieval Italy, then the lists of lighting fixtures in the *Liber Pontificalis*—one of the most enduring categories of donation in that work—can be read as more than heaps of precious metal, whose value resided in their fabric. The popes who donated lighting fixtures no doubt expected the silver and gold frames to impress observers, but even more so their effects upon the interiors of church. Lumens emitted from lamps and bounced off metal, marble, and tesserae, created new semiotic associations for the patrons. With light, aristocrats could bend temporal boundaries, turning the night into day, and even suspend the movement of celestial bodies. Moreover, oil burning lights could shape space through their effects, emphasizing the power of ritual production, by highlighting the altar and providing a potent metaphor for transubstantiation. In literary realms, the lights of the church had taken on the import evidently intended by aristocrats, and they acted as the mediators of the buildings themselves.

Artificial light was intertwined with the production of aristocratic discourses of superiority in early medieval Italy, but, unlike a chalice or paten, lamps required funds to maintain their resplendent effect. In particular, they needed fuel to sustain their discursive efficacy. In the case of apsidal fixtures, crown fixtures with branching arms culminating in glass lamps, the lights had a particular appetite for olive oil. The inscription housed within the porch of the basilica of S. Peter on Vatican Hill, composed during the pontificate of Gregory II, along with the other actions of that pope pertaining to olives, provides a measure of the demand for oil that early medieval popes had to sustain. The letters of his successors, Pope Gregory III and Hadrian, demonstrate that constraints were felt even after Gregory II's massive endowment. The *Liber Pontificalis*, then, reveals eighth and ninth century popes' strategy to amass the oily

fortune needed to maintain the luminary generosity sedimented in the city by generations of church builders, decorators, and patrons.

After Charlemagne arrived in Italy, liberating the popes from the perceived threat of the Lombard nobility, the bishops of Rome gained land and a powerful military ally in the Frankish kingdom. The precise nature of the relationship between Frank and Rome would prove contentious, but there can be no doubt, in general, that it was a windfall for the papacy. Indeed, Carolingian protection engendered a whole new wave of papal endowments in artificial lighting, according to the *Liber Pontificalis*. In fact, the vita of Pope Leo III (795-816 CE), who crowned Charlemagne in Rome, included the most extensive list of lights in the document, matching the luminosity of Pope Sylvester's biography nearly five centuries earlier.

The donations and buildings of Pope Leo III's successor, Pope Pascal (817-824 CE), demonstrate that the same luminescent cues found in earlier apse mosaics continued through the ninth century. As with Felix's basilica of Cosma e Damiano and Honorius' basilica of S. Agnes the martyr, Paschal's three extant churches in Rome, dedicated to S. Cecilia in Trastevere, S. Prassede, and S. Maria in Domnica, possessed the trademark of a light-conscious patron. Those ninth century buildings each held raked tesserae in their apse mosaics, a prominent figure of Paschal in the depictions, and an inscription calling attention to the patron's gleaming work.[166] Moreover, the pope's extensive endowments to each building's source of artificial illumination can easily be seen in his vita of the *Liber Pontificalis*. To fuel the lamps at the basilica of S. Cecelia, he delivered "for the support of the lamps (pro…luminariorum concinnatione)" the defunct monastery of S. Peregrinus, and all of its holdings, employing the same language as the

[166] C. Goodson, *The Rome of Pope Paschal I: Papal power, urban renovation, church rebuilding and relic translation, 817-824* (Cambridge: Cambridge University Press, 2010), pp. 149-159.

inscription on the porch of the Vatican from Pope Gregory II.[167] Though Paschal's endowment does not mention olive oil explicitly, his lighting fund demonstrates the financial obligations artificial light continued to demand upon its patrons.

The *Liber Pontificalis* proceeds with vitae for eight of Paschal's successors, ending at the papacy of Stephen V (885-891 CE). Within that period, attention to artificial illumination peaked after the Saracen sack of the basilicas of S. Peter and S. Paul, in 846 CE. The vitae of popes Leo IV (847-855) and Benedict III (855-858), were spangled with lights intended to replace those carried off by the invaders. These replacement lights were the last major endowment of that kind in the document, before the composition ended. The final three vitae, of Nicholas (858-867 CE), Hadrian II (867-872), and Stephen V (885-891), present only a few lamps among them. However, those three papacies do provide other kinds of gifts to the people of Rome. Nicholas, for instance, gave placards to the *pauperes* of the city, inscribed with his name that indicated when they could receive papal rations, an innovation of that pontiff, according to his biographer.[168] Pope Stephen V provided the basilica of S. Peter with a fund to keep incense continually burning in the building, another innovation.[169]

Mosaics, as usual, followed the lights. The vita of Benedict III (855-858 CE), the last major light giver, was also the final pope linked to the production of mosaic. Material remains in Rome confirm this date, as the apse mosaic of Gregory IV (828-844) at the basilica of S. Mark,

[167] LP, vol. 2, p. 57: "Et pro subsidio et luminariorum concinnatione, seu utilitate atque stipendiis monachorum, necnon pro amore atque dilectione qua erga praedecessorem suum piae recordationis domnum Leonem tertium papam habere videbatur, hospitale sancti Peregrini, positum ad beatum Petrum apostolum, in loco qui vocatur Naumachia, quod idem praedecessor suus construxerat…"
[168] Ibid, p. 161: "Nam reliquis pauperibus gressum aut vires habentibus, huiuscemodi ut vicissim eos pasceret sapienter repperit modum, scilicet bullas suo nomine titulatas fieri iussit et has eis dari praecepit, ut quanti prima feria, quanti secunda, quanti tertia vel ceteris obliquis feriis prandere debuissent, per signum bullarum facilius nosceretur."
[169] Ibid, p. 194: "Verum ut de multis pauca dicamus, cum in basilica beati Petri apostolorum principis, ubi sacro ipse corpore requiescit, cerneret nocturnis laudibus vix semel thimiamatis incensum offerri, instituit ut per singulas lectiones et responsoria adoleatur."

is the last extant example of that artistic form for three centuries.[170] Noteworthy there is the codex that Jesus holds in the center of that apse: "Ego Sum Lux Ego Sum Vita Ego Sum Resurrectionem (I am the Light, I am the Life, I am the Resurrection)." Gregory IV stands nearby, holding a model of his church. After Gregory IV, however, the apse began to take paint, not mosaic, and the theme of light was slowly abandoned. The synchrony of material evidence and written accounts from the *Liber Pontificalis* suggest that the de-emphasis in the final three vitae of the document on matters of lighting was not merely literary fashion. Rather, the well lubricated relationship between the apse mosaic, the patron, and artificial lights had begun to disintegrate. Pope Nicholas associated his name with food, not mosaic, intimating an increasing connection between patronage and taste. And Pope Stephen V made his basilica smell, not gleam, suggesting that olfactory emissions were on the rise. By the turn of the tenth century, then, the age of light had ended.

[170] Oakeshott, *The Mosaics of Rome*, pp. 213-214.

Chapter 4
Olive Semiotics in Early Medieval Italy

When early medieval peasants gashed the soil with newly developed plows, equipped for the first time with vertical knife, horizontal share, and moldboard, they performed unprecedented violence against the environment, as judged by Lynn White.[1] The same conception of nature that permitted northern Europeans to "attack the land" with penetrating plows, he argued, underpinned a contemporary (1967) ecological crisis. Christian myths of creation that emphasized the role of plants and animals in the service of humanity, while situated in a western, Latin theology that emphasized conduct (rather than thought, as in the Byzantine East), engendered among communities in the western Mediterranean and Europe an unusually strong sense of humanity's dominion over the environment. White's short, but sweeping article elicited a great deal of critical response. Some pointed out, for instance, that the most profound environmental changes in premodern Europe were carried out by animistic ancient Romans, rather than Christians.[2] Though the essay undoubtedly suffers from a static and monolithic view of "western civilization" and Christianity, it remains a touchstone for environmental historians, who value the novel hypothesis that mental and physical landscapes of the past were intertwined.

[1] L. White, "The Historical Roots of Our Ecologic Crisis," *Science* 155, no. 3767 (1967), pp. 1203-1207.
[2] The same year as White's article was published, Clarence Glacken released his book tracing cultural attitudes to the environment in western Europe from Antiquity to the present day. See C. Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century* (Berkeley: University of California Press, 1967).

Only a half-decade after White's article the anthropologist Clifford Geertz articulated some of ways that religion shapes mundane matters, based largely on his ethnographic research in southeast Asia. Geertz argued that religion could be understood as a cultural system, a series of symbols by which humans "communicate, perpetuate, and develop their knowledge about and attitudes toward life."[3] These symbols express a particular metaphysics, but also shape the mental parameters for discerning the "world as lived."[4] The impact of ritual encounters color the predispositions humans carry with them when they climb into bed, or gossip with neighbors, or breakfast, or harvest their fields; religion, then, is a cultural system that ultimately works to affirm the secular, workaday experience, which in turn forms a dialectic that affirms religion.[5] With his emphasis on the structural role of religious symbols for framing mundane life, Geertz provided a critical, systemic sense of the ligaments that connect mental and physical landscapes.

White and Geertz broadened scholarly understanding about religion's influence on human perception and action. Religious ideas, these scholars taught us, do not dissipate once the threshold of the church or *gamelan* is left behind, but rather linger and comingle with a person's other sensibilities, regarding their family, politics, economics, culture, and environment. The present chapter is planted within the field prepared by these scholars. It argues that early medieval religious semiotics were informed by real, material relationships with olives and olive oil. Olive's symbolic landscape was characterized by variety around the Mediterranean, a semiotic field comprised of micro-ecologies, thus mirroring the terrain itself.

[3] C. Geertz, "Religion as a Cultural System," in *The Interpretation of Cutlures: Selected Essays by Clifford Geertz* (New York: Basic Books, 1973), pp. 87-124; symbols on page 89.
[4] Ibid, p. 112.
[5] Ibid.

Symbolic olives were part of Christianity's cultural fabric from its conception.[6] The olive branch delivered to Noah after the flood signified a new, terrestrial beginning for humanity. Olive trees served as metaphors for the Jewish tribes in Jeremiah, among many other literary uses in Hebrew Scripture.[7] Given its prevalence in Hebrew writings, it is surprising that Jesus had more to say about lilies than olives in his gospels. Christ's students were also relatively laconic on the Mediterranean's favored tree. It was invoked only twice in the New Testament, once by the apostle Paul for its particular method of propagation[8] and once as a prophetic metaphor in the Apocalypse of John, when the voice from heaven told the revelator: "And I will give power to my two witnesses, and they will prophesy for 1,260 days, clothed in sackcloth. These are the two olive trees and the two lampstands that stand before the Lord of the earth. If anyone tries to harm them, fire comes from their mouths and devours their enemies." [9] The olive's thin presence in the New Testament, however, did not hinder later Christians from adopting Old Testament trees as a symbolic idiom. Noah's olive branch, for instance, represented one of the most commonly depicted scenes in the catacombs around Rome.[10]

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[6] On oil use in Hebrew scripture, see M. Weinfeld, "The Use of Oil in the Cult of Ancient Israel," in *Olive Oil in Antiquity: Israel and Neighbouring Countries from the Neolithic to Early Arab Period*, eds. M. Heltzer and D. Eitam (Haifa: University of Haifa Press, 1987), pp. 192-195. Also, see G. Cremascoli, "Olio e vino nelle sacre scritture (l'eredità altomedievale)," in *Olio e vino nell'alto medioevo*, Settimane di studio della fondazione centro italiano di studi sull'alto Medioevo 54 (Spoleto: Fondazione centro italiano id studi sull'alto medievo, 2007), pp. 1039-1058, where he provides the Christian scriptural basis for the later, Carlolingian emphasis on oil.

[7] Nehemiah, 5: 9-11; Jeremiah, 11:16-17. For a full list of references to olives or oil, see H. Moldenke and A. Moldenke, *Plants of the Bible*, (Waltham, Mass: Chronica Botanica, 1952), pp. 157-160; the Moldenkes identify forty eight appearances of the olive tree in the Hebrew Scripture. More recently, see L. Musselman, *Figs, Dates, Laurel, and Myrrh: Plants of the Bible and the Qu'ran* (Portland, Oregon: Timber Press, 2007), pp. 210-215.

[8] Romans, 11:17-24.

[9] Apocalypse of John, 11: 3-5: "et dabo duobus testibus meis, et prophetabunt diebus mille ducentis sexaginta, amicti saccis. Hi sunt suae olivae et duo candelbra in conspectu Domini terrae stantes. Et si quis voluerit eos nocere, ignis exiet de ore eorum, et devorabis inimicos eorum…Et cum finierint testimonium suum, bestia, quae ascendit de abysso, faciet adversum eos bellum, et vincet illos, et occident eos." These bellicose olives were interpreted by the early Middle Ages as Jesus' apostles, Peter and Paul, as seen in an illuminated folio in the Book of Kells. See J. O'Reilly, "The Book of Kells, Folio 114," in *The Age of Migrating Ideas: Early Medieval Art in Northern Britain and Ireland (Proceedings of the Second International Conference on Insular Art)* (Edinburgh: National Museums of Scotland, 1993), pp. 106-114; terrible olives on page 111.

[10] G.B. De Rossi, *La Roma sotterranea cristiana*, vol. 2 (Rome: Cromo-litografia pontificia, 1867), pp. 311-323.

The early Christian church also replicated Jewish precedent in the use of real, physical olives, particularly in the development of rituals of anointing with olive oil.[11] The template was copied from the books of Exodus and Leviticus, which established the tradition of anointing high priests, imparting spiritual purity on those who received it.[12] The early Christian church ramified the Jewish tradition by preparing three kinds of oils: oils for the sick, oil of catechumens (oil of exorcism), and chrism, the oil of newly baptized.[13] Bishops assumed the prerogative for the application and consecration of oil in Italian Christianity as early as the fourth century, judging by the entry for Pope Sylvester in the *Liber Pontificalis*.[14] By the early fifth century, run-of-the-mill basilicas in Rome included specialized silver containers for storing and distributing consecrated oil, both for baptizing and exorcising catechumens.[15]

Acts of slathering oil on and in the body were the church's primary ritual encounter with olives, and this mirrors what we see in the broader Christian world of imaginary olives. I focus here upon what Luigi Canetti calls tangential uses of olive oil, as relic, medicine, and holy manifestation, amorphous categories that often run together.[16] The tangential uses of oil derived from descriptions within a variety of sources, including hagiographies, travelogues, and histories, among others, which most often refer to olives and oil in the context of the miraculous. Given the predominance of literature centered on the saint and other holy men and women in late

[11] Maier, *Die Feier der Missa chrismatis*.
[12] D. Fleming, "The Biblical Tradition of Anointing Priests," *Journal of Biblical Literature* 117 (1998), pp. 401-14.
[13] Jones, "The Chrism Mass in Anglo-Saxon England," p. 105.
[14] LP, vol. 1, p. 171: "…et chrisma ab episcopo confici…Hic et hoc constituit ut bapitizatum liniret presbiter chrisma levatum de aqua, propter occasionem transitus mortis." Though many of the claims by the authors of the LP are anachronistic and spurious, the normalization of oil by Sylvester has support from later papal letters. See LP, vol. 1, note 19, p. 189.
[15] LP, vol. 1, p. 220. For the basilica dedicated to the Saints Gervasius and Protasius, Pope Innocent presented, "vasum ad oleum crismae argenteum, pens. lib. V; vas alium ad oleum exorcidiatum, pens. lib. V; patenas II ad crismam, pens. sing. lib. III…"
[16] L. Canetti, "Olea Sanctorum," in *Olio e vino nell'alto medioevo*, Settimane di studio della fondazione centro italiano di studi sull'alto medioevo 54 (Spoleto: Fondazione centro italiano di studi'alto medioevo, 2007), pp. 1335-1415; tangential uses on page 1339.

Antiquity and early Middle Ages, this is hardly surprising, but the rich variety of oil's deployment in these exploits reveals both a widespread validation of olive as a potent material as well as local and contingent interpretations of that potency. In short, tangential uses of oil provide fertile ground for detecting distinctions within the early medieval Christian imagination.

If literary olives are to be found in writings notoriously framed by topoi and which dwell upon the supernatural, it is reasonable to wonder whether these fruits corresponded at all to a contemporary, material world. Later medieval historiography has usefully demonstrated that saintly accounts were intimately linked to the profane dimension of their production, and this insight helps to elucidate the role of textual olives at an earlier date. For instance, Donald Weinstein and Rudolph Bell show that the demographics of Latin medieval saints corresponded to contemporary social patterns.[17] Examining hagiography written between 1000-1700 CE, they demonstrate that in stories where childhood was a featured temporal moment for the subject, those saints tended to be women. This suggests to them a cultural projection of a society in which having baby girls placed increased pressure on the family unit.[18] In that same time, adult saints who had converted to Christianity late in life almost always derived from the urban, patrician class, which Weinstein and Bell link with their ability to visibly disperse wealth.[19] Thus, producing a certain type of holiness in literary accounts was highly dependent upon contemporary social settings.

A gendered reading of saintly virtues and actions has proven particularly insightful for seeing the relationship between the miraculous and context of its authorship. Caroline Walker Bynum argues that feminine spirituality was expressed through food—its consumption and

[17] D. Weinstein and R. Bell, *Saints and Society: The Two Worlds of Western Christendom, 1000-1700*, (Chicago: University of Chicago Press, 1982).
[18] Ibid, pp. 19-47.
[19] Ibid, pp. 100-120.

production—in the Middle Ages.[20] Nancy Caciola's study of possession in the Middle Ages offers an especially compelling parallel to the olive, because like *Olea europaea,* the demon had a long literary tradition in Christianity; exorcism was Jesus' favorite miracle, afterall.[21] Medieval conceptions of the porous and imperfect female body, Caciola writes, were blended with religious cultural models that included body-inhabiting spirits, and the result was a propensity for women to be the targets of demonic possessions.

The mode through which saints conveyed their holy status was dependent upon a semiotic field shared by those who observed and wrote about them. Signs of holiness, in other words, were not independent of context, but rather developed within social attitudes toward age, class, and gender. Likewise, a saint's relationship with olives and oil belonged to a set of signs that reflected broader attitudes toward those materials. The goal here is to see how geographical and chronological distinctions in the semiotics of olives and oil are linked to structural changes in cultivation and availability.

I. Holy Oil in the Early Medieval Mediterranean

In the late fourth century the pilgrim known as Egeria visited Jerusalem and related an account of the things she saw there.[22] During her visit she witnessed a presentation of a piece of the True Cross, the beams upon which Jesus was crucified, within the courtyard of the Church of the Holy Sepulcher. The tightened security around one of Christianity's most holy relics at that time warranted an explanation. It had happened, she claimed, that a pilgrim touched his face to

[20] C. Bynum, *Holy Feast and Holy Fast: The Religious Significance of Food to Medieval Women* (Berkeley: University of California Press, 1988).
[21] N. Caciola, *Discerning Spirits: Divine and Demonic Possession in the Middle Ages* (Ithaca: Cornell University Press, 2003), p. 36.
[22] For context on Egeria, see M. Dietz, *Wandering Monks, Virgins, and Pilgrims: Ascetic Travel in the Mediterranean World, A.D. 300-800* (University Park: Pennsylvania State University Press, 2005), pp.43-55.

the wood as if to kiss it, but instead proceeded to chew away fibers from the piece of the cross, extracting potent tokens of his visit.[23] Biting the True Cross was deemed unacceptable, so deacons now sternly warned everyone to avoid such acts of pious mastication.

By the late sixth century, pilgrims no longer had to chew at the cross to receive the essence of its power. According to the Piacentine pilgrim, who visited Jerusalem in the 570s, attendants brought half-full containers of oil to the cross which caused the substance to react violently, boiling over, thus authenticating a transference of power from the relic most closely associated with Jesus to the oil.[24] He explained that the volatile oil was then sealed up in flasks, called ampullae, and delivered to pilgrims who could take the holy oil home with them. Despite centering on the same relic, the two travel accounts highlight different cult practices around it.[25] Both emphasize seeing and touching the cross while in Jerusalem, and there was a shared desire to transport the essence of the relic beyond the city. For Egeria's insolent pilgrim, this meant excising a piece of the cross itself, but for the Piacentine Pilgrim the oil represented a perfectly acceptable substitute for the cross.

Egeria was a perspicacious traveler and if the cross had been widely known for producing sanctified oil in the late fourth century, we can assume she would have mentioned it. Egeria

[23] "Itinerarium Egeriae," in *Itineraria et alia geographica*, eds. E. Franceschini and R. Weber, Corpus Christianorum Series Latina 175 (Turnhout: Brepols, 1965), pp. 27-103; chewing the cross on page 81: "Hoc autem propterea sic custoditur, quia consuetudo est ut unus et unus omnis populus ueniens, tam fideles quam cathecumini, acclinantes se ad mensam, osculentur sanctum lignum et pertranseant. Et quoniam nescio quando dicitur quidam fixisse morsum et furasse de sancto ligno, ideo nunc a diaconibus, qui in giro stant, sic custoditur, ne qui ueniens audeat denuo sic facere."

[24] "Antonini Piacentini Itinerarium," in *Itineraria et alia geographica*, ed. P. Geyer, Corpus Christianorum Series Latina 175 (Turnhout: Brepols, 1965), pp. 128-74; bubbling oil on page 139: "Procedente sancta cruce ad adorandum de cubiculo suo et ueniens in atrio, ubi adoratur, eadem hora stella apparet in coelo et uenit super locum, ubi crux resedit, et dum adoratur crux, stat super ea et offertur oleum ad benedicendum, ampullas medias. Hora, qua tetigerit lignum crucis orum ampullae mediae, mox ebullescit oleum foris, et si non clauditur citius, totum redundat foris."

[25] Both accounts are exceedingly precious, and are among only a handful of surviving pilgrimage accounts. For others, see P. Maraval, *Lieux Saints et Pèlerinages d'Orient: Histoire et géographie des origines à la conquête arabe* (Paris: Éditions du Cerf, 1985), pp. 13-20.

comments upon several other material "blessings (eulogiae)" she received during her voyage, including water from the rock Moses struck and apples from John the Baptist's orchard.[26] She even described the feast of the cross, the day that commemorated the consecration of the Church on Golgotha and the Anastasis, without any mention of the oil sanctification ceremony mentioned by the Piacentine Pilgrim. The oil sanctifying properties of the cross, then, were a later addition to its cult, which, in other regards too, was a highly mutable institution in late Antiquity.[27] The cross barely even registered as a Christian sign before Constantine, and the first extant mention of the relic does not appear until the 340s, in a lecture from Cyril, the bishop of Jerusalem.[28] In the fourth century accounts, different agents and events galvanized the finding of the cross and only in 395 was Helena, mother of Constantine, regularly associated with the *inventio crucis*.[29]

The evolution of the imagined history and miracles of the True Cross perfectly illustrate the complex process of "rediscovery," whereby late antique and early medieval Christians ascertained the important sites, objects, and people of the religion, which had fallen into obscurity in the pre-Constantinian era. This was the era when a holy geography of Christianity was developed, a conscious mapping of the significant events of the religion's past.[30] The location of some holy figures could be established on "empirical" grounds, from hints within canonical writings. There was never any doubt about the Mount of Olives' address, for instance.

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[26] For Moses' water, see "Itinerarium Egeriae," ch. 11.1; for John the Baptist's apple, see ibid, ch. 14.6.
[27] For a careful consideration of the development of the narrative accounts, see S. Borgehammar, *How the Holy Cross Was Found: From Event to Medieval Legend* (Stockhom: Almqvist & Wiksell, 1991), pp. 252-71.
[28] See B. Baert, *A Heritage of Holy Wood: The Legend of the True Cross in Text and Image*, trans. L. Preedy (Leiden: Brill, 2004), pp. 15-53.
[29] Ibid, p. 24. Just as surprising, the earliest reference to Helena's translation of a cross relic from Jerusalem to Rome dates from around 1100. See J. Drijvers, "Helena Augusta, the Cross and the Myth: some new reflections," *Millennium: Jahrbuch zu Kultur und Geschichte des ersten Jahrtausends n. Chr.* 8 (2011), pp. 125-74; for dating the narrative of the cross, see page 145.
[30] Maraval, *Lieux Saints et Pèlerinages d'Orient*, pp. 36-43.

Other remains could only be "rediscovered" through mystical visions that provided instructions to a particularly worthy agent.[31] Many of the Christian faithful, for instance, received inspired messages to exhume the True Cross from several different locations around Jerusalem—competing revelations, then, led to competing claims with regards to a relic's authenticity. It is from these contexts that we can better understand how multiple understandings of the discovery of the True Cross could co-exist in late Antiquity.

Because there were often competing claims to the discovery of Christianity's most holy objects, post-discovery processes that further authenticated the veracity of revelation and relic developed, namely a miracle. Pierre Maraval identifies the regular suite of authenticating miracles: the preservation of the saint's corpse, healings, thunder and lightning, the punishment of skeptics, the exhalation of sweet odors, and the effusion of oil.[32] Thus, a relic proved its efficacy by defying the natural order: bodies that do not rot after death, weather-related oddities, the decline or improvement of human health, and olfactory incongruities (dead body, sweet odor). The use of oil in this context defied the natural order because, in a profane setting, oil production is complex, requiring human labor, machines, and storage vessels; holy tombs, devoid of any of these trappings, were simply able to manifest the substance. One might read deeper into the juxtaposition of tomb and oil to say that a site typically associated with death produced a substance typically associated with sustaining Mediterranean life, as a dietary fat. Thus, the effusion of oil from a tomb was a jarring image, a suitable semiotic for communicating a message of power over the natural order of things.

[31] Ibid, pp. 41-3.
[32] Ibid, p. 46.

While oil-producing relics make rational sense in the context of a Christian imaginary prepared to interpret deviations from the natural order, this can hardly be the end of the explanation for their presence in the early medieval world. That is, oil-producing cults did not exist in a semiotic vacuum. Rather, after a relic had proven its efficacy, an even more complex web of associations developed. Communities and organizations developed around the site, most often monastic in origin. Churches with regular liturgies were then built near or over the relics. Cities and political rulers often appropriated and invoked a saint's identity. A relic's efficacy and meaning, then, were constantly being renegotiated over time by different agents who recrafted the object's past to better suit the present. For what social, political, or cultural reasons was oil chosen as a vehicle for conveying sanctity well after the efficacy of the relic was proven? No doubt a historical association with the substance sometimes informed later development, but, as seen above with the True Cross, oleaginous associations could be attached later in the relic's life. It is critical, thus, to map some of the main oil-producing cults in this period, in order to discern the patterns that inform their presence. The next section does precisely this, providing a brief sketch of the Mediterranean's earliest and best-known oil saints.

II. Alexandrian Oils: Menas

One of the earliest cults associated with oil was that of Saint Menas, whose tomb was located at the monastic complex now called Abu Mina, 45 kilometers southwest of Alexandria (see map 1). According to the earliest narrative account of Menas, an eighth century encomium, he lived sometime in the third or fourth century—in the time of Diocletian—and was the son of wealthy Egyptian parents who had relocated to Phrygia.[33] Menas joined the Roman army and

[33] J. Drescher, "More about St. Menas," *Annales du Service des antiquités de l'Egypte* 41 (1942), pp. 53-70. The earliest written account of the saint comes from the Coptic MS. 590, in the Pierpont Morgan Library in New York.

when he refused to recant his Christian beliefs, the officials beheaded him for the intransigence. The army tried to return the saint's body to Phrygia, but the camels responsible for carrying the load refused to go further than Egypt, and thus he ended up buried near the banks of Lake Maryût, now partially desiccated and unrecognizable, but about a day's hard march from ancient Egypt's primary port.[34]

Menas' historical identity seems not to have been particularly important to the cult, based on the mutability of his biography.[35] Rather, the efficacy of Menas' bodily remains as instruments of healing catapulted the saint to great prominence around Alexandria. The absence of written evidence from before the eighth century makes the physical remains of the site particularly valuable here. Archaeological investigations suggest that the cult began humbly in the fourth century with a small oratory at Abu Mina. At the end of the fifth century the Byzantine Emperor Zeno endowed the site and constructed a massive basilica (the largest in Egypt at the time) east of the shrine, along with a baptistery.[36] In the mid-sixth century, Justinian rebuilt the structure over the tomb, erecting the final iteration of the martyr church there.[37]

In addition to the structures that facilitated the veneration of Menas, hundreds of ceramic bottles associated with the saint have been discovered around Egypt, the Mediterranean, and

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This text has been translated into English; see J. Drescher, *Apa Mena: A Selection of Coptic Texts Relating to St. Menas* (Cairo: L'institut français d'archéologie orientale, 1946).

[34] For geography, see J.B. Ward-Perkins, "The Shrine of Menas in the Maryût," *Papers of the British School at Rome* 17 (1949), pp. 26-71.

[35] The evolving role of Menas' camels exemplifies the ever-changing nature of the saint's identity. There exist five different versions of Menas' camels (across different languages and manuscripts), ranging from vocational instruments on which the saint transported goods across the desert to camel-like sea monsters on Lake Maryût. See J. Drescher, "St. Menas' Camels Once More," *Bulletin de la Société d'archéologie Copte* 7 (1941), pp. 19-32.

[36] P. Grossman, "The Pilgrimage Center of Abû Mînâ," in *Pilgrimage and Holy Space in Late Antique Egypt*, ed. D. Frankfurter (Leiden: Brill, 1998), pp. 281-302.

[37] Ibid, 284.

Europe.[38] These vessels can be identified by their distinctive iconography, with a man standing in orans pose and flanked by two camels, as well as their gray-ceramic fabric and two-handled shape.[39] Two large troves of these containers have been uncovered, one in a cemetery near Menas' tomb (with 89 identifiable examples) and the other in Alexandria (with over 150 examples), from which iconographical changes and stratigraphic contexts provide a trustworthy framework for identifying the chronology of these flasks' production.[40] Scholars believe that Menas' containers began circulating around Egypt in the late fifth century, around the time Zeno erected his church east of the saint's tomb. Production remained steady until 642 CE, when the Caliphal invasion disrupted the cult.

Nothing on the flasks reveals their specific contents. Several possess inscriptions, however, which identify the depicted figure as Saint Menas and include the words "Blessings of Saint Menas (ΕΥΛΟΓΙΑ ΤΟΥ ΑΓΙΟΥ ΑΜΗΝΑ)," which presumably refer to the substance in the flask.[41] As seen above in Egeria's travelogue, a blessing (eulogia) often referred to a material expression related to a holy site, such as an apple from John the Baptist's orchard or water from the rock struck by Moses. What was Menas' blessing? A century ago, Kaufmann believed it to

[38] On the distribution of Menas flasks, see W. Anderson, "Menas Flasks in the West: Pilgrimage and Trade at the End of Antiquity," *Ancient West & East* 6 (2007), pp. 221-242.
[39] On the iconography, see C.M. Kaufmann, *Zur Ikonographie der Menas-ampullen* (Cairo: F. Diemer, 1910), p. 56. Kaufmann sees parallels among ancient Egyptian art, early Christian iconography, and even east-Asian, Buddist work.
[40] For the cemetary near Menas' tomb, see ibid. For the trove near Alexandria, see Z. Kiss, *Les ampoules de Saint Menas découvertes á Kôm el-Dikka (1961-1981)* (Warsaw: Editions scientifiques de Pologne, 1989). For dating the Alexandrian trove, see Z. Kiss, "Évolution stylistique des ampoules de St Ménas," in *Coptic Studies: Act of the Third International Congress of Coptic Studies, Warsaw 20-24 August 1984*, ed. W. Godlewksi (Warsaw: PWN-Editions scientifiques de Pologne, 1990), pp. 195-202.
[41] For the inscriptions on each flask, see Kaufmann, *Zur Ikonogrpahie der Menas-ampullen*, pp. 68-78; for discussion on the inscriptions, see ibid, pp. 154-175.

be water, based on the extensive bathing facilities set up around the saint's tomb.[42] However, more recent excavations point strongly to Menas' close relationship with olive oil.

In the martyr church at Abu Mena an alabaster crater was discovered under the main altar, in a position directly over Menas' tomb; the inside walls of that container were coated with a layer of oil thickened by incense. Presumably oil was poured into the crater, sanctified by its proximity to Menas' human remains, and removed for distribution in the ceramic flasks.[43] East of the main basilica at Abu Mina, archaeologists uncovered other remains of a permanent settlement that developed around the cult site, complete with a local church and houses, dated to the mid-sixth century. Several of those structures exhibited evidence for large presses. Since only the sockets of the presses remain, it is difficult to say what crop was processed there.[44] Kaufmann earlier postulated that olive trees appeared on Menas flasks because they were important to the economy around Abu Mina, and that the saint was something of a protector of this peculiar Egyptian microecology (Lake Maryût mitigated the effects of the desert).[45] Moreover, one of the houses built around Abu Mena belonged to a vinter, judging by the trove of ceramic receipts found in the building, and given the similar environmental constraints of the

[42] Ibid, p. 63.
[43] For the archaeological remains in the martyr church, see P. Grossman, *Abû Mînâ I: Die Gruftkirche und die Gruft*, Archäologische Veröffentlichungen 44 (Mainz am Rhein: Philipp von Zabern, 1989), pp. 65-69.
[44] P. Grossman, "Abu Mena: Siebenter vorläufiger Bericht," *Mitteilungen des Deutscen Archäologischen Instituts Abteilung Kairo* 26 (1970), pp. 55-82; presses from 60-1.
[45] I am aware that olives are not typically associated with Egyptian ecologies, and frankly their presence does not modify my argument. However, I am intrigued and compelled by the glut of early twentieth century scholars who seem to have been sure that olives would grow around Lake Maryût. See Kauffmann, *Zur Ikonographie der Menas-ampullen*, p. 173. For the fecund contexts of the Mareot during the seventh century as surmised through Arab reports, see A. Butler, *The Arab conquest of Egypt and the last thirty years of the Roman Dominion* (Oxford: Clarendon Press, 1902), p. 10. Finally, see A. De Cosson, *Mareotis: Being a Short Account of the History and Ancient Monuments of the North-Western Desert of Egypt and of Lake Mareotis* (London: Country Life, 1935), pp. 17-18. De Cosson bases his argument that olives were grown in Antiquity on toponymic indicators of oleiculture and the fact that in his day, wild olives grew around the desert. He also postulates that desertification had fundamentally altered this environment, preventing the olive from inhabitating the Mareot. Given the vines certainly grew well there in late antiquity (see below), De Cosson's hypothesis seems feasible.

grape and olive, it may have been possible to cultivate olives there. [46] Even if Alexandrian ecologies did not support the olive, her port and grain surplus all but ensured a steady flow of oil from reliably oleicultural neighbors in the Levant.

With its favorable position near Egypt's main port, Menas' olive oil spread across a remarkable geographic range in the early Middle Ages. Multiple flasks have been discovered in the Balkans, northern Italy, Gaul, and a handful as far away as Britain, central Asia (Samarkand) and India.[47] Based on the density of their remains in other port cities (Marseille, Otranto, Ravenna, Canterbury), riverine cities (Lyon, Carnuntum), and along highways (Paris), one scholar suggested that the distribution of the Menas flasks represented evidence for the survival of long-distance trade along Roman imperial conduits by non-Roman actors in the early Middle Ages.[48] While Menas' visage appeared alongside evidence linked directly to economic exchange, such as amphorae, the market seems an unlikely place for peddling the wares of a foreign saint, whose cult had no catholic, scriptural backing (unlike, say, Saint Andrew).[49] Rather, these flasks were likely carried by pilgrims who deployed existing economic infrastructure to travel to the eastern Mediterranean, or perhaps as personal objects belonging to the mariners of the naviculariі, who carried Roman imperial goods from Egypt to the northern Mediterranean basin (the obverse of several flasks depicted a ship, suggesting Menas was considered a patron of sea travel).

[46] N. Litinas, *Greek Ostraca from Abu Mina (O.AbuMina)* (Berlin: DeGruyter, 2008), pp. 68-72.
[47] Anderson, "Menas Flasks in the West," pp. 221-242.
[48] Ibid, p. 230.
[49] Patrick Geary notes that the value of relics cannot be defined solely in economic terms; rather, its value rests in the communal acceptance of its authenticity and thus efficacy. The widespread acceptance of the oil of an Egyptian saint in Gaul is difficult to imagine. See P. Geary, "Sacred Commodities: The Circulation of Medieval Relics," in *The Social Life of Things: Commodities in Social Perspective*, ed. A. Appadurai (Cambridge: Cambridge University Press, 1986), pp. 169-191.

In addition to the broad distribution of the Menas flasks, the cult site itself attests to the swarms of pilgrims that visited the saint. A large infrastructure was developed around Abu Mena with a range of accommodations for pilgrims, including lavish *xenodochia* near the martyr church and, a little further out, simple porticoes for the poor, which kept the sun and rain at bay.[50] For desperate souls there was a two-story, semi-circular building around the tomb of the saint, which provided sick men and women (separated according to sex on each flank) a chance to incubate near the remains of Menas, a potent form of healing. [51] In addition to these accommodations, bathhouses, administration buildings, monastic complexes, restaurants, and the homes of the people who ran these ancillary structures have all been discovered. In short, many people visited Abu Mena, and a good portion of those must have derived from European lands, where they later returned with some of Menas' efficacious oil.

III. Fragments of Oil: The True Cross

The travelogue recorded by the Piacenzan Pilgrim and Pope Gregory's letter regarding relics from Jerusalem (discussed at length below) provide two independent accounts of the close relationship between oil and the True Cross at the end of the sixth century. Physical evidence for this material connection has been preserved in two major collections of flasks in northern Italy, one at the treasury of the Cathedral of Monza, near Milan, and the other at the Abbey of S. Columbanus at Bobbio.[52] These flasks share a lead, rather than the usual ceramic, fabric, as well as iconographical and dimensional similarities. Grabar suggested that the containers derived from a single treasury and that both were distributed by the Lombard queen Theodelinda, based on her interests in Roman oils from the catacombs and documented relationship with

[50] Grossman, "The Pilgrimage Center of Abu Mena," p. 287.
[51] For the pilgrimage complex, see Grossman, *Abû Mînâ I*, pp. 5-15.
[52] For an introduction to the flasks, see A.Grabar, *Ampoules de terre saint (Monza-Bobbio)* (Paris: C. Klincksieck, 1958).

Columbanus.[53] If correct, then these flasks would also date to the end of the sixth or early seventh century.

The Monza and Bobbio flasks betray their provenance through inscription and iconography imprinted on both sides of the vessels. Nearly all include the words, "Oil From the Tree of Life, of the Holy Saints of Christ."[54] In the late ancient and early medieval Mediterranean, the cross was routinely called the "Tree of Life," a term also applied to one of the two exalted arboreal inhabitants of the Garden of Eden (the other being the "Tree of Knowledge of Good and Evil"): Christian thinkers established it was a rhetorical prefiguration of Jesus' cross.[55] Additionally, the bulk of images on these flasks depict the Crucifixion, the Nativity, and Resurrection, all events that took place in and around Jerusalem. Scholars who study these flasks generally agree that the depictions derive inspiration from local contexts, from around the city.[56] If these flasks belonged to the process of oil sanctification described by the Piacenzan Pilgrim, they must have been brought into contact with the cross, which was understood to sanctify the oil inside, a process authenticated by the bubbly response of the substance.

Even when pieces of the True Cross were distributed throughout the Christian world, the potency of the relic was still expressed through the medium of oil. In other words, the relic performed holy acts according to the semiotic context from which it derived; no doubt a portable relic's authenticity was bolstered by performing the same miracles as those established at the

[53] Grabar, *Ampoules de terre sainte*, p. 15
[54] Id: "ΕΛΕΟΝ ΞΝΛΟΝ ΖΩΗC ΤΩΝ ΑΓΙΩΝ ΧΡΙCΤΟΝ ΤΟΠΩΝ"
[55] For Eden, see Genesis, 2:9 and The Revelation of John, 2:7. For the cross as a tree, see Galations, 3:13 and Acts of the Apostles, 10:39. On the link between these verses, see E. Dinkler, "Kreuz," in *Lexikon der Christlichen Ikonographie*, vol. 2 (Vienna: Brüder Hollinek, 1970), pp. 579-80.
[56] The precise relationship between the images on the flasks and their inspiration was a matter of great scholarly debate. Scholars disagreed whether the flasks were based on painted depictions from Palestinian churches, Scriptural descriptions, or contemporary (sixth century) physical context of the cult site. For a lucid overview on the debate, see R. Grigg, "The Images on the Palestinian Flasks as Possible Evidence of the Decoration of the Palestinian Martyria," (PhD diss., University of Minnesota, 1974), pp. 1-44.

original cult site. This is clear in Gregory of Tours' *Glory of the Martyrs*, written between 585 and the early 590s, which conveyed miraculous events associated with the presence of the True Cross after it had traveled to a convent in Poitiers.[57] The story leading up to the translation of the relic from Jerusalem to Gaul began in 568 CE as a request to Byzantine Emperor Justin II and Empress Sophia from the Merovingian queen, Radegund.[58] Arranged with great reverence in a Byzantine enameled reliquary, it arrived in 569 CE and was placed in the convent eventually dedicated to the Holy Cross, where it remains today.[59] Though Gregory had heard that "lamps which burned before these relics, bubbling [ebullientes][60] with divine virtue, gushed so much oil that they often filled a bowl beneath," he remained dubious about such claims.[61] Thus, when the bishop embarrassingly chastised the abbess of the convent for having allowed a cracked lamp to burn near the relic, she quickly corrected him, stating that it was not a faulty vessel, but rather the "virtues of the holy cross" that caused the oil to heave out.[62] Even more, as Gregory continued to watch the lamps he noted that they excreted far more oil than the chamber could have possibly held—the oil miraculously regenerated itself during combustion—making the bishop a lasting believer in the potency of Poitiers' True Cross.

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[57] On the date of the work, see Gregory of Tours, *Glory of the Martyrs*, trans. R. Van Dam, (Liverpool: Liverpool University Press, 2004), xi-xii. On the background of Radegund, see R. Van Dam, *Saints and their Miracles in Late Antique Gaul* (Princeton: Princeton University Press, 1993), pp. 28-41. On the composition of her vitae, see L. Coon, *Sacred Fictions: Holy Women and Hagiography in Late Antiquity* (Philadelphia: University of Pennsylvania Press, 1997), pp. 120-141.

[58] A. Cameron, "The Early Religious Policies of Justin II," in *Continuity and Change in Sixth-Century Byzantium* (London: Variorum Reprints, 1981), ch. X, pp. 51-67. On the meaning of relic exchange, particularly between Byzantine and western royalty, see H. Klein, "Eastern Objects and Western Desires: Relics and Reliquaries between Byzantium and the West," *Dumbarton Oaks Papers* 58 (2004), pp. 283-314.

[59] Fortunatus wrote a poem thanking Justin II and Sophia; see Venantius Fortunatus, "Ad Iustinum et Sophiam Augustos," in *Monumenta Germaniae Historica, Auctorum Antiquissimorum 4, no. 1*, ed. F. Leo (Berlin, 1881), pp. 275-278. On the reliquary, see M. Conway, "St. Radegund's Reliquary at Poitiers," *The Antiquaries Journal* 3, no. 1 (1923), pp. 1-12. The wood was displayed within the figure of a Byzantine cross, with two transverse arms, the earliest such depiction, according to Conway.

[60] The same word the Piacenzan Pilgrim used to describe the effect of the cross on the oil in Jerusalem.

[61] Gregory of Tours, *Liber in Gloria Martyrum*, in *Monumenta Germaniae Historica, Scriptores Rerum Merovingicarum 1, no. 2*, ed. B. Krusch (Hannover, 1885), pp. 484-561; gushing lamps on page 490: "Ego autem audiebam saepius, quod etiam lychni, qui accendebantur ante haec pignora, ebullientes virtute divina, in tantum exundarent oleum, ut vas subpositum plerumque replerent…"

[62] Ibid: "Et illa: 'Non est ita, domine mi, sed virtus est crucis santae, quae cernis."

The relics of the True Cross continued to prove their efficacy in the aftermath of the sack of Jerusalem, according to an account written between 679 and 704 CE by Adomnan, the abbot of the island monastery on Iona in the Irish Sea. Adomnan's knowledge of the relic derived from a certain Arculf, who had gone on pilgrimage to the eastern Mediterranean and returned to Iona to describe his voyage, which the abbot enthusiastically recorded.[63] By that time the largest parts of the True Cross had been relocated to Constantinople.[64] There, the cross was exposed only three days of the year in the Hagia Sophia, with one day reserved for the emperor himself to see and kiss it, one day for the Empress, and one day for the clergy.[65] Though the wood could only be seen and touched by those in an exalted position, even foreign pilgrims could smell the effects of the cross in the church. The sweet odor was a result, Arculf claimed, of the scented oil that the relic produced, which itself had great healing powers.

IV. Anatolian Oils: Nicholas of Myra

Like the True Cross in Jerusalem, the bodily remains of Nicholas of Myra, a fourth century bishop, experienced translation to new geographical horizons as a response to the conquests of Muslim rulers. Unlike the cross, Nicholas' bones were not evacuated before the Islamic entrenchment, which led to the need for a stealthy seizure of some of his relics by agents of the southeastern Italian port town, Bari, a few centuries later. The band of Barese relic hunters brought the remains of the saint to their city in the year 1087 CE. Part of what motivated the daring expedition was the popularity of Nicholas, a faithful patron to mariners (and children, of

[63] Adomnan, *De locis sanctis*, in *Itineraria et alia geographica*, ed. L. Bieler, Corpus Christianorum 175 (Turnhout: Brepols, 1965), pp. 177-234.
[64] See H. Klein, "Sacred Relics and Imperial Ceremonies at the Great Palace of Constantinople," in *Visualisierungen von Herrschaft: frühmittelalterliche Residenzen: Gestalt und Zeremoniell: internationales Kolloquium 3./4. Juni 2004 in Istanbus*, ed. F.A. Bauer (Istanbul: Ege Yayinlari, 2006), pp. 79-99.
[65] Adomnan, *De locis sanctis*, 3.3, pp. 228-229; on the expression of oil, he writes: "nam de nodis eorundem trinalium lignorum liquor quidam odorifer quasi in similtudinem olei expresus talem facit uniuersos intrantes ex diuersis gentibus adgregatos supra memoratam sentire suauissimi odoris flagrantiam."

course) who had buildings dedicated to him in harbors around the Mediterranean basin. The seafaring powers of Nicholas no doubt were related to Myra's critical position as a seaport, sitting upon the southwestern point of the Anatolian peninsula, between the Aegean and the Levant (see map 1).[66]

The translation of Nicholas' remains to Bari elicited comment from nearly every western chronicler; the story was an eleventh century blockbuster.[67] One of the elements of the saint's relics that lured the Baresi to Myra, the sources routinely relate, was their oil-producing qualities. Indeed, Nicholas' myroblytic properties (this is the term specialists in liquor-oozing relics use for the object of their study) were some of the most famous of the central Middle Ages. A relationship with oil, however, was a property that a cult could develop after its establishment, as noted above in the case of the True Cross. Thus, the copious and well-known eleventh century accounts of Nicholas' translation do not suffice to prove any early medieval oleaginous association with the holy bishop's bones.

The earliest evidence for the existence of the saint's cult site in the written record appears in a sixth century *Life of Nicholas of Sion*, a town not far from Myra. The saint's tomb, however, was mentioned only in passing, as the place where he met a fellow pilgrim; the author provided no further details about the practice there.[68] The shared name and geography ultimately led to a conflation of the two Nicholases, expressed in a single ninth century compilation; this work obviated the need for earlier versions of the hagiography in the minds of medieval manuscript

[66] C. Jones, *Saint Nicholas of Myra, Bari, and Manhattan: Biography of a Legend* (Chicago: The University of Chicago Press, 1978), pp. 24-43. Technically Myra, now called Demre, was inland a few miles, but serviced downriver by the harbor Andriake.
[67] Ibid, 175-202.
[68] On Nicholas of Sion, see *The Life of Saint Nicholas of Sion*, trans. I. Ŝevĉenko and N. Ŝevĉenko (Brookline, MA: Hellenic College Press, 1984), p. 29.

keepers, leaving few extant copies of earlier vitae.[69] While this compilation does mention the oil sanctifying properties of Nicholas of Myra, and thus is important to my purposes here, it also leaves several centuries between the first testimony of the cult itself and written testimony of the saint's association with oozing oils.[70]

We are able to dig deeper into the history of Nicholas of Myra because alluvial deposits buried the original tomb of the saint in Myra, likely due to geomorphological shifts associated with an earthquake.[71] This was a blessing in disguise, for layers of mud and clay acted as a preservative, maintaining the structures and objects associated with the church dedicated to Nicholas. Frozen in the sixth century stratigraphy lies evidence attesting to several stages of a major oil-sanctifying industry within the ecclesiastical complex. Archaeologists discovered a large oil-pressing room in the ancillary structures around the church, with a catch basin measuring five meters by three meters; from that basin the oil flowed through ceramic piping, which funneled the oil into portable, ceramic containers .[72] The oil then was passed through a small portal that led into the adjacent room, where it was mixed with locally-grown myrrh to produce a fragrant substance. The admixture then evidently moved into a storage area behind the apse of the church, where two large jars testify to the middle, storage portion of the oil-sanctifying process.[73] A thick layer of oily soil marked the area where Nicholas' tomb used to be, as well as coins and other objects dating to the sixth century.[74] Even more, fragments of

[69] One version of the life of Nicholas of Myra, written by Michael Archimandrite, can securely be dated to the early ninth century, before the compilation. See G. Anrich, *Hagios Nikolaos: Der Heilige Nikolaos in der Griechischen Kirche*, vol. 1 (Leipzig: Druck und Verlag, 1913), p. 111. For the full version of that life, see ibid, vol. 2, p. 262. For background, see also M. Bacci, *San Nicola: Il grande taumaturgo* (Rome: Laterza, 2009), pp. 62-98.
[70] For oil (myrrh) in the hagiography, see Anrich, Hagios Nikolaos, vol. 2, p. 516.
[71] S. Ötüken, "La basilica di San Nicola a Myra," in *San Nicola, Splendori d'arte d'Oriente e di'Occidente*, ed. M. Bacci (Milan: Skira, 2006), pp. 47-60.
[72] Ibid, p. 49.
[73] Ibid.
[74] Ibid, 47-48.

Nicholas' tomb itself have been found which reveal a use of oil. The gabled top of the marble case was penetrated by a metal tube that attached to a face plate that sat flush with the stone. The metal piece acted as a funnel, connecting the exterior of the tomb to the contents.[75]

Nicholas' flasks do not bear easily recognizable iconography like Menas' (there were alas no camels in hilly Myra), but the predominance of spiral and onion shaped flasks discovered in the complex point to a uniform production that likely took place in the coastal Anatolian town.[76] The construction of a flask typology connected to this cult has only been achieved in the last decade, and, given the remarkable number of buildings dedicated to Nicholas around the Mediterranean, it will not be surprising as archaeological hordes are reexamined across the region to find that his oil traveled as extensively as Menas'.

V. Literary Oils: Euthymius and Andrew

Oil was a conduit, container, and preservative for the power of relics, as we have seen. The substance itself was critical to the functioning of the cults discussed above, each with industries that sprung up to support the creation of contact relics. Aside from the oil emitted from the cross in the late seventh century story from Adomnan, the sixth and seventh century cult oils derived from natural processes and then contracted sanctity through proximity to relics. My final two examples of oil-related cults in the early medieval world, belonging to Saint Euthymius and Saint Andrew, reveal a different relationship with oil. According to their hagiography, those two saints miraculously produced oil from their remains, the earliest such feat in the written record.

[75] U. Peschlow, "Fragmente eines Heiligensarkophags in Myra," *Istanbuler Mitteilungen* 23/24 (1973-74), pp. 225-231.
[76] See A. Türker, "Myra'da Aziz Nikolaos' un Yağ Kültüyle İlişkili Seramik Kaplar," *Adalya* 8 (2005), pp. 311-328.

The earliest written account of miraculous flowing oil associated with a Christian saint appeared in the biography of a fifth century Palestinian monk Euthymius, which was redacted in Greek by Cyril of Scythopolis at the middle of the sixth century (ca. 555 – 558 CE).[77] In one story from this account, a pilgrim from Antioch called Caesarius visited Jerusalem and fell ill with a bodily affliction.[78] According to Cyril, he carried himself alone to the sepulcher of admirable Euthymius and he anointed (ἀλειψάμενος) his whole body with oil (ἐλαίου) that flowed from the tomb and was delivered from the disease. In a later episode, a possessed woman seized the tomb's holy oil (ἁγίασμα) and drank the liquid (ὕδωρ) from its lamp (it is not clear if these were the same oils), which drove out her demon.[79] Finally, Euthymius treated Cyril himself with a special ointment during a dream, in the fascinating final episode of the author's compilation. In the dream sequence, Cyril finds himself unable to write, but is approached by Euthymius, who "cures" the mortal by removing an ointment jar, dipping a probe three times, and then plunging it into Euthymius' mouth. Cyril pondered that this liquid was the texture of oil (ἐλαίου), but tasted like honey; whatever it was, Cyril's oral procedure was successful and he began writing immediately.[80] Thus, in three separate episodes Euthymius proved his sanctity through the medium of holy oil, which even oozed from his tomb.

Andrew was one of the most prominent followers of Jesus, according to Christian tradition. He was the first disciple recruited by Christ and brought his brother, Peter into the

[77] For background, see Cyril of Scythopolis, *Lives of the Monks of Palestine*, trans. J. Binns (Kalamazoo, MI: Cistercian Publications, 1991), ix-lii. This volume provides an English translation, though without the original Greek. For the Greek text, see Cyril of Scythopolis, "Leben des Euthymios," in *Kyrillos von Skythopolis*, ed. E. Schwartz, *Texte Und Untersuchungen zur Geschichte der Altchristlichen Literatur* 49, no. 1 (1939), pp. 3-85.
[78] Ibid, p. 68: "ἐν τοῖς αὐτοῦ χρόνοις ᾽Αντιοχεύς τις Καισάριος καλούμενος καί ἐν ἀρχαῖς πολιτικαῖς πολλάκις εὐδοκιμήσας ἐλθὼν εἰς τὴν ἁγίαν τόλιν καὶ χρονοτριβήσας πάθει σωματικῶι περιέπεσεν δεινοτάτωι καὶ ἠνέχθη εἰς τὴν μονὴν καὶ ἐκ τοῦ ἐλαίου τῆς τοῦ σημειοφόρου Εὐθυμίου θήκης ἀλειψάμενος πάσης σωματικῆς ἀθρὸως ἀπηλλάγη νόσου."
[79] Cyril of Scythopolis, "Leben des Euthymios," p. 76: "…καὶ καθ᾽ ἑσπέραν λαμβάνουσα ἁγίασμα ἀπὸ τῆς τοῦ ἁγίου θήκης καὶ τὸ ὕδωρ τῆς ἀσβέστου αὐτοῦ κανδήλας πίνουσα."
[80] Ibid, p. 84: "τοῦ δὲ ἐμβληθέντος διά τῆς μήλης τὸ μὲν εἶδος ὑπῆρχεν ἐλαίου, ἡ δὲ γεῦσις γλυκυτέρα ἐτύγχανε μέλιτος καὶ ὄντως τοῦ θείου λογίου δήλωσις."

fold.[81] As with several of the apostles, non-canonical stories about Andrew circulated throughout the Mediterranean world, some of which congealed into a semi-formal corpus of writings.[82] A second or third century fragment of a Coptic papyrus attests to an early collection of stories about Andrew.[83] In the sixth century, Gregory of Tours seems to have had access to an apocryphal *Acts of Andrew*, which he condensed into a short work called the *Book of Miracles of the Blessed Apostle Andrew*.[84] The Gallic bishop also included several episodes regarding the disciple in his compendium of miracle stories, *The Glory of the Martyrs*. Gregory's attraction to Andrew stemmed from a calendric parallelism; the apostle was crucified on the same day Gregory was born.[85] On this day, Gregory enthusiastically penned, the tomb of Andrew in Patras (see map 1) "gushes forth manna, [a substance] like flower and oil with the odor of nectar."[86] This phenomenon struck the bishop so much that he described it with long accounts in both the *Book of Miracles* and the *Glory of the Martyrs*.

Though evidence for a relatively stable literary corpus of stories about Andrew can be detected in the second and third centuries, Gregory's edition of those tales remains, far and away, the most complete single account. As such, it is impossible to assess from literary tradition

[81] John 1:39-40.
[82] For the best general introduction to the early medieval developments surrounding the figure of Andrew, and in particular to the use of that figure by Constantinople to establish apostolic primacy, see F. Dvornik, *The Idea of Apostolicity in Byzantium And the Legend of the Apostle Andrew* (Cambridge: Harvard University Press, 1958), pp. 181-264.
[83] G. Quispel, "An Unknown Fragment of the Acts of Andrew," *Vigiliae Christianae* 10, no. 3 (1956), pp. 129-148.
[84] The authorship of the *Liber de miraculis beati Andreae apostoli* is not stated explicitly in the text, but one of its editors, M. Bonnet, argued that Gregory was responsible for this version. See Gregory of Tours, *Liber de miraculis beati Andreae apostoli*, in *Monumenta Germaniae Historica, Scriptores Rerum Merovingicarum 1, no. 2*, ed. M. Bonnet (Hannover, 1885), pp. 821-846; discussion of authorship on page 821.
[85] Ibid, p 846.
[86] Gregory of Tours, *Liber in Gloria Martyrum*, p. 505: "Andreas apostolus magnum miraculum in die solemnitatis suae profert, hoc est mannam in modum farinae vel oleum cum odore nectareo, quod de tumulo eius exundat."

whether Andrew's tomb possessed oil-producing properties before the sixth century.[87] None of the early fragments of the *Acts of Andrew* mention an effluent burial site, but the incomplete nature of those scraps makes the absence of oil in the written record inconclusive. The material record, however, articulates Gregory's account. An iconographically coherent series of ampullae have been discovered around the Aegean coasts that depict the visage of Andrew; the apostle can be identified through the distinctive saltire cross emblazoned upon the book in his hands. In fabric and form, the ceramic Andrew flasks resemble those associated with Menas, and appear in sixth century archaeological contexts.[88] If these flasks carried the oily, posthumous expression of Andrew's sanctity, their stratigraphical collocation suggests that Gregory was not the inventor of the saint's association with oil, but rather faithfully reflected a widespread, sixth century enthusiasm regarding the productivity of his tomb.

Gregory calls the substance of Andrew's exudation "manna," the same term he used to describe the material that flowed from the tomb of John the Evangelist in Ephesus.[89] The nature of these excretions differed, however; in Patras manna was an admixture of "oil and flour," but at Ephesus it was solely "flour." Manna, according to Gregory of Tours, seems to be a classification pertaining to miraculous effluents, regardless of their properties. In the remainder of the episode Gregory calls Andrew's manna simply oil (oleum), and comments about the odors produced when it flowed. Thus, Andrew's tomb in Patras seems to have excreted an oleaginous liquid very similar to that found over the casket of Menas in Egypt and at the martyr church of Nicholas at Myra.

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[87] The sixty eight extant chapters of the Acts of Andrew appear in abbreviated form in only three of the thirty eight chapters in the Book of Miracles. See L. Van Kampen, "Acta Andreae and Gregory's *De miraculis Andreae*," *Vigiliae Christianae* 45, no. 1 (1991), pp. 18-26.

[88] On the contexts of the ampullae, see W. Anderson, "An Archaeology of Late Antique Pilgrim Flasks," *Anatolian Studies* 54 (2004), pp. 79-93; Andrew flasks discussed on pages 86 and 93.

[89] Gregory of Tours, *Liber in Gloria Martyrum*, p. 505.

Andrew's manna produced two kinds of miracles. On the one hand, the flow of oil directly from Andrew's burial site served as a prophetic barometer, whereby the amount of excretion on November 30th was predictive of the spring harvest; the more oil, the higher the yield. On the other hand, the oil served as a holy substance "for the people," who deployed it as a holy unguent and potion, and "[those oils] supply full efficacy for sick people."[90] If Andrew's oil was widely considered a healing agent—indeed, news of its efficacy reached Gregory in Gaul—it seems likely that the ampullae bearing that saint's image likely carried that substance.

VI. Eastern Oils: Byzantine Olives

By combining written and physical evidence and looking broadly at a range of cults, we can establish a relatively full understanding of the role of oil in saints' cults. One of the significant commonalities of the cults described above is a geographic position that facilitated access to the Mediterranean Sea. Menas near Alexandria, the True Cross and Euthymius near Jerusalem, Nicholas in Myra, and Andrew in Patras—all these were located in major hubs of late antique commerce and travel. Indeed, in each of the early cults associated with oil there is supporting physical evidence to demonstrate that the liquid was carried away from the physical plant housing the relics along the Mediterranean's maritime networks. In short, an association with oil seems to have developed as an exigency related to pilgrimage.

In what way did sanctified oil grease the gears of pilgrimage? The written evidence suggests that oil was more than a token of a pilgrim's visit to a shrine. Rather the substance was a physical manifestation of the relics' supernatural powers. Particularly evident in the case of the True Cross and the tombs of Euthymius and Andrew, oil played an active role authenticating the

[90] Ibid, p. 506: "Quod non sine miraculo ac beneficio habetur in populis. Nam ex hoc seu inunctiones factae sive potiones datae plerumque languentibus commodum praestant."

powers of the saint—frothing and seeping, respectively—which reinforced the efficacy of the primary relics. Though the sixth and seventh century literary records of Menas and Nicholas are too fragmentary to state with perfect confidence that oil was featured in their early hagiography, it is likely, given the similarities in the material record to other oleaginous cults, that contemporary oral and written testimony articulated an association with oil. For an early medieval pilgrim, then, the possession of, say, Andrew's oil provided a tangible connection to the stories about that saint's healing powers, a physical prop that served as a link to stories about Jesus' first disciple. The enthusiasm with regards to the authenticity and intimacy of the pilgrim's oil created a dialectic with the circulation of stories about that substance, such that this aspect of the cult represented one of the most enduring facets of saints' afterlives.

In addition to oil's work linking the physical and narrative worlds of the saints, its immediate, physical effects were featured in the early medieval imagination. Miraculous oil regularly produced two results, a release of sweet fragrance and a palliative effect once applied to wounded or ailing bodies. These seemingly distinct attributes actually belonged to a single stream of medical-scientific discourse in post-Constantinian Christian culture.[91] Moreover, in the upper circles of Christian theologians, scent had arisen as a distinctly valuable sense—as well as appealingly un-classical—for discerning the presence of God, as "proximate yet unseen."[92] In this way, oil was a powerful substance because of its ability to convey, propagate, and carry holy scents to distant lands, thus dispersing the saints' powers in olfactory form.

Finally, the geography of early pilgrim shrines corresponds with political allegiances in the late fifth and sixth century Mediterranean. Areas where cults produced transmittable,

[91] Harvey, *Scenting Salvation*, p. 58.
[92] Ibid, p. 115.

sanctified oil also kneeled to the rulers of Byzantium. Indeed, when in the early seventh century Persian and Arab attacks on Byzantine Egypt and Palestine disrupted the cults of Menas and the True Cross, all evidence for pilgrim flasks flickered out, highlighting the importance of imperial networks and patronage that allowed the creation and circulation of those relics.[93] The flasks were not the only manifestation of a cultural system that that held oil as a holy sign, as we shall see below, but they demonstrate how semiotics share space and operate within political and economic spheres.

VII. Oil in the Italian Imagination

Early medieval Italians had two principal sources of inspiration from which to formulate a semiotic association with oil, namely some famous and local late ancient oleaginous narratives, and the importation of relics associated with oil from other Mediterranean contexts. The former took shape between the third and early fifth century, when the city of Rome came into the possession of the best-known supernatural oil in the Mediterranean world. The third century pagan historian Cassius Dio recorded a miraculous eruption of olive oil (ἔλαιόν) on the banks of the Tiber, which he dated to around the year 38 BCE.[94] This was but one in a series of portentous events of that year, along with the burning of Romulus' hut and the collapse of a statue dedicated to Virtus: taken together, all this warranted a consultation of the Sibylline books. The timing of the event was seized upon by Christian authors, who interpreted its flow as a sign of Jesus' *adventus*. The Christian father Jerome, translating into Latin a now-lost work by Eusebius, presented an interpolated version of Cassius Dio's note: "From an inn across the Tiber, oil erupted from the land and flowed all day without stopping, signifying the grace of Christ on

[93] G. Vikan, *Byzantine Pilgrimage Art* (Washington, D.C.: Dumbarton Oaks, 1982), pp. 39-40.
[94] Cassius Dio, *Historiae Romanae*, vol. 2, ed. O. Holtze (Leipzig, 1829), p. 338.

account of the people."[95] In his syncretic chronicle, where a note on miraculous oil was positioned just after similar entries describing Cleopatra's entry into Rome and Julius Caesar's assassination, the Tiber's prophetic seepage marked the dawn of the Christian era.

Conspicuous in Jerome's Chronicle for its inaugural role, Rome's oil gained in significance in the hands of later Christian authors. The Iberian historian Orosius wrote, sometime between 411 and 418 CE:

> "They tell us that in the principate of Caesar in the Roman Empire for a whole day—interpreted this means that as long as the Roman Empire endures—Christ and, after him, the Christians—that is the oil and those anointed by it—will march from a lodging house—that is the welcoming and bountiful Church—in great and inexhaustible numbers to restore, with Caesar's aid, all slaves who acknowledge their master and hand over the rest who are found to have no master to death and punishment. The debts from their sins are to be redeemed in Caesar's reign in that city whence the oil flowed of its own accord."[96]

The flow of oil, according to Orosius, was significant as it marked the miracle as a symbol of Christ, a Greek epithet that means anointed one. Further, the historian interpreted the inn at which this excretion took place in Jerome's account as a metaphor for the institutions of the church, thus implicating the importance of Rome in this legend. From Cassius Dio, to Jerome, to Orosius, the import of Rome's oil eruption grew as it became embedded within a Christian imaginary in the fourth and early fifth centuries.

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[95] Jerome, *Interpretatio Chronicae Eusebii Pamphili*, ed. J.-P. Migne, Patrologia Latina 27 (Paris, 1846), cc. 541-542: "E taberna meritoria trans Tiberim, oleum terra erupit, fluxitque toto die sine intermissione, significans Christi gratiam ex gentibus."

[96] Orosius, *Histoires : (contre les païens)*, vol. 2, ed. M.-P. Arnaud-Lindet (Paris: Les Belles lettres, 2003), pp. 228-229: "Itaque cum eo tempore quo Caesari perpetua tribunicia potestas decreta est, Romae fons olei per totum diem fluxit: --sub principatu Caesaris Romanoque imperio per totum diem, hoc est per omne Romani tempus imperii, --Christum et ex eo Christianos, id est unctum atque ex eo unctos, --de meritoria taberna, hoc est de hospita largaque Ecclesia, --affluenter atque incessabiliter processuros restituendosque per Caesarem omnes seruos, qui tamen cognoscerent dominum suum, ceterosque, qui sine domino invenirentur, morti supplicioque dedendos, --remittendaque sub Caesare debita peccatorum in ea urbe, in qua spontaneum fluxisset oleum, euidentissima his, qui Prophetarum uoces non audiebant, signa in caelo et in terra prodigia prodiderunt."

A less expansive tradition of Christian oil in Rome belonged to the apostle John. According to the early third century theologian, Tertullian, that city nearly claimed its third apostle (after Peter and Paul):

> "Let's go now, you who wish to better cultivate inquisitiveness in pursuit of your spiritual health, to run through the apostolic church, around where they preside over their sites upon apostolic seats, around where authentic records of them are recited, speaking a voice and representing the beauty of each one. The nearest to you is Achaia, where you have Corinth. And not far from Macedonia, you have Phillippos; if you are able to extend to Asia, you have Ephesus; if near to Italy, you have Rome, from where every power is at hand. The apostles poured out those things with which the blessed church formulated all the doctrines, along with their blood: where Peter matched the passion of the Lord, where Paul, going forth with John, was crowned with martyrdom, and where the apostle John, after being submerged in boiling oil (oleum igneum), came away unscathed, and was deported onto the island." [97]

Given the centrality of apostolic geography in his account, it is significant that the apostle John—and clearly here Tertullian equated the apostle John with the author of the Apocalypse—was associated with a near-martyrdom in Rome, and only to a lesser degree with Patmos, his place of exile. In Tertullian's account, then, late ancient Christians received a novel and memorable role for olive oil, as mode of Christian martyrdom.

In addition to this home-grown oily history, early medieval Italians also readily imported relics from other parts of the Mediterranean, relics that reliably produced or sanctified oil in their native contexts. The biography of Pope Sylvester in the *Liber Pontificalis*, for instance, notes the presence of a piece of the True Cross stored at the Sessorian Palace, for which it became known

[97] Tertullien, *Traité de la prescription contre les hérétiques*, ed. R.F. Refoulé, Sources chrétiennes 46 (Paris: Éditions du Cerf, 1957), pp. 137-8: "Age iam, qui uoles curiositatem melius exercere in negotio salutis tuae, percurre ecclesias apostolicas apud quas ipsae adhuc cathedrae apostolorum suis locis praesident, apud quas ipsae authenticae litterae eorum recitantur sonantes uocem et repraesentantes faciem uniuscuiusque. Proxima est tibi Achaia, habes Corinthum. Si non longe es a Macedonia, habes Phillippos; si potes in Asiam tendere, habes Ephesum; si austem Italiae adiaces, habes Romam unde nobis quoque auctoritas praesto est. Ista quam felix ecclesia cui totam doctrinam apostoli cum sanguine suo profuderunt, ubi Petrus passioni dominicae adaequatur, ubi Paulus Iohannis exitu coronatur, ubi apostolus Iohannes posteaquam in oleum igneum demersus nihil passus est, in insulam relegatur."

as "The Holy Cross in Jerusalem."[98] In the later sixth century, the Byzantine emperor Justin II gave to the Roman see a silver gilt reliquary that held a portion of the cross;[99] this translation directly parallels that between the same emperor and Radegund in Gaul, for which the cross produced fabulous oily miracles recorded by Gregory of Tours. Finally, in Pope Honorius' early seventh century biography, the author mentions pieces of the "wood of the cross" installed at the Lateran baptistery.[100] As discussed above, the True Cross was one of the most widely distributed relics in the Christian world, and one of the principal means of establishing the veracity of its parts was through a common set of miracles, namely those involving the frothing of oil set within its presence. As we have seen, this relationship between cross and oil was recorded by several early medieval figures, including the Piacenzan Pilgrim, Gregory of Tours, and Adomnan, and thus it might be anticipated, given the quantity of pieces in Rome, that similar accounts would derive from there.

The apostle Andrew, whose tomb in Patras gushed fragrant oil, also had an avid following throughout Italy. Paulinus obtained relics of the saint for his basilicas in Nola and Fondi in the late fourth century, and Gaudentius seems to have possessed part of Andrew in Brescia a few decades later.[101] The sees of Milan and Ravenna both boasted pieces of the first apostle, with the latter even holding his signature feature, a beard, in the fifth and early sixth centuries.[102] Rome's devotion to Andrew can be measured in the late fifth century boom in churches dedicated to his memory, which culminated in the addition of a large chapel connected to Old S. Peter's basilica on Vatican Hill. This building served as part of Pope Symmachus'

[98] LP, vol. 1, p. 179.
[99] See J. Beckwith, *The Art of Constantinople: An Introduction to Byzantine Art 330-1453* (London: Phaidon, 1961), p. 44.
[100] LP, Honorius, Ch. 3.
[101] Dvornik, *The Idea of Apostolicity in Byzantium*, pp. 149-150.
[102] Ibid, 151.

building program to outfit the Vatican complex with the facilities becoming of a permanent papal residence, since his rival and anti-pope Lawrence occupied the usual such trappings at the Lateran.[103] Symmachus' biography in the *Liber Pontificalis* provided the inventory of Andrew's building, which included, "a silver canopy and confessio weighing 120 pounds; three silver arches weighing 60 pounds," for the cult of the apostle, along with fittings for six other saints. Although the source did not mention particular relics in this chapel, the architectural features of the building, namely the use of the *confessio*, a grill that separated relics from viewers, suggests that some part of Andrew resided near the tomb of his brother. Although Andrew's association with oil was not demonstrably portable like that of the cross in the written record, the enthusiasm for his cult and relics would also suggest that sixth century devotees were well aware of the apostle's excretions in Greece.

Between a history of miraculous oil in Italy and the circulation of relics associated with myroblific saints, early medieval Italians in the sixth and seventh century had a rich semiotic tradition on which to build an association between oil and the saint. A close reading of hagiography from those centuries, however, reveals a more complex picture of holy materiality in Italy, quite distinct from the eastern models discussed above. The largest collection of miracle stories from early medieval Italy was composed in the late sixth century by Pope Gregory, who had served as ambassador to Constantinople before taking the pallium and thus was well acquainted with both the cult of the True Cross and Andrew.[104] Indeed, though neither cross nor apostle feature in Gregory's *Dialogues*, there are several episodes in that collection that featured olives or olive oil, with two extended vignettes featuring the abbot Nonnosus and priest

[103] J. Alchermes, "Petrine Politics: Pope Symmachus and the Rotunda of St. Andrew at Old St. Peter's," *The Catholic Historical Review* 81, no. 1 (1995), pp. 1-40.
[104] R.A. Markus, *Gregory the Great and His World* (Cambridge: Cambridge University Press, 1997), pp. 1-15.

Sanctulus. According to Gregory, Nonnosus' monastery was faced with an oil shortage, since the institution's trees did not produce olives one particular year. The abbot contemplated letting his monks scour the countryside for oleicultural work, in the hopes that they might be compensated in oil, but ultimately decided such a policy was too risky to their souls. He pressed the pittance of olives from the monastery's trees and placed that vessel before the altar; no matter how much oil was drawn from that vessel, it miraculously replenished. Like Nonnosus, the interventions of the Nursian priest Sanctulus brought about the multiplication of oil. The latter's efforts came about when he solicited some oil from a pair of Lombards who were trying in vain to make an olive press work. After suffering verbal and physical abuse from the irritated barbarians, Sanctulus blessed the press with some water, after which it freely expressed oil from the olives.

As much as Gregory's stories revolve around miraculous oil, it played a significantly different role for the pope than for his eastern Mediterranean counterparts. For both Nonnosus and Sanctulus, the oil miracle came in response to a contingency, and was not a staple of the holy man's miraculous repertoire. Moreover, the full context of Gregory's accounts suggests that the oil miracles belonged to a fairly standard subset of miracles that articulated supernatural multiplication. For instance, the profile after Nonnosus' in Gregory's compendium highlighted a bishop whose vineyard was ravished by a hailstorm, and who pressed the pittance of grapes remaining on the trees only to find that this small amount of must miraculously replenished. Likewise, in the same profile Gregory described a barn that was continually replenished with wheat after the threat of paucity. In other words, oil itself was not a unique expression of a holy man's capacity, but rather one of range of agricultural products intended to mirror Jesus' multiplication of the bread and fish. The oil in these miracles was a passive recipient of miraculous intervention, not a substance through which miracles were regularly conducted.

It must be said that few of the miracles in Gregory's work involved relics or other holy "tools." Rather, prophecy and intuition comprised the most frequent kinds of holy intervention. Often, too, gesturing the sign of the cross had great healing and exorcist powers. In the case of the nun who forgot to give the sign of the cross over her salad, such a misstep allowed a demon to penetrate the woman's body through her mouth, transported upon the consumed foliage. A handful of interventions stand out for their materiality. For instance, the monk Libertinus wielded a sandal (caligula) of his master, Honoratius, which was used to raise a young boy from the dead. According to Gregory, upon seeing the boy and his grief stricken mother, Libertinus "reached out to heaven, pulled the sandal from his pocket, and placed it upon the chest of the dead boy. With a prayer, the spirit of the boy returned to his body."[105] Likewise, the priest Constantius deployed clothing to produce a miracle, when he elevated his vestment in order to produce the precise amount of money needed to pay off a debt.[106] Euthicius' tunic controlled the weather, as the Nursians would gather and process with through their fields in order to produce rains during particularly dry summers.[107] Thus, when instruments were required to produce a miracle in early medieval Italy, Gregory's accounts indicate that not oil but clothing was the material of choice, a theme to which we shall return below.

Gregory's *Dialogues* belonged to a vibrant Italian hagiographical context that produced a wide range of contemporary sacred imaginings. Non-Gregorian, early medieval writings, however, have received far less scholarly attention than those penned by the pope, largely

[105] Gregory the Great, *Dialogues*, vol. 1, 1.2.6, p. 28: "Itaque descendit, genu flexit, ad caelum manus tetendit, caligulam de sinu protulit, super extincti pueri pectus posuit. Quo orante anima pueri ad corpus rediit."
[106] Ibid, 1.9.12, p. 86: "Quibus uocibus conmotus episcopus beatae Mariae semper uirginis ecclesiam ingressus est, et eleuatis manibus, extenso uestimento, stando coepit exorare, ut ei redderet unde presbiteri furentis insaniam mitigare potuisset."
[107] Ibid, 3.15.18, p. 326: "Nam quotiens pluuia deerat et aestu nimio terram longa siccitas exurebat, collecti in unum ciues urbis illius eius tunicam leuare atque in conspectu Domini cum precibus offerre consueuerant. Cum qua dum per agros exorantes pergerent, repente pluuia tribuebatur, quae plene terram satiare potuisset."

because most of those works were composed without explicitly stating an author or date of composition. And because the earliest extant copies of those works appeared in tenth and eleventh century manuscripts—there are no original recensions of these texts—attributing them to early medieval authors requires a great deal of contextual dating, by, say, the use of chronologically bound toponyms, heretical movements or schisms, or other secondary information in the text. Thankfully, Nicholas Everett has exerted herculean effort to identify hagiography composed in Italy in the sixth, seventh and eighth centuries before the conquest of the Franks.[108] He convincingly provides a chronological range for ten works based on his reading of civic conflicts and alliances in each.[109]

Though Everett argues that these works are chronologically related, he does not look for imaginative discursive qualities, like the details of miracle production, and relationships among them. Reading the corpus this way, and in particular looking for oil-related miracles, produces some illuminating contours among those works, the *Dialogues* of Gregory the Great, and miracle accounts from further abroad. The *Life of Saint Sirus of Pavia* is one of the most confidently dated of the early medieval anonymous hagiography in Italy, thanks to its early manuscript tradition and historical details; Everett places it in the late seventh or early eighth century.[110] The "historical" Sirus[111] was a disciple of Hermagoras, who learned under the apostle and gospel writer Mark, making the Pavese bishop a first century figure. Though in the apostolic lineage,

[108] See N. Everett, "The hagiography of Lombard Italy," *Hagiographica: Rivista di agiografia e biografia della Società internatzionale per lo studio del Medio Evo latino* 7 (2000), pp. 49-126.
[109] Everett's work examines ten vitae, comprising thirteen saints. Those saints include Sirus, Dalmatius, Vigilius, Firmus and Rusticus, Gaudentius, Eusebius, Sentius, Cerbonius and Regulus, Cetheus, Victorinus and Severinus.
[110] See N. Everett, "The Earliest Recension of the Life of S. Sirus of Pavia (Vat. lat. 5771)," *Studi Medievale, Serie Terza* 43 (2002), pp. 857-957; conclusions on date on page 872.
[111] By "historical" I mean the figure described by his seventh-eighth century hagiography, which should not be confused with a biography constructed through modern standards of proof (of which there is none for Sirus).

Sirus was not a frequent miracle worker. In one of the few direct interventions, he healed a sick boy by gesturing the sign of the cross over his body.[112]

If Sirus himself was not forthcoming with miracles, the author of his hagiography did provide a sense of holy materiality. For instance, the bishop obtained a linen cloth saturated with the blood of the Milanese martyr Nazarius, which was later used to expel a demon from a young boy, thus paralleling the sartorial tools deployed in the *Dialogues*.[113] Sirus later built a church dedicated to Nazarius around this fabric. In a different episode—one of the most imaginative of the text—the potency of the Eucharist was emphasized through the duplicitous machinations of a "possessed Jew." The Jew had conspired to enter a church in order to take the Eucharist into his mouth and then spit it out "into a dung heap."[114] However, the presence of the host in his mouth both paralyzed his ability speak or spit and caused intense oral pain. Sirus extracted the miraculous bread and the Jew converted immediately.

A few other miracles of materiality also stand out for their original nature in the corpus of early medieval Italian hagiography. One such miracle appears the *Life of Vigilius of Trent*, which was composed by an anonymous author, likely between 514 and 750 CE, and centered on the third "historical" bishop of that city from the fourth century.[115] Most of Vigilius' energies were spent converting the pagans around Trent, a task that eventually proved fatal when a crowd of pagans rushed the man with swords, stones, and torches and bashed in his head.[116] Vigilius' posthumous miracles go unmentioned, except those performed by the texts that recorded his life.

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[112] Everett, "The Earliest Recension," p. 939: "signum crucis super imposuit."
[113] Ibid, p. 926-7. The bloody cloth was collected by a woman in Milan, from whom Sirus' association, Iuventius, convinced to turn over the see in Pavia: "His uero uaditis qui aderant responderunt. quamdam dei famulam dum sancti nazarii caput ab impio lanista abscisum fuisset. uidisse se linteo sanguine eius recepto fugam pletuisse."
[114] Ibid, p. 928: "audenter iudeus in eum ingressus maligno instigante spiritu corpus dominicum suscipere. eumque in sterquilinium proicere mollitus est."
[115] Everett, "The Hagiography of Lombard Italy," pp. 79-87.
[116] "Vita Sancti Vigilii," in AA.SS. Iun., 5, BHL 8602, pp. 165-168; head bashing in chapter 9, p. 167.

As a band of invaders called the Alemanni threatened the Roman emperor, he attached copies of the saint's biography to his military banners, which ultimately put the enemies to flight.[117] With such efficaciousness, the "gesta" of the holy man was translated from Latin to Greek, and along with some of his relics, were sent to Constantinople by Pope Romanus.

Saint Cethius' *Life* was composed roughly between 600 and 740 CE, and his death involved one of the more remarkable instances of posthumous sanctity.[118] Cetheus was bishop of Amiterno, (now San Vittorino) located near Pescara in the Abruzzo, during the time of the Lombard invasion. The holy man developed a hostile relationship with one of the town's two Lombard rulers, called Umbolus, who bound Cetheus to a mill stone, "weighing roughly 500 pounds" and cast him into a river.[119] Angels interceded to send his body through the water to "Jaternensem," modern Zadar in Dalmatia, across the Adriatic Sea, all with the huge millstone strung to the neck of Cetheus. The saint and the millstone were discovered by a fisherman in Zadar, who was walking the beach at night and saw a powerful light radiating from the holy body. The Dalmatians immediately recognized the holiness of the corpse, but since they did not know his name, called it "the Pilgrim (Peregrinum)." The fishermen of that region continued to use his radiant head as a lighthouse, to better navigate the shore. Though Cetheus' miraculous underwater illumination did not involve the exchange of materials, his posthumous luminescence does represent a particular physical manifestation that parallels the excretion of oil.

[117] Ibid, ch. 12, p. 167: "Bone Imperator, sume tibi gesta, noviter comperta, Vigilii Martyris, Tridentinae civitatis Episcopi, ut ejus virtus patescat in populis. Quae summo gaudio suscipiens Augustus, tradidit in vexillo militi deferenda, confidens de Dei clementia, suique dilecti intercessione gratissima. Ergo dum vicinitas hostium proximasset, ita virtus Christi ostensa est in gestis Martyris, ut adversarii in fugam turpem conversi, relicta praeda omnia, gladii caesionem vix paucissimi evaserint."
[118] Everett, "The Hagiography of Lombard Italy," p. 111.
[119] "Vita Sancti Cethei," in AA.SS., Iun., 2, BHL 1730, pp. 689-693; millstone in chapter 13, p. 692: "Ubi cum vir Domini constiltutus fuisset, praecepit ministris inquis alligari ei lapidem molarem, ponderis quasi librarum quingentarum, et sic demergi in profundum."

The illuminated Italian saint also appeared in the *Life of Gaudentius of Novarra*, a text written in the mid-eighth century, according to its commemoration to the Novarese bishop Leo.[120] The author stated in the prologue that he wished his text to be read out to the local congregations on Gaudentius' feast days, important confirmation that early medieval Italian hagiography was meant to be consumed, at least at times, by the public.[121] Gaudentius' posthumous refulgence is foregrounded in the early chapters, where he was said to have "beamed with the heavenly splendor (fulgore) of divine grace, and imparted with a brilliant mind, glittering as if Lucifer processing among the stars."[122] The miraculous state of his dead corpse was described with the same terminology: "Who can deny that the sacred body gleams with rosy splendor (fulgore), and emits sweet smells, from the eleventh of the Calends of February to the third of the Nones of August, unburied." Moreover, the saint healed people at his tomb, which the author, upping the ante on the astral metaphors, likened to "a single ray of the Sun, bursting forth, illuminating everything with celestial light."[123]

In addition to these, the most regular miracle at the tomb of an early medieval Italian saint was the emission of sweet odors, as in the *Life of Gaudentius*. Vigilius of Trent's body lured passersby, which were numerous considering his body was next to the southern gate.[124] Saint Dalmatius' *Life*, composed in the seventh or eighth century, describes wondrous fumes

[120] Everett, "The Hagiography of Lombard Italy," p. 92.
[121] "Vita Sancti Gaudentii," in AA.SS., Ian., 2, BHL 3278, pp. 418-21; for reading aloud, see chapter 1, p. 418.
[122] Ibid, ch. 2, p. 418: "imo diuinae gratiae caelitus fulgore irradiatus, mentisque nitore addito, quasi refulgens lucifer inter astra processit."
[123] Ibid, ch. 11, p. 419: "…ut quasi caelitus ostensum lumen, aut radius quidam Solis erumpens totum claritate superni luminis illustraret."
[124] "Vita Sancti Vigilii," ch. 11, p. 167: "sicque veneranda pignora Praesulis gloriosi, tertio suae passionis, cum magna gloria et aromatibus condiderunt in Basilica, quam ipse ad portam Veronensem vivens construxerat."

emanating from the site of his tomb.[125] Firmus and Rusticus produced sweet smells while living, though the filthy conditions of their prison made its olfactory state miraculous.[126]

Finally, early medieval Italian saints sometimes had miraculous liquids at their tombs. According to the author of the *Life of Saint Eusebius of Vercelli*, "On feast day, the sepulcher effervesces such a remarkable odor it is as if rivers of balsam passed into that building; his blood was poured out here and it smells among the sense like everything belongs to the family of balsam and thyme."[127] Admittedly, the author's use of metaphor here is ambiguous, particularly with regards to the blood at the tomb, and he does not seem to want to explore the meaning of this miracle. In different contexts, at the tomb of Saint Dalmatius in Pedona, a woman spends the night and receives instructions from the saint to take the water "beneath my tomb."[128] Although not explicit, the tomb of the saint seems to produce the healing waters. Likewise, the seventh or eighth century *Life* of the Tuscan Priest Sentius describes two instances where the saint was able to miraculously produce water.[129]

Reading across the hagiography available in early medieval Italy, from the late sixth to eighth centuries, reveals a surprising void: there were no saints or cults associated with oil, as those that prevailed as the most popular shrines in the Byzantine East. The absence of oil-producing saints in early medieval Italy is particularly surprising, given that in the preceding era,

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[125] "Vita Sancti Dalmatii," in *S. Dalmazzo di Pedona e la sua abbazia*, ed. A.M. Riberi (Turin: M. Gabetta, 1929), pp. 352-366; fumes on page 363.
[126] "Passio S. Firmo et Rustici," in *Sanctuarium seu Vitae Sanctorum*, ed. B. Mombrizio (Paris: apud Albertum Fontemoing, 1910), pp. 544-547; smells on page 545.
[127] For background, see Everett, "The Hagiography of Lombard Italy," pp. 92-100. The critical edition is "Passio Sancti Eusebii Vercellensis Episcopi," in *Italia sacra*, vol. 4, ed. F. Ughelli (Venice, 1719), cc. 749-761; emissions at c. 760: "In die vero supulture ejus tantus odor ac talis efferbuit super omnes, quasi rivulus balsam in eadem decurreret Ecclesia: sanguis autem ejus qui fusus est, et cerebrum sic redolebant, ut balsamum et thymiamatorum omnia genera."
[128] "Vita Sancti Dalmatii," p. 366.
[129] "Vita Sancti Senzii," in AA.SS. Maii 6, BHL 7581, pp. 71-3; water production in chapter 4, p. 72 and chapter 6, p. 72.

late ancient Italy possessed the site of two well-known oleaginous accounts, the Tiber's miraculous eruption of oil and the apostle John's failed martyrdom in a pot of boiling oil. Sixth, seventh, and eighth century hagiography in Italy, moreover, was hardly devoid of potent materials of sanctity, with holy blood and water being described around tombs; and luminescent saints, those emitting light after their death, demonstrate a type of "flow" associated with the holy men. Holy clothing too, having been saturated with saints' potent essence, continued performing miracles well after the bodily death of the saint. Therefore, contemporary Italians possessed no qualms with attributing saintly powers to materials, yet oil was mysteriously avoided as one such substance.

In addition to the surprising dearth of oil in the hagiographical record, an itinerary of cult sites around the city of Rome written in the early 600s has no mention of oils there. This work, *On the Holy Places of the Martyrs which are outside the City of Rome*, seems to have been composed during the pontificate of Pope Honorius, and includes an extensive description of the suburban churches, the area of seventh century Rome most densely populated with the special dead.[130] Several holy materials are referenced by the author: the marble table used by the apostle Peter in Rome, the prison that held Lawrence, a holy image of the virgin Mary in the basilica dedicated to that saint located across the Tiber, and the chains that held the apostle Peter while in prison, for instance.[131] In short, this on-the-ground record of Rome's holy shrines celebrated the objects associated with that city, and yet we get no oils or flasks within this account. *On the Holy Places*, then, bolsters the oil-less picture of early medieval Italy with a work outside of the

[130] *De Locis Sanctis Martyrum*, pp. 101-131.
[131] For Peter's furniture, see ibid, p. 106; for Lawrence's prison, see ibid, pp. 114-15; for Mary's painting, see ibid, p. 122; for Peter's chains, see ibid, p. 125.

hagiographical genre. Archaeological investigations, too, have failed to find the type of oleaginous cult site discussed above, at Myra or Alexandria.

VIII. Oil Dearth in Early Medieval Italy

Why the disparity between Italy and eastern Mediterranean and their use of oil as a religious semiotic? For the answer we must return to the figure of Pope Gregory. At the end of the sixth century, oil sanctified by the True Cross had traveled to Gregory, who wrote a letter to ex-consul Leontius, thanking him for securing the gift:

> "On account of this, we are exceedingly glad now, because the gifts which you transmitted were not dissimilar from your usual ones. We have received here oil of the holy cross (oleum sanctae crucis) and incense of aloe: one which, having been touched, might bless, the other which, when kindled, might emit a nice smell." [132]

For Gregory the oil of the cross was a symbol of Jerusalem. The pope framed Leontius' gift in terms of the city and ends the letter with a parallel reference, to the remains of Rome's greatest saint, Peter. In one sense, the oil was offered as a measure for linking two of Christianity's capitals; on the other, Leontius' oily gift was downplayed by the pope, putting it on equal terms with the incense, its effects similar to those produced by sweet smelling smoke.

These were not contradictory ideas for Gregory. Sanctified oil could be Jerusalem's emblematic relic, and still be deemed impotent by the standards of the bishop of Rome. For Gregory the problem with the gift lie not in the cross itself—an impeccable relic of the highest order—but with the oil. In particular, the transference of power from relic to oil did not meet papal approval. Gregory, of course, enthusiastically supported the intercessory abilities of saints and their relics; the *Dialogues* were an encomium of that very thing. In Gregory's cultural

[132] Greogry the Great, *Epistolae*, vol. 2, ep. VIII.33, pp. 35-6: "De hoc etiam valde gaudemus, quod munera quae transmisistis vestris moribus dissimilia non fuerunt. Oleum quippe sanctae crucis et alois lignum suscepimus: unum quod tactum benedicat, aliud quod per incensum bene redoleat."

system, however, holy remains performed best when activated through certain procedures, in particular when humans traveled to the fixed geographic point of the body of a saint in order to receive redemption. John McCulloh noted that Gregory's writings contain no accounts of miracles associated with the translation of relics, which suggests to him region-wide disapproval of holy mobility.[133]

In practice, Gregory's epistles reveal exceptions to the prohibition against traveling relics, but only in exceptional circumstances. When in 594 CE the Byzantine Empress Constantina solicited relics from the Roman pontiff—the head of Paul, no less—Gregory had occasion to explain papal policy: "But the most tranquil queen should know that it is not the custom of Romans, when they give the relics of saints, that they presume to touch anything from the body."[134] Rather, a strip of cloth (brandeum) was placed on the casket of the holy remains. After a brief incubation, the cloth was removed and it had accrued " such powers at that very moment, it is as if their bodies are carried individually there."[135] Physical proximity to the aura emitted by relics caused a transfer of power to a second object, whose efficacy equaled that of the primary relic.

Gregory's explanation of so-called "contact relics" seems at first a direct parallel to the Piacenzan Pilgrim's account of the sanctification of the oil at the touch of the True Cross. But while the mechanisms of proximity resemble one another, the materials of transfer differed. Gregory used a particular term, "brandeum" to describe the cloth to which holiness was transferred; this was a neologism attributed to Gregory's letter to Constantina. Du Cange defined

[133] J. McCulloh, "The Cult of Relics in the Letters and 'Dialogues' of Pope Gregory the Great: A Lexicographical Study," *Traditio* 32 (1976), pp. 145-184; translation on pages 151-153
[134] Greogry the Great, *Epistolae*, vol. 1, ep. IV, 30, pp. 263-266; on the custom of the Romans, see page 264 : "Cognoscat autem tranquillissima domina, quia Romanis consuetudo non est, quando sanctorum reliquias dant, ut quicquam tangere praesumant de corpore."
[135] Ibid: "Quod levatum…et tantae per hoc ibidem virtutes fiunt, ac si illic specialiter eorum corpora deferantur."

it as "a type of silken cloth, or a like material."[136] Gregory himself emphasized the historicity of the word by offering a vignette in which one of his predecessors, Pope Leo I (440-61 CE) sliced into a "brandeum" in order to assuage the doubts of "certain Greeks" about its veracity; blood poured forth from the material, proving the authenticity of the relic.[137]

It is true that Gregory also delivered to Constantina metal shavings from the chains of Saint Peter, a kind of contact relic, but these possessed a primacy that did not require any contextualization by the pope, a condition called "Ersatzreliquien" by Martin Heinzelmann.[138] Like Jesus' cross, Peter's chains were critical instruments that propelled the religious drama, making them saintly relics in their own right. Oils collected by agents of the Lombard Queen, Theodelinda, from the catacombs around Rome also might seem to contradict the idea of an early medieval Italian religious imaginary devoid of holy oil. While one of the queen's agents did travel to Rome during Gregory's tenure and obtain oils from the lamps burning near martyrs' tombs, "olea sanctorum martyrum," there is no indication that the pope had any knowledge of this pilgrimage.[139] The author of the inventory list simply stated that he did so, "in the time of Gregory." Moreover, Gregory recognized Theodelinda to be an orthodox ally among the Arian Lombards and lavished favor on her, but in the two extant letters sent to the queen the pope has unmistakable doubts as to her doctrinal rectitude, suggesting that she occasionally transgressed

[136] C. Du Cange, *Glossarium ad Scriptores mediae et Infimae Latinitatis*, vol. 1 (Paris, 1733), "Brandeum," c. 709: "Species panni serici, aut alterius materiae vestitae."
[137] Greogry the Great, *Epistolae*, vol. 1, ep. IV.30, pp. 265-266: "Unde contigit, ut beatae recordationis Leonis papae tempore, sicut a maioribus traditur, dum quidam Greci de talibus reliquiis dubitarent, praedictus pontifex hoc ipsum brandeum allatis foricibus incidit, et ex ipsa incisione sanguis effluxit."
[138] M. Heinzelmann, *Translationsbesichte und andere Quellen des Reliquienkultes* (Turnhout: Brepols, 1979), p. 22. For the same idea about relics in a later period see P. Geary, *Furta Sacra: Thefts of relics in the central Middle Ages* (Princeton: Princeton University Press, 1990), p. 32.
[139] As noted in D. Trout, "Theodelinda's Rome: Ampullae, Pittacia, and the Image of the City," *Memoirs of the American Academy in Rome* 50 (2001), pp. 131-150; the nature of this mission on pages 133-4.

papal dicta.[140] The papyrus describing the oils provides no indication that they were conceived of as relics with particular powers; they might have served other functions entirely, perhaps as souvenirs or amulets.

Gregory's seriousness with regards to the methods for producing contact relics outlined in his letter to the Byzantine Empress Constantina should not be doubted. In particular, his attention to the materiality of relic creation helps to illuminate the meaning of the pope's underwhelming response to oils sanctified by the True Cross in Jerusalem. Given the range of sensory associations with sanctity—the smell of flowers, luminosity—it is conceivable that Gregory's conception of holiness possessed a certain tactility. Perhaps one of the signs of authentic Roman contact relics was the feel of silkiness. Thus, the oily touch associated with the powers of the cross did not properly register as a holy relic in Gregory's world.

Gregory's epistle to Constantina, specifically the episode about Pope Leo the Great's bloody incision into a fabric contact relic, would prove to have a vibrant afterlife. The endurance of this episode in the literary tradition and its association with Gregory suggests that the memory of the pontiff was closely linked to his policy on cloth relics. The earliest extant *Life of Gregory,* written in the first decade of the eighth century by an anonymous monk at Whitby Abbey, described pilgrims "coming from the west" to collect relics in Rome from Pope Gregory. After letting their curiosity get the best of them these visitors broke the seal binding the relic container and opened it, only to be disappointed by the sight of dirty scraps of cloth.[141] When the indignant pilgrims returned, Gregory responded to their request for better relics—"like bones"—by asking

[140] Gregory the Great, "Epistolae," vol. 1, ep. IV.4, p. 236. For the other letter, see ibid, vol. 2, ep. XIV.12, pp. 430-1.
[141] B. Colgrave, ed., *The Earliest Life of Gregory the Great By an Anonymous Monk of Whitby* (Lawrence: University of Kansas Press, 1968), ch. 21, p. 109-10.

them to pray over the fabric. He then sliced it with a knife, which caused blood to flow from the cut.

By the time this familiar legend arrived in Britain, not only had the agency of the miracle been transferred to Gregory from Pope Leo the Great, but the activation of contact relics had also developed a clerical component. The Whitby author articulated this process with a question from the mouth of Gregory to the dubious western pilgrims: "Do you not know that at the consecration of the Body and Blood of Christ, when the relics are placed on his holy altar as an offering to sanctify them, the blood of the saints to whom each relic belongs always enters into the cloth just as if it had been soaked in blood?"[142] Eucharistic blessing upon fabric contact relics made their holy essence material.

Later hagiographers redeployed the Whitby author's version of the fabric miracle. Paul the Deacon composed his *Life* of the pontiff in the late eighth century without knowledge of the Whitby edition, but an interpolator almost immediately combined the two under Paul's name and this became the version passed down to posterity.[143] Paul's interpolator borrowed from the Whitby author verbatim in places. Gregory placed "cloth" (pannus) in a "wooden box" (buxus) and secured the container with a papal "seal" (sigillum), just as described in Britain.[144] This story was recast in some regards, apparently to fit the needs of the interpolator; the later version localized the final scene at the altar of S. Peter, when Gregory cut the rags and blood ran forth. It also ended the episode by saying, "from then on, the Lord deigned to work more frequent

[142] Ibid: "Nescitis quod in sanctificatione corporis et sanguinis Christi, cum supra sancta eius altaria ei in libamen ob sanctificationem illorum offerebantur reliquiarum, sanguis sanctorum quibus adsignata est semper illos intravit pannos utique tinctos?"
[143] For Paul the Deacon's original version, see W. Stuhlfath, *Gregor I. der Grosse. Sein Leben bis zur seinen Wahl zum Papste nebst einer Untersuchung der ältesten Viten*, Heidelberger Abhandlungen zur mittleren und neueren Geschichte 39 (Heidelberg: C. Winter, 1913), pp. 98-108. For the corrupted version, see Paul the Deacon, *Vita S. Gregorii Magni*, in *Patrologia Latina* 75, ed J.-P. Migne (Paris, 1862), cc. 41-60.
[144] Ibid, ch. 24, cc. 54-5.

miracles than before in the church of S. Peter," suggesting that the interpolator had an interest in promoting a Petrine-centric religious geography (perhaps a member of the papal administration?).[145] What is most significant is that the bloody rags continued to entice early medieval authors and their literary presence seems to have been a recognized means of authenticating any Gregorian biography. In fact this was only one of six episodes lifted from the Whitby edition into the interpolated Paul the Deacon *Life*.

When John the Deacon wrote a ninth century edition of Gregory's *Life* at Monte Cassino, a monastery in southern Italy, he seems to have had not only the two previous versions of the hagiography at his fingertips, but also the pope's genuine epistles. In John's composition, the foreign visitors to Rome were "from the west," following the Whitby author, yet were given the title"legati" as in Paul the Deacon's interpolated version. John's most agile effort to syncretize the varied sources came when it was time for the cloth to bleed. Like the previous hagiographers, John cast Gregory as the agent that sliced the fabric, yet judiciously offered an editorial comment on the miracle: "in the manner of most holy Pope Leo, [Gregory] pricked the brandeum, and from that puncture hole blood emanated at once."[146] Thus, John almost certainly possessed the letter from Gregory to the Empress Constantina, which attributed the miracle to Pope Leo. Why else would he frame the peculiar miracle as a "custom" began by Leo? John must have been able to see that the origins of Gregory's popular miracle stemmed from confusion regarding the pope's authorship of the story of Pope Leo, but he too could not resist including it in Gregory's *Life*.

[145] Ibid, "quo Dominus frequentiora quam in sancti Petri ecclesia miracula operari dignatur…"
[146] John the Deacon, *Vita S. Gregorii Magni*, in *Patrologia Latina* 75, ed J.-P. Migne (Paris, 1862), cc. 69-240.

Given Gregory's significant role in establishing a religious link between Italy and Britain, it is logical that shared memories of the pontiff, and the episode of bloody fabric in particular, circulated across these contexts. It is perhaps more surprising that Gregory's legacy in other parts of Europe and the Mediterranean was also closely associated with that miraculous cloth. The episode appeared in a tenth century Georgian manuscript that comprised a translation of the sixth century Greek hagiographical compendium called *The Spiritual Meadow*; the episode involving the bloody fabric appeared in an appendix particular to the Georgian manuscript, which included thirty additional miracles that do not appear in the earliest extant Greek copy.[147] The Georgian manuscript (kept at Mount Athos, in the Iviron monastery as cod. géorgien 9 (A)) derived from Arabic source material, judging by the transliteration of words particular to that language (*funduq*, for instance) and proper place names (*iphrikia* from the Arabic *ifrīqiyā*).[148] And judging by the diction, one scholar postulates that the Arabic source material dated to before the eighth century, suggesting that Gregory's miraculous cloth was introduced to the Arabic-speaking world even before the deacons Paul and John revived interest in the pontiff in the late eighth and ninth centuries.[149]

In Gaul, Gregory of Tours celebrated the virtues of the apostle Peter by describing the process of relic-production at his basilica in Rome. There, he says, cloths are lowered onto the tomb of the apostle and emerge weighing more than before having been saturated by the divine power of the body. Gregory of Tours probably derived the account from a deacon who had

[147] J.-M. Sauget, "Saint Grégoire le Grand et les Reliques de Saint Pierre dans la Tradition Arabe Chrétienne," *Rivista di Archeologia Cristiana* 49 (1973), pp. 301-309.
[148] G. Garitte, "La Version Géorgienne du «Pré Sprituel»," in *Mélanges Eugéne Tisserant*, vol. 2 (Vatican City: Biblioteca apostolica vaticana, 1964), pp. 171-185.
[149] Ibid, 175.

visited Rome during the pontificate of Pope Gregory.[150] The Roman policy might also have been inspiration for one of the miracles attributed to Saint Martin by Gregory of Tours, where a silken cloak was draped over his tomb and emerged as a potent antidote to leprosy.[151]

The different forms of the bleeding cloth episode suggest the varied ways the tale could be of use to its authors. For the Whitby author, it served as a means to articulate the centrality of the Eucharist and its performance by members of the clergy. For Paul the Deacon's interpolator, the fabric highlighted the importance of S. Peter's basilica in the religious landscape. While the manipulations of the tale reveal a great deal, the most significant aspect of a collective reading of Gregory's *Lives* is the enduring presence of the fabric; it was the core around which the other elements of the story were built. Therefore, the most popular image of Pope Gregory in the early Middle Ages was not one of a man compelled to Christianize England by angelic, enslaved Anglo-Saxon children in the Roman Forum, but rather of a man who had an encounter with a piece of fabric.

Why did this odd episode resonate so roundly within seventh and eighth century Mediterranean contexts? Gregory's position on the movement of corporeal relics, the heart of the issue in the letter to Constantina and its various iterations in his hagiographic corpus, was hardly a novel one for the bishop of Rome. Earlier in the sixth century, Pope Hormisdas (514-523 CE) was confronted with a similar request for corporeal relics from a more formidable Byzantine figure than Constantina: the future emperor, Justinian. A series of letters compiled by papal

[150] See Gregory of Tours, *Liber in Gloria Martyrum*, ch. 27, pp. 503-4. For reading that account in light of the return of Gregory's deacon Agiulfus, see J. McCulloh, "From Antiquity to the Middle Ages: Continuity and Change in Papal Relic Policy from the 6th to the 8th Century," in *Pietas: Festschrift für Bernhard Kötting*, ed. E. Dassmann and K. Suso Frank (Münster : Aschendorff , 1980), pp. 313-324; Gregory of Tours on page 316.
[151] Gregory of Tours, *De Virtutibus Sancti Martini Episcopi*, in *Monumenta Germaniae Historica, Scriptores Rerum Merovingicarum 1, no. 2*, edited by B. Krusch. Hannover, 1885, pp. 584-661; cloth at 1.11, pp. 594-596.

legates in Constantinople recorded the negotiations between Justinian and Hormisdas regarding the former's request for bodily remains of Saint Laurence.[152]

The papal diplomats explained that the disturbance and translation of corporeal relics violated Roman custom; Justinian placidly acquiesced to such reasoning. In order to nourish the Byzantine's spiritual health, however, the diplomats proposed that Hormisidas offer a different set of relics:

> "If it seems prudent to your blessedness, gather from those places the relics of the blessed apostles Peter and Paul to grant to him, according to custom; and if it can be done, [then] it is your decision [whether] to place those relics at the second cataract. Also, he asks for the chains of the holy apostles, if it is possible, and for the grills of blessed Laurence, martyr. Those are the object of that man's desire; in these [things] the faith of that man was roused."[153]

The legates, trying to satisfy Justinian's holy yearning within the constraints of papal policy, proposed two sets of relics. On the one hand, the soon-to-be emperor received parts of two quintessential, non-corporeal relics in Rome, Peter's chains and Laurence's flatiron. On the other hand, Pope Hormisidas produced new relics by passing an object to the "second cataract," a phrase that referred to the portal that linked the interior of the church and tomb of the saint, often called the *confessio* (the first cataract was the portal to the exterior of the building).[154] In

[152] "Epistolae et Decreta Hormisdae Papae," in *Patrologia Latina* 63, ed. J.-P. Migne (Paris, 1847), cc. 367-532; for the letter regarding Saint Lawrence, see cc. 474-475. The letter was composed by Bishop Germanus, Bishop John, the Deacon Felix, the Deacon Dioscorus, and Presbyter Blandus. This was a significant diplomatic moment between the papacy and the Byzantine Emperors; it was recorded in the papal biography of Hormisidas in the Liber Pontificalis, as well, but without the details of the relic request. The letter to Pope Hormisdidas from the legates began thus: "Filius vester magnificus vir Justinianus, res convenientes fidei suae faciens, basilicam sanctorum Apostolorum, in qua desiderat et beati Laurentii martyris reliquias esse, constituit, sperat per parvitatem nostram, ut praedictorum sanctorum reliquias celeriter concedatis. Habuit quidem petitio praedicti viri secundum morem Graecorum, et nos contra consuetudinem sedis apostolicae exposuimus."

[153] Ibid: "Unde si et beatitudini vestrae videretur, sanctuaria beatorum apostolorum Petri et Pauli, secundum morem, ei largiri praecipite;et si fieri potest, ad secundam cataractam ipsa sanctuaria deponere, vestrum est deliberare. Petit et de catenis sanctorum apostolorum, si possibile est, et de craticula beati Laurentii martyris. Ista sunt desideria praedicti viri: in hoc fides ipsius est incitata."

[154] See Du Cange, *Glossarium ad Scriptores*, vol. 1, pt. 2, "Cataractae S. Petri," c. 228.

other words, the legates promised Justinian relics that had been sanctified by touching them to the tomb of Peter and Paul.

Gregory's association with miraculous fabric endured not because it represented a change in papal policy—in fact, the pontiff was conservative in that regard, following the lead set by Pope Hormisidas. Rather, it seems to me best to interpret the remarkably enduring association between Gregory and cloth as one informed by the rising tide of oil in the eastern Mediterranean. That is, papal policy on contact relics became more and more unusual as other Christian capitals adopted a semiotics of oil, which heightened the import of Italy's reliance upon cloth. As the memory of Gregory was reshaped over the course of the early Middle Ages, the alignment of a papal policy that signaled the production of cloth miracles and a fantastic account involving a cloth's reaction to doubters made it a defining feature to his biographers.

This does not explain, however, why the popes were so reluctant to add oil to the pantheon of materials capable of absorbing the holy powers of Latin saints. Here, I can only gesture to a couple of possible reasons. First, the council of Chalcedon in 451 CE elevated Jerusalem from a backwater Roman colony to one of the five Christian capitals of the Mediterranean, along with Rome, Constantinople, Alexandria, and Antioch. Among the capitals, Rome and Jerusalem stood apart, deriving their authority from both apostolic foundation and as a center of pilgrimage. We know in later contexts that urban competition for relics drove the theft of holy bones, furta sacra, by Italian city-states pillaging Byzantine relic hordes, and it seems likely that this sense of competition could be traced back to the late ancient era.[155] As such, the prevalent materials of relic production in the two capitals—oil at Jerusalem with its True Cross and fabric at Rome with the body of Peter—might have become general signifiers of each city's

[155] Geary, *Furta Sacra*, pp. 87-107.

identity. This notion is certainly present in the letter wherein Pope Gregory received the holy oils produced by the True Cross. As such, oil and cloth might be imagined as a kind of religious brand, developed in opposition to one another. Rome could not adopt a semiotics of oil as doing so implicitly compromised its claims as the chief center of pilgrimage in the Mediterranean. Alternatively, the third chapter in this dissertation outlined some of the efforts the popes arranged for the illumination of Rome's artificial lights, which was intended to articulate a message of social and religious supremacy. Papal oil, then, had already developed a symbolic relationship with light, which perhaps made the pontiffs resistant to alternative uses for the substance.

IX. Charged Anew: Oils in Late Eighth and Ninth Century Italy

For the two centuries after Gregory's prohibition of relic mobility, olives and oil scarcely appeared in religious semiotics on the Italian peninsula. At the end of the eighth century and the beginning of the ninth, however, there was a sudden shift, whereby Italian thinkers and writers increasingly saw the present and past in verdant colors. One of the first literary agents to rediscover the olive was Paul the Deacon in his *Historia Romana*: "In these days a fountain of oil gushed forth from the earth across the Tiber from an and for the entire day it flowed like a raging river, signifying for the people the grace of Christ."[156] If the entry seems familiar, it is because Paul took the lines directly from earlier works by Jerome and Orosius, whose descriptions of the first century BCE *fons olei* were discussed above.[157] The first ten books of the *Historia Romana* were, in fact, an interpolation of an earlier (and briefer) history of Rome by the fourth-century

[156] Paul the Deacon, *Historia Romana*, ed. H Droysen, Scriptores Rerum Germanicarum in Usum Scholarum (Berlin, 1879), 7.8, p. 60: "His diebus trans Tiberim de taberna Meritoria fons olei e terra exundavit ac per totum diem largissimo rivo fluxit significans ex gentibus gratiam Christi."
[157] Paul's lines mirrored most closely Jerome's entry in the Eusebian Chronicon, though the former used the felicitous phrase "fons olei" to describe it, which appeared in Orosius, but not Jerome.

Roman historian Eutropius, whose secular vision of the past did not suit the taste of Paul's patron, the Beneventan duchess, Adalberga.[158] The Lombard courtier thus spruced up the events of the Roman civil war between Augustan, Anthony, and Pompey, and other moments of Rome's un-Christian past, by augmenting Eutropius with vignettes borrowed from Jerome's *Chronicle*, before setting out in original prose the last six books of his history (covering the era after Eutropius' fourth century milieu up to the emperorship of Justinian the Great).[159]

Paul composed the *Historia Romana* around the year 770 CE, most likely as a monk at the southern Italian monastery of Monte Cassino, though he may, too, have been part of the Beneventan court.[160] Regardless, the work was most assuredly written before the Frankish invasion, making this an invocation of oil's prophetic powers firmly within Lombard contexts. Even so, Paul's Christian interjections were informed by a single source, Jerome's *Chronicle*, which suggests that the choice to deploy oil was not one borne necessarily from thoughtful consideration. Paul's brilliance here was finding a source that so perfectly suited the task at hand; Jerome's *Chronicle* aligned perfectly with Eutropius' Breviary in terms of chronology, and was formatted in such a way—with "Christian" events and "Roman" events listed in parallel—that collating those histories would have been simple.

Paul can be credited with reviving the literary tradition of Italy's oily past, but doing so was incidental to literary concerns and unrelated to olives and oil. Nevertheless, Paul's note on the oil would prove fundamental in the hands of early medieval Rome's most colorful character, Anastasius Bibliothecarius. The epithet "Bibliothecarius" or "the Librarian" was one officially

[158] See W. Goffart, *The Narrators of Barbarian History (A.D. 550-800): Jordanes, Gregory of Tours, Bede, and Paul the Deacon* (Princeton: Princeton University Press, 1988), pp. 347-370.
[159] According to Goffart, Jerome's Chronicle was the sole source used to amplify the Eutropian Breviary. See ibid, p. 349.
[160] Ibid, pp. 336-7.

appended to his name when he was appointed head of papal archives in 867 CE, under Pope Hadrian II. Before Anastasius assumed the role of "Bibliothecarius," however, he served as abbot of the monastic community at the basilica dedicated to Saint Mary in the region of Rome called Trastevere (S. Maria in Trastevere). During his time there, Anastasius gave the city of Rome its first oleaginous cult site of the early Middle Ages.

In a letter from Anastasius to a certain subdeacon Ursus, written during the pontificate of Pope Nicholas (858-867 CE), he referred to himself as "the insignificant abbot of the Monastery of Holy Mary, the Virgin Mother of God, situated across the Tiber, where once upon a time, around the time of the birth of the Lord, an oil fountain flowed…"[161] With this title, Anastasius gave the ancient account of "oil seeping from the banks of the Tiber"—which had passed unlocalized from Cassius Dio, to Jerome, to Orosius, and finally to Paul the Deacon—a recognizable physical space within the Christian geography of Rome. Anastasius' lexical choices—the use of both "fluxit" and "fons olei"—suggest that Paul the Deacon was the immediate source of the appropriation. The linkage between the ancient tales of oil seeping from the Tiber's banks and the site of Anastasius' monastery was decisive, as henceforth one of its epithets of that church became the *fundens oleum*.[162] When the building was rebuilt during the twelfth century, the site of the bubbling oil was highlighted by the architects, as a spot near the altar was arranged to view the *fons olei*. Moreover, a guidebook to Rome from the same century,

[161] Anastasius Bibliothecarius, "Epistolae sive Praefationes," in *Monumenta Germaniae Historica, Epistolae 7*, eds. E. Perels and G. Laehr (Berlin, 1928), pp. 395-442; for the oil fountain, see ep. 2, p. 399: "Anastasius exiguus abbas monasterii sanctae Dei Genitricis Mariae Virginis siti trans Tiberim, ubi olim circa Domini nativitatem fons olei fluxit,…"

[162] D. Kinney, "S. Maria in Trastevere from its founding to 1215," (PhD diss., New York University, 1975), p. 171; also, ibid, pp. 190-1.

the *Miribilia Urbis Romae* listed the *fons olei* as the distinguishing feature at S. Maria in Trastevere in two separate contexts, intimating its popularity.[163]

The monastery at S. Maria in Trastevere was a relatively new addition to the church when Anastasius assumed the abbacy. Only a few decades earlier, between 835 and 837 CE, Pope Gregory IV built the monastic complex and installed monks to perform the daily office.[164] The same pope also renovated the basilica and adorned it with many precious items, chief of which was a gilded copy of the manger/crib of Christ (praesepium) housed at S. Maria Maggiore on the Esquiline Hill. Along with this object came an inscription, "From the gifts of God and S. Mary called Praesepe Trastevere;" Gregory evidently believed that his manger would become the church's centerpiece, its identifying feature. The pope's attempt to rebrand Trastevere's Marian church obviously proved futile once Anastasius proffered the building's relationship to Antiquity's *fons olei*.

Most importantly, Pope Gregory IV's interventions at S. Maria in Trastevere reveal that no connection had been made between the ancient accounts of seeping oil "across the Tiber" and that church in the years leading up to Anastasius' abbacy. Even more, we can see that S. Maria in Trastevere possessed other holy objects, namely the gilded manger, which were expected to serve as focal points for that community. In light of Gregory's efforts, then, Anastasius' oily inclinations are surprising. Put in the broader context of early medieval Italian semiotics, which had largely avoided olives and oil as an idiom of expression, Anastasius' effort to unite *fons olei* and S. Maria in Trastevere is revolutionary.

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[163] Ibid, pp.272 -286; on the guidebook, see ibid, pp. 316-7.

[164] LP, vol. 2, p. 78: "Tunc demum divinitus conpunctus corde et Dei omnipotentis roboratus ac fretus uivamine, iuxta latus praenominate basilicae monasterium a fundamentis statuit et novis vabricis decoravit. In quo etiam monachos canonicos adgregavit, qui inibi officium facerent et omnipotenti Deo grates et laudes diebus singulis et noctibus prosecutis intimo cordis spiramine decantarent…"

Generations of writers, many living in Rome, had passed over the account of the Tiber's miraculous oil in works by Jerome, Orosius, and Paul the Deacon, without recognizing how this episode in the deep Christian history of the city could be made efficacious in the present of the early Middle Ages; this gap resonates beautifully with the foregoing argument that early medieval Italy did not esteem oil, particularly oozing oil, as a vehicle for holy expression. Why was Anastasius different? Karin Bull-Simonsen Einaudi suggests that the oil font resonated with his classicizing ideas of Christianity, and supported a position of the papal supremacy, which came in handy later in Anastasius' life as diplomat to Byzantium.[165] Dale Kinney offered a clever suggestion in her 1975 dissertation: Pope Gregory IV's endowment of S. Maria in Trastevere with a model of the holy crib associated that site more firmly with the nativity of Christ and "[t]he fons olei portended the Nativity; Trastevere contained one—and only one—major church dedicated to a protagonist of that event, and by extension to the event itself: S. Maria; ergo that church must have been erected on the site of that portent."[166]

Neither argument is fully satisfying. Anastasius' diplomatic missions to Constantinople occurred well after his time as abbot at S. Maria in Trastevere, so it would be a mistake to project inter-Mediterranean political motivations to his appropriation of oil semiotics, contra Bull-Simonsen Einaudi. Further, none of the ancient Christian renderings of the Tiberine oil connected it to the nativity of Christ; rather, the oil began to flow in these Christian chronologies around 40 BCE, as sign that the political stage of Rome had been set for Jesus' arrival. The accounts of Jerome, Orosius, and Paul the Deacon simply suggest that the oil was a sign that the Christian era was at hand, and nothing more specific than that. Thus, the mental leaps to connect

[165] K. Bull-Simonsen Einaudi, "«Fons Olei» e Anastasio Bibliotecario," *Rivista dell'Istituto Nazionale d'Archeologia e Storia dell'Arte (Ser. 3)* 13 (1990), pp. 179-222; reasoning for Anastasius' appropriation of the fons olei on pages 218-219.
[166] Kinney, "S. Maria in Trastevere," p. 176.

the oleaginous accounts and the Bethlehemic associations of S. Maria in Trastevere are longer and more precarious than Kinney's argumentation suggests.

A more convincing explanation for Anastasius' revolutionary turn to oil as an idiom of sanctity can be reached by returning to the dichotomy between Italian and eastern religious semiotics. Despite a chequered past with the papacy, including excommunication and even standing as anti-pope for two days, Anastasius eventually served as a trusted member of the curia—for three consecutive popes, in fact.[167] His command of the Greek language made Anastasius an invaluable, indeed irreplaceable part of Rome's deliberations with Constantinople, especially during the turbulent years of the Photian Schism (863-867 CE).[168] He had acquired the Hellenic tongue before those proceedings, however, at least before 858-862, the period of time when he offered his first translation of a Greek hagiographic work into Latin to Pope Nicholas.[169] One historian postulates that Anastasius' fluency can be linked to the surge of Byzantine monks who relocated to Rome during the iconoclastic controversy in the late eighth century, suggesting that the eventual papal librarian learned Greek as a youth from one of these refugees.[170]

The fruits of Anastasius' diglossia survive in translations of Byzantine saints' lives, theological works, and church histories. Only two works, both hagiographical translations, can be dated to the period before or during his time as abbot at S. Maria in Trastevere, and thus have the potential to reveal the impetus that drove him to connect his church and the ancient stories of

[167] The best account of the biographical evidence related to Anastasius is G. Arnaldi, "Anastasio Bibliotecario," in *Dizionario Biografico degli Italiani*, vol. 3 (Rome: Istituto della enciclopedia italiana, 1961), pp. 25-37. For his social milieu, see G. Arnaldi, "Giovanni Immonide e la cultura a Roma al tempo di Giovanni VIII," *Bullettino dell'Istituto Storico Italiano per il Medio Evo e Archivio Muratoriano* 68 (1956), pp 3-89.
[168] E. Perels, *Papst Nikolaus I und Anastasius bibliothecarius: ein beitrag zur geschichte des papsttums in neuten jahrhundert* (Berlin: Weidmannsche buchhndlung, 1920), pp. 185-241. Also, see N. Bronwen, *Seventh-Century Popes and Marytrys: The Political Hagiography of Anastasius Bibliothecarius* (Turnhout: Brepols, 2006), pp. 3-34. For the dearth of Greek-speakers in Rome, see P. Llewellyn, *Rome in the Dark Ages* (London: Faber, 1971), p. 270.
[169] See Anastasius Bibliothecarius, "Epistolae sive Praefationes," ep. 1, p. 395-8. For the dating, see Arnaldi, "Anastasio Bibliotecario," pp. 27-8.
[170] Ibid, p. 25.

miraculous flowing oil.[171] In one of those translations, the Greek *Life of John the Almsgiver*, Anastasius encountered a vision of sanctity informed by the olive and its oil.

The subject of Anastasius' translation was a Cypriot nobleman called John who had become Patriarch of Alexandria at the beginning of the seventh century.[172] John's feats of generosity were recorded by two of his contemporaries—and likely acquaintances—in competing accounts. To those was added a few decades later supplement by a fellow Cypriot called Leontius, written sometime in the seventh century after the year 640 CE.[173] Anastasius based his translation on the latter version, likely because it represented the most comprehensive of the three available Greek biographies.[174] Indeed, in his prologue, Leontius described the previous hagiographic efforts to describe John the Almsgiver in arboricultural terms:[175]

> "…however much they desired in the zeal of God to harvest with all their strength this fruitful olive tree—planted in the house of God, as the Psalm says—which was targeted because of the bountiful olives on it, but yet considerable fruit of that olive escaped their notice…"[176]

[171] See C. Leonardi, "L'agiografia romana del secolo IX," in *Hagiographie cultures et sociétés IV^e^-XII^e^ siécles, Actes du Colloque organisé à Nanterre et à Paris (2-5 mai 1979)* (Paris: Etudes augustiniennes, 1981), pp. 471-490; complete list of hagiography on pages 474-475.
[172] See E. Dawes and N. Baynes, *Three Byzantine Saints: Contemporary Biographies translated from the Greek* (Crestwood, N.Y.: St. Vladimir's Seminary Press, 1977), pp. 195-198.
[173] The contemporary authors were both well-known Christian authors, John Moschus and Sophronius, who later became patriarch of Jerusalem.
[174] For the translation of Leontius' work, see Anastasius Bibliotecharius, *Vita S. Iohannis Eleemosynarii*, in AA.SS. Ian. 2 BHL 4388, pp. 498-517.
[175] Leontius' hagiography is available in a collated recension of the saint's Life, in which all three seventh century versions were provided back-to-back. See H. Delehaye, "Une Vie inédite de saint Jean l'Aumônier," *Analecta Bollandiana* 45 (1927), pp. 5-74. Because I am primarily concerned not with Leontius' Life, per se, but rather Anastasius' reception of it, I have used the latter's Latin translation for all quotations here. Where lexical comparisons are particularly important, I have made note of the Greek original. While a close comparison of Anastasius'translation and the extant manuscripts of Leontius' original text would be fascinating and fruitful, doing so goes beyond the scope of this investigation. For now, it is enough to say that, when we are able to compare extant works (as we are with the Vita of Saint John the Almsgiver), Anastasius attempted to translate Greek word for word. On the methodology of Anastasius' translations, see Neil, *Seventh-Century Popes and Martyrs*, pp. 35-66.
[176] Anastasius Bibliotecharius, *Vita S. Iohannis Eleemosynarii*, ch. 2, p. 498: "…quamuis omnis fortitudine sua fructiferam hanc oliuam, quae in domo Dei, ut ait Psalmista, plantata est, propter multiplices reuera oliuas, quae in ea sunt, zelo Dei vindemiare studuerint; attamen latuit eos multus oliuae fructus"

John was a bushy olive, and the first efforts to harvest his generous branches had left too much on the tree; Leontius set out with a third recension of the life in order to rectify the wasteful situation. Further, Anastasius faithfully translated Leontius' authorial justification, thus making the Cypriot's fruits palatable to the Latin-speaking world.

The olive metaphor in Leontius' prologue foregrounded a *Life* in which the fruits played a central role for John the Almsgiver. In a vision that came to John at the age of fifteen, a woman with a gleaming countenance appeared to him and said: "If you will have me as a friend, I will bring you to the attention of the Emperor. For no one has access to him like I, because I made him become a man on earth and save humanity."[177] The young John was initially perplexed, but eventually able to discern the meaning of this ambiguous exchange by the woman's headwear, which comprised a crown of olives (coronam de oluarum ramis). From this he was able to deduce that this was Lady Charity, and it was this vision that prompted John's first acts of munificence.

Lady Charity's olives inaugurated John's holy life, and the fruit also symbolized the end of his mortal remains. According to Leontius' *Life*, in the hour when John the Almsgiver died, a man in Alexandria fell into an ecstasy and saw a vision of the saint; this was particularly impressive because John had moved back to Cyprus during the Persian invasion, had died, and was interred there.[178] In that vision the holy man was proceeding from his residence, and when he reached the threshold a girl, who shined like the sun and bore a crown of olives, came to his

[177] Ibid, ch. 11, p. 500: "Si me possederis amicam, ego te ducam in conspectu Imperatoris. Etenim nemo habet potestate apud eum, sicut ego. Ego quippe feci eum in terris hominem fieri et saluare homines."
[178] Ibid, ch. 97, p. 517: "…vir admirabilis et industrius, Sabinus nomine, Alexandriae haibtans, vidit quasi in excessu mentis factus, diuinitus honoratum Ioannem…"

side and accompanied him thenceforth.[179] On the same night, elsewhere in Alexandria, another God-fearing man envisioned all the poor (pauperes), orphans, and widows carrying olive branches alongside John, on his way to the church.[180] Leontius confirmed that this first vision represented the fulfillment of Lady Charity' s promise to John. In the second, however, the presence of olives was without explanation; it seems that the olive branches carried by Alexandria's most vulnerable were meant to symbolize their link to John.[181] Leontius went on to say that these were only two among several hundred visions on that night of the recently deceased, olive-bearing John.

Most significantly, the olives in John's *Life* can be interpreted as auguries of his most famous posthumous miracle. Several years after John's death, the community of Amathus on Cyprus gathered at the cathedral church dedicated to Saint Tychon, where the almsgiver was buried; during a vigil, "the Lord of miracles, wanting to show to all the high degree of honor he had bestowed upon his servant Saint John, allowed that from his honorable relic (lipsanum)[182] a healing sign of oil[183] emanated."[184] No one ought to doubt this oleaginous miracle, Leontius assured his readers, because "on the island of Cyprus, such grace of God works in diverse Saints,

[179] Ibid: "postquam ianuam episcoplij exiit, quod significant proprij corporis separationem, et vnam peullam vt Solem, suscipientem eum, et manu tenentem, et super caput coronam ex oleae ramis circumamictam."
[180] Ibid, ch. 98, p. 517: "sed quia alius eorum qui habitabat ciuitatem Alexandriam, timens Deum, vidit ipsa nocte, in qua et S. Sabinus, omnes pauperes et orphanos atque viduas, oleae ramos baiulantes, et in Patriarchae obsequio euntes, et ad ecclesiam pergentes."
[181] Theophanes noted that in 631 CE the citizens of Constantinople greeted Heraclius with "upraised olive branches" upon returning from his defeat of the Persian army. Moreover, John fled Alexandria precisely because the Persians had overwhelmed it. The symbolism in the Leontius' Life of John the Almsgiver, then, might be politically related. See H. Turtledove, trans., *The Chronicle of Theophanes* (Philadelphia: University of Pennsylvania Press, 1982), p. 30.
[182] Du Cange, *Glossarium ad scriptores*, vol. 4, "lipsanum," c. 124.
[183] For the Greek referent, see Delehaye, "De Saint Jean L' Aumônier," p. 73: "εὐδόκησεν ἐκ τοῦ τιμίον αὐτοῦ λειψάνου μύρων ἰαματικὴν εὐωδίαν ἀναβλύσαι." Thus Anastasius' "unguenti" was rendered from Leontius' "μύρων," or "myrrh."
[184] Anastasius Bibliotecharius, *Vita S. Iohannis Eleemosynarii*, ch. 99, p. 517: " miraculorum Dominus, volens ostendere omnibus, quali honore seruum suum S. Ioannem dignum fecerit, placuit de honorabili eius lipsano vnguenti saniferam suauitatem emanare…"

so as like a fountain the sign of oils issues from the precious relics of them…"[185] With Leontius' intervention upon the cult of John the Almsgiver, that saint was elevated into the popular oil-producing pantheon described above in the eastern Mediterranean.[186]

In in addition to overt olive iconography and oil miracles performed by John, Leontius' *Life* also invoked the broader contexts of Byzantium's oleaginous cults. Since John held the patriarchate of Alexandria, he was inherently linked with that city's (likely the Mediterranean's) most popular pilgrim shrine, dedicated to Saint Menas, the early medieval healer whose oil was carried away in distinctive ampullae. Indeed, Leontius claimed that John died on the feast of Menas, and thus the almsgiver was synchronized with his Egyptian counterpart. The other religious geography invoked in the *Life*, the island of Cyprus, was the gateway to the eastern Mediterranean, and particularly important as a stop-off point between the ports of Asia Minor and the Levant; as such, the cult of Saint Nicholas of Myra, located on one of the Anatolian peninsula's critical southern harbors (and a short voyage to Cyprus) must have been well known on the island.[187] It might even be possible to detect Nicholas' influence upon Leontius in his use of the term "myrrh" to describe the substance emanating from John's relics in the Cypriot church of Saint Tychon.

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[185] Ibid: "Et nullus, o amici Christi, tanti miraculi incredulus sit. etenim vsque nunc videtur in amica Christi Cypriorum, in diuersis Sanctis talem Dei gratiam operantem, et tamquam ex fontibus vnguentorum suauitatem de pretiosis eorum lipsanis prfluentem…"

[186] The earlier accounts of John's life, by John Moschus and Sophronius did not include his postumous miracles, but for good reason. Both men were contemporaries of John, which means that little time had elapsed between his death and the redaction of the *Life*. Moreover, neither man lived in Cyprus, the site of John's relics, and thus posthumous miracles. In short, there are practical reasons why Leontius was the first hagiographer to describe John's oily relics.

[187] For Cyprus' role faciliatating movement in the eastern Mediterranean, see R.J.H. Jenkins, "Cyprus Between Byzantium and Islam, A.D. 688-965," in *Studies Presented to David Moore Robinson On His Seventieth Birthday*, vol. 2, eds. G. Mylonas and D. Raymond (Saint Louis: Washington University Press, 1953), pp. 1006-1014. For most of the years circumscribed in the title of that essay, Cyprus was administered by both Byzantine and Caliphal governments. It seems that the fear of losing the island's harbors was so great that both states were willing to compromise on its possession. Jenkins sums it up on page 1014, saying, "Cyprus was neutral, demilitarized territory, belonging to neither side but taxable by both [the Byzantines and the Caliphate]; this is true of the whole period except for seven years during the late ninth century, when the island was annexed by Basil I. Official representatives of both sides resided in it simultaneously. No regular forces of either side were stationed in it; but it was used by both sides as a temporary naval base…"

There is ample reason to link Anastasius' appropriation of the ancient accounts of the Tiber's bubbling oil for S. Maria in Trastevere and his early career in translation. By reviving ancient tales of Rome's miraculous oil, the bilingual abbot was, in fact, deploying the same semiotics of olive and oil that underpinned Byzantine hagiography, and the *Life of John the Almsgiver* in particular. Because the windows of time encompassing Anastasius' translation of that *Life* and his abbacy at S. Maria in Trastevere overlap by four years, it is impossible to tell which came first. Perhaps Anastasius was seduced by Leontius' elegant literary use of olives, inspiring him to refashion the Tiber's oily past. On the other hand, it is conceivable that the abbot chose to translate the *Life of John the Almsgiver* in support of earlier efforts to rebrand S. Maria in Trastevere as an oil cult. Historians have offered several interpretations of Anastasius' choices for translation—i.e. political leanings or factional divisions within the church—but no ideological explanation perfectly suits his entire corpus of his work.[188] Perhaps a better understanding might be achieved if each Greek text was conceived as distinct snapshot in the life of Anastasius, informed by unique micro-historical events. Such a reading is obviously supported by the coincidence of oil at S. Maria in Trastevere and the translation of the *Life of John the Almsgiver*.

Although Anastasius' proficiency in Greek was uncommon among the mid-ninth century papal circles, he was far from the only early medieval Italian to understand the Byzantine tongue. In fact, from 682 until 752 CE, Saint Peter's chair was occupied by a string of popes of Eastern

[188] See Leonardi, "L'agiografia romana," pp. 471-490. He interpreted the librarian's work as an effort to counter the Gallic influence on the cult of relics in Rome. Arnaldi saw Anastasius' selections as an effort to elevate the cultural standing of the papacy; see G. Arnaldi, "Anastasio Bibliotecario," p. 34. In a later work, Arnaldi viewed the translation of the Life of John the Almsgiver as an effort to highlight churchmen who showed exemplary abilities as governors, in order to support papal rule in Rome; see Arnaldi, "Giovanni Immonide," p. 39. Finally, Neil supports the position that "each dedication was determined by a complex set of political considerations, sometimes in repsonse to specific request or current events;" see Neil, "Seventh-Century Popes and Martyrs," p. 66.

provenance, called "the Greek popes" by one author.[189] Moreover, the eastern Roman Empire controlled vast swaths of the Italian peninsula—principally the south, islands, and areas around Ravenna, Naples, and Rome—until the mid-eighth century, when the Lombards finally drove out the remaining Greeks from north and central Italy, before quickly falling themselves to the Franks.[190] There was no shortage of people in early medieval Italy with direct links to the eastern Mediterranean tradition of oil-producing saints. Why, then, was the effect transformative when encountered by Anastasius? The extra ingredient that catalyzed a concretization of oleaginous semiotics in Italy came, very unnaturally, from north of the Alps.

The Carolingian emperors possessed a famous oil vial that was used in the baptismal anointment of Clovis, the first king over the unified Frankish tribes.[191] Clovis was already king when he became Christian in the late fifth century, having converted supposedly from paganism as a result of encouragement from his orthodox wife and the religion's efficacy on the battle field.[192] According to one report, the royal baptism drew a large crowd, which prevented the person responsible for supplying the consecrated oils from reaching the officient, the bishop of Rheims, Remigius.[193] Undaunted by the rabble, Remigius prayed for deliverance and

[189] See A. Ekonomou, *Byzantine Rome and the Greek Popes: Eastern Influence on Rome and the Papacy from Gregory the Great to Zacharias, A.D. 590-752* (Lanham, MD: Lexington Books, 2007), pp. 199-243.
[190] Wickham, *Early Medieval Italy*, pp. 64-79.
[191] As will become apparent, this vial was a literary invention of Hincmar of Rheims. For an account of how and why Hincmar developed this legend, see F. Oppenheimer, *The Legend of The Ste. Ampoule* (London: Faber and Faber, 1954), pp. 1-36.
[192] Clovis' conversion was a kernal around which varied and sundry tales developed, only one of which involved an oil ampulla. At a bare minimum, it is possible to say that Clovis really did convert to Christianity (see the following note), though nearly every other element of the event was written several decades afterward. Perhaps the most influential account was Gregory of Tours', who consciously styled Clovis as a "new Constantine." Such an effort renders suspicious Gregory's report that a Helena-like voice of orthodoxy and battlefield signs contributed to Clovis' conversion. See Gregory of Tours, "Historia Francorum," in *Monumenta Germaniae Historica, Scriptores Rerum Merovingicarum 1*, eds. B. Krusch and W. Levison (Hannover, 1951), pp. 1-537; for Clovis as Constantine, see 2.31, pp. 76-8.
[193] Clovis had a personal relationship with Remigius, as conveyed in a series of letters between the two men. See W. Daly, "Clovis: How Barbaric, How Pagan?," *Speculum* 69, no. 3 (1994), pp. 619-664; for Remigius' letters, see pages 631-636. While their relationship can be attested to, the letters offer no mention of miraculous doves or holy oils.

immediately a dove flew into the cathedral carrying an ampulla of oil, which was apprehended by the bishop and whose contents were applied to Clovis' body. While many early medieval sources attest to Remigius' starring role in the baptism of Clovis, the first to mention the account of oil-bearing doves was the *Life of Remigius* written by Hincmar of Rheims in 870 CE.[194] One year earlier, the same Hincmar had claimed to have anointed Charles the Bald as king of Lotharingia with some of Saint Remigius' chrism, though its source—aviary or otherwise—is without attribution.[195]

The practice of anointing political rulers in western Europe developed surprisingly late and only crystalized into something semi-formal under the Carolingian dynasty. The bishop of Soisson anointed Pepin in 752 CE and that act prompted Pope Stephen II to sanctify him in the same way in 754 CE at St. Denis, the first papal unction of a secular figure.[196] Around the same time Frankish ordination manuals reveal episcopal consecrations involving anointment with holy oil, in defiance of the oil-less Roman practice.[197] Enthusiasm for oil abated during Charlemagne's reign (who looked to Rome for precedent on anointment), but his grandsons, including Louis the German, Lothair, and Charles the Bald, resuscitated the importance of oil in both secular and religious offices, and even connected royal anointment at the hand of the pope to the right to be called "emperor by the grace of God."[198] Well before Hincmar anointed Charles the Bald king of Lotharingia in 870 CE, he had been anointed in 848 CE in Orleans as king of

[194] See Hincmar, *Vita Remigii Episcopi Remensis*, in *Monumenta Germaniae Historica, Scriptores Rerum Merovingicarum 3*, ed. B. Krusch (Hanover, 1896), pp. 239-349; miracle of the ampullae in ch. 15, pp. 296-300.
[195] J. Nelson, "Hincmar of Rheims on King-making: The Evidence of the Annals of St. Bertin, 861-882," in *Coronations: Medieval and Early Modern Monarchic Ritual*, ed. J. Bak (Berkeley: University of California Press, 1990), pp. 16-35; annointing Charles the Bald on page 24.
[196] See Oppenheimer, *The Legend of The Ste. Ampoule*, pp. 170-172. For context, see I. Garipzanov, *The Symbolic Language of Authority in the Carolingian World (c. 751-877)* (Leiden: Brill, 2008), p. 109 and pp. 151-2.
[197] G. Ellard, *Ordination Anointings in the Western Church before 1000 A.D*. (Cambridge, MA: Medieval Academy of America, 1933), pp. 14-50.
[198] Garipzanov, *The Symbolic Language of Authority* p. 151.

West Francia. In 850 CE, Lothair sent his son to Rome to be preemptively anointed by the pope.[199] Thus, when Hincmar created the myth of the holy ampulla of Saint Remigius in 870 CE, it had developed within in a context of competing anointments, both within the royal house of the Carolingians, and among the religious figures applying the oils. Hincmar had brilliantly positioned the See of Rheims within this sea of oil, as Remigius' vial was both of divine provenance and held a potent political genealogical line that stretched back to Clovis, the first Frankish king with impeccably victorious-Christian associations.

What has any of this to do with Anastasius, the translator of the *Life of Saint John the Almsgiver*? Carolingian symbols of power were deeply relevant to Anastasius, as his turbulent career in Rome was backed by Frankish imperial agents. Louis the German, brother to Charles the Bald, supported militarily Anastasius' bid for Saint Peter's chair in 855 CE.[200] It was at this same time that Hincmar, the archbishop of Rheims and author of the legend of the holy ampulla, looked to Rome to settle earlier issues regarding the legitimacy of bishops ordained by his predecessor; Hincmar, unlike his competitor, supported episcopal ordination involving anointment with holy oil.[201] And it was about a decade later that Anastasius wrote the letter to Pope Nicholas, describing the church of S. Maria in Trastevere as the site of the Tiber's portentous oil; Nicholas died in 867 CE, the *terminus ante quem* for that letter. If written at the end of the papacy, then, the letter nearly overlapped with Hincmar's 870 CE creation of the Saint Remigius' holy ampulla. Can it be coincidence that the most significant Carolingian oil legend was born almost simultaneously with the revival of Rome's oily past?

X. Conclusions: Infused Oils

[199] Ibid.
[200] For the background, see R. Davis, *The Lives of the Ninth-Century Popes (Liber Pontificalis)* (Liverpool: Liverpool University Press, 1995), pp. 104-6.
[201] Ellard, *Ordination Anointings*, pp. 55-6.

Sometime in the 870s an Abbasid bureaucrat in the province of Djibal, near the modern border between Iran and Iraq, penned a comprehensive geography of the major trade routes of the Muslim world, called the *Book of Roads and Kingdoms*.[202] The author, Ibn Khordadbeh, also gave a considerable amount of attention to regions beyond those economically connected to the Abbasids, including a remarkable description of four marvels of the world. These were: 1. the lighthouse in Alexandria, from which a person could see the happenings in Constantinople; 2. a copper statue of a horseman in Spain that marked a strict boundary on the landscape, and anyone who transgressed was eaten by ants; 3. a copper column in Mecca that distributed water from the desert during the holy month.[203] The fourth wonder derived from Rome; it comprised a copper tree, upon which perched a copper starling. When olive season arrived, that mechanical bird emitted a whistle, drawing thrushes from the countryside, each carrying three olives. They deposited the fruit near the bronze tree, and the Romans duly gathered the fruit, pressed it, and had enough oil for their kitchens and lamps for an entire year.[204]

That the first, original story about olives in early medieval Italy was written in Arabic, from on outpost in western Asia would have surprised even Ibn Khordadbeh, who must have assumed that Italian literary fields were awash in oil, just as he imagined the city of Rome. Indeed, it is the expectation of the presence of olives in Italian semiotics that makes their absence a compelling and useful episode toward understanding the forces that informed the symbolic systems that shaped human imagination and action in the early medieval Mediterranean. Most

[202] For background, see J. Meri and J. Bacharach, eds., *Medieval Islamic Civilization: An Encyclopedia*, vol. 1 (London: Routledge, 2005), pp. 359-60.
[203] See Ibn Khordadbeh, *Kitâb al-Masâlik wa' l-Mamâlik*, trans. M.J. de Goeje, Bibliotheca geographorum arabicorum, vol. 6 (Lyon: Brill, 1889), p. 88.
[204] Ibid: "à Rome, un arbre de cuivre sur lequel est perché un oiseau semblable à la grive, également en cuivre. Dans la saison des olives, cet oiseau se met à sifflier, toutes les grives arrivent aussitôt, tenant trois olives, l'une dans leur bec et les deux autres dans leurs pattes, et elles les laissent tomber sur cette image. Les habitants ramassent le fruit, le mettent au pressoir et en tirent une quantité d'huile qui suffit à leur consommation et à leur consommation et à leur éclairage, jusqu' à l'année suivante."

importantly, this chapter has demonstrated that mere presence of a botanical entity was not enough for it to bleed into the religious imagination. As the first chapter showed, the olive *was* sought after and cultivated by the popes from the sixth to the eighth centuries and even planted in the suburbs of Rome, yet we find no saints in that city's environs responding to the tree by replicating its oily production.

Olive oil certainly had the potential to be charged with powers by Christians in the early Middle Ages, as the survey of eastern Mediterranean cult sites demonstrated. In particular, oil's efficacy resided in its absorptive and preservative properties; it captured and retained a saint's essence so that pilgrims to Abu Mena in Alexandria or the True Cross in Jerusalem or Andrew in Patmos were able to remove it from its original location and carry the substance home. Oil's cult use overlapped here with its profane properties, as a preserver of food and scents. This dual efficacy in the spiritual and mundane world would have reinforced its efficacy in both worlds, just as Geertz has suggested.

No matter how natural oil seems in religious semiotics, its presence there hinged upon external forces. Like the gathering of the olives by Roman thrushes, Italy's religious semiotics, and those elsewhere in Europe and the Mediterranean, were shaped by artifice, by the contingencies of institutions. It might be more accurate to say that it was how olives resonated among a hierarchy of institutions, both local and further afield, that determined the semiotic field in which a the tomb of a holy man, for instance, might ooze oil.

In the Byzantine east an oily tradition developed around one of the earliest and most venerated Christian relics, the True Cross. That relic was also woven into the narrative fabric of Constantinople's first political family, as by the fourth century Helena, mother to Constantine,

had emerged as the agent responsible for finding the wood. In this way the True Cross simultaneously authenticated both the religious and political missions of Byzantium, and the oil was a material that reinforced its power over both realms.

Contemporaneous with oil's boom as a religious semiotic, the eastern empire expanded the possibilities for the growth of olives during the fifth and sixth centuries, as evidenced by the diffusion in that region of new screw presses and even the development of luxurious oil producing cities, like Serjilla in Syria.[205] Thus, unlike in the western empire, where ancient oleicultural patterns were disintegrating, the Byzantine Empire maintained a stake in both imaginary and real olives and held together its Mediterranean network in which those olives passed. This evidence suggests that this political structure, bound up with olives, was fundamental to the development of an oleaginous religious semiotic in the eastern Mediterranean. This is not to say that the empire actively promoted such cult practices, but rather that it made possible, perhaps amplified, a religious landscape where oil was charged with special powers.

Things were different in early medieval Italy, where no single political entity attached itself to the peninsula's religious semiotics. This gave the papacy an outsized influence over the symbols used to think about life in Italy. As such, the early medieval popes were able to establish a religious landscape in which oil was unassociated with the cult practices centered on the remains of Christianity's holy men and women. The choice to render oil impotent seems more deliberate here, as a decision to frame Latin Christianity against its oleaginous Byzantine neighbors. In particular, Rome developed the practice of charging cloth with powers of sanctity

[205] On screw presses in the Byzantine Empire, see Lewit, "Pigs, presses and pastoralism," p. 88. For Syrian oil villages, see the surveys in G. Tchalenko, *Villages antiques de la Syrie du Nord*, 3 vols. (Paris: P. Geuthner, 1953-8).

rather than oil, which set it apart from its primary Dark Age competition for pilgrims, Byzantine Jerusalem.

With the advent of the Frankish hegemony in Italy, the popes were no longer at liberty to call the tune that shaped religious semiotics in the peninsula. Independent of the popes, the Carolingians had developed rituals informed by the application of oil. Perhaps it was the exotic nature of the olive in northern European contexts that made its presence there a potent symbol of political power. Alternatively, Gaul's connection to Byzantium might have influenced the former's semiotics of power. However they developed, as Charlemagne and his heirs pulled Italian affairs northward, they paradoxically integrated them into a world of imaginative olives. Specifically, the figure of Anastasius the Librarian straddled those worlds, and returned to Rome with recast narratives about his monastery's relationship with ancient flowing oil. Thus, it took a political realignment for the olive to seep its way back into the imagination of early medieval Italians.

Conclusion

If a camera had been focused upon a single olive tree, in the hills of the Sabina or Tuscany, and snapped a single picture every year over the course of Italy's Dark Ages, what would that album relate to a viewer willing to flip through five hundred photos? A first impulse might be to admiringly note that it remained the same olive that stood stalwart through those years, far exceeding a human's chronological scale of endurance. Some physical changes in its trunk, planted as a thin shoot, growing gnarled and thick over time, and then perhaps hollowing out in the center as the tree reached senescence, would not distract from the fact that this was a single organic entity. A second look at those photos might reveal slight changes in the tree's branches during particular decades, alternating between a well-pruned canopy, sprightly responding to the careful touch of human hands, and a bushy, overgrown plant that blended into its surrounding Mediterranean flora; over the long term, these were signs of where human intervention waxed and waned. Both observations would be equally valid and would in fact capture the hybrid nature of the olive: its stubborn tenacity for life and its environment and yet endless ability for reinvention within human cultural systems.

The former perspective, the one agape over olive's endurance, can lead to an epistemological pitfall, where the plant's timelessness is confused with ahistoricity: an olive is an olive for five hundred years. This dissertation has tried to adopt the sensitivity of the latter perspective, the one that notes subtle shifts in the tree's appearance, and connects those changes

with ongoing negotiations with early medieval humans in Italy. Indeed, the cumulative effect of these chapters, I believe, is to show that, though the olive may endure with the same genetic code over the course of centuries, the meaning of that tree and its economic role was stunningly variable and highly responsive to its social and cultural micro-ecologies.

By thinking metabolically about Lucca and its hinterland, the first chapter showed that changes in urban configurations deemphasized the role of olives in the Lombard city. Those changes can be attributed to shifting social dynamics that offered peasants a new degree of autonomy. Indeed, some of those communities were centered upon olive trees, from which they derived stability and identity. Around the year 700 CE, however, aristocrats in Lucca developed specifically early medieval modes of olive consumption, which revived the old urban oleicultural hegemony during those later centuries.

The well-documented rural landscape of the Sabina offered a unique opportunity to study how early medieval peasants responded to aristocratic interest in the olive tree during the Early Middle Ages, as was explored in the third chapter. On the fringes of Rome's sphere of influence, I showed that sixth and seventh century farmers were acutely aware that they occupied a terrain that urban landlords could control only tenuously. Agriculturalists responded in a fascinating manner, by abandoning the tree for more mobile forms of sustenance. The permanent and stationary nature of the olive offered too big a target of surplus extraction for peasants to risk its cultivation. However, as the monastery of Farfa arose on Monte Acuziano, the aristocrats came to the countryside, which in turn led to the re-introduction of the olive's cultivation within the Sabine hills.

The olive dearth corresponding to the breakdown of Mediterranean connectivity made the plant a focal point for articulating class in early medieval Italy, primarily because the end of north African imports heightened the association between local labor and oil. As the most powerful landlord on the peninsula after 500 CE or so, the popes exploited their oleicultural wealth by consuming conspicuous amounts of oil. Though the emphasis on scale intimates a connection with ancient imperial treatment of oil—the shadow of Monte Testaccio—the Roman pontiffs clearly diverged from previous mechanisms of consumption. Whereas ancient Roman subjects ate the oil, early medieval popes combusted it as visual energy. This shift, I argued in the third chapter, can be understood as a response to the prevailing darkness that gripped the city as imperial networks dissolved; illumination, in other words, was an effective means for conveying wealth and power.

Finally, my fourth chapter turned to imaginary olives. The variability of the olive was manifest there not only through diachronic analysis, but also by placing Italy within larger, Mediterranean contexts. Oil in particular could be charged with wondrous powers when placed in the context of Christianity's saints and their relics; oil's spiritual properties mirrored its physical properties, as an absorptive liquid with powers of preservation. Since it sucked up and maintained the essence of the religion's special dead, oil was the perfect substance for shrines to offer to pilgrims who traveled to the saints' cult sites. Not all parts of Christendom deployed the same semiotic, however. In fact, the Italian peninsula was curiously devoid of such sites. I linked the absence of sainthood-imbued oils in in Italy to a papal policy that attempted to distinguish Latin cult practice from Byzantine. The popes deployed cloth in lieu of holy oils until their collaboration with the Franks charged Italy's oil wells anew.

These chapters tell remarkably different stories about the olive in early medieval Italy, each profoundly unalike their ancient predecessors. The variety, however, is precisely the point: in an era of rapid decentralization, local contingencies—environmental, cultural, and social—determined the fate of the olive, ultimately marking a systematic rupture from classical practice where the Roman state imposed a uniform botanical framework. Further, my dissertation reveals new ways in which communities responded to Rome's demise, namely by forming ideologies and livelihoods rooted in highly local and truly ecological agents. And though these strategies appear messy relative to their well-ordered Roman counterparts— seemingly confirming the tired narrative of decline and fall—upon closer analysis they reveal innovative responses to an enduring and productive tree.

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