

ACROSS AN OPEN SEA.
MEDITERRANEAN NETWORKS AND ITALIAN TRADE
IN AN ERA OF CALAMITY

BY

ROMNEY DAVID SMITH

A THESIS SUBMITTED IN CONFORMITY WITH THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY
CENTRE FOR MEDIEVAL STUDIES
UNIVERSITY OF TORONTO

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Romney David Smith

Doctorate of Philosophy

Centre for Medieval Studies, University of Toronto.

2016

ABSTRACT

In the eleventh century, commercial dominance of the Mediterranean passed from the Muslim and Jewish traders of the House of Islam to the Italians of such maritime cities as Pisa or Amalfi. Although the outcome of this economic transition is well-known, the purpose of this study is to consider the mechanisms that motored Italian takeover. An examination of the characteristics of the trade network, both before and after the economic transition, finds that little structural change occurred; it is therefore argued that Italian merchants operated in conformity with the commercial paradigms of the existing Muslim and Jewish trade network, which are known to us from the Cairo Geniza. It was only the coincidence of major political failure in the large Mediterranean polities that enabled a realignment of Italian merchants from participants to dominant players in the existing trade network. This political failure, which I term “the great calamity,” saw the end of the Caliphate of Cordoba and left both Byzantium and the

Fatimid Caliphate much reduced, a situation which rebounded to the advantage of smaller polities. Among them, the city of Pisa serves as a test case for this study's assertions about Italian integration into the Mediterranean network of Muslim and Jewish traders

Following the emphasis of the "New Mediterranean Studies" on interconnectivity, a key conclusion is that the spaces defined by trade, such as the decks of ships shared between Jewish, Muslim and Christian merchants, provided an almost neutral medium for the exchange not only of commodities, but also their conceptual, material or stylistic commensals. The final chapters of this thesis concentrate on the social mechanisms that propelled merchants, material culture and knowledge across the Mediterranean. They look at the shared visual culture that permeated the Mediterranean and its concomitant lexicon of shared symbols and motifs. This common visual culture includes architecture, the famous *bacini* of Pisa, and the broad category of spices, incense and *materia medica*. This last group, it is suggested, marked an expanding locus of practices shared across both the Christian and Muslim shores of the Mediterranean.

ACKNOWLEDGEMENTS

There are many people to whom I own a debt of gratitude. To my committee members, Professors Jill Caskey, Nick Everett and Mark Meyerson, without whose advice, enthusiasms, sticks and carrots, this dissertation would not have been written. To Professors Linda Safran and Adam Cohen, for help along the way, and to Professor Paul Freedman, for help at the end. To Dr. Anya King, for sharing her research. To friends and colleagues at the Centre for Medieval Studies and the History and Fine Art History Departments at the University of Toronto.

And above all, to my wife Dr. Danielle A. Way, and our beloved daughter Carmen Winter Waysmith.

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INTRODUCTION: ACROSS AN OPEN SEA

“Routes, not roots.”¹

The eleventh century Mediterranean has often been interpreted in sectarian terms. Indeed, historians regularly identify the period as “before the crusades,” as though the events of 1095-99 cast a retroactive shadow over the preceding century. But even without the crusades, the era was rife with incident for students of Mediterranean history. In particular, it saw two developments of crucial importance. One, the total or partial collapse of every major polity on the sea. And two, the rise of the famous maritime city republics of Italy, whereby what Abulafia called “the primitive Levant trade” of the Italian cities was transformed into the preeminent commercial enterprise of the high middle ages.² The subject of this study is the growth of that “primitive” trade in the period before the crusades, in the context of the city of Pisa and its place amid the changes that occurred in the eleventh century Mediterranean.

Recent work on the medieval Mediterranean has suggested that many long-standing distinctions in the literature, such as merchant vs. pirate, or Christian vs. Muslim, are not very useful for investigating a historical context that is characterized by geographic, cultural and even sectarian fluidity. Such a characterization, as we will see, aptly suits the world of the eleventh century Mediterranean. In an influential example of this trend, Eva Hoffman has argued that with respect to material culture, the place of origin of objects is less important than their movement through human networks.³ Her work complemented Horden and Purcell’s *Corrupting Sea*, which pushed comparative study of disparate parts of the Mediterranean, and emphasized fluidity between regions.⁴ Such approaches have

¹ Finbarr Flood, *Objects of Translation: Material Culture and Medieval "Hindu-Muslim" Encounter*, Princeton: 2009.

² David Abulafia, “The Impact of the Orient: Economic Interactions between East and West in the Medieval Mediterranean,” in *Across the Mediterranean Frontiers: Trade, Politics and Religion, 650-1450*, edited by Dionisius A. Agius and Ian R. Netton, 1-40. Turnhout: 1997, 11.

³ Eva R. Hoffman, “Pathways of Portability: Islamic and Christian Interchange from the Tenth to the Twelfth Century,” *Art History* 24, 1 (2001): 17-50.

⁴ Peregrine Horden and Nicolas Purcell, *The Corrupting Sea*. Oxford: 2000. Despite the decade and half since its publication, this book is still regularly cited in the literature and discussed at panels relating to Mediterranean research.

achieved great traction in the past decade, and largely shaped the development of modern Mediterranean Studies.⁵ In concert with these developments, distinctions between Islam and Christian cultures, especially visual culture, have been sharply contested.⁶

This project sets itself firmly in this contemporary historiographic milieu. One objective is to clarify the mechanisms motoring the eleventh century rise of maritime commerce among the Italian cities. In particular, I address the integration of Pisa into the existing trade network of the Muslim and Jewish Mediterranean, and look at how cultural exchange functioned within and adjacent to that network. A second objective is to base concepts like ‘fluidity’ within a historical context. In other words, if elements of Christian and Islamic culture were part of a continuum, how was that continuum maintained over the eventful eleventh century? The argument of the coming chapters is that the structure of the trade network was sufficiently open to allow the mobility of people, objects and concepts. These are important issues, because a large part of our understanding of ‘fluidity’ is based on inference, in which significant parallels are drawn between Mediterranean regions, although the means of communication between regions are not always clear.⁷ In the Italian maritime republics especially, a great deal is left to the notorious promiscuity of seamen and merchants, whose incentives and contexts generally

⁵ Travis Bruce, “The politics of violence and trade: Denia and Pisa in the eleventh century,” *Journal of Medieval History* 32 (2006): 127-142 is a particularly valuable example.

⁶ E.g. Oleg Grabar, “Trade with the East and ‘Luxury Arts’ in the West,” in *Islamic Visual Culture, 1100-1800: Constructing the Study of Islamic Art*, 43-50. Aldershot: 2006; E. R. Hoffman, “Christian-Islamic Encounters on Thirteenth-Century Ayyubid Metalwork: Local Culture, Authenticity, and Memory,” *Gesta* 43 (2004): 129-42.

⁷ Gene W. Heck, *Charlemagne, Muhammad, and the Arab Roots of Capitalism*, Berlin: 2006, an important study of Christian-Muslim cultural continuity in our period, suffers from this problem. Two other examples: Majd Yaser al-Mallah has shown how the late tenth century Syrian poet Al-Mutanabbī employed much the same “ceremonial or literary discourse” to communicate ideas about power as his contemporaries in the Christian world, while Sharon Kinoshita has emphasized how diplomatic gifts were largely the same on both sides of the religious divide. M. Y. al-Mallah, *In the Shadows of the Master*. Highclere, UK: 2012; Sharon Kinoshita, “Animals and the Medieval Culture of Empire,” in *Animal, Vegetable, Mineral: Ethics and Objects*, ed. J. J. Cohen, 37-65. Washington, DC: 2012. Sicily is an exception to this trend; a great deal of work has been done to demonstrate the kind of cheek-by-jowl living on the island that provides ample mechanism for cross-cultural transmissions. For example, see Jasper Johns, “The Boys from Messoiuoso: Muslim *jizya*-payers in Christian Sicily,” *Islamic Reflections, Arabic Musings: Studies in Honor of Professor Alan Jones*, ed. R. G. Hoyland and P. F. Kennedy, 243–55. Oxford: 2004; Jeremy Johns, “Arabic Sources for Sicily,” in *Byzantines and Crusaders in Non-Greek Sources 1025-1204*, ed. M. Whitby, 341-360. Oxford: 2007; *Ibid.*, and Nadia Jamil, “Signs of the Times: Arabic Signatures as a Measure of Acculturation in Norman Sicily,” *Muqarnas* 21 (2004): 181-192; Alex Metcalfe, *Muslims and Christians in Norman Sicily. Arabic-Speakers and the End of Islam*. London and New York: 2003.

go uninvestigated.⁸ At the same time, the human vectors of ‘fluidity’ belonged to an era which culminated in the first crusade, which requires us to qualify the limits of cross-cultural integration.

NEW MEDITERRANEAN STUDIES

The founding text of the “New Mediterranean Studies” is Horden and Purcell’s *The Corrupting Sea*, which appeared in 2000 - a moment particularly auspicious for its themes, for the 1990s had seen an increasing interest in communications, accommodations, and continuities across cultures. The impact of *The Corrupting Sea* has been as much aesthetic as intellectual, for despite some overdetermined assessments, its arguments largely refined rather than replaced earlier scholarship - which is appropriate for a work whose entirely methodology is based on the accumulation of evidence of incremental change.⁹ It established the theme of “interconnectivity,” and argued, in essence, that the easy communications between micro-regions maintained the unity of the Mediterranean as a whole. Horden and Purcell did this, ironically, by emphasizing ecology and geography, not culture.¹⁰ A second contention, that micro regions were a better unit of analysis than the cities which dominated Mediterranean historiography, has had a more mixed reception. Medieval art and literary history stand out as disciplines most responsive to the New Mediterranean Studies, perhaps because cultural production has often created problems of attribution. The new approach makes many of those problems go away, by arguing that it doesn’t matter whether an ivory comes from one place or another, but that it is important that those two places could have produced

⁸ The assumption that contact with the sea is inherently destabilizing is an old one, and reflects the fear of hybridity that has left such conspicuous vacuums in many historical sources. These attitudes are discussed in some detail in *The Corrupting Sea*, whose title they inspired. For an interesting eleventh century example of this trend, see the famous screed in Donizone di Canossa, *Vita di Matilde di Canossa*, ed. and trans. Paolo Golinelli. Milan: 2008, 120.

⁹ For an example of overdetermined readings of *The Corrupting Sea*, Fred Astren recently stated that the abrupt caesura posited by Goitein for the twelfth century Mediterranean (on which more later) was not possible in Horden and Purcell’s model of Mediterranean continuity - an exaggerated reading of a model that simply sees conspicuous upheaval in human society as less important, not non-existent. Fred Astren, “Goitein, Medieval Jews, and the ‘New Mediterranean Studies,’” *Jewish Quarterly Review* 102, 4 (2012): 513-31, 519.

¹⁰ In this they followed Braudel, with the refinement that the unmediated natural environment was less significant than human-environmental interactions. “Interconnectivity,” as a buzzword, however, has proved cumbersome.

identical ivories. Discussing the portability of objects keeps the emphasis on movement without any danger of falling into essentialism. It also foregrounds the objects themselves, which recommends itself as a historical methodology, while simultaneously frees them from the bounds of precise context by requiring the historian to imagine the potential movements of the object. In other words, art historical contexts should “be defined by the objects that move through them.”¹¹ It also helps transcend traditional categorizations, such as those based on painting or other media, in favour of an approach that is about use. That is particularly important for our purposes, for, although we will have a lot to say about objects, this study is about what people did.

A second text of recent Mediterranean studies is Michael McCormick’s *Origins of the European Economy 300-900*.¹² This work occupies a place for historians of the Early Middle Ages analogous to that of *The Corrupting Sea* for historians of art and literature. It immediately sparked discussion, including a special issue of *Early Medieval Europe* focusing on “things that travelled.” Although McCormick employed different language and sources than Horden and Purcell, his overall themes were similar: in particular, that upheavals were less important than the continuity of trade, which was maintained at higher levels throughout the so-called Dark Ages than many historians had assumed. In the twentieth century, much work on the medieval economy emerged from the longstanding interest of medievalists in diplomacies, and therefore focused on institutions and legalities.¹³ Above all, the study of privileges has dominated, a fact reflected in the contents of textbooks and document collections.¹⁴ The publication of McCormick’s *Origins* prompted, even for researchers well outside of the early middle ages, a move away from institutional frameworks and towards the investigation of “things that travelled,” a development that dovetailed with new trends in cultural history.

Hybridity, transculturalism, fluidity, portability: these are some of the terms that

¹¹ Jenny Purtle, “Objects without Borders. Cultural Economy and the World of Artefacts,” in *Crossing Cultures: Conflict, Migration and Convergence*, edited by Jaynie Anderson, 127-132. Melbourne: 2009, 127.

¹² Michael McCormick, *Origins of the European Economy. Communications and Culture A.D. 300-900*. Cambridge: 2001.

¹³ The classic example is William Heyd, *Historire du commerce du Levant au Moyen Age*, translated by Maxime Furcy-Raynaud, London: 1978.

¹⁴ E.g. Robert Lopez and Irving Raymond, eds. and trans, *Medieval Trade in the Mediterranean World*, London: 1955.

characterize recent work in the “New Mediterranean Studies.”¹⁵ The exact valences of these words varies, but all are invoked “to shift scholarly approaches away from a focus on origins and localities as the defining factors of history and towards consideration of movement across boundaries traditionally defined by language, religion, ethnicity, and geography.”¹⁶ We use such terms as hybrid or cosmopolitan because to do otherwise - to write only of Arab medicine or Greek medicine, for example - runs the risk of descending into a cultural essentialism that denies the continuity of actual practice. In fact, from the perspective of eleventh century Italy, Greek and Arab medicine were part of a continuum - a Mediterranean medicine - that was labelled differently for purposes extrinsic to the health profession, but not to ideology. Part of the difficulty is that such labels as Islamic or Christian imply a connection that might not exist. To use a modern example, it is perfectly accurate to say that building large cars was an American thing to do in the mid-twentieth century. But “American” does not imply large cars. The cars were commensal with wealth, technological capacity, and cheap gas, not an abstract *Americanitas*. Under similar conditions, large cars might be produced anywhere. They are commensals - neutral fellow passengers - not of America *per se*, but how America was in a certain period. In the eleventh century Mediterranean, there were significant transfers of practices, styles and stuff between Islamic polities and the shores of Italy. Some of these may have been specifically Islamic, as when Roger of Sicily called himself an Imam, but many were commensals of the conditions that prevailed in Egypt, North Africa, and Al-Andalus: greater wealth, demand, monetary sophistication, and specialization in production.

Such words as “hybrid” or “fluidity” do have their dangers. A term like hybridity is useful inasmuch as it denotes a class of entities that do not emerge from homogenous cultural traditions. In particular, that the “identities of the objects did not reside solely in

¹⁵ Gerhard Wolf, “Fluid Borders, Hybrid Objects. Mediterranean Art Histories 500-1500, Questions of Method and Terminology,” in *Crossing Cultures: Conflict, Migration and Convergence*, edited by Jaynie Anderson, 134-137. Melbourne: 2009, 134.

¹⁶ Alicia Walker, “Globalism,” *Studies in Iconography* 33 (2012):183-196, 185. Despite Walker, globalism itself has not prospered in the scholarly vocabulary, perhaps due to its highly politicized presence in the media beyond the university. This is a pity, for many of the controversial effects of globalism - the displacement of indigenous traditions, for example - are potentially relevant to the medieval era. For a discussion of the comparative significance of several of these terms, see Linda Safran, *The Medieval Salento*, Philadelphia: 2014, 234-36.

their physical properties but were mediated by context.”¹⁷ That is also where the problem sets in, for hybridity presupposes the pure species, a doubtful entity. The “Mediterranean cannot simply be divided between natives and intruders but must be seen rather as a space in which the seemingly intrusive can become normal and the native can be redefined as intrusive.”¹⁸ In the Mediterranean theatre, there is no such thing as the purely autochthonous, because the significant production of culture is a characteristic of wealth, and wealth does not exist without interconnectivity. A list of the richest cities of the Mediterranean, in any era, amply demonstrates this truth.

Interconnectivity, hybridity, and related concepts, have resounded in the imaginations of historians since *The Corrupting Sea*. However, it is largely the outcomes, not the mechanisms, of interconnectivity that have informed historians. If the data for Mediterranean trade now appears fuller than it did a half-century ago, nonetheless we must still rely on inference and supposition, guided by logic and such comparisons as are available. This study seeks to tease out the operating spaces of interconnectivity - the places, often humble, in which the quotidian operations that unified the Mediterranean actually took place. We need to look for the unity of the Mediterranean in the spaces in which it operated, such as trade, and the objects of trade. The history of Pisa itself through these lights may not be much different from the traditional picture, for this is largely a question of emphasis. But I do hope to alter our understanding of the place Pisa occupied in the Mediterranean as a whole.

EVIDENCE AND METHODOLOGY

This project investigates cross-cultural communication experienced by Italian traders in the eleventh century, using Geniza sources as examples to help us understand trade structures, which are interpreted under the lights of the “New Mediterranean Studies.”

¹⁷ Marian H. Feldman, *Diplomacy by Design. Luxury Arts and an ‘International Style’ in the Ancient Near East, 1400-1200 BCE*. Chicago: 2006, 169.

¹⁸ Fred Astren, “Goitein, Medieval Jews, and the ‘New Mediterranean Studies,’” *Jewish Quarterly Review* 102, 4 (2012): 513-31, 516.

Such a project has certain methodological requirements. Because our subject is defined thematically rather than by specific bodies of sources, I rely on what Benjamin Kedar calls the longitudinal approach, in which as wide a range of evidence as possible is brought to bear on the relevant issue, with the corollary that the particularities of any specific piece of evidence may not be highlighted.¹⁹ Eva Hoffman and Oleg Grabar, among others, have contested the arbitrary distinction between the visual culture of Islam and Christendom.²⁰ Other historians have likewise complicated the frontiers of literature or medicine or technology.²¹ Rather than simply list ways different regions were similar (although we will do that), we will adopt an immersive heuristic model which takes the unity of the Mediterranean for granted, juxtaposing Latin, Arabic, and Greek witnesses, in order to allow us to look at more specific continuities of behaviour and practice.

This approach presumes that “history only tells a small part of what has been going on—we see only the tip of the iceberg and know only that most of it never surfaces.”²² Eleventh century historiography substantiates the admonition, for the discovery of the Cairo Geniza unveiled worlds previously unimagined. We must, therefore, be cognizant that ideas about other matters “might be as mistaken as they were about Goitein’s period before he began his work [on the Geniza].”²³ Nonetheless, more minimalist approaches are possible, and we will address some problems inherent in such assumptions below.²⁴

Our subject is one that resists the boundaries inherent in any one species of evidence. There are zones of material culture as there are zones of written culture, but the two need not correspond. As such, we must avoid privileging either category. As Prado-

¹⁹ Benjamin Z. Kedar, “The Jerusalem Massacre of 1099 in the Western Historiography of the Crusades,” *Crusade* 3 (2004): 15-75.

²⁰ e.g. in Eva Hoffman, “Christian-Islamic Encounters on Thirteenth-Century Ayyubid Metalwork: Local Culture, Authenticity, and Memory,” *Gesta* 43 (2004): 129-42.

²¹ For the former, the most important work is still Maria Rosa Menocal, *The Arabic role in Medieval Literary History: a Forgotten Heritage*, Philadelphia: 1987. See also the valuable update in Akbari, Suzanne Conklin and Karla Mallette, eds. *A Sea of Languages: Rethinking the Arabic Role in Medieval Literary History*, Toronto: 2013.

²² Jon Leirfall, *West over Sea*, Sandwick, U.K.: 1979, 87.

²³ Horden and Purcell, *Corrupting Sea*, 34.

²⁴ For another example from our period, a letter attributed to Hassan-i Sabbah (c.1050-1124) mentions the Fatimids dispatching missionaries by sea to preach among the Franks. If the letter is correctly dated, it reveals an activity whose existence is otherwise unknown. See Bernard Lewis, *The Assassins*, 147-48. Skinner also has recently shown a previously unsuspected link between Italy and Spain in the tenth century. Patricia Skinner, “Amalfitans in the Caliphate of Cordoba – Or Not?,” *Al-Masaq* 24:2 (2012): 125-138, 136-7.

Vilar states, the “restraint of the image to the text... is especially problematic in the case of the Middle Ages where the textual evidence at our disposal is so fragmentary,” a point oft reinforced by Graziella Berti.²⁵ With respect to material culture, the starting point is not the objects but the people, and to investigate the different needs and expectations of material culture people evince, and then move on to looking at extant objects to see how they satisfy those needs. It will be immediately observed that this approach is not directed at the objects of material culture in themselves. Yet it is about material culture, for as the objects lead us to conclusions about society, so society suggests conclusions about the objects. This approach also requires a wide-angle lens. If we want to talk about something on the scale of society - be it a region, city, or group - then we must deal with pluralities. In terms of working with the evidence of material culture, this means dealing with categories and groups of objects as much as specific examples. To do so invokes the same dangers the researcher faces in dealing with groups rather than individual persons, but also the same advantages. In particular, when we have reference to specific objects, we will often apply only a single strand of analysis, for example by considering an ivory carving solely as a vector of wealth. But I should emphasize that while this is an approach suited to our purposes, it is not the only way to approach material culture, and does not invalidate other approaches, such as iconographic or patronage analysis.

TIME AND PLACE

Considerable effort has been expended enumerating transfusions between medieval Islam and Christianity, although our period has tended to be obscured by the backwards shadow of the Crusades.²⁶ With all the attention paid to the question of what moved across the Mediterranean, less attention has been paid to the question of the mechanism and agency of transfer. Periods of stability have always been most productive of sources, a fact clear

²⁵ Francisco Prado-Vilar, “Circular Visions of Fertility and Punishment: Caliphal Ivory Caskets from al-Andalus,” *Muqarnas* 14 (1997): 19-41, 28; Graziella Berti, “Pisa: ceramiche e commerci (2nd metà X-1a metà XIV s.),” in *Atti I Congresso Nazionale di Archeologia Medievale*, edited by Sauro Gelichi, 346-351. Firenze: 1997, 346.

²⁶ The attribution of just about anything Islamic in western Europe to “returning crusaders” remains an active trope, if somewhat less lively now than in the past.

in our historiography, which has tended to produce crisp snapshots of so-called golden ages, and elide the less clear-cut intervening eras. But “medieval cosmopolitanism operates most visibly in zones of contact and conflict,” as Robert Edward says.²⁷ Unfortunately, zones of conflict are the least productive of textual and material evidence.²⁸ This problem is magnified by the alignment of much of the evidence. Many Geniza letters, for example, are only loosely dateable, and so tend to favour the construction of a model which is highly coherent but too static.²⁹ Horden and Purcell’s work has been criticized for offering “a timeless view of Mediterranean producers” that ignores “social restraints, ingrained habits, and cultural fixations.”³⁰ As such, one key theme is diachronic change. This may seem an odd thing to emphasize, for change over time is a *raison d’être* of history writing. But it will be a valuable corrective to examine the era before the crusades as one productive of its own continuities and changes.

The eleventh century saw an economic transition of importance: the collapse of Muslim - chiefly Egyptian - trade dominance and its replacement by the Italian maritime cities as the preeminent merchant marine on the Mediterranean. I have elected to call this transition the “great calamity,” after Goitein’s translation of the phrase, *al-shiddah al-‘uzma*, which was applied at the time to its more localized manifestation in Fatimid Egypt around the mid-century.³¹ I am using this label of convenience to designate a confluence of events which was not identified as such at the time.³² Calling this confluence a “calamity” is justified, for it saw the reduction or destruction of the chief Mediterranean states, but of course it was not calamitous for everybody. In particular,

²⁷ Robert R. Edwards, “Cosmopolitan Imaginaries,” in *Cosmopolitanism and the Middle Ages*, edited by John M. Ganim, 163-180. Palgrave: 2013, 163.

²⁸ And indeed, the two decades 1073-1094, in which much of the eleventh century economic transition must have been consolidated, are an almost complete blank in the historiography of Fatimid Egypt. Paul E. Walker, *Exploring an Islamic Empire*, London and New York: 2002, 69.

²⁹ Goitein was aware of this problem, and addressed it on several occasions, most notably in “The Unity of the Mediterranean World in the ‘Middle’ Middle Ages,” in S. D. Goitein, *Studies in Islamic History and Institutions* (Leiden, 1968), 296–307 [repr. of *Studia Islamica* 12 (1960): 29–42], and Goitein, “Mediterranean Trade preceding the Crusades: Some Facts and Problems,” *Diogenes* 59:47 (1967). See also Jessica Goldberg, “On Reading Goitein’s *A Mediterranean Society: A View from Economic History*,” *Mediterranean Historical Review* 26, 2 (2011): 179-180.

³⁰ Gadi Algazi, “Diversity Rules: Peregrine Horden and Nicholas Purcell’s *The Corrupting Sea*,” *Mediterranean Historical Review* 20, 2 (2005): 227–45.

³¹ Shelomo D. Goitein, *Mediterranean Society* I, 310. The term was applied to characterize the famines, which led to political instability, that struck Egypt in the second half of the 1050s. These events will be discussed in chapter one.

³² Although it was recognized some three hundred years later, by Ibn Khaldun, *The Muqaddimah. An Introduction to History*. Translated by Franz Rosenthal. Princeton: 1969, 326.

Pisa's transition to regional preeminence corresponds closely to this calamity.³³ By contrast, the wealth of Amalfi and Gaeta was already established in the different conditions of the tenth century.³⁴ Pisa's native sources emerge in the wake of the great calamity. Although of late historians of Pisa have been investigating its relations with the wider Mediterranean in new ways, Pisan textual sources have long been interpreted in light of sectarian and crusading ideologies. They are therefore a good test case for non-sectarian interpretations. This project makes no pretences towards rewriting the history of Pisa *per se*.³⁵ It is rather a study of communication, movement and trade in the eleventh century Mediterranean, that uses Pisa as its main example.

Pisa's connections with the rest of the Mediterranean before the crusades are less investigated than might be expected.³⁶ This is true for Gaeta and Naples as well.³⁷ Attention has focused on Amalfi, and the degree to which that city may be seen as paradigmatic for Tyrrhenian trade is an open question.³⁸ The relations between the Islamic world and Pisa before the first crusade have kindled a long-running but low-intensity historiographical debate, in which the two sides might be characterized as hawks and doves. The former follow the lead of Pisa's chronicles, which recalled the eleventh century as an era of unabated war between the valiant Christians of Pisa and

³³ Chris Wickham, *Community and Clientele in Twelfth century Tuscany: The Origins of the Rural Commune in the Plain of Lucca*, Oxford: 1998, 3.

³⁴ As for Venice, it was quiescent in the eleventh century, and in any case, its vast historiography offers entirely different horizons of research: John Pryor, "A View from a Masthead: The first crusade from the Sea," *Crusades* 7 (2008): 87-151, 90.

³⁵ There has been but one general history of the city in English, Heywood's *History of Pisa*, which stands up surprisingly well after a century of research. In Italian, the most important works are probably still those of Cinzio Violante: including *Economia, società, istituzioni a Pisa nel Medioevo: saggi e ricerche*, Bari: 1980, and Gioacchino Volpe, *Studi sulle istituzioni comunali a Pisa*, Florence: 1970. On the Pisan church, the most important work is Mauro Ronzani's, especially *Chiesa e "Civitas" di Pisa nella seconda metà del secolo XI*, Pisa: 1996. On early communal history, see the recent papers of Gabriella Rossetti and Maria Luisa Ceccarelli Lemut.

³⁶ The last major monograph was Giuseppe Rossi-Sabatini, *L'espansione di Pisa nel Mediterraneo fino all a Meloria*. Firenze: 1935. There have been, of course, many papers, e.g. Marco Tangheroni, Catia Renzi Rizzo, and Graziella Berti, "Pisa e il Mediterraneo occidentale nei secoli VII-XIII," in *Il mare, il ferro*, 109-142. Pisa: 2004. An important recent work is the exhibition catalogue of Marco Tangheroni, ed., *Pisa e il Mediterraneo: uomini, merci, idee dagli Etruschi ai Medici*. Pisa: 2003.

³⁷ Notwithstanding the valuable series of articles by Skinner which emphasize the continuity of the Tyrrhenian zone, e.g. "Politics and piracy: the duchy of Gaeta in the twelfth century," *Journal of Medieval History* 21 (1995): 307-319; "The Tyrrhenian Coastal Cities under the Normans," in *The Society of Norman Italy*, edited by Graham A. Loud and Alex Metcalfe, 75-96. Leiden: 2002. Her approach is complemented in Chris Wickham, *Community and Clientele in Twelfth century Tuscany*, 3.

³⁸ Although see Skinner, "Politics and piracy."

Saracen corsairs, whose defeat led to the opening of the seas to civilized trade.³⁹ The historiography of the late twentieth and early twenty-first centuries, however, has preferred to emphasize the low-level functioning of the agrarian economy and continuity, not confrontation.⁴⁰ Pisa's case is complicated, however, by the archeological discoveries of ceramics from Islamic countries under its piazzas, much elaborated by Graziella Berti - without which, as we shall see, the history of trade in Pisa in this era cannot be understood.⁴¹ The ceramics pointed to unsuspected horizons of trade for Pisa, much as the Geniza did for the Islamic Mediterranean as a whole.

CHAPTER PLAN

Broadly speaking, questions about movement in the Mediterranean might be divided into two categories: how things moved, and why things moved. Chapter One addresses the first question, in the context of the economic transition of the eleventh century Mediterranean, in which mercantile dominance switched from Muslim and Jewish traders to the Italians of the maritime cities. Although the outcome of the economic transition is well-known, the mechanisms that motored Italian takeover deserve closer investigation. An examination of the characteristics of the trade network, both before and after the transition, finds that little structural change occurred. I therefore propose a mechanism of transition that minimizes disruption, one in which Italian trade developed organically and in conformity with the commercial paradigms of the existing Muslim and Jewish network. Informally, that means applying the evidence from the Cairo Geniza to the case

³⁹ For a specialist example, Sylvia O. Busch, *Medieval Mediterranean Ports: The Catalan and Tuscan Coasts, 1100 to 1235*. Leiden: 2001.

⁴⁰ In particular, Giovanni Tobacco, *The Struggle for Power in Medieval Italy*, trans. Rosalind Brown Jenson, Cambridge: Cambridge University Press, 1989; Chris Wickham, *Early Medieval Italy: Central Power and Local Society 400-1000*, 1981; Alessia Rovelli, "Coins and Trade in Early Medieval Italy," *Early Medieval Europe* xvii, i (2009), 45-76.

⁴¹ The ceramics discovered under Pisa's piazzas from the late 1970s pushed Pisa's contacts with the Islamic world back to the 970s, and due to their quotidian nature, caused scholars to question assumptions about Pisa's antagonistic relations with Islamic polities. The ceramics and their implications are discussed in chapters one and four. Graziella Berti and Liana Tongiorgi, *I 'bacini' ceramici medievali delle chiese di Pisa*. Rome: 1981; a recent update is Graziella Berti and Marcella Giorgio, *Ceramiche con coperture vetrificate usate come "bacini": importazioni a Pisa e in altri centri della Toscana tra fine X e XIII secolo*. Florence: 2011. See also Marco Tangheroni, "La prima espansione di Pisa nel Mediterraneo. Riflessioni su un modello possibile," in *Il mare, la terra, il ferro. Ricerche su Pisa medievale (secoli VII-XIII)*, edited by Graziella Berti, Catia Renzi Rizzo, and Marco Tangheroni, 205-230. Pisa: 2004.

of Italian merchants.⁴² I suggest that it was the eleventh century political failure of the large Mediterranean polities that enabled a realignment of Italian merchants from participants to dominant players in the trade network.⁴³ A key conclusion is that the spaces defined by trade provided an almost neutral medium for the exchange not only of commodities, but also their conceptual or intellectual commensals.

If the first chapter emphasizes the fluidity of movement in the Mediterranean network, the second considers its limits, noting the constraints which were built into the system and ways in which merchants had trouble working together. It also looks at the similar constraints of evidence and communication that have restricted modern historians looking at the network.

The third chapter contains a interpretation of Pisa's history up the first crusade, in light of the conclusions of chapter one. The Italian maritime cities have often been viewed solely through the lens of their individual communal histories, which have tended to emphasize bilateral relations between a given city and an amorphous east.⁴⁴ But here Pisa's history is analyzed as a node in an interconnected network rather than as the protagonist of its own drama.

Finally, the remaining chapters apply the social component - why things moved - in the context of "things that travelled." More specifically, chapter four considers the unique

⁴² The Geniza evidence consists of letters and documents, preserved in the Cairo "Geniza" or storehouse by the Jewish community of that city. It contains thousands of personal letters that have enabled scholars to build up a detailed picture of the social and mercantile life of Jewish traders. The key work is Goitein's six-volume *A Mediterranean Society* (op. cit.). It is augmented by his articles, as well as those of Moshe Gil, whose *Jews in Islamic Countries in the Middle Ages*, Leiden: 2004, is an important contribution. These works have recently been updated by Jessica Goldberg, whose *Trade and Institutions in the Medieval Mediterranean: The Geniza Merchants and Their Business World*, Cambridge: 2012, is the most up-to-date work on the Geniza in the eleventh century. I have relied on these scholars in my work, without whom chapter one, in particular, would not have been written.

Broadly speaking, from the perspective of a historian of eleventh century Italy, Geniza studies may be divided into two groups. First, the work of historians researching the Geniza itself, above all Goitein, who touch on Italian matters only peripherally. Second, there are those historians who have sought out evidence for Italian trade in the Geniza. These, such as Claude Cahen, "Un texte peu connu relatif au commerce oriental d'Amalfi au Xe siècle," *Archivio storico per le province Napoletane* 34 (1955): 61-67; Armand Citarella, "Scambi commerciali fra l'Egitto e Amalfi in un documento inedito della Geniza di Cairo," *Archivio Storico per le Province Napoletane* 10 (1970): 3-11; Samuel M. Stern, "An original document from the Fatimid chancery concerning Italian merchants," in *Studi Orientalistici in onore di Giorgio Levi della Vida*, vol. 2, 529-38. Rome: 1956 were swift to catalogue and analyze the appearances of Italians in Geniza sources. This study follows a third route, that of using the evidence in the Geniza for how the trading system worked, and applying that evidence to the Italian scene, in the knowledge that Italians were present in the system described by Geniza sources, even if they were rarely mentioned.

⁴³ An alternate view, founded on ecological evidence, is found in Ronnie Ellenblum, *The Collapse of the Eastern Mediterranean: Climate Change and the Decline of the East, 950-1072*. Cambridge: 2012.

⁴⁴ But see Sylvia O. Busch, whose *Medieval Mediterranean Ports*, offers a valuable comparative approach to the ports of Pisa, Barcelona, and Marseilles. Strangely, she almost completely ignores the Muslim world.

material culture associated with Pisa - the above all the ceramics imported from the Muslim world. These are a unique corpus of artifacts, and are vital for interpreting the trading economy of the era. Moreover, they offer a chance to analyze the social meaning of material culture in the city.

The penultimate chapter addresses the social implications of material culture in the wider Mediterranean. If the first section outlined the pathways open to merchants, material culture and knowledge, this section concentrates on the social mechanisms that propelled those components. It looks at the shared visual culture that permeated the Mediterranean and its concomitant lexicon of shared symbols and motifs.

Chapter six examines a distinctive commodity group: the category that encompasses consumable liturgical materials (i.e. incense), embalming chemicals, spice, and perfume, in addition to medicine. These represent an important area of imports into Italy. Using documents, pharmaceutical literature, and church sources, I outline possible changes in the market and demand for these materials in the Latin west, and how those changes may have impacted the business of the maritime cities in the Mediterranean network. This section aims to analyze these materials as objects in the history of material culture, rather than tools in the history of medicine – that is, as objects of prestige and exchange, whose properties have economic and artistic significance. This approach will intersect with the considerable literature on medical history, which has emphasized the medicinal properties of *materia medica*.⁴⁵ In general, research on *materia medica* has focused on isolated materials, in much the same way as individual cities have dominated research on trade.⁴⁶

⁴⁵ The volume on Constantine the African is probably still the most important for this period: Charles S. F. Burnett, ed., *Constantine the African and 'Alī Ibn Al-'Abbās Al-Magūsī: The Pantegni and Related Texts*. Leiden: 1994. Also, Danielle Jacquart and Françoise Micheau, *La Médecine arabe et l'occident médiéval*, Paris: 1990; Danielle Jacquart and Agostino Paravicini Bagliani, eds., *La scuola medica Salernitana. Gli autori e i testi*. Florence: 2007.

⁴⁶ E.g. Anya King, "Tibetan Musk and Medieval Arab Perfumery," in *Islam and Tibet. Interactions along the Musk Routes*, edited by Anna Akasoy, Charles Burnett, and Ronit Yoeli-Tlalim. Aldershot: 2010; R. A. Donkin, *Dragon's Brain Perfume: A Historical Geography of Camphor*. Leiden: 1999; David Abulafia, "Sugar in Spain," *European Review* 16, 2 (2008): 191-210. Although the economic and cultural side of *materia medica* have not attracted much attention for the period under discussion, this is not true of the late middle ages, e.g. Paul Freedman, *Out of the East: Spice and the Medieval Imagination*, New Haven: 2008.

CALAMITY AND TRANSITION: RE-IMAGINING ITALIAN TRADE IN THE ELEVENTH CENTURY MEDITERRANEAN*

In the year 1000, the Mediterranean thrummed with a commerce as vital as any that has graced its waters. With its heart in Egypt, a trading network spanned the sea from east to west. Its merchants were chiefly Muslims and Jews, and ships they sailed upon hailed from the ports of the House of Islam: Alexandria, Mahdia, Palermo, Denia. A century later, the situation was transformed: Italian merchants traversed the sea, and their ships emerged from the quays of Pisa, Genoa, or Amalfi. By the late twelfth century, once prosperous North African entrepôts were begging for Italian patronage.⁴⁷ Abrupt shifts in maritime hegemony are not rare, but the economic transition of the eleventh century Mediterranean has attracted little attention, perhaps because of the sense of manifest destiny that has usually accompanied it in accounts of European predominance. Crusade narratives, for instance, often take for granted the seaborne supremacy that made them possible. And from a long-term perspective, the outlines of this economic transition are well known: first, the direction of trade was reversed from south to north; second, the trade techniques of the south were adopted in the north. What we do not know is how this reversal took place. It is the purpose of this study to propose a mechanism. The cities of Italy's west coast will serve as our focus; an extensive discussion of Venice is outside the scope of this work.

A traditional picture of shipping in the Mediterranean inscribes a caesura in the years around the first crusade. The prior era has been seen as one of corsairs inimical to civilized trade, which could only commence when Italian ships cleared the seas of

* This chapter is an expanded version of a paper published in *Past and Present* (August 2015) and earlier presented at the *Mapping the Mediterranean* conference in Ann Arbor at the University of Michigan in October 2013. I thank the respondents, organizers and participants for their comments and encouragement.

⁴⁷ See the letter of the Almohad governor of Tunis (r.1187–92) offering generous conditions to visiting Pisans, including the provision of alcohol(!), in Russell Hopley, "Aspects of Trade in the Western Mediterranean During the Eleventh and Twelfth Centuries: Perspectives from Islamic Fatwā's and State Correspondence," *Mediaevalia* 32 (2010): 5–42, 28–29.

Muslim pirate nests.⁴⁸ There are problems with this picture: first, it relies on the chronicles of the Italian cities, most of them later in date and generally propagandistic; second, it ignores diachronic change, positing that eleventh century trade functioned in the same way as in later centuries, notwithstanding different circumstances; finally, it disregards the considerable — although non-Italian — evidence we have for how trade did function. Reconciling these three problems suggests an alternate perspective of the eleventh century Mediterranean: that of a multi-stage transition that slowly overtook an established network, in a process akin to that which occurred over the course of the nineteenth and twentieth centuries in the global maritime network.

The historiography of Mediterranean trade in our period is largely partitioned between the Geniza evidence for the Jewish-Muslim trade network and the Latin sources of the Italian maritime republics. Due to the longstanding tradition of the latter, the tendency has been to view trade through the lens of individual cities. There exists, for example, a Pisan story of the eleventh century, whose assumptions derive from Pisa's communal histories.⁴⁹ This perspective has tended to emphasize bilateral relations between a city and an amorphous east, and to minimize interconnectivity between the many nodes of the network. Since the inception of Geniza studies, scholars have been alert to the light it might shed on Italian commerce, but this research has often focused on cataloging the appearances of Amalfitans, for example, in Geniza letters.⁵⁰

Less attention has been focused on the question of what the underlying trade structures revealed by the Geniza might imply with respect to that commerce. For while we have little information about how Italian maritime enterprise functioned in the tenth and eleventh centuries, we have reams of data on the network that spanned the House of Islam. It is likely that despite the paucity of Geniza and Arabic references to Italian

⁴⁸ This is a bald simplification; of late an increased awareness of the sophistication of the Muslim-Jewish trade networks has nuanced the sense of rupture, which has often been interpreted in terms of religious conflict. In less specialized work, the tendency is overt, e.g. Alan G. Jamieson, *Faith and Sword. A Short History of Christian-Muslim Conflict*, London: 2006.

⁴⁹ Recently complicated, to good effect, by Travis Bruce, "The politics of violence and trade: Denia and Pisa in the eleventh century," *Journal of Medieval History* 32 (2006), 127–142, and "Piracy as Statecraft: The Mediterranean Policies of the Fifth/Eleventh-Century Taifa of Denia," *Al-Masaq* 22, 3 (2010): 235–248.

⁵⁰ For an oft-cited example, see Samuel M. Stern, 'An original document from the Fatimid chancery concerning Italian merchants,' in *Studi Orientalistici in onore di Giorgio Levi della Vida*, 2 vols., Rome: 1956, ii, 529–38.

merchants, the necessary logic of the system, to use Wickham's phrase, can tell us a great deal about their expansion into the Mediterranean network.⁵¹ As such, it is by studying the characteristics of the entire commercial system that we may understand how an individual city interacted with the larger network. The method of this paper, then, is to assume that the Italians were part of the Muslim-Jewish network, apply the evidence, and see whether a coherent picture emerges.

The early twentieth century economic shift from North-Western Europe to America, or the contemporary example of China and the United States, offer parallels to the eleventh century transition. In both cases, the newly successful region was already part of the economic system of the formerly dominant partner, and had adopted wholesale their commercial practices, and had achieved all this with the acquiescence of the eventual losing party. It is sufficient to note that in 1900, ~88 per cent of commercial shipbuilding originated in Northern Europe and America, and that in 2010 94 per cent occurred in the East Asia.⁵² This transition was, like everything in the twentieth century, attended by violence. It was not, however, caused by violence. In fact, it occurred in conformity with prevalent paradigms of trade and commerce. Neither the general shape of the network, the nature of the cargos, nautical technology, or financial instruments, were significantly altered by the realignment of shipping. What follows, then, is an investigation of whether Italian successes in the eleventh century likewise emerged from an existing trade network, whose structures were predisposed to accommodate newcomers, and to what extent the Italian transition to maritime hegemony was a result not of violence, but opportunities afforded by the political conditions within the Islamic Mediterranean.

DISPROPORTION AND DISPARITY

⁵¹ Chris Wickham, *Framing the Early Middle Ages*, Oxford: 2006, 541.

⁵² Sidney Pollard, "British and World Shipbuilding, 1890–1914: A Study in Comparative Costs," *The Journal of Economic History* 27, 3 (1957): 426–444, 427. The 2010 numbers appeared in a presentation entitled *Shipbuilding Market Overview* given by S. Gordon of Clarkson Research Services, for the Cargotec Capital Markets Day held in Helsinki 17/11/2011. It is available at <http://www.clarksons.net/archive/research/freestuff/Cargotec%20Presentation%20November%2017th%202011.pdf>. They represent an increase from numbers cited in *The Economist* on Nov.8th, 2007, in which the rates were Korea 40%, China 23% and Japan 20%.

In 968, bishop Liudprand of Cremona saw something he did not understand. In that year he travelled to Constantinople on behalf of Otto the Great. The material wealth he saw there has often been remarked on. But it is not in objects that we find our best evidence for the wealth of the east. In Byzantium, Liudprand wrote, bishops ‘are rich, but they are poor: rich in gold coins filling a bulging chest... poor in servants or tools. They sit at bare, small tables, serving themselves... do the selling and buying for the household; they open and close their own doors; they themselves are the table servants, the stable hands...’⁵³

What Liudprand witnessed was the higher cost of labour in the urbanized eastern Mediterranean, a far better index of relative wealth of societies than any kind of stuff. Economic disparity structured the relationship between the urbanized east and Italy in this period, as it does between the developing world and the West in the twenty-first century. It is never easy to find a metric to assess the real differences in wealth between regions, even today in a world of public exchange rates — a problem exemplified in the famous Big Mac Index of *The Economist*. As the tenth and eleventh centuries lacked uniformity of hamburgers, we must take a more impressionistic approach.⁵⁴

In the Middle Ages, labour, whether for ploughing fields or building churches, was the foundation of the economy. Its relative scarcity in the Mediterranean south and east, therefore, directly impinged on the value of money. Liudprand was surprised at bishops who opened their own doors, but gold purchased less in Constantinople or Fustat than he imagined. The currency of Liudprand’s Italy was the silver denier.⁵⁵ It was too valuable for a hamburger, or any daily purchase. It was useful for medium-value commodities, like a pig, or large quantities of quotidian goods.⁵⁶ It went a long way for rent as well: in Pisa in 1052 an entire farm with a workshop rented for half a denier a month.⁵⁷ Ibrāhīm b.

⁵³ Liutprand of Cremona, *Relatio de legatione Constantinopolitana* LXIII, in *The Complete Works of Liudprand of Cremona*, ed. and trans. Paolo Squatritti, Washington, D.C.: 2007, 279.

⁵⁴ Since 1986, *The Economist* has used the price of the MacDonalds Big Mac hamburger, a product that is both uniform (in theory) and available worldwide, as an amusing way to compare the practical purchasing power of international currencies, which might differ greatly from official exchange rates.

⁵⁵ It nominally weighed around 1.3 g. Twelve deniers made up a *solidus*, and twenty *solidi* made a pound: Philip Grierson, Lucia Travaini, *Medieval European Coinage: Volume 14, South Italy, Sicily, Sardinia: With a Catalogue of the Coins in the Fitzwilliam Museum, Cambridge*, Cambridge: 1998, 473.

⁵⁶ Alessia Rovelli, ‘Coins and Trade in Early Medieval Italy’, *Early Medieval Europe* 27, 1 (2009): 45–76, 67.

⁵⁷ Mariella D’Alessandro Nannipieri (ed.), *Carte dell’Archivio di Stato di Pisa I, (780–1070)*, Rome: 1978, #51.

Ya'qūb al-Ṭar-ūshī, travelling in the Latin West in the late tenth century, was impressed with silver's purchasing power.⁵⁸ Most transactions in Italy in Liudprand's day were done in kind.⁵⁹ If we are largely in the dark about labour costs in Latin Europe in this era, this does not represent simply a loss of evidence; what we do know suggests that labour was too cheap to be measured in money.

In contrast, the House of Islam was a monetized society. Its silver coin, the dirham, which weighed twice as much as the denier, might buy lunch.⁶⁰ Thirty to forty dirhams made up a gold dinar, the dominant currency of the region (Fig 1).⁶¹ In 1019, a carpenter's shop in Tyre rented for 3 dirhams a month, i.e 6 deniers or more.⁶² During his stay in Egypt in the late 1040s, Nāṣer-e Khosraw rented a house for fifteen dinars a month, a sum that in Pisa might have purchased outright a large property with a mill, garden, and courtyard.⁶³

It is difficult to assess pricing data from our period. 'Prices follow no principle,' opined a Jewish merchant in Qayrawan.⁶⁴ It is, therefore, dangerous to use pricing levels to extrapolate economic disparities. Nonetheless, one thing is certain: everything cost more in the East, and everyone had more money.⁶⁵ We find robes going for 25 dinars,

⁵⁸ Ian Blanchard 1994, *Mawara'an-nahr: Central Asia Triumphant*, 12, n.15.

⁵⁹ Alessia Rovelli, "La moneta nella documentazione altomedievale di Roma e del Lazio," in *La Storia economica di Roma nell'alto Medioevo alla luce dei recenti scavi archeologici*, edited by Lidia Paroli & Paolo Delogu, 333–52. Florence: 1993, 343.

⁶⁰ The dirham weighed 2.97 grams: Gene H. Heck, *Medieval Muslim Money*, Riyadh: 2004, 41; S. Goitein, *A Mediterranean Society. The Jewish Communities of the Arab World in the Documents of the Cairo Geniza. Volume 1: Economic Foundations*, Berkeley: 1967, 76, n.16. Unskilled labour might earn 1.5 to 3 dirhams a day, a trained mason 5 or more, *ibid.*, 95–99; 800 to 1000 dirhams per annum was a living wage for a worker or artisan: Moshe Gil, "The Jewish Merchants in the Light of Eleventh century Geniza Documents," *Journal of the Economic and Social History of the Orient* 46, 3, (2003): 273–319, 285; S. Goitein, "The Exchange Rate of Gold and Silver Money in Fatimid and Ayyubid Times: A Preliminary Study of the Relevant Geniza Material," *Journal of the Economic and Social History of the Orient* 8, 1 (1965): 1–46, 41. Although a dirham might buy lunch, the rich retained the option of spending more: In Baghdad in the tenth century, Hamadhani (967-1007) wrote in a poem of a 20-dirham lunch consisting of fried meats, and sweetmeats, and wafer-cakes with sumac berries, and two pounds of almond confection. *The Maqāmāt of Badi' al-Zamān al-Hamadhānī*. translated by W. J. Prendergast, Madras: 1915.

⁶¹ Goitein, "The Exchange Rate," 41.

⁶² The exchange rate between dinar and dirham fluctuated considerably. I have used 30 dirhams to one dinar, a conservative rate. The carpenter's shop, in Tyre, went for one and one eighth dinars per year: Geoffrey Khan, *Arabic Legal and Administrative Documents in the Cambridge Genizah Collections*, Oxford: 2006, #21.

⁶³ Nāṣer-e Khosraw's *Book of Travels (Safarnāma)*, trans. Wheeler M. Thackston, Jr., New York: 1985, 47. In 1049, a certain Bello of Pisa sold for 80 soldi 'terra con cascina, orto e corte.' *Carte dell'Archivio di Stato di Pisa*, #50.

⁶⁴ Goitein, *A Mediterranean Society*, I, 219. Over just a six-month period in the markets of Tunisia in 1030, the price of sugar varied by over 100 per cent: Norman A. Stillman, 'The merchant house of bin 'Awkal', *Journal of the Economic and Social History of the Orient* 16, 1 (1973): 15–88, 58.

⁶⁵ There are eyewitness complaints: Al-Muqaddasī, for example, was not impressed with high prices in Egypt. Cited in Zayde Antrim, *Routes and Realms: The Power of Place in the Early Islamic World*, Oxford: 2012, 129, 179, n.64.

high-grade cloth for 100, while in 1006 a prime spot to view a parade in Cairo cost a quarter of a dinar.⁶⁶

In the 1020s Tha'alibi wrote of Egypt that its "characteristics include the abundance of money. There used to be a saying that if anyone goes to Egypt and does not become rich, God will never make him rich."⁶⁷ There is no doubt that the elites of Egypt were the richest in the Mediterranean, and at the high point of Fatimid power around 1000, perhaps the world. We don't know how wealthy the Caliph in Cairo might have been, but Nāṣer-e Khosraw tells us that he rented out 22,000 shops for up to ten dinars a month each, and that he owned another 8000 buildings in the city.⁶⁸ State revenues were large: Muqaddasī met in Tinnīs a tax-official who collected 1000 dinars a day, and when the same city in 1011/12 delivered three years of taxes at once, it amounted to a million dinars, plus a million dirhams.⁶⁹

In comparison, the Ottonian emperors, certainly the richest men in Latin Europe, had an income equivalent to perhaps 24,500 dinars per year.⁷⁰ Even if we reduce Khosraw's estimate by a factor of ten, this is still only a little more than the Caliph received in shop rents every month. Sitt al-Mulk, half-sister (and possible assassin) of

⁶⁶ Shelomo Goitein, *Letters of Medieval Jewish Traders. Translated from the Arabic with Introductions and Notes*, Princeton: 1973, 77; Yaacov Lev, "Tinnīs: An Industrial Medieval Town," in *L'Égypte Fatimide. Son art et son histoire*, edited by Marianne Barrucand, 83–96. Paris: 1999, 84, 91. A gold quarter dinar might easily fetch 8 dirhams, which equals 23.76 grams of silver, which in Italy might equate to 18.28 silver deniers. This might buy an entire pig in Italy, with change left over: David Herlihy, "The History of the Rural Seigneurie in Italy, 751–1200," *Agricultural History* 33, 2 (1959): 58–71, 61. The parade celebrated the defeat of the Abū Rakwa rebellion; recorded in Ibn Zafir, *al-Duwal al-munqaṭi'a*, 47, cited in Stijn van Nieuwenhuysse, "The uprising of Abū Rakwa and the Bedouins against the Fāṭimids," *Acta Orientalia Belgica* 17 (2003): 245–264, 260.

⁶⁷ Tha'alibī. *The Book of Curious and Entertaining Information. The Laṭā'if al-ma'ārif of Tha'alibī*. trans. Clifford E. Bosworth, Edinburgh: 1968, 120.

⁶⁸ Nāṣer-e Khosraw's *Book of Travels*, 45.

⁶⁹ Al-Muqaddasī, *Best Divisions for Knowledge of the Regions*, trans. Basil Collins, Reading, UK: 2001, 203, 213; Yaacov Lev, "Tinnīs: An Industrial Medieval Town", 86.

⁷⁰ The wealth of the German emperors has recently been estimated by Bachrach. I have used his higher figures, in which a *villa* contains ~100 *mansi*, which gives an annual income of 1,710,000 silver denari. This is equivalent to some 24,500 dinars, using the low rate of 30 dirhams to the dinar: David Bachrach, "Towards an Appraisal of the Wealth of the Ottonian Kings of Germany, 919–1024," *Viator* 44, 2 (2013):1–28, esp. 13–14. Bachrach cautions that the Ottos may have been richer than his numbers suggest, as they are based on extant documents and much has been lost. In the first half of the tenth century in particular, the architectural achievements of the Ottonians were modest as well, although they made up for it around the millennium. See Richard Plant, "Architectural Developments in the Empire North of the Alps: The Patronage of the Imperial Court." In *The white mantle of churches: architecture, liturgy, and art around the millennium*, edited by Nigel Hiscock, 29-56. Turnhout: 2003, 33, 36.

Caliph al-Hakim, had an annual income of 100,000 dinars.⁷¹ We find similar sums amidst the senior cadres. The eunuch Barjawān left 30,000 dinars in cash when al-Hākim had him liquidated; another, Sayf al-Dawla Nādir al-Ṣaqlabī (d. 992), left 300,000.⁷² Even a slave girl left an estate of 400,000 dinars.⁷³

Moving down the ranks, there is evidence for wealthy private citizens, such as a merchant who extended 16,000 dinars of credit to a vizier.⁷⁴ The chief justice of Cairo received 2000 dinars a month, a naval officer 20.⁷⁵ Unskilled labourers might earn only 1.5 dirhams a day, but labour was in a relatively strong position in Egypt. Extant letters attest to a competitive labour market, in which magnates competed for workmen, and labourers demanded wages and provisions upfront.⁷⁶ Such examples could be multiplied, and while the reliability of the numbers is often suspect, it is clear that the economic development of Egypt was an order of magnitude greater than in Latin Europe.

Economic disparity, expressed in the high value of labour and the greater availability of money in the south, had several specific consequences for Italian commerce with the House of Islam:

1. There were strong incentives for trade with the east — anything that could be sold for silver in Italy was better sold for gold to Muslim merchants.
2. There was every reason for the Italians to integrate themselves into the trade network and to cooperate with its norms, in order to encourage exchange and investment.
3. In the cash-strapped Latin West, a modest amount of gold could have a disproportionate effect.

As we have seen, the contrast of wealth was particularly apparent around the millennium,

⁷¹ Ann Christys, “The queen of the Franks offers gifts to the caliph al-Muktafi,” in *The Languages of Gift in the Early Middle Ages*, edited by Wendy Davies and Paul Fouracre, 149–170. Cambridge: 2010, 166, n.102; Yaacov Lev, *State and Society in Fatimid Egypt*. New York and Leiden: 1991, 67.

⁷² Lev, *State and Society*, 75–76.

⁷³ She had belonged to ‘Abd Allāh, son of the Caliph al-Mu’izz: Lev, *State and Society*, 68.

⁷⁴ Lev, *State and Society*, 70.

⁷⁵ *Nāṣer-e Khosraw’s Book of Travels*, 59; Lev, *State and Society*, 120.

⁷⁶ Norman A. Stillman, “A Case of Labor Problems in Medieval Egypt,” *International Journal of Middle East Studies* 5, 2 (1974): 194–201.

when Fatimid prosperity would stimulate almost the entire Mediterranean. High labour costs in the east underwrote the trade in slaves, a business that in the tenth century dominated trade.⁷⁷ Slavery existed in Italy, but the availability of labour, of the sort Liudprand was accustomed to, meant it was only a minor part of Italy's internal economy. On the Muslim and Jewish side, there were incentives to doing business in Italy — a slave on the beaches of Pisa could be had for 5 dinars, compared to 20 to 30 in Egypt.⁷⁸ This factor, above all, must have impelled Muslim ventures to Italy.

Inexpensive labour encouraged other, more permanent, forms of physical investment. For example, it likely explains the picture of Naples in the Arabic sources. Ibn Hawqal's description is famous: 'the main wealth of Naples is linen and linen cloth. I have seen there pieces the like of which I have seen in no other country... They are woven 100 *dhira*' by 15 or 10, and they sell for 150 *ruba'i* [37.5 dinars] a piece.'⁷⁹ The phenomenon of cheap yet high-quality handcrafts is all too familiar in our own era of affordable tourism.

Generally speaking, trade expansion is driven by demand, and demand resides in zones of higher population and wealth. The initiative for the development of Naples, therefore, probably lay on the southern shores of the Mediterranean. Throughout our period, the city likely served as a commercial outpost of the Muslim world.⁸⁰ As early as 928, we hear of Arabs extracting linen from Naples.⁸¹ For Idrisi, in the 1150s, it remained 'the city of linen.'⁸² But as Skinner points out, there is little mention of this business in Latin sources outside Naples.⁸³ This is not surprising; the Mediterranean network offered

⁷⁷ Michael McCormick, *Origins of the European Economy. Communications and Commerce AD300–900*. Cambridge: 2001, 733–77.

⁷⁸ Emma Falaschi (ed.), *Carte dell'archivio capitolare di Pisa I (950–1050)*, Rome: 1971, #6 (Jan. 965). See eastern prices in McCormick, *Origins of the European Economy*, 757 and Youval Rotman, *Byzantine Slavery and the Mediterranean World*, Cambridge and London: 2009, 198–200.

⁷⁹ This passage is translated in Robert S. Lopez and Irving W. Raymond, *Medieval Trade in the Mediterranean World*, New York: 1955, 54. A *dhira*' is ~.5 metres. The *ruba'i* was a quarter-dinar.

⁸⁰ Neapolitan spinners may have worked raw flax imported from Egypt, just as those of Tunisia and Sicily did. There is archaeological evidence for flax cultivation in the ninth century: Paul Arthur, *Naples: from Roman Town to City-State: An Archaeological Perspective*, Rome and London: 2002, 115.

⁸¹ Michele Amari, *Storia dei Musulmani di Sicilia*, 3 vols. Florence: 1858, ii, 178, n.8.

⁸² Al-Edrisi, *L'Italia descritta nel 'Libro di re Ruggiero*, ed. & trans. M. Amari and C. Schiaparelli, Rome: 1883, 95.

⁸³ Patricia Skinner, "Urban Communities in Naples, 900–1050," *Papers of the British School at Rome* 62 (1994): 279–300, 294; According to the *Honorantie Civitatis Papie* II, edited by Adolf Hofmeister, MGH SS 30. Hanover: 1934, 1450–57, linen was imported into Italy from across the Alps.

a huge consumer base and profits in gold, and within it Naples enjoyed the competitive advantage of inexpensive labour. These benefits were vitiated in trade within Europe. There were, in short, strong incentives to trade within the network rather than with Latin Europe.

Integration into the network implies reciprocal access, and indeed, Naples had an Muslim population, and relied on the currencies of the Islamic world.⁸⁴ Throughout our period, it may have served as a commercial outpost of the Muslim world. It is far from impossible that its spinners worked raw flax imported from Egypt, just as those of Tunisia and Sicily did, as a reliance on grain imports suggests that at least some of its fields were given over to cash crops.⁸⁵ It imported ceramics from Sicily and Tunisia, although they were not used to decorate churches as they were in Pisa.⁸⁶ Inasmuch as Sicily and Tunisia were satellites of the Egyptian flax industry, so Naples must have been a satellite of Sicily. We do not hear of it in the Geniza, but there is no way of knowing how much of the linen of Sicily originated in Naples. Naples provides an example of a city integrated into the network, but not a maritime power.⁸⁷ It was, then, a smaller version of Tinnīs in Egypt, a manufacturing city that left the business of export in the

⁸⁴ There are a number of tombstones with Arabic epigraphy extant in Naples, one of which, dated 1054, belongs to an Imam, judge and doctor: Umberto Scerrato, *Arte Islamica a Napoli*, Naples: 1967, 150–57, #317, 320, 323; Likewise, nearby Puteoli, where tombstones date from 1021 to 1130, *ibid.*, 145–9, #314, 316, 318. In this context, appearances of the surname Saracini are suggestive: Skinner, “Urban Communities,” 297.

⁸⁵ Silk cultivation also appeared briefly in Campania in the tenth century, probably for the same reasons as linen: Amatus I.19; Graham Loud, *Church and Society in the Norman Principality of Capua, 1058–1197*, Oxford: 1985, 25. Cash crops: In a letter of 886 to Anastasius, bishop of Naples, Pope Stephen V threatens to destroy the crops customarily exported from Rome to Naples. The letter too implies that Naples received supplies from Corsica and Sardinia (J.L. 3414). Later on, grain was brought to Naples from Gaeta: *Codex diplomaticus Cajetanus*, 2 vols. Montecassino: 1897, 1891, i, #5, 12, 53 (=CDC). Notwithstanding these examples, there is not much evidence for cash cropping in the Christian west in this period, but it would become more common by the late twelfth century, as for example in the case of the saffron of San Gimignano. David Abulafia, “Crocuses and crusaders: San Gimignano, Pisa and the Kingdom of Jerusalem,” in *Outremer - Studies in the History of the Crusading Kingdom of Jerusalem*, Presented to Joshua Prawer, edited by Benjamin Z. Kedar, Hans Eberhard Mayer and Raimond C. Smail, 227–243, Jerusalem: 1982.

⁸⁶ Arthur, *Naples*, 126–27, 133.

⁸⁷ Barbara Kreutz, *Before the Normans*, Philadelphia: 1996, 87; Arthur, *Naples*, 121. But note the provocative suggestion of Skinner that an obscure reference to a ‘lord of Nabul’ negotiating trade relations in the mid-tenth century with ‘Abd al-Rahmān of Cordoba refers to Naples. Patricia Skinner, “Amalfitans in the Caliphate of Cordoba – Or Not?” *Al-Masaq* 24, 2, (2012): 125–138, 129.

hands of foreign merchants.⁸⁸ These merchants were often from Amalfi, which had controlled the offshore island of Capri since 866, and which used the same currency as Naples.⁸⁹

We should take the implications of the Campanian currency union with the House of Islam seriously. The quarter-dinar, known as the *tari*, was in use from the early tenth century (fig 2).⁹⁰ It meant that the cities were markets in the Muslim world; polities do not transform their currencies for the sake of citizens who go on travels, but as an incentive to visitors.⁹¹ We might compare the dollarization of Panama or Ecuador, which both rely on the currency of the United States. It is reasonable to suppose that tenth century monetary unions, as in other eras, sought to eliminate the transaction costs associated with exchanging currencies.⁹² Twentieth century data suggest that small economies that share in a major currency may see increases in trade volumes of 200–300 per cent.⁹³ Such specificity is impossible for our period, but for traders in the Mediterranean, whose concern with exchange rates is documented, recognizable currencies must have been an important benefit.⁹⁴

⁸⁸ Foreigners in Naples are documented: Amalfitans, *Regesta Neapolitana* #82, 90, 183, 397, 402, 412, 448, 485; Gaetans, #RN 85, 115, 351; a single Pisan, #RN 469. These are all noted in Skinner, “Urban Communities,” 294. We should not expect documents — wills, property transactions, and court cases — to reflect the transitory presence of traveling merchants. RN = Bartolommeo Capasso, ed., *Regesta Neapolitana. Monumenta ad Neapolitani Ducatus historiam pertinentia*, Naples: 1881; Codice Perris = J. Mazzoleni and R. Orefici (eds.), *Il Codice Perris. Cartulario Amalfitano, sec. X–XV*, Amalfi: 1985.

⁸⁹ Arthur, *Naples*, 98; Patricia Skinner, *Family Power in Southern Italy. The Duchy of Gaeta and its neighbours, 850–1139*, Cambridge: 1995, 271; Sergius the Amalfitan, whose two wills survive from 1021 (Naples: RN 402) and 1025 (Amalfi: *Codice Perris*, #81), had property in Amalfi, Naples and Capri.

⁹⁰ The *tari* first appears, in Egypt, in a contract of marriage of 873. In Aghlabid Sicily it was the only gold coinage in production. Its subsequent spread to South Italy is attested in the documents of the Campanian cities: in Salerno in 908: Michele Morcaldi, ed., *Codex diplomaticus Cavenensis*, Naples: 1873, #124, in Gaeta at least by 909, in a charter of sale (CDC #21), in Amalfi by 931 (R. Filangieri di Candida (ed.), *Codice Diplomatico Amalfitano*, Naples: 1917, #3) and by 935 in Naples (RN #28) Later Salerno, in the mid- to late tenth century, and Amalfi, certainly by 1042, began to mint their own versions. Stern, “Tari. The quarter Dinar,” 197, 178, 187–88.

⁹¹ Some currencies were adopted for reasons of prestige, such as Byzantine *solidi* in Guiscard’s Salerno in the eleventh century, but we know that the *tari* circulated as functional coins. It was in inland cities, e.g. Benevento, that Byzantine *solidi* were a functional currency: Alessia Rovelli, “La moneta nella documentazione altomedievale di Roma e di Lazio”; Philip Grierson, “The Salernitan coinage of Gisulf II (1057–1077 and Robert Guiscard (1077–1085),” in Grierson, *Later Medieval Numismatics (eleventh to sixteenth Centuries)*, London: 1979; Vera von Falkenhausen, “La circolazione monetaria nell’Italia meridionale e nella Sicilia in epoca normanna secondo la documentazione di archivio,” *Bollettino di Numismatica del Ministero per i Beni Culturali e Ambientali* vi–vii (1986), 55–79.

⁹² That is, the “transaction-cost benefit.” Alberto Alesina and Robert J. Barro, “Dollarization,” *The American Economic Review* 91, 2 (2001): 381–385, 381; Robert A. Mundell, “A Theory of Optimum Currency Areas,” *American Economic Review* 51, 4 (1961): 657–65.

⁹³ Andrew K. Rose, “One Money, One Market: Estimating the Effect of Common Currency on Trade,” *Economic Policy: A European Forum* 30 (2000): 7–33.

⁹⁴ Goitein, “Exchange rates;” Hopley, “Aspects of Trade in the Western Mediterranean.”

Amalfi appears to have served as middleman. Its merchants ranged as far as Pavia, and found goods to export from Naples.⁹⁵ It played, then, a role familiar in recent colonial histories — that of supplying raw materials while serving as a market for goods manufactured in a distant metropolis. It leveraged this status in its backyard by controlling the distribution of luxuries, such as the robes purchased there by the abbot of Montecassino for the emperor.⁹⁶ That the abbot travelled there himself suggests the prestige Amalfi had acquired.

Cheap labour and high value money implies the scarcity of the later. If Amalfi or Pisa got rich on trade, it was due to the demand and purchasing power of the southern and eastern Mediterranean. Europe lacked domestic sources of gold, and gold currencies were struck only in regions in direct contact with the trade network.⁹⁷ Its impact is manifest in the precocious development, still visible in their urban fabrics, of the maritime cities.⁹⁸ There was, therefore, every reason for the Italians to participate with as little friction as possible; that is to say, via the existing channels in the network itself.

THE MEDITERRANEAN NETWORK AND THE ECONOMIC TRANSITION

While strong incentives probably governed the Italian entry into the Mediterranean network, it remains to be seen to what extent the network was able to accommodate newcomers. It will be useful to review salient features of the network in the context of the evidence for Italian commerce. In general, the latter is chronologically divided: we have limited data for the period before the economic transition, which appears to have begun around 1060 and consolidated around 1100. The subsequent period is richer in sources,

⁹⁵ *Honorantie Civitatis Papie* VI.

⁹⁶ *Chronica Monasterii Casinensis* III.18, 385, a. 1065, in Hartmut Hoffman, ed., *Die Chronik von Montecassino*, MGH SS 34, Hanover: 1980 (=Montecassino Chronicle); Liudprand, *Relatio* IV.

⁹⁷ The gold for these South Italian issues came from recycled coins of Sicilian or African provenance, which should make us cautious about enumerating coin finds in the region. Alexandra Gondonneau and Maria Filomena Guerra, “The Circulation of Precious Metals in the Arab Empire: The Case of the Near and Middle East,” *Archaeometry* 44 (2002): 586–88.

⁹⁸ On the exceptional development of Amalfi, see Jill Caskey, *Art and Patronage in the Medieval Mediterranean: Merchant Culture in the Region of Amalfi*, Cambridge: 2004, 47-115. See also Skinner, “Urban Communities,” 285.

but we shall engage them only to the extent necessary to illuminate conditions during the transition.

The network did not lap every nook of the Mediterranean equally. Some regions operated at low levels of material complexity, such as the Balkans.⁹⁹ Other regions, such as Cairo and Cordoba, demonstrated levels of material prosperity that matched Roman standards. High intensity exchange was therefore spatially heterogeneous. For the half-century on either side of the millennium, Sicily and Tunisia, and Egypt and the southern Levant, were effectively distinct trade zones.¹⁰⁰ With Palermo serving as a way station, even the 4000 km voyage from Al-Andalus to Egypt was routine.¹⁰¹ The preoccupations of a mobile age were expressed in an explosion of geographical treatises, whose authors conceptualized bodies of water less as barriers than as connective tissue.¹⁰² They reflect, too, the strong maritime orientation of the Mediterranean states, some of which had closer connections to distant ports than their own hinterlands.¹⁰³

In the House of Islam political boundaries rarely impeded movement.¹⁰⁴ As early as 870, the monk Bernard had no difficulty traveling to Jerusalem on a Muslim ship from Bari.¹⁰⁵ Ibn Hawqal in the 970s and Nāṣer-e Khosraw in the 1040s traversed the world from Spain to Inner Asia. In the mid-eleventh century, we have a record of 10,000 travellers sailing from Palermo to Alexandria, a number greater than the population of most medieval towns, while some 500 ships arrived annually in Tinnīs from Syria.¹⁰⁶

⁹⁹ George Ostrogosky, *History of the Byzantine State*, trans. J. Hussey, New Brunswick: 1957, 275–76.

¹⁰⁰ Goitein, *A Mediterranean Society*, I, 235.

¹⁰¹ Goldberg, *Trade and Institutions in the Medieval Mediterranean*, 253–57.

¹⁰² Antrim, *Routes and Realms*, 178, n.43.

¹⁰³ E.g. Zirid Tunisia, especially after the mid-eleventh century crisis, when it sought to intervene in Sicily despite losing control of its own hinterland, and the *taifa* of Denia, where maritime expansion was a key policy. On the latter, see Bruce, 'Piracy as Statecraft.' Egypt's maritime orientation is emphasized by its division into the littoral axis of Cairo-Alexandria (including Tinnīs and Damietta), and everywhere else, known as the "province" (*rīf*). Goitein, *Mediterranean Society*, 4, 9. For a Latin example, a mid-eleventh century poem by Alphanus of Salerno listed that city's neighbours, starting with the Campania, but then moving immediately to Islamic regions. Alphanus Salernitanus, *XXXV. Ad Guidonem fratrem principis Salernitani*, PL 147, 1257A.

¹⁰⁴ Goitein, *A Mediterranean Society*, I, 32; Skinner, 'Amalfitans in the Caliphate of Cordoba – Or Not?' 127.

¹⁰⁵ Leor Halevi, "Bernard, Explorer of the Muslim Lake: a Pilgrimage From Rome To Jerusalem, 867," *Medieval Encounters* 4, 1 (1998): 24–50.

¹⁰⁶ Goitein, *A Mediterranean Society*, I, 215; Ibn Bassām, probably writing in the 1020s, cited in Lev, 'Tinnīs: An Industrial Medieval Town,' 91.

The network has struck some historians as economically liberal in the modern sense.¹⁰⁷ Certainly the hand laid by the Fatimids upon commerce was all but invisible.¹⁰⁸ Nonetheless, internal agricultural production was the most important business sector.¹⁰⁹ As this was based on land and control of the peasantry, it remained firmly under the control of the political elites. The Fatimid vizier Ibn Killis's fortune — worth half a million dinars — was in linen, accumulated in part by reducing the inhabitants of Tinnīs almost to slavery.¹¹⁰ In a highly stratified society, economic freedoms can provide elites with a license to intensify exploitation.¹¹¹ It is, in any case, inaccurate to emphasize a public-private dichotomy in this context. The weight of the state *could* press sharply upon a merchant, but at the same time, leading businessmen might *be* the government. As royalty and high officials engaged in commerce, systematic interference was usually self-defeating for the ruling classes.¹¹²

Ships, merchants, and ship-owners were discrete elements in the network. Most traders did not own, but rented space aboard ships. It was the ultra-rich elite that owned ships.¹¹³ In the 960s, the Fatimid official Jawdhar owned ships that he used to transport wood from Sicily, apparently as a private venture.¹¹⁴ Jewish merchants often travelled in the ships belonging to the Zirid ruler of Mahdia, Al-Mu'izz, whose son Tamīn would

¹⁰⁷ e.g. Goitein, *A Mediterranean Society*, I, 32.

¹⁰⁸ Goitein, *Letters*, 52. It must be emphasized that the trade network was liberal by medieval standards, but not by those of the twentieth or twenty-first centuries. See Jessica Goldberg, "On Reading Goitein's *A Mediterranean Society: A View from Economic History*," *Mediterranean Historical Review* 26.2 (2011) for further discussion of the limits of trade in the network.

¹⁰⁹ Michael Brett, *The Rise of the Fatimids*, Leiden: 2001, 337–9; Chris Wickham, *The Inheritance of Rome*, London: 2009, 367.

¹¹⁰ At least according to Ibn Hawqal: *Configuration de la terre*, trans., Johannes Hendrik Kramers and Gaston Wiet. Paris: 1964, 150–51. In any case, the city flourished in the eleventh century. See Lev, 'Tinnīs: An Industrial Medieval Town,' 83–96.

¹¹¹ For example, when grain shortages threatened Egypt, the Fatimids imposed forced sales at fixed prices on merchants and landowners, but did not apply the rule to their own supplies, nor did they relax customs duties on incoming grain. Lev, *State and Society*, 177–178.

¹¹² On this matter in general, see P. A. Sanders, "The Fatimid State, 969–1171," in *The Cambridge History of Egypt. Vol.1: Islamic Egypt, 640–1517*, edited by Carl F. Petry, 151–174. Cambridge: 1998, 161–165; Lev, *State and Society*, 65–67; Goldberg, *Trade and Institutions*, 167–69.

¹¹³ Moshe Gil, "Shipping in the Mediterranean in the Eleventh Century A.D. as Reflected in Documents from the Cairo Geniza," *Journal of Near Eastern Studies* 67, 4 (2008): 247–292, 248–49.

¹¹⁴ Al-Jawdhārī, *Inside the Immaculate Portal. A History from Early Fatimid Archives*, ed. and trans. H. Haji, London: 2012, 132, 140, 152.

latter suffer attacks from Pisa.¹¹⁵ Later, in 1047, Nāṣer-e Khosraw saw trading ships maintained by the Fatimid caliph in Syria.¹¹⁶ If it was rare for less elevated echelons to own ships, this was not a legal but an economic restriction. In Aden a Jewish leader built a ship in partnership with a Muslim merchant, and a Christian in Cairo owned ‘untold ships.’¹¹⁷ But whether a ship belonged to a prince or a partnership, for traveling merchants the space aboard was a necessary commodity.¹¹⁸

Lacking princes, ownership in Italy tended to be fractional. In 1105, we hear of a ship owned by the count of Tusculum and a group of Gaetan families, and of another co-owned by two Amalfitans.¹¹⁹ In Genoa, ownership of the ship-fractions, *loca*, extended throughout the ranks of society.¹²⁰ A similar system of fractional ownership prevailed in Egypt for real estate, although we don’t know how ship-owning was organized.¹²¹ Historians, perforce, speak of Pisan ships, Amalfitan ships. But state ownership is hardly likely in this era before the state even existed, but in which the forms of private property were strictly delimited. The ships must have had owners, or groups of owners, even if we rarely see them identified. They had their own concerns, however, as in the case of the Pisans worried about lost profits when their ships were diverted for the 1063 raid on Palermo.¹²² These owners could certainly act in concert. But they must also have

¹¹⁵ The merchant Yeshū’ā b. Isma’īl complained bitterly when his goods were loaded onto a ship in Alexandria belonging to “the evil-doer” al-Mu’izz. Gil, M. “The Jewish Merchants in the Light of Eleventh century Geniza Documents,” *JESHO* 46, 3, (2003): 273-319, 311. It’s not clear whether the cargo was seized, or if Yeshū’ā was complaining about an action sanctioned by an agent of his. On the other hand, a rich merchant named Judah was on good terms with al-Mu’izz, and was apparently pleased to use his ships: Goitein, *Letters*, 80-81.

¹¹⁶ Nāṣer-e Khosraw’s *Book of Travels*, 13; Lev, *State and Society*, 67.

¹¹⁷ Gil, ‘Shipping in the Mediterranean,’ 249; Goitein, *Letters*, 183–4. This dates from the twelfth century, but there are a handful of examples from the earlier period: Goitein, *A Mediterranean Society*, 309; Nāṣer-e Khosraw’s *Book of Travels*, 55–56. Goldberg, *Trade and Institutions*, 179, notes that Jewish merchants may have avoided investing in ships due to their ‘precarious position as a religious minority.’

¹¹⁸ Or, indeed, to the state. A document of 1031 from Fustat shows the government hiring private ships to move grain: Khan, *Arabic legal and administrative documents*, #54. Earlier, in the 950s, the Fatimid ruler employed merchant ships to move his soldiers to Sicily: al-Jawdhārī, *Inside the Immaculate Portal*, 86.

¹¹⁹ Patricia Skinner, ‘Politics and piracy: the duchy of Gaeta in the twelfth century,’ *Journal of Medieval History* 21 (1995) 307–319, 310; *Codice Perris* #1, 29, and *CDA* 2, 596.

¹²⁰ Eugene H. Byrne, *Genoese Shipping in the Twelfth and Thirteenth Centuries*, Cambridge, MA: 1930, 13–14.

¹²¹ Khan, *Arabic Legal and Administrative Documents*, 9.

¹²² Malaterra II.34, in Geoffrey Malaterra. *De rebus gestis Rogerii Calabriae et Siciliae comitis et Roberti Guiscardii ducis fratris eius*, ed. E. Pontieri, *Rerum Italicarum scriptores*, Bologna: 1928.

competed fiercely, as Pisan families did in building towers.¹²³

There is some evidence for a market in ships. Around the 960s Jawdhar sought to buy a ship to replace one wrecked at sea.¹²⁴ Around the same time, the Fatimid ruler purchased two ships from the Byzantines.¹²⁵ In the 1080s some Normans in Apulia acquired a warship for a vast sum, but we do not know from whom.¹²⁶

Princes did not administer their own ships. The merchant Abū Zikrī Judah worked with both the manager and captain of a vessel belonging to the ruler of Tunisia to ensure a secure passage.¹²⁷ With the ship-owner landbound, responsibility shipboard was divided between the officers; we see a hint of this in an eleventh century *vita*, in which the saint addresses the “*rektoribus et patronibus*” when giving the orders that will miraculously bring the ship to land.¹²⁸ But these figures were remote from the untrammelled authority of the modern ship’s master. The captains were liable to their passengers, and the manager might be a mere functionary.¹²⁹ In 1105, an Amalfitan captain, one Constantine Castaniola, was responsible to the owners and paid with a cut of the cargo.¹³⁰ This system appears to have been standard later in the twelfth century.¹³¹ On any ship, passengers and their cargoes were of varying degrees, and might easily match the officers in wealth or status. As above, so below: there might be little difference between a poorer merchant, a crew-member, or a pilgrim, all of whom drew swords together should danger threaten. As such, authority on board was dispersed.

Merchants usually travelled with their goods, or on top of them: a letter of Jacob b. Salmān al-Harīrī records how he ‘opened up his rug and spread it out and slept as if he

¹²³ Attested in a diploma of Bishop Daibert of Pisa. Gabriella Rossetti, “Il lodo del vescovo Daiberto sull’altezza delle torri,” in *Pisa e la Toscana occidentale nel medioevo: A Cinzio Violante nei suoi 70 anni*, 2 vols. Pisa: 1991, v.ii, 25–31.

¹²⁴ al-Jawdharī, *Inside the Immaculate Portal*, 140.

¹²⁵ *Ibid.* 140.

¹²⁶ Anna Comnena, *Alexiad* x.8, in *The Alexiad of Anna Comnena*, trans. Edgar R.A. Sewter, New York: 1969.

¹²⁷ Gil, ‘Shipping in the Mediterranean,’ 248; S. Goitein, *Letters*, 81.

¹²⁸ *De vita S. Nicolai in Græcia. Ex relatu Bartholomæi, Sanctum comitati*, cap.iii.18, [Col. 0241B], BHL 6223.

¹²⁹ The liability of the captain varied. In a case of c.1000, the Muslim jurist Ibn Shiblūn ruled that the captain of a ship is not liable for compensation to the hirers of the ship if he changed course due to danger or poor conditions. Gil, ‘Shipping in the Mediterranean,’ 261.

¹³⁰ *Codice Perris*, i, 96. According to a document of 1031, payment for carrying grain on the Nile might also be in the form of a cut of the cargo: Khan, *Arabic legal and administrative documents*, #54.

¹³¹ Frederic C. Lane, “Venetian Seamen in the Nautical Revolution,” in *Venezia e il Levante fino al sec. XV*, edited by Agostino Pertusi, i, 403–429. Florence: 1973, 407.

were at home, with his bag under his head.’¹³² It was better business never to travel empty-handed. A merchant might bear civet perfume to the west, and carry ambergris, harvested on Atlantic beaches, back to the east.¹³³ Richer merchants consigned goods to agents. In 1038, Jacob Ibn ‘Allān, from his desk in Fustat, dispatched to Mahdia shipments from Tripoli, Alexandria, and Barqa.¹³⁴ In the absence of an agent, this role could devolve upon the ship’s officers.¹³⁵ In an anecdote of al-Biruni, a man lodged a valuable item with a ship’s officer, who recorded his instructions in the logbook. When the ship returned, the officer sought out his client in order to deliver the profits.¹³⁶

Even in cases of direct transit, as between Sicily and Tunisia, a ship might carry merchants from other regions. Often, Geniza letters tell us of merchants waiting for the next ship to their desired destination.¹³⁷ The origin of the ship does not seem to have mattered. It was, in short, not an age of strict bilateral trade; a ship might depart from Al-Andalus, stop off in Palermo or Amalfi, proceed to Zirid North Africa, before ending up in Egypt. From there it could sail on to the Levant or Constantinople. Political tensions between polities appear to have been little impediment.¹³⁸ In 1038, with regular transport disrupted by a Byzantine attack on Sicily, Jacob Ibn ‘Allān had a warship carry his cargo.¹³⁹ The essentially private nature of the network is significant: in general, merchants do not seem to have been interpreted as political actors.

Political barriers were incidental in Italy as well, at least at first. A 992 chrysobull granted to Venice implicitly affirms — by banning the practice — that merchants from Amalfi, Jews, and Lombards from Bari, transported their goods on Venetian ships.¹⁴⁰ A Fatimid document from the reign of al-Āmir (1101-30) records a timber delivery by a

¹³² Gil, ‘Shipping in the Mediterranean,’ 251.

¹³³ Goitein, *Letters*, 49–51.

¹³⁴ *Ibid.* 100.

¹³⁵ For a fee, of course. Gil, ‘Shipping in the Mediterranean,’ 275.

¹³⁶ Al-Bīrūnī, *Al-Beruni’s Book on Mineralogy. The Book Most Comprehensive in Knowledge on Precious Stones*, trans. H. M. Said, Islamabad: 1989, 222–23.

¹³⁷ Gil, ‘Shipping in the Mediterranean,’ 253.

¹³⁸ The fact that we have complaints, for example, that hostilities in Sicily in 1065 led to high prices indicates that commerce continued, at least for a time. Gil, ‘Shipping in the Mediterranean,’ 280.

¹³⁹ Goitein, *Letters*, 98.

¹⁴⁰ Marco Pozza and Giorgio Ravegnani, eds., *Pacta Veneta 4: I trattati con Bisanzio 992–1198*, Venice:1993, 21-22.

group of Italians, including an Amalfitan and Genoese. Stern proposed that several ships happened to arrive simultaneously, but perhaps instead we should understand a ship carrying merchants of several nationalities.¹⁴¹ Just prior to the first crusade, the Pisans rented a ship (or possibly space on board) to some men of Volterra.¹⁴² In 1124, a Roman-owned ship docked at Gaeta, and Gaetan ships are attested both in Muslim Spain and in Genoa.¹⁴³ Venetians and Genoese frequently travelled on south Italian ships.¹⁴⁴ Although Skinner interprets the sometime presence of Venetians on Amalfitan ships in political terms, it is better to understand it as business as usual.¹⁴⁵ This practice of flags of convenience has been interpreted as a sort of subterfuge, perpetrated on Islamic authorities by Italian traders, but it appears that it simply represents a formalized extension of the existing practices in the network.¹⁴⁶

The goods in the network varied from commodities, above all flax and grain, to gemstones, giraffes, and other diplomatic gifts. In this era, as in others, bulk goods must have powered the economy. The grains and produce consumed by the island city of Tinnīs were all imported.¹⁴⁷ However, the proportional importance of bulk versus luxury goods was tilted further towards the latter than in the modern era. This is due in part to economies of scale, as cargoes were limited by nautical technology — there were no supertankers in the eleventh century. A handful of ambergris, however, could justify a trip across the Mediterranean.¹⁴⁸ In contrast to late antiquity, hulls of the tenth and eleventh

¹⁴¹ Stern, ‘An original document from the Fatimid chancery.’

¹⁴² William Heywood, *A History of Pisa, Eleventh and Twelfth Centuries*, Pisa: 1921, 48.

¹⁴³ CDC 302: P. Skinner, *Family Power*, 290; David Abulafia, *Two Italies: Economic Relations between the Norman Kingdom of Sicily and the Northern Communes*, New York: 1977, 76; Goitein, *Letters*, 258.

¹⁴⁴ In 1112 and 1120: André-E. Sayous, “Le Rôle du capital dans la vie locale et le commerce extérieur de Venise entre 1050 et 1150” *Revue belge de philologie et d’histoire* 13 (1934): 657-96, 991-2, reprinted in *Commerce et finance en Méditerranée au Moyen Âge* (London, 1988), vii; Vera von Falkenhausen, “Il commercio di Amalfi con Constantinopoli e il Levante nel secolo XII,” in *Amalfi, Genova, Pisa e Venezia: Il commercio con Constantinopoli e il vicino oriente nel secolo XII*, 19–38. Pisa: 1998, 31; Abulafia, *Two Italies*, 75.

¹⁴⁵ P. Skinner, *Medieval Amalfi*, 222-3.

¹⁴⁶ Enrica Salvatori, “Corsairs’ Crews and Cross-Cultural Interactions: The Case of the Pisan Trapelicinus in the Twelfth Century,” *Medieval Encounters* 13 (2007): 32-55.

¹⁴⁷ Lev, ‘Tinnīs: An Industrial Medieval Town,’ 92.

¹⁴⁸ Al-Mas’udi, *Historical encyclopaedia: entitled ‘Meadows of gold and mines of gems,’* trans. A. Sprenger, London: 1841, 375, writing in the mid-tenth century, notes that ambergris went for ten dinars an ounce in Egypt.

centuries usually bore heterogeneous cargoes.¹⁴⁹ This reflects the impromptu nature of cabotage in the network, in which every new port could mean new markets, traders, and goods.

The same commodities appear in twelfth century Latin sources as in tenth century Arabic ones: a Genoese document of c. 1140, for example, lists pepper, brazilwood, cinnamon, and other prestigious imports, as well as cotton.¹⁵⁰ Grain and olive oil continued to be exchanged between Sicily and Tunisia.¹⁵¹ And while goods were taxed, the rates could be low: one third of one percent was charged per *cantar* of pepper in Genoa. The unit, one notes, was derived from the *qintar* of the Islamic world.

It is apparent that there was a great deal of slippage between the categories of merchant, traveler or pilgrim. Shipping in Italy appears to have maintained the piecemeal approach to navigation also used in the south; one of the only itineraries of a voyage surviving from eleventh century Italy, has a ship returning from trading grain in Antioch going via Myra, Makri and several other ports. It carried, in addition to its Barese crew, a Frank, a Greek, and a dead bishop.¹⁵² An Italian Jew who travelled east for the sake of Talmudic studies in the early eleventh century carried merchandise with him.¹⁵³ Pilgrims to Mecca financed their trips with pearls, which were cheaper on the Red Sea than the Mediterranean.¹⁵⁴ Muslim scholars, obliged to study at their master's feet, underwrote their travels by selling merchandise or serving as agents.¹⁵⁵ Another example is Jabbāra, a

¹⁴⁹ Sean Kingsley, "Mapping trade by shipwrecks," in *Byzantine trade, 4th–twelfth centuries: the archaeology of local, regional and international exchange; papers of the thirty-eighth Spring Symposium of Byzantine Studies, St John's College, University of Oxford, March 2004*, edited by Marlia Mundell Mango, 31–36., Aldershot: 2009, 33. There were exceptions, for example grain barges on the Nile mentioned in Khan, *Arabic legal and administrative documents*, #54. Another may have been slave ships, which likely required specialized equipment, and might, to judge from the account of the monk Bernard, be heavily loaded. Halevi, 'Bernard, Explorer of the Muslim Lake,' 24–50.

¹⁵⁰ Stephen Epstein, *Genoa and the Genoese, 958–1528*, Chapel Hill: 1996, 38.

¹⁵¹ David Abulafia, "The crown and economy under Roger II and his successors," *Dumbarton Oaks Papers* 37 (1983): 1–14, 5.

¹⁵² The bishop was St. Nicolas, his body seized from Myra by the sailors of Bari. Nicephorus, *Biblioteca Hagiographica Latina Antiquae et Mediae Aetatis*. no. 6179. It is printed in Francesco Nitti di Vito, "La traslazione delle reliquie di San Nicola," *Iapigia* 8 (1937): 295–411.

¹⁵³ Goitein, *Letters*, 39–42.

¹⁵⁴ *Ibid.*, 83.

¹⁵⁵ Hayyim J. Cohen, "The economic background and the secular occupations of Muslim jurists and traditionalists in the Classical period of Islam," *Journal of the Economic and Social History of the Orient* 13 (1970): 299–312; G.M. Frantz, "A New Interpretation of the Economic History of Medieval Egypt," *Journal of the Economic and Social History of the Orient* 24, 3 (1981): 274–297, 288.

buccaneer who raided Alexandria, but was not above shipping flax for Jacob Ibn ‘Allān.¹⁵⁶ The Latin sources are more exiguous, but St. Simeon of Trier caught a ship on the Nile that took him in the direction of Antioch.¹⁵⁷

Sources for shipboard conditions in our era are scarce, but it is probable that the mixing of merchants, sailors and pilgrims from disparate zones of the Mediterranean led to the creation of temporary autonomous communities, in which relationships were constructed according to needs and circumstances. Nor were the passengers restricted to these groups: we can cite spies like Ibn Hawqal, soldiers, refugees, poets, artisans, men of letters like Nāṣer-e Khosraw, diplomats, and doctors like Ibn Butlān.¹⁵⁸ The impression we get from a scattering of Latin records is consistent with those of the south: for example, Liudprand of Cremona travelled as an independent passenger from Venice to Constantinople. Once there, he nicely conflated the line between diplomat and merchant when he sought to export purple cloth from Byzantium.¹⁵⁹ Bishop Werner of Strasbourg followed a similar route in the 1020s.¹⁶⁰ In a letter of Jacob b. Salmān, we read that the ambience shipboard was ‘as in town.’¹⁶¹ It is worth noting too the salacious anecdote of Ibn Hazm, in which a seaborne Lothario works his way through the female pilgrims aboard ship.¹⁶² We have already alluded to the decentralized authority consequent upon the social mixing between crew and passengers. Such contexts must have provided fertile ground for the transfer of information and practices.

There is less to say about the physical aspect of ships. Technological innovations have been advanced to explain Italian success, but it now appears that no significant

¹⁵⁶ Goitein, *A Mediterranean Society*, I, 328–29; *Letters*, 100.

¹⁵⁷ *Vita s. Symeonis*, in AA.SS., Iulii, 6. Paris and Rome: 1868, 319–337, cap.11.

¹⁵⁸ Nor, of course, are these categories mutually exclusive. The Khurasani writer Tha’alibī, whose works were read in Al-Andalus, was a dealer in fox pelts: Tha’alibī. *The Book of Curious and Entertaining Information*, 3.

¹⁵⁹ Liudprand, *Relatio* LV.

¹⁶⁰ He was sent to Constantinople by Conrad II on the overland route, but was turned back in Hungary and wandered many regions until ending up in Venice, where he managed to find a ship. Wipo, *The Deeds of Conrad II*, xxii. trans in T. E. Mommsen and K. F. Morrison, *Imperial Lives and Letters of the Eleventh Century*, New York and London: 1962, 83.

¹⁶¹ Gil, ‘Shipping in the Mediterranean,’ 251.

¹⁶² Ibn Hazm, *Ring of the Dove*, trans. A. J. Arberry (London, 1953), ch.28. The truth of the story may be doubted, but our concern is with the atmosphere of shipboard conviviality it implies.

disparity in marine technology existed in our era.¹⁶³ Our sources imply as much, for we have seen that there was a market in ships, and surviving nautical terminology strikes a distinctly international note.¹⁶⁴ The differences that did exist seem to derive from economic and organizational differences, in that southern ships were built to sizes unknown in Italy.¹⁶⁵ Those built by the Fatimid Caliph Al-Mu'izz in the 960s for his move to Egypt were 150 cubits long.¹⁶⁶ Latin sources invariably describe ships small enough to be pulled up on beaches.¹⁶⁷ This is scarcely conceivable for the vessels known to have carried 400 or more passengers plus cargo.¹⁶⁸ Our best image of a large ship is a substantial three-masted vessel depicted on an imported ceramic in Pisa (fig 3).¹⁶⁹ This may represent the multi-decked vessels mentioned in a letter to Ibn 'Awkal, reassuring the magnate that his goods were stowed below decks.¹⁷⁰ Most ships, however, were likely of a smaller size.¹⁷¹

¹⁶³ Patrice Pomey, Yaacov Kahanov, and Eric Rieth, "Transition from Shell to Skeleton in Ancient Mediterranean Ship-Construction: analysis, problems, and future research," *The International Journal of Nautical Archaeology* 41, 2 (2012): 235–314, esp. 304–305; Julian Wainwright, "Technological Continuity and Change: The Lateen Sail of the Medieval Mediterranean," *Al-Masaq* 24, 1 (2012): 1–19, has shown that while the lateen rig was likely adopted in our period, its advantages lay not in performance but in economy of construction. As such, it likely arose in the Islamic world, where both timber and labour were more costly, and there were greater incentives towards increasing efficiency.

¹⁶⁴ Barbara Kreutz, "Ships, Shipping and the Implications of Change in the Early Medieval Mediterranean," *Viator* 7 (1976): 79–109, 101–103; K. Woody, "'Sagena piscatoris': Peter Damiani and the Papal Election Decree of 1059," *Viator* 1 (1970): 39–41; John Pryor and Sergio Bellabarba, "The Medieval Muslim Ships of the Pisan *Bacini*," *Mariner's Mirror* 76, 2 (1990): 99–113, 101–102.

¹⁶⁵ Investigations of shipwrecks from our period show great homogeneity of construction, even though they were likely built in different locations: Carolo Beltrame and Mauro Bondioli, "A Hypothesis on the Development of Mediterranean Ship Construction," in *Connected by the Sea: Proceedings of the 10th International Symposium on Boat and Ship Archaeology, Roskilde, 2003*, edited by A. Englert, F. M. Hocker, and L. Blue, 89–94. Oxford: 2006.

¹⁶⁶ Nāṣer-e Khusrow, 44. A cubit was a bit over half a metre, so these ships were over 200 feet long.

¹⁶⁷ Some examples: Pisan ships at Palermo in 1063 were drawn up on the beach, and the same was true in 1112 at the siege of Tyre, when some were cannibalized to make siege towers: Ibn al-Qalānisi, 181, translated in F. Gabrieli, ed., *Arab Historians of the Crusades*, Berkeley and Los Angeles: 1969, 34. Likewise Robert Guiscard's trans-Adriatic invasion fleet, in Anna Comnena II.2. Small Amalfitan ships: David Abulafia, "Southern Italy, Sicily and Sardinia in the medieval Mediterranean economy," in David Abulafia, *Commerce and Conquest in the Mediterranean, 1100–1500*. Aldershot: 1993, i, 1–32, 12.

¹⁶⁸ Goitein, *Letters*, 40–42; Goitein, *A Mediterranean Society*, I, 215. During the first crusade, a Fatimid ship from Tyre reported by Albert of Aachen carried 1,000 men: *Historia Hierosolymitana*, XII.17. The earliest suggestion of large Italian ships comes from 1123, when the Fatimids captured 1,500 travellers on three ships: Lev, *State and Society*, 119.

¹⁶⁹ Pryor and Bellabarba, 'The Medieval Muslim Ships of the Pisan *Bacini*,' 101–102.

¹⁷⁰ Gil, 'Shipping in the Mediterranean,' 265.

¹⁷¹ Goitein, *A Mediterranean Society*, I, 315. The only wrecks from this period that seem to be associated with Pisa, excavated from the harbour at Olbia in northern Sardinia, also have low carrying capacities. See Edoardo Riccardi, "Medieval Boats from the port of Libia, Sardinia, Italy," in *Connected by the Sea: Proceedings of the 10th International Symposium on Boat and Ship Archaeology, Roskilde, 2003*, edited by A. Englert, F. M. Hocker, and L. Blue, 313–315. Oxford: 2006. Recent excavations in Istanbul reinforce these conclusions: Ufuk Kocabas , "The Yenikapı Byzantine-Era Shipwrecks, Istanbul, Turkey: a preliminary report and inventory of the 27 wrecks studied by Istanbul University," *The International Journal of Nautical Archaeology* 44, 1 (2015): 5–38.

To sum up, in the tenth and eleventh centuries, merchants of various nationalities were able to traverse the Mediterranean, restricted only by risk and opportunity, on ships of disparate origins. The ships were open to paying passengers, who might exert influence over their routes, and were not necessarily bound by political divisions. Goods regularly changed hands, and travelled on the ships under the eyes of the merchants or their agents. There is no distinguishing between trading vessels, state-owned ships, passenger ships, or pirate ships. Even in cases where the origin of a ship appears unambiguous, such as warships, it might still carry non-state actors conducting their own business relations. Nor were merchants more clearly defined, and we can do little better than to say that they were individuals who traded, just as their goods were objects that travelled. These characteristics suggest an open network, in which commerce was neither an annex of state policy, like that of Richelieu's France, or constrained by a monopolistic corporate body, like the late medieval Hansa. Rather, it was a system provisionally open to all comers, into which new information, people, and objects had the potential to enter and participate. This cosmopolitan world, implicit in many of our sources, is explicit in Ibn Hazm (994-1064), who wrote that the human resources of a region are not intrinsic to its *terroir*. The immigrant, in his thought, was equal to the native born.¹⁷²

As we have seen, the open nature of the network meant that merchants travelled opportunistically in whatever ship was convenient. This has important implications. Above all, it decouples the presence of, for example, a Sicilian merchant with that of a Sicilian ship. In the Geniza, we occasionally hear of a specifically Spanish ship. But far more often, a ship simply arrives from such-and-such a place, and sails on to another. In a letter translated by Goitein, we read of a merchant travelling from Egypt to Mahdia, by way of Crete, 'near Constantinople,' and Amalfi, where he delivered a letter and sought to sell his goods.¹⁷³ The letter provides a good example of the integration of the network. The ship was everywhere welcome, and the merchant had friends in, at least, Amalfi, Mahdia, and Egypt. The importance of this letter for our understanding of Amalfi's

¹⁷² Antrim, *Routes and Realms*, 140–41.

¹⁷³ Goitein, *Letters*, 44–45.

commerce has often been remarked upon.¹⁷⁴ What has less often been noted is that it provides no evidence for Amalfitan shipping *per se*. There is a ship, and there are traders, but the origin of one does not imply the other. What this means is that whenever we encounter Amalfitan merchants in the sources, it is possible that they did not arrive under their own power.

A MODEL OF NETWORK EXPANSION

It is possible to characterize the outcome of the eleventh century transition as a novel system of commerce.¹⁷⁵ This I believe is a mistake. The Mediterranean network of the twelfth century maintained the hallmarks of the tenth. What was different was the ownership and origin of the ships, and this no more created a totally new network than did the twentieth century shift in shipping from the North Atlantic to the Far East. The Muslim-Jewish sources look consistent with Italian evidence for the twelfth century, and with what little we have for earlier. It remains to be seen what the logic of the network's structure can tell us about the less documented portions of Italian commerce.

I have reiterated that merchants and ships were discrete elements in the network. There is no reason to project backwards the system that prevailed in the later Middle Ages, in which a Venetian ship might be dispatched by Venetian investors to bring Egyptian goods back to Venice. Such an arrangement implies political conditions and commercial policy for which there is no evidence in our period. When we have a record of a ship arriving from Amalfi carrying silk and honey, we cannot, with Citarella, consider this an Amalfitan ship.¹⁷⁶ It means only that the ship stopped at Amalfi. This simple observation provides us with a mechanism both for the expansion of the network into new regions, and for the transfer of the trade ideas and other intellectual capital that

¹⁷⁴ Armand Citarella, "Scambi commerciali fra l'Egitto e Amalfi in un documento inedito della Geniza di Cairo," *Archivio Storico per le Province Napoletane* 10 (1970), 3–11.

¹⁷⁵ E.g. Silvia O. Busch, *Medieval Mediterranean Ports: The Catalan and Tuscan Coasts, 1100–1235* (Leiden, 2001), 170.

¹⁷⁶ Armand Citarella, "Patterns in Medieval Trade: The Commerce of Amalfi before the Crusades," *The Journal of Economic History* 28, 4 (1968): 531–555, 544, 549.

was such an important component of the cultural landscape, or seascape, of the era.

The model is simple. A ship from the wider network arrives at a new port, such as Gaeta or Pisa. If it is strong, it takes what it can; if not, it sells what it can, probably in exchange for cheap local goods. Repetition breeds profit and familiarity on both sides. Eventually, one of our hypothetical Gaetans gets on board and sails to Mahdia, for we have seen that space on the ships was available for rent. This is how pilgrims had always travelled, so we should not be surprised if merchants did the same.

Although proving such early contacts may be impossible, there is archaeological evidence for a limited kind of coastal trade.¹⁷⁷ In the ninth century, querns from Sicily made their way to Apulia.¹⁷⁸ In the Tyrrhenian zone, small volumes of red-slip wares from the south and *pietre ollare* from the north ended up at Pisa.¹⁷⁹ As the wider Mediterranean network expanded, it must have intersected and incorporated these local networks. We know Muslims were visiting Italy in their own ships during the ninth century. Some, like the late Aghlabids, were aggressive. Some were not. Most were likely somewhere in between, like those who served the bishop of Naples in the 880s.¹⁸⁰ And while violence is sometimes inimical to commerce, often the connection is all too logical. To open new territories to trade has often required a judicious application of force. This is true today, as it was in the nineteenth century, and was no doubt true in the first millennium as well.¹⁸¹ If, therefore, we read of a Saracen attack on Pisa in 1005, and archaeologists discover Muslim trade goods in Pisa from around the same time, certain

¹⁷⁷ Peregrine Horden and Nicolas Purcell, *The Corrupting Sea. A Study of Mediterranean History* (Oxford, 2000), 137–143.

¹⁷⁸ P. Arthur, “Economic expansion in Byzantine Apulia” in André Jacob, Jean-Marie Martin and Ghislaine Noyè (eds.), *Histoire et Culture dans l’Italie Byzantine. Acquis et nouvelles recherches*, Rome: 2006, 389–405, 393.

¹⁷⁹ Gabriele Gattiglia, *Pisa nel Medioevo. Produzione, società, urbanistica: una lettura archeologica* (Ghezzano (PI), 2011), 128; Rovelli, ‘Coins and Trade in Early Medieval Italy,’ 67–68. See also Federico Cantini, “Ritmi e forme della grande espansione economica dei secoli XI–XIII letti attraverso i contesti ceramici della Toscana settentrionale,” in *Mondi rurali d’Italia: insediamenti, struttura sociale, economia. Secoli X–XIII*, = *Archeologia Medievale* xxxvii (2010), 113–127. I have not been able to consult this paper.

¹⁸⁰ Erchempert, *Historia Langobardorum Beneventanorum*, in George Waitz (ed.), (*MGH Scriptores rerum Langobardicarum et Italicarum saec. VI–IX*, Hanover, 1978), 231–64, 255.

¹⁸¹ The list of such economically motivated military ventures is long and dispiriting. The Opium Wars are merely the most famous of nineteenth century examples. In the mid-thirteenth century, James I of Aragon used his military superiority to dominate trade negotiations with Hafsid Tunisia: Olivia R. Constable, *Housing the Stranger in the Mediterranean World*, Cambridge: 2003, 192–93. The Pisans behaved with singular disregard towards their erstwhile trade partners in Tunisia in the late twelfth century: Hopley, ‘Aspects of Trade in the Western Mediterranean,’ 24–25.

conclusions are inescapable.¹⁸² Certainly this is how things happened in the twelfth century: Pisan piracy during the first crusade led to their trading pact with Byzantium in 1111.¹⁸³ We do not know how Muslim sailors discovered which beaches were worth visiting, but we can imagine a slow exploration up the coasts of Italy in search of new markets, or victims, as the case may be. There are hints of this in Geniza letters: when a merchant failed to sell his goods in Sicily, he might move on to ‘some other European country.’¹⁸⁴ Local coastal networks must have provided both avenues and markets for such speculative ventures.

Over decades, as the network embraced a town, people became accustomed to traveling its vessels. They might invest in ships without building them from scratch, as a market for vessels existed, and part-ownership was possible. Eventually, if it was cost effective, ships were built locally, but even then they may not become ‘Gaetan ships,’ but rather join the migratory circuits of the network. The answer to the question of why we don't hear more of ships and shipbuilding in the maritime republics in this period is that a considerable proportion of the ships in question hailed from elsewhere.

An alternate perspective sees commercial development as indigenous. Certainly external cultural influences are superfluous to avarice. For example, Abulafia has suggested that Genoa's rise was a result of ‘the basic needs of the population and the ability of the moneyed class to satisfy these needs.’¹⁸⁵ It cannot be argued that these factors did not propel Genoa's ambitions. But they do not solve the problem, for in the remote era of the tenth century, every crag-bound seaside community had the same needs as Genoa. *Prima facie*, an external explanation — that it was with Genoa that the network

¹⁸² The anonymous eleventh century Pisan Annals, known as the *Chronicon Pisanum seu fragmentum auctoris incerti*, were incorporated into the twelfth century chronicle of Bernardo Maragone: *Gli annales Pisani di Bernardo Maragone*, ed. M. L. Gentile, (Bologna, 1936), 99–103, a.MV, 100.

¹⁸³ The piracy is recorded in Anna Comnena, and the *Gesta triumphalia*, an especially self-serving Pisan account of the first crusade, in Lupo Gentile (ed.), (*Rerum Italicarum Scriptores* 2nd ed., VI, Bologna, 1930-36), ii, 89–96. There is a discussion of this source in Craig B. Fisher, “The Pisan Clergy and an Awakening of Historical Interest in a Medieval Commune,” *Studies in Medieval and Renaissance History* 3 (1966): 143–219, 151–161. Lest it be doubted that piracy is the correct work, the *Historia de translatione sanctorum Magni Nicolai* recounts the Pisan's flying Byzantine colours in order to ambush the harbour at Rhodes in 1100. Cited in J. Pryor, “A View from a Masthead: The first crusade from the Sea,” *Crusades* 7 (2008): 87-151, 99.

¹⁸⁴ E.g. in a 1064 letter of Salāma b.Mūsā: Goldberg, *Trade and Institutions*, 298; Shlomo Simonsohn, ed., *The Jews in Sicily: 383–1300*, xxxiv.

¹⁸⁵ Abulafia, *Two Italies*, 50; cf. Epstein, *Genoa and the Genoese*, 25.

happened to intersect — is preferable. Due to the disparity in wealth, especially in the early period, it would take only a trivial (from a Fatimid perspective) investment to push Genoa ahead of its Ligurian competitors. And we know that Fatimid ships were at Genoa in 934-5.¹⁸⁶

Kreutz once observed that Ibn Khaldun's claim that 'not a single Christian board floated' on the Mediterranean in the tenth century would have surprised Ibn Hawqal, but while the latter alludes to Amalfitan trade, he does not mention their ships.¹⁸⁷ Moreover, that the first merchants from a city may not have used their own ships is reasonable. Why risk the capital cost of shipbuilding when venturing into the unknown? In short, in the period before the economic transition, we should expect that most Italian merchants trading in the Muslim world did not have their own ships, just as was the case for the Jewish merchants of the Geniza. This possibility forces us to think about the citations of Italian merchants in the sources in a different way, not as the vanguard of Italian supremacy, but as individuals traveling the same network and on the same hulls as other merchants.¹⁸⁸ The spaces aboard those hulls operated as a neutral medium of exchange in which the Italians picked up the trade techniques of the south.¹⁸⁹ At the same time, as wealth and prestige are closely linked, they likely fell under the influence of the customs and styles of the House of Islam.¹⁹⁰

Such a perspective fits the evidence at least as well as the picture of Italian mariners sailing south to acquire exotica. At Amalfi, for instance, ships are not well attested, but large numbers of Amalfitans were in Cairo in 996, and it is suggestive that reprisals were inflicted upon them for the destruction of ships in the harbour.¹⁹¹ In Pisa,

¹⁸⁶ Recorded by Ibn Khaldun, *An Introduction to History*, trans. F. Rosenthal, Princeton: 1969, 210.

¹⁸⁷ Kreutz, "Ships, Shipping and the Implications of Change," 91.

¹⁸⁸ Patricia Skinner, *Medieval Amalfi and Its Diaspora, 800–1250* (Oxford, 2013), 210, concluded that 'the entrepreneurial activities of the Amalfitans were structured along individual or familial rather than state-sponsored lines.'

¹⁸⁹ I am grateful to the anonymous reviewer at *Past and Present* who coined "neutral medium of exchange" for this process.

¹⁹⁰ See Gene W. Heck, *Charlemagne, Muhammad, and the Arab Roots of Capitalism* (Berlin, 2006). This paper arose in part from the need to understand a mechanism for the well-documented transmission of what Heck calls 'trade ideas.'

¹⁹¹ Claude Cahen, 'Un texte peu connu relatif au commerce oriental d'Amalfi au Xe siècle', *Archivio storico per le province Napoletane* 34 (1955): 61–67. Reprinted in *Turcobyzantina et Oriens Christianus*. London: 1978.

there is no evidence for a merchant marine prior to the millennium.¹⁹² Hugh of Provence disembarked there in the 920s, but he did not turn to that city when he besieged Fraxinetum.¹⁹³ However at Pisa we have solid evidence of commercial contacts, from the 970s onward, in the form of ceramics, both prestigious and household wares from Egypt, Sicily, Tunisia, and Al-Andalus.¹⁹⁴ The problem of whether Muslim merchants visited Italy has attracted some discussion, not always conclusive.¹⁹⁵ However, we should not attribute to undocumented Italian merchants and ships what we can attribute to amply attested Jewish and Muslim traders.

This is not a hard and fast rule. Amalfi certainly possessed ships in the tenth century.¹⁹⁶ But we should be cautious. While Amalfitan documents mention merchants in Egypt, they do not say Amalfitan ships sailed there.¹⁹⁷ The only extant description of a voyage between Amalfi and Egypt in our period speaks of sailing a small vessel to Sicily, and then transferring to a big ship in order to reach Alexandria.¹⁹⁸ If sailing on foreign ships proved easier or cheaper for Amalfitan merchants, then no doubt it was done. Nor can we assume consistency: there is evidence for Neapolitan ships in the ninth century,

¹⁹² See the following chapter for fuller discussion of the Pisan evidence.

¹⁹³ Liudprand of Cremona, *Antapodosis*, v.9, v.16.

¹⁹⁴ Graziella Berti, and Simonetta Menchelli. 'Pisa. Ceramiche da cucina, da dispensa, da trasporto, dei secoli X–XV.' *Archeologia medievale* xxv (1998), 330–3. Arguments have been made that the *bacini* arrived in Pisa as booty, not trade goods, but the consensus is now strongly in favour of trade. See Graziella Berti, 'I 'bacini' islamici del Museo Nazionale di San Matteo, Pisa,' in Maria Vittoria Fontana (ed.) *Studi in onore di Umberto Scerrato per il settantacinquesimo compleanno* (Pisa, 2003), 121–51, 146; Constable, *Trade and Traders*, xxi, 167; Claire Déléry, "Using *Cuerda Seca* Ceramics as a Historical Source to Evaluate Trade and Cultural Relations between Christian Ruled Lands and Al-Andalus, from the Tenth to Thirteenth Centuries," *Al-Masaq* 21, 1 (2009): 31–58, 47–48; Michelle Hobart, 'Sardinian Medieval Churches and their Bacini: Architecture embedded with Archaeology' (New York Univ. Ph.D. thesis, 2006), 49–50; Graziella Berti and Alberto García Porras, "A propósito de 'Una necesaria revisión de las cerámicas andalusíes halladas en Italia,'" *Arqueología y Territorio Medieval* 13, 6 (2006), 155–95, 160; Karen R. Mathews, "Plunder of war or objects of trade? The reuse and reception of Andalusí objects in medieval Pisa," *Journal of Medieval Iberian Studies* 4, 2 (2012): 233–258, 249–252.

¹⁹⁵ For example, Yaacov Lev, "A Mediterranean Encounter: the Fatimids and Europe, Tenth to Twelfth Centuries," in *Shipping, Trade, and Crusade in the Medieval Mediterranean. Studies in Honour of John Pryor*, edited by Ruthy Gertwagen and Elizabeth Jefferys, 131–156. Farnham, U.K., and Burlington, VT: 2012, 150.

¹⁹⁶ A rare mention in the documents is M. Morcaldi (ed.), *Codex diplomaticus Cavensis*, 10 vols., (Naples, 1873), iv, 587, which tells us that in 1006 Peter son of Ursus of Amalfi paid 2 *tari* for the right to cut wood in order to build a ship.

¹⁹⁷ Documents of 978 mention an Amalfitan voyaging to 'Babilon,' i.e. Egypt: CDC #300, 301.

¹⁹⁸ Abulafia, *Two Italies*, 73; Goitein, *Letters*, #3.

but nothing thereafter.¹⁹⁹ In the same era, Amalfi engaged in naval actions.²⁰⁰ But prior to the 1087 raid on Mahdia, Amalfi enjoyed over a century of peace with the Muslim world, and its navy faded from view. Indeed, Gisulf II of Salerno was able to enforce a naval blockade against the city in the 1070s — hardly the fate of a maritime power.²⁰¹ Amatus of Montecassino's description of this crisis is suggestive; he seems to say that few Amalfitans put to sea, but that the city was committed to surviving by trade — which may suggest foreign ships visiting the port. Whether these included the big three-masters of the network is unknown, although a late source does state that a young Constantine the African first visited the area in the company of Saracen merchants.²⁰²

The situation in Pisa may have been similar. Pisan sources suggest non-stop combat, but its citizens had to gather ships 'from everywhere' for the 1063 descent on Palermo, and were worried about the lost profits ensuing from the diversion.²⁰³ It is likely that the fleet for the city's earlier campaigns in Sardinia and elsewhere were equally ad hoc. New armadas had to be built for the 1087 raid on Mahdia and the 1114 attack on the Balearics.²⁰⁴ The ceramic evidence suggests that Muslim merchants may have been visiting Pisa for decades before its earliest known marine venture, a raid against Reggio in 1006. They were still coming towards the end of the century, when an indignant monk complained of the 'Turks, Libyans and Parthians' strolling its quays.²⁰⁵

Recent work by Bruce suggests that conflict in Sardinia, which began in 1015, was the staging post for more amicable contacts between Pisans and Denia, in the form of the relationship between 'Alī ibn Mujāhid of Denia, and the Pisan Ildeberto Albizone. Their

¹⁹⁹ Arthur, *Naples*, 121.

²⁰⁰ Pope John VIII and emperor Louis II both sought to make use of it in the 870s: E. Caspar *et al.* (eds.), (*MGH Epistolae* VII Berlin, 1928), 276; John the Deacon, *Gesta episcoporum Neapolitanorum*, in George Waitz, ed., *MGH Scriptores rerum Langobardicarum et Italicarum* I, Hanover: 1878, 435, and the *Vita Athanasii episcopi Neapolitani*, *ibid.*, 446.

²⁰¹ Amatus of Montecassino, VIII.2, in Amatus of Montecassino, *The History of the Normans*, trans. P.N. Dunbar, intro & notes, Graham A. Loud, Woodbridge: 2004, 187–88.

²⁰² Herbert Bloch, *Montecassino in the Middle Ages*, 3 vols. Cambridge, MA: 1986, i, 99.

²⁰³ Malaterra II.34.

²⁰⁴ Ibn Al-Ahtîr, *Kâmil at tawârikh*, in Michele Amari, *Biblioteca Arabo-Sicula* (Turin and Rome, 1880), i, 440–441; *Liber maiolichinus de gestis pisanorum illustribus*, ed. C. Calisse, Rome: 1904, lines 98–104.

²⁰⁵ Donizone di Canossa, *Vita di Matilde di Canossa*, Paolo Golinelli (ed.) with Vito Fumagalli, Milan: 2008, 120 (Lines 1368–72). The diatribe appears in connection with the death of Beatrice of Canossa in 1076, although it is possible that it reflects conditions at the time of writing, c.1111–16.

families maintained the connection for generations, apparently indifferent to ‘Alī’s depredations on the coast of Provence.²⁰⁶ As we do not hear of Pisan ships venturing west of Sardinia until the end of the century, the obvious inference is that Andalusian ceramics were brought to Pisa in ships from Denia — which had reached the coast of Tuscany in 1011 and 1016 — or else exchanged in Sardinia.²⁰⁷ Moreover it is around these years that gold, rare in the west, starts to appear in Pisan documents.²⁰⁸

With access to Denia, the Pisans could go anywhere. The city was deeply integrated into the network.²⁰⁹ ‘Alī, known for his interest in trade, was able to send diplomatic gifts worth 100,000 dinars to Cairo in 1060.²¹⁰ If we accept the model of an open network, it is easy to imagine a Pisan such as Ildeberto embarking on Denian ships in Sardinia, or in Pisa itself. Indeed, the ship of the ruler of Denia was available to merchants; in 1044–5 a Jewish trader loaded a cargo of flax.²¹¹ With the opportunities available at Denia, it would be surprising if the Pisans did not take advantage. Nor should the Denians object: it had a Christian population, and Christians entering Muslim lands was never a concern to jurists.²¹²

The question remains, would the Muslims of the eleventh century do something as disadvantageous as permit the Italians to enter their trade network? The answer is yes. Dangerous activities that occur within existing paradigms of exchange are usually tolerated. A particularly apposite example is that of Venice in the thirteenth century,

²⁰⁶ *Vita Sancti Ysano abbate sancti*, in Bruce, ‘The Politics of Violence and Trade: Denia and Pisa in the Eleventh Century,’ 136.

²⁰⁷ Spanish fleets are attested in Tuscany in 1011 and 1016: *Gli annales Pisani di Bernardo Maragone*, 100; Thietmar of Merseburg, *Chronicon*, vii.31, in R. Holtzmann, ed., *MGH SS, Nova Series IX*, Munich: 1935, 452.

²⁰⁸ E.g. in 1015: *Carte dell’archivio capitolare di Pisa*, (Rome, 1971), i, #37; 1020: *Carte dell’Archivio di Stato di Pisa I, (780–1070)* (Rome, 1978), #23.

²⁰⁹ Well illustrated by an episode in which a document was drawn up in Denia, confirmed in Mahdia, and re-confirmed in Alexandria before being used in court in Cairo: Goitein, *A Mediterranean Society*, I, 69; a 1065 voyage from Denia to Alexandria, *ibid*, 213.

²¹⁰ ‘Abd Allāh B. Buluggīn. *The Tibyān: Memoirs of ‘Abd Allāh B. Buluggīn, Last Zīrid Amīr of Granada*, trans. A. Tibi, Leiden: 1986, 94; *Book of Gifts and Rareties*, trans. G. al-Hijjāwī al-Qaddūmi, Cambridge, MA: 1996, cap.83.

²¹¹ Goitein, *Letters*, 283; Gil, ‘Shipping in the Mediterranean,’ 249; Constable, *Trade and Traders*, 122–23. According to Goitein, it is one of the most frequently mentioned ships in the Geniza: *Letters*, 283, n.23. Note, however, that ‘ship of Mujāhid’ might refer to more than one vessel.

²¹² We cannot know the relative sizes of the Muslim, Christian and Jewish communities in Denia, but there was a Christian administrator named Abu ‘l-Rabī’ living there in the late eleventh century: *Tibyān of ‘Abd Allāh B. Buluggīn*, 85, and in the 1060s a Christian diplomat is attested in an embassy sent to Seville from Denia. David J. Wasserstein, ‘Toledan Rule in Cordoba,’ *Israel Oriental Studies* 13 (1993): 247–72, 251.

which traded to the Mamluk state the slaves that would destroy its eastern possessions.²¹³ A modern example is the American funding of the Mujahedeen organizations in Afghanistan who later became its enemies during the War on Terror. Perhaps the best comparison, on the largest scale, is the transfer of economic dominance between western centres in the nineteenth and twentieth centuries. English predominance, assured at the beginning of the 1800s, was matched by German before the end of the century. Western Europe, for centuries the world's centre of wealth, was in turn overtaken by the United States within another fifty years. What is critical is that these transitions did not occur by violence: near economic parity between the UK and Germany had already been achieved by 1914. This is a generalization, but greater specificity will not aid our eleventh century comparison. The point is simply that a condition of open access systems is that new players are welcome, as long as they play by the rules.

Commercial incentives may run counter to perceived political objectives. Although Ibn Khaldun would see the eleventh century transition as a loss for Islam, it was likely not conceived in those terms at the time.²¹⁴ Legitimate authority was defined by territory, not trade zones. As an economic shift, it was probably assessed in economic terms. For an Egyptian slaver, harvesting wares from the hamlets of Italy was a dangerous business: how much more convenient if Amalfitan merchants deliver to the quays of Alexandria?²¹⁵ Such logic must have become more persuasive in periods of upheaval, such as that suffered by the House of Islam from the 1050s. Even in businesses less stressful than slaving, it is easier if commodities are delivered. And because labour was inexpensive in Italy, it was cheaper for a merchant of Alexandria to pay an Italian to do the moving. In short, there was strong short-term incentive for permitting Italians to trade in the Mediterranean network.

²¹³ The popes attempted, without success, to legislate against this trade, e.g. E. Berger, ed., *Les Registres d'Innocent IV*, Paris: 1884–1919, ii, 96. An early and interesting discussion of the Mamluk trade may be found in Charles Verlinden, "Medieval 'Slavers'," in David Herlihy, Robert S. Lopez, and Vsevolod Slessarev (eds.), *Economy, Society, and Government in Medieval Italy. Essays in Memory of Robert L. Reynolds*, Kent, OH: 1969: 1–14.

²¹⁴ Ibn Khaldun, *The Muqaddimah*, 210.

²¹⁵ Which occurred: Goitein, *A Mediterranean Society I*, 329.

THE GREAT CALAMITY

The discussion above suggests the mechanism of the Italian entry into the Mediterranean network. The example of Amalfi shows that reasonable prosperity might be achieved simply by maintaining a presence in the network. However, we must still resolve how the coastal cities of Italy made the transition from peddlers of peripheral and local cabotage to thalassocratic hegemons of the entire sea.

On the large scale, the economic transition was prompted by the coincidence of calamitous disruption in the southern Mediterranean with economic and demographic expansion in Europe.²¹⁶ At the turn of the millennium strong and centralized states ruled almost every Mediterranean coast; a century later they had all suffered either partial or total collapse (figure 4 map). The Umayyad state disintegrated, the Fatimids contracted to their Egyptian heartland, Byzantium lost eastern and western extremities. Even Italy, apparently the winner in our story, experienced the dissolution of the once wealthy Italian kingdom.²¹⁷ This was a key event of the eleventh century Mediterranean, although its history has not, to my knowledge, been written.²¹⁸ The wreck of the House of Islam in the Mediterranean did not, of course, create the economic growth that characterized Western Europe in this era. But it certainly paved the way for Italian commercial hegemony and the crusades. It was this disaster, rather than the notational prowess of the Italians, that led to the end of Saracen raiding.²¹⁹

Macro-historical trends are not our subject here, but rather the mechanism of the transition. The great calamity, as it was known at the time, struck Egypt in the 1050s. It was likely precipitated by environmental factors, including a series of low floods on the

²¹⁶ For general coverage, see Robert I. Moore, *The First European Revolution: 970-1215*, Orford: 2000.

²¹⁷ Italy's collapse was largely a tenth century development, but the 1024 burning of the royal palace at Pavia can be said to have set a seal on the process: C. Wickham, *Early Medieval Italy*, Ann Arbor: 1989, 181.

²¹⁸ But see Ronnie Ellenblum, *The Collapse of the Eastern Mediterranean: Climate Change and the Decline of the East, 950-1072*, Cambridge: 2012. Goitein published one important paper on the topic: Goitein, "The Unity of the Mediterranean World in the 'Middle' Middle Ages," in S. D. Goitein, *Studies in Islamic History and Institutions* (Leiden, 1968), 296-307 [repr. of *Studia Islamica* 12 (1960): 29-42]. Byzantine historians, especially, have tended to see the eleventh century downturn as rooted in the internal failures of the empire. The end of the 'Golden Age of Islam' has frequently been noted, e.g. in Maurice Lombard, *The Golden Age of Islam*, New York and Oxford: 1975, but less often seen in concert with the simultaneous failure of the major Christian polities.

²¹⁹ Pisan sources, of course, make a big deal about Pisan military success, but contemporaries were less impressed. Malaterra II.34 is scathing, Amatus of Montecassino, v.28, 146, conspicuously silent.

Nile.²²⁰ As in fourteenth century Europe, the damage was caused not by one bad season but rather a succession of agricultural failures. The Fatimid policy of encouraging cash crops, usually flax, magnified the famine, which was attended by plague.²²¹ Ibn Butlān recorded that in 1056, the ruler ‘supplied shrouds for 80,000 people’ and ‘lost 800 army officers.’²²²

Ecological calamity preceded a crisis of the Fatimid state, probably induced by the weakening of agricultural tax base. The inability of the caliphate to balance a multi-faction military, a sprawling bureaucracy, and Seljuk invasion, led to a breakdown in public order and civil war. The precise outlines of the crisis are lost to us, but that there is a two-decade blank spot in the native Fatimid sources is deeply significant.²²³ We do know that the caliph, at the millennium the richest individual on earth, was reduced to accepting gifts of food. The treasury was dispersed in order to pay the army, a process exacerbated by looting.²²⁴ Fatimid hegemony over Syria, Yemen, and the Maghreb collapsed. In 1076 Cairo was sacked.²²⁵ As the ruling elites of Egypt were deeply enmeshed in commerce, political crisis likely had a significant effect on trade: people under direct threat do not make major investments in risky businesses like foreign shipping.²²⁶ We get a sense of this from Geniza letters; towards the end of the century, Egyptian flax was less often sent abroad to be processed, and both the frequency and the range of travel contracted. At the same time, Jewish merchants showed an increasing

²²⁰ ‘*Al-shiddah al-‘uzma*’ in Goitein, *A Mediterranean Society*, I, 310. This ecological disaster corresponds to a transition in the relationship of Nile flood maxima to the North Atlantic climatic oscillation, resulting in ‘a change in seasonality, timing, number of flood surges, duration of maximum flood conditions, and most likely also a change in the sedimentary load, which would alter the fluvial processes and the geomorphology of the river.’ F.A. Hassan, “Extreme Nile floods and famines in Medieval Egypt (AD 930–1500) and their climatic implications,” *Quaternary International* (2007): 173–174, 101–112, 111.

²²¹ For a recent discussion of the environmental factors, see Ellenblum, *The Collapse of the Eastern Mediterranean*. Paul E. Walker, *Exploring an Islamic Empire: Fatimid History and Its Sources* (London & New York, 2002), rejects environmental causes for the calamity, but may underestimate the cumulative effects of multiple years of famine and plague.

²²² Ibn Abi Usaibia, *History of Physicians*, trans: Lothar Kopf, 1971, 709.

²²³ From 1073–1094: Paul E. Walker, *Exploring an Islamic Empire*, 69.

²²⁴ There is a good summary in Walker, *Exploring An Islamic Empire*, 62–67. The *Book of Gifts and Rareties*, cap. 372–414, preserves a long description, probably by an eyewitness, of the treasury and its breakup.

²²⁵ Perhaps accounting for the numerous mentions of ruined structures in surviving documents, e.g. Khan, *Arabic Legal and Administrative Documents*, #2, 9, 14, 15, 17.

²²⁶ Except as an escape route: when in 1091 Mu’izz al-Dawla of Almeria saw all hope of holding out against the Almoravids lost, he loaded his treasure into a ship and made for North Africa, but not before burning all the other ships in harbour to prevent pursuit. *Tibyan* 166, 264, n.583.

concern with local supply chains.²²⁷ We cannot know to what extent elite investment was in abeyance during these decades, but it is possible that from the 1060s Egypt's role as driver of Mediterranean prosperity was inhibited.

Such a disaster was not unprecedented. In the 960s an ecological crisis smoothed the way for the Fatimid takeover of Egypt, and probably also provided impetus to the Byzantine revival of that era.²²⁸ But in the tenth century Fatimid Egypt's rivals were weak or distant, and the resources of North Africa at Cairo's disposal. Moreover, other large Mediterranean polities helped keep the network buoyant. Nor, at that time, were any of them under serious external threat. In the eleventh century, things were different.

Egypt was the greatest centre of wealth in the Mediterranean, and its crisis the most significant. Nonetheless, it was preceded and attended by a series of other disasters that encompassed every polity in the region. That of Al-Andalus has been amply studied, largely due to the impetus it gave to the kingdoms of Christian Spain. The division of the once-mighty Caliphate of Cordoba into dozens of feuding statelets left the security of the region in tatters. There was considerable human misery: we read that in 1010 Malaga, Elvira, Algeciras, Valencia, and Jaen were bereft of both populations and possessions. Cordoba was besieged from 1009-1013.²²⁹ In lieu of statistics, a poet:

‘And you would see that the alleys of the markets
were never empty of shopping throngs.
Oh paradise, the wind of distance has blown
Over it and its people, both it and they were destroyed.’²³⁰

More prosaically, we read that booty worth 1.5 million dinars, plus 5.5 million dirhams,

²²⁷ Goldberg, *Trade and Institutions*, 328–332.

²²⁸ On the former, see F.A. Hassan, ‘Extreme Nile floods and famines in Medieval Egypt (AD 930–1500) and their climatic implications.’ *Quaternary International* (2007), 173–174, 101–112, 103.

²²⁹ Andrew Handler, *The Zirids of Granada*, Coral Gables, FL: 1974, 20.

²³⁰ Ibn Shuhayd's elegy for Cordoba, in Alexander E. Elinson, “Loss written in stone: Ibn Shuhayd's *Ritha*’ for Cordoba and its place in the Arabic elegiac tradition,” in *Transforming Loss Into Beauty: Essays on Arabic Literature and Culture in Honor of Magda Al-Nowaihi* edited by Marle Hammond and Dana Sajdi, 79–114. Cairo: 2008, 102.

was taken during the 1009 ransacking of Cordoba.²³¹ The demands of the northern kings diverted reserves of wealth in Al-Andalus away from the network.²³² The eleventh century, then, was one of instability for the peninsula, until in the 1090s the Almoravids enforced a military peace on the Muslim cities.

In North Africa, the eleventh century saw the reduction of Ifrīqiya from a considerable province to a series of coastal city-states. Zirid rule, established by the Fatimids, came under increasing stress, leading to rebellions and the partition of the west under the Hammadids.²³³ Both the Zirids and Hammadids abandoned Fatimid suzerainty in the mid-eleventh century, a move adumbrated by earlier Sunni riots, in which many Shi'ites were killed.²³⁴ A historical tradition of considerable pedigree tells us that in the 1040s, at the instigation of the Fatimids, the Banû Hillal nomads, like 'a swarm of locusts,' destroyed Ifrīqiya's agriculture and wrecked the holy city of Qayrawan.²³⁵ A more structural account has been advanced by Brett, who characterizes the event as the success of peripheral cities in detaching themselves from the orbit of Qayrawan.²³⁶ In any event, the interior was lost to the Zirids, and in the mid-twelfth century Idrisi wrote of the cities of the interior in ruins.²³⁷ Their capital was removed to Mahdia, but it ceased to be a main transit point between eastern and western Mediterranean as such other cities as Sfax and Tripoli became *de facto* independent.²³⁸ A like situation afflicted the Hammadids, who failed to balance the aggression of the Berbers, and relocated their inland capital of Qal'at Bani Hammad to Bijaya on the coast.²³⁹ Closer to Egypt, the rebellion of Abu

²³¹ According to the historian Ibn al-Khaṭīb, cited in Peter C. Scales, *The Fall of the Caliphate of Córdoba: Berbers and Andalus in Conflict*, Leiden: 1994, 61. This is a colossal sum, but as Al-Nuwayrī specifies that the sack included the treasures - down to the wood of the doors - of the palace of al-Zahira (*ibid*), accumulated during the triumphant reign of Al-Mansur, it is not impossible.

²³² Adam J. Kosto, *Making Agreements in Medieval Catalonia*, Cambridge: 2001. For a contemporary Muslim perspective, *Tibyan*, 130-35.

²³³ Brett, *Rise of the Fatimids*, 360-61.

²³⁴ Jamil M. Abun-Nasr, *A History of the Maghrib in the Islamic Period*, Cambridge: 1987, 68.

²³⁵ Brett has argued that the Banû Hillal exodus from Fatimid Egypt was a literary fabrication, devised to discredit a Fatimid vizier. See Michael Brett, "The Way of the Nomad," *Bulletin of the School of Oriental and African Studies* 58 (1995): 251-269. There is little doubt that there were Arab nomads in the region before the invasion: Michael Brett, "The Zughba at Tripoli, 429 AH (1037-8 AD)," in Society for Libyan Studies, *Sixth Annual Report, 1974-5*, 41-7.

²³⁶ Michael Brett, "Ifrīqiya as a Market for Saharan Trade from the Tenth to the Twelfth Century A.D.," *The Journal of African History* 10, 3 (1969): 347-364.

²³⁷ Al-Edrisi, *La géographie*, I.260-1.

²³⁸ Goldberg, *Trade and Institutions*, 326.

²³⁹ Jamil M. Abun-Nasr, *A History of the Maghrib in the Islamic Period*. Cambridge: 1987, 70.

Rakwa and the Banu Qurra afflicted Barqa (Cyrenaica). The rebel leader overextended his forces and ended up on parade in Cairo, beaten by a trained monkey, but Barqa remained unstable.²⁴⁰

All this was bad for business. Goldberg notes a fivefold increase in the failure of shipments due to ‘port closings, ship diversions, piracy, and seizure’ from mid-century.²⁴¹ Overland trade between Ifrīqiya and Egypt seems to stop entirely.²⁴² In 1055, a merchant in Mahdia found it unsafe to carry valuables outside, and many Jews relocated from Tunisia to Sicily.²⁴³ Subsequently, the potentates of North Africa fell upon each other like dogs upon a bone. In 1063 the lord of Sfax attacked Mahdia, without success, and suffered a reciprocal assault the following year.²⁴⁴ In 1087 nomads made a renewed assault upon the city, in concert with an Italian expedition.²⁴⁵ An Andalusian Jew present on the former occasion wrote that “the city was dead.”²⁴⁶ No more gold coins were struck by the Zirids after 1066–7, and their silver issues were debased.²⁴⁷ The gold was cut off by the rising Almoravids, who seized Siljilmasa in Morocco and Awdaghost from the kings of Ghana in 1053 and 54.²⁴⁸ These cities, whose wealth had astonished Ibn Hawqal in the 960s, had already fallen on hard times by the 1020s.²⁴⁹

²⁴⁰ S. A. Assaad, *The Reign of al-Hakim Bi Amr Allah (386/996-411/1021): A Political Study*, Beirut: 1974, 30; Stijn van Nieuwenhuysse, “The uprising of Abū Rakwa and the Bedouins against the Fāṭimids,” *Acta Orientalia Belgica* 17 (2003): 245-264, 260.

²⁴¹ Goldberg, *Trade and Institutions*, 325.

²⁴² Goldberg, *Trade and Institutions*, 329.

²⁴³ Gil, ‘The Jewish Merchants in the Light of Eleventh Century Geniza Documents,’ 301; Goitein, *Mediterranean Society* I, 344, 350, 488.

²⁴⁴ Gil, ‘Shipping in the Mediterranean,’ 258; Michael Brett, ‘The Armies of Ifrīqiya, 1052–1160,’ in *Guerre et paix dans l’histoire du Maghreb, VI^e Congrès internationale d’histoire et de civilisation du Maghreb, Tunis, décembre 1993 = Cahiers de Tunisie* xlviii. (1997), 107-25, 115.

²⁴⁵ *Carmen in victoriam Pisanorum*, line 242, in H.E.J. Cowdrey, ‘The Mahdia Campaign of 1087,’ *English Historical Review* xcii, cccxii (1977), 1–29.

²⁴⁶ Goitein, ‘Exchange rate,’ 18.

²⁴⁷ H. Ben Abdelouahed *et al.*, “PIXE analysis of medieval silver coins,” *Materials Characterization* 61 (2010): 59–64, 62; Harry W. Hazard, *The Numismatic History of North Africa*, New York: 1952, 55. For a cogent discussion of the currency disruptions that attended political instability in Andalusia and North Africa, see R. Hopley, ‘Aspects of Trade in the Western Mediterranean’.

²⁴⁸ Abun-Nasr, *A History of the Maghrib*, 79, 81. Brett notes that Almoravid success led to an increase in demand in the west that may have redirected trade away from Ifrīqiya without violence. M. Brett, ‘Ifrīqiya as a Market for Saharan Trade,’ 360–61.

²⁴⁹ For a famous cheque of 40,000 dinars witnessed by Ibn Hawqal, see Nehemia Levtzion, “Ibn Hawqal, the Cheque, and Awdaghost,” *The Journal of African History* 9, 2, (1968): 223–33. For drought, famine and violence in the region, Moshe Gil, “The Babyonian Yeshivot and the Maghrib in the Early Middle Ages,” *Proceedings of the American Academy for Jewish Research* 57 (1990–91): 69–120, esp. 73, n.2.

The situation in Sicily paralleled that of Spain. The Kalbid dynasty, which in the tenth century had defeated Otto II, declined precipitously in the eleventh.²⁵⁰ It tottered on until mid-century, but the island fragmented into city-states. The combined obstacles of revenue, legitimacy and a bad neighbourhood left these *taifas* vulnerable to outside aggression, which duly arrived in the form of the Normans.²⁵¹ The Norman enterprise had a fatal effect on commerce: there is a three-decade gap in the Geniza evidence for the region.²⁵² This was a further blow to the Jewish merchants of the central Mediterranean, for the families which had relocated from Tunisia soon found their new homes little safer than the old.

The Byzantine Empire is outside the remit of this study, but it was struck by the same plagues as the Fatimids: in 1054, again according to Ibn Butlān, the cemeteries of Constantinople were full, and 14,000 were buried in the church of St. Luke.²⁵³ The Seljuks lacerated the eastern provinces, which at Manzikert in 1071 culminated in a defeat of Brobdingnagian proportions. The western provinces were lost to the Normans. These disasters were attended by administrative breakdown; in the 1040s, the gold coinage was debased for the first time in centuries. By the 1080s it had fallen to a third of its former fineness.²⁵⁴

Problems with coinage were widespread. The diversion of the gold supply caused by the Almoravids in the west was matched by a disruption in that of silver from the east. The mining complex of Mawara'an-nahr, which had underwritten the dirhams of the

²⁵⁰ Alex Metcalfe, *Muslims and Christians in Norman Sicily. Arabic Speakers and the End of Islam* (London and New York, 2003), 25–27, provides a concise description.

²⁵¹ Among others: both the Zirids and the Byzantines saw opportunity in Sicilian weakness, but despite some local successes, nether achieved anything more than a worsening in the security of the island. The Normans arrived between 1052 and 61, apparently invited by one of the *taifa* rulers, Ibn al-Tumna of Syracuse. Alex Metcalfe, *Muslims and Christians in Norman Sicily*, 26 and 235, n.82.

²⁵² Jeremy Johns, 'Arabic Sources for Sicily,' in Mary Whitby (ed.) *Byzantines and Crusaders in Non-Greek Sources 1025–1204* (Oxford, 2007), 341–360, 349.

²⁵³ Ibn Abi Usaibia, *History of Physicians*, 465. Plague also struck other areas of the Mediterranean, including Italy: Malaterra i.27; Bertholdus Constantiensis Presbyter, *Chronicon*, a.1059, in I. S. Robinson (ed), (*MGH SS, nova series* V, Hanover, 2003), 186.

²⁵⁴ Philip Grierson, 'The Salernitan coinage of Gisulf I (1052–77) and Robert Guiscard (1077–85),' in *Studies in Italian Medieval History presented to Miss E.M.Jamison = Papers of the British School at Rome* xxiv (1956), 37–59, 59; "The debasement of the bezant in the eleventh century", *Byzantinische Zeitschrift* 47 (1954): 379–394; *Byzantine Coins*, Berkeley and Los Angeles: 1982, 8.

Abbasid caliphate, failed in the early eleventh century.²⁵⁵ A dearth of silver resulted. In Byzantium, the emperor had to go back forty years to find coins sufficiently fine for diplomatic gifts.²⁵⁶ The Fatimids did better, but silver metalwork became increasingly rare after the eleventh century, and by the mid-twelfth century gold coins were scarce even in Cairo.²⁵⁷

Such a symphony of calamity created vast opportunity. It is from this period that the openness of the network, advantageous in good times, blew back upon its perpetuators. For the men of the maritime republics stood already upon the thresholds of the south. As many Islamic polities were reduced to the scale of city-states, the Italians were able to compete on an increasingly level playing field. It is not coincidence that from the 1060s the wealth flowing north begins to crystallize in the urban fabrics of the maritime cities of Italy (fig 4). Pisa, for example, began a new duomo in 1064. With recession at home, the importance of Europe as a market must have increased. This in turn provided greater leverage to the Italian merchants, a factor that may have accelerated the circulation of Islamic treasure in Europe.²⁵⁸ I want to emphasize, however, that this was a chaotic process that cannot be reduced to a simple model of Muslim collapse and Latin ascendance. The institutional and agricultural stability of Egypt was considerable, and after a period of weakness it carried on, although the Fatimid state never regained its dizzying heights.²⁵⁹ In the west, the etiolation of the *taifas* was less to the advantage of Latin Spain than the Moroccans. It was in the intervening regions, Islamic Sicily and Tunisia, that the great calamity had the most permanent effects. The corresponding regions of the northern Mediterranean, *i.e.* Italy, reaped the most long-lasting benefits.

²⁵⁵ Ian Blanchard, *Mining, Metallurgy and Minting in the Middle Ages*, 4 vols., Stuttgart: 2005, iii, 1330.

²⁵⁶ Anna Comnena, III.10.

²⁵⁷ Esin Atil, William T. Chase, Paul Jett, *Islamic Metalwork in the Freer Gallery of Art*, Washington, D.C.: 1985, 16; Heck, *Medieval Muslim Money*, 60. Further east, gold supplies were already running low by the early twelfth century, to judge by the increasingly weak coinage issued by the Seljuqs: Nicolas Lowick, "Seljūq coins," *Numismatic Chronicle*, 7th series, 10 (1970): 241–251, 245.

²⁵⁸ This may explain an apparent boom in oliphants in the eleventh century, noted by Avinoam Shalem, *The Oliphant. Islamic Objects in Historical Context*, Leiden: 2004, 37. Salem has also suggested Amalfitano participation in the dispersal of the Fatimid treasury in the 1060s: *Islam Christianized*, chapter 5.

²⁵⁹ In particular, the Fatimid navy went into irreversible decline, as Lev, *State and Society*, emphasizes, 107–118.

The ebb and flow of the network is visible in the pages of the geographers. Ibn Hawqal, writing around 977, described cities from Spain to the Levant, but of peninsular Italy mentioned only Amalfi, Naples, and Gaeta.²⁶⁰ In a manuscript of a century later, we find a string of Italian cities added to the map.²⁶¹ And in 1154, the points on the map have blossomed in the geography of al-Idrisi into detailed descriptions (figure 6 map).

We have seen that frontiers exerted relatively little influence on trade within the network. In the increasingly fraught period of the late eleventh century, however, we might expect a decline in this multilateral congeniality. The rich urbanized societies of the Muslim world had a bigger cake, and could afford the Jews or Amalfitans a slice.²⁶² Had there been less wealth to go around, it is doubtful there would have been room for Ibn ‘Awkal or other Jewish magnates.²⁶³ As southern dominance of the network contracted, life for minorities in Northern Africa became increasingly fraught.²⁶⁴ In Fez *c.* 1140, ‘hatred [of Jews] was rampant.’²⁶⁵ A reaction to external influences, exemplified by Al-Ghazali’s (d.1111) *The Rebuttal of the Philosophers*, began in this period. Increasing stress on southern shipping is suggested by an incident of 1117-8, in which the Zirid ruler of Mahdia dispatched a fleet to prevent the ruler of Gabes from launching a single merchant vessel.²⁶⁶ En route, the fleet engaged a Norman flotilla.²⁶⁷ This, as Brett notes, is the last we hear of North African naval activity.²⁶⁸

²⁶⁰ Ibn Hawqal, *Configuration de la terre*, i, 197.

²⁶¹ Charles F. Beckingham, ‘Ibn Hauqal’s Map of Italy,’ in *Iran and Islam*, edited by Clifford E. Bosworth, 73–78. Edinburgh: 1971.

²⁶² Even so, commodities with military applications appear to have remained in Muslim hands, including even artisanal specialties such as horse-training and weapon-smithing: Goitein, *Med.Soc* v.1, 211; Goitein, ‘Main Industries of the Mediterranean Area as Reflected in the Records of the Cairo Geniza,’ *JESHO* 4, 2 (1961): 168-97, 171, 186.

²⁶³ There is an overview in Norman A. Stillman, ‘The non-Muslim communities: the Jewish Community,’ in *The Cambridge History of Egypt. Vol.1: Islamic Egypt, 640–1517*, Cambridge: 1998, 198–210, 206–208.

²⁶⁴ The causes of such friction transcend the economic and reflect the urgencies of communities that saw also themselves under assault politically and culturally by the nomads of the inland, and probably also in response to the aggressive religious movement of the nearby Almoravids. The Jews were having a bad time further west as well, probably for the same reasons. There was a bloody pogrom in Granada in 1066, and the Almoravids did not display the tolerance enjoined by their religion: Handler, *Zirids of Granada*, 126.

²⁶⁵ Goitein, *Letters*, 55.

²⁶⁶ As early as 1064, a fleet from Mahdia attacked Sfax. Gil, ‘Shipping in the Mediterranean in the Eleventh Century,’ 258.

²⁶⁷ According to the historian al-Tijānī: Hady Roger Idris, *La Berbérie orientale sous les Zirides*, Paris: 1962, 319–22; Brett, ‘Armies of Ifrīqiya, 1052–1160’, 120.

²⁶⁸ Brett, ‘Armies of Ifrīqiya, 1052–1160’, 120.

CONCLUSION: ITALIAN OUTCOMES

The tenth century saw the beginning of a period of growth in Europe, a development that can be attributed chiefly to internal or climatic factors. However, the logic of agrarian expansion follows strict limits. That Pisa should spring to the head of European cities on the backs of its peasantry is improbable; that Amalfi or Genoa should do the same, impossible. With the exception of Pisa, the maritime republics developed in places in which the default occupation of the aristocracy — extracting surplus from peasants — was of doubtful utility. In such circumstances, an ecological dependence on the sea was certain. What was not certain was sea-borne economic expansion. Amalfi might have turned out as, well, Amalfi, Genoa as Ventimiglia.²⁶⁹

It has been argued that the luxury trade was peripheral to development. In general, this must be true. The import of silk could hardly shape the formation of Europe. But there is little doubt that it could shape the formation of Amalfi. In an era without mass consumerism, luxuries mobilized the resources of a larger percentage of the consuming classes than in the modern period. Its importance was magnified by the political significance of treasure. A crystal ewer might legitimize a transaction with a duke or king.²⁷⁰ This, of course, is another reason to keep the business out of the hands of Jews or other competitors.²⁷¹

Wealth followed the Saracens. Apulia began to revive at the moment Fatimid admirals were striking its coasts.²⁷² Gaeta, never before or again an independent principality, thrived in the era when Muslim ships roved its shores. Pisa's history begins, in its own annals, with the Saracens. The wealth accrued by these seaborne contacts

²⁶⁹ Epstein emphasizes the contingent nature of Genoa's rise, *Genoa and the Genoese*, 15.

²⁷⁰ e.g. the Fatimid rock crystal cup given by Henry II at the consecration of the Alte Kapelle at Regensburg. Note also Liudprand, *Relatio* LIII, and the abbot of Montecassino's trip to Amalfi in *Montecassino Chronicle* III. 18, 385.

²⁷¹ A rare recorded example took place in 935, when the Doge of Venice asked the Bishop of Mainz to ban the Jews of his diocese from dealing in exotic goods, and to convert them by force: Cecil Roth, *A World History of the Jews XI. The Dark Ages*, New Brunswick: 1967, 116–17. Such cities as Pisa and Genoa were not attractive places for Jews to live; the former had a Jewish population of only twenty in the late twelfth century: Benjamin Tudela, *The Itinerary of Benjamin of Tudela*, ed. and trans. Marcus Nathan Adler, New York: 1907. Venice appears to have had no Jewish population at all in our period: Edmond Ashtor, "Gli inizi della Comunità ebraica a Venezia" *Rassegna mensile di Israel* 44. Rome: 1978, 683–703; repr. in *The Jews and the Mediterranean Economy, 10–fifteenth centuries*. London: 1983, IV.

²⁷² Arthur, "Economic expansion in Byzantine Apulia."

largely remained in the ports, and this increase in monetization probably tended to concentrate the population as urban demand for labour increased. A wealthy society can absorb extra imported commodities, but in a poor society the arrival of a few sacks of gold or precious substances can have a disproportionate effect — a phenomenon well known to Europeans of the colonial era. The political elites of such societies will be at pains to monopolize the distribution of potentially destabilizing material, as in Amalfi, Naples and Gaeta, where ducal palaces were built to control physical access to the sea.²⁷³ Increases in wealth, therefore, necessitated increases in political organization. We know little about the formation of urban oligarchies in the tenth and eleventh centuries.²⁷⁴ But the outcome is clear. A Sardinian document tells us that Pisa had consuls in 1080, by far the earliest in Italy.²⁷⁵ Communal government existed in Genoa in 1099.²⁷⁶ In Gaeta, consuls appear in 1123, but city elders are already recorded in 1094, and as early as the 1040s the community had rejected one duke and elected another.²⁷⁷ From the perspective of the entire peninsula, all these are precocious. As for Amalfi, it had by these dates already fallen to the Normans.

There has of late been considerable research on cross-cultural exchange and accommodation in the medieval Mediterranean, often focused on specific regions or materials.²⁷⁸ But the question of what moved across the Mediterranean has obscured that of the mechanism and agency of transfer, in part because of the backwards shadow cast by the Crusades. This study aims at a holistic approach to these topics, in order to posit an interpretive framework for Mediterranean trade that locates the ‘bridge between local diversities’ in the spaces defined by trade itself.²⁷⁹ Recent studies of the material culture of the Mediterranean in this era have strongly emphasized a ‘model which allows for the

²⁷³ Skinner, “Urban Communities,” 282–3, n.12.

²⁷⁴ For a up-to-date discussion, see Chris Wickham, *Sleepwalking into a New World*, Princeton: 2015.

²⁷⁵ The Privilegio Logudorese, in, *inter alia*, Carlo Dionisotti and Cecil Grayson, *Early Italian Texts*, Oxford: 1965, 14–17.

²⁷⁶ Epstein, *Genoa and the Genoese*, 33.

²⁷⁷ Patricia Skinner, “Politics and piracy: the duchy of Gaeta in the twelfth century,” *Journal of Medieval History* xxi (1995), 307–319; *Chronica Monasterii Casinensis* II.74.

²⁷⁸ For example, Sarah M. Guérin, “Forgotten Routes? Italy, Ifrīqiya and the trans-Saharan Ivory Trade,” *Al-Masaq* 25, 1 (2013): 70–91.

²⁷⁹ Lev, “A Mediterranean Encounter: the Fatimids and Europe,” 150.

existence of multiple sites and greater fluidity between various centres and peripheries.²⁸⁰ This concept of a polyvalent and cosmopolitan world is a good fit to the available data.

The above analysis suggests that the economic transition occurred in several stages. The process was initiated by Muslim traders, who slowly incorporated the maritime cities into the wider Mediterranean network. As the towns encouraged foreign investment by modifying their currencies, units of measure, or practices, their merchants began to travel on southern ships in the same way as Jewish merchants documented in the Geniza. It is in this stage that we might expect a consolidation in the processes of cultural exchange: in material culture, business technologies, medicine, and above all in the simple presence of wealth in the marine republics. The timing of this stage varies across the Italian cities; for Amalfi it had occurred by the 970s at the latest. For Pisa, perhaps not until the 1030s or 40s. But if beginnings are shadowy, the ends are known: in the final stage the Italian presence slipped via predation to predominance. A dim awareness of these changes filtered back to Latin Europe: when in the 1120s William of Malmesbury wrote of a decapitated Turk who vomited gold from the stump of his neck, he was perhaps offering a symbolic rendering of how the east was perceived in the west.²⁸¹ By the mid-twelfth century the Italians had established their own quarters in Muslim cities, overpowered their shipping, and negotiated advantageous treaties with their rulers. This was sparked by the Great Calamity, but the magnitude of Islamic collapse was not apparent for decades. As Micheal Psellus observed, ‘a healthy animal... is not altered in a moment at the first symptoms of illness.’²⁸² While the weakness of Sicily inflamed the

²⁸⁰ Eva Hoffman, ‘Pathways of Portability: Islamic and Christian Interchange from the Tenth to the Twelfth Century’, *Art History* xxiv (2001), 17–50. 21; Shalem, *The Oliphant*, 73–74; Anna Contadini, “Translocation and Transformation: Some Middle Eastern Objects in Europe,” in *The Power of Things and the Flow of Cultural Transformations. Art and Culture between Europe and Asia*, edited by Lieselotte E. Saurma-Jeltsch and Anja Eisenbeiß, 42–64. Berlin: 2010, 57: ‘...scholars have increasingly come to regard the Mediterranean in terms not of opposition and political domination but of negotiation and mercantile exchange.’

²⁸¹ William of Malmesbury 2.445: “Erat spectaculum quod videnti cachinum excuteret, cum Turcus, in collo...percussus, bizantinos evomeret.” Penny J. Cole has seen this episode as indicating William’s concept of just retribution visited by God on the sacrilegious Turks. “Religious Pollution in Crusade Documents,” in Maya Shatzmiller, ed. *Crusaders and Muslims in Twelfth Century Syria*. Leiden: 1993, 84-111, 88. But such gruesome anecdotes reflected reality as well. A Geniza letter of 1055 relates that the nomads besieging Qayrawān disembowelled refugees in search of swallowed dinars. Goitein, *Letters*, #31.

²⁸² Michael Psellos, *Chronographia*, trans. Edgar R.A. Sewter, New Haven: 1953, vi.48.

cupidity of the Latins, it also effectively distracted them from the rising vulnerability of the rest of the southern littoral. Pisa tested the waters with the 1063 descent on Palermo, but had little success. But two decades later, Amalfi broke its centuries-long peace with the Islamic world and joined Pisa and Genoa in an attack on Mahdia. Finally, with the first crusade, the marine cities extended their hegemony to foreign shores.

THEORIZING CONNECTIVITY IN THE NETWORK

We have seen that an open network spanned the Mediterranean, one in which existing incentives probably brought together merchants of every stripe on beaches, quays, and hulls. These spaces represent a neutral medium for the dissemination of knowledge, techniques and technologies. With geographic or sectarian barriers already circumvented, the way lay open for further communication or negotiation, often in ways that would have been difficult without the justification of economic interest. The spaces in which transactions occur are in a sense a neutral or middle ground, in which reciprocal interest propelled Christians, Muslims and Jews to accommodate each other.²⁸³ But we should not be too utopian about this: just because ideas and objects can move, does not mean they will move. In this chapter we will explore the constraints, cultural and material, that on the one hand might conceal the evidence that comes down to us, and on the other prevent it from ever existing in the first place.

Knowledge distribution is not a random process. Thomas Glick, following Thomas Kuhn, observed that “even if the agencies of diffusion are abundantly present, an idea may not diffuse unless it is congruent with the dominant modes of thought of the recipient culture. If incongruent (or apparently so) it must be stated in familiar terminology or placed within a recognized framework which makes it intelligible and renders its acceptance reasonable.”²⁸⁴ Oleg Grabar has made a related observation, noting how the symbolic charge of material culture is constructed by its viewers and not easily communicable in new contexts.²⁸⁵ It would be unreasonable to expect metaphysical insights or designs for waterwheels to be the subject of deckhouse conversation.²⁸⁶ Most

²⁸³ I am here informed by the theories of Richard White, who in *The Middle Ground: Indians, Empires, and Republics in the Great Lakes Region, 1650-1815*, Cambridge: 1991, sought to demonstrate how in the absence of clearly defined structures for bridging the gap to a foreign culture, the natives and the French in New France mutually worked out their own systems of accommodation and communication.

²⁸⁴ Thomas Glick, *Islamic & Christian Spain in the Early Middle Ages*, Princeton: 1979, 273.

²⁸⁵ Oleg Grabar, “The Iconography of Islamic Architecture.” In *Early Islamic Art, 650-1100, volume I, Constructing the Study of Islamic Art*, 69-86. Hampshire: 2005, 73-74

²⁸⁶ But neither should we be too pessimistic; some travellers, such as Shabbatai Donnolo, were interested in metaphysics. And fulling mills had been introduced from the east to Central Italy by the 960s: John H. Munro, “Medieval Woollens: Textiles, Technology and Organization,” in *The Cambridge History of Western Textiles*, vol.1, edited by David Jenkins, 181-227. Cambridge: 2003, 204.

of the specific knowledge disseminated in the network probably pertained to the nature of the network, i.e. trade technologies and practices. Much of this was practical, and shows up only indirectly in the historical record, as when in a Pisan poem of the early twelfth century, five (of eight) ship types mentioned appear to derive from Arabic.²⁸⁷ Another example is the entry of fragrances unknown to antiquity, like musk and camphor, into the liturgical repertoire of the Latin church. And at some point the Amalfitans learnt how to sail to Egypt, perhaps from Fatimid mariners before the loss of Sicily.²⁸⁸ A century or more later, the Pisans learnt the same route, perhaps from the Amalfitans or Denians. Al-Tartushi wrote that the Turks brought their own weights to Prague in the tenth century, which implies their acceptance among the local population.²⁸⁹ In the Mediterranean, glass weights suggest the dispersed use of Fatimid market practices; a find in the Terra d'Otranto is suggestive of trade persisting well after the collapse of the ninth century Muslim polities in the region, while finds in the Serçe Limani wreck suggest their use extended into Byzantium (fig 7).²⁹⁰ Similar weights, datable to the reign of al-Mustansir (r.1035-94) have been found in Corinth.²⁹¹ For al-Muqaddasī, an author concerned above all with trade, uniformity of weights and measures was a salient feature of the Fatimid

²⁸⁷ Kreutz, "Ships, Shipping and the Implications of Change," 102.

²⁸⁸ The date the Amalfitans reached Egypt is unknown; they were certainly in Cairo in 996, but an earlier arrival is likely. Their adherence to the Saracens in the early tenth century is well known, but does not in itself imply sailing beyond their traditional waters around Sicily. I am not aware of any evidence of Amalfitans beyond the Tyrrhenian triangle prior to 940, when they may have been present in Cordoba. Sicily, indeed, appears to have been the pivot in which Amalfi's commerce turned. Citarella was confident that the toponymic evidence of Amalfitans in Sicily went back to the Arab period, although extant mentions date only to the twelfth century. Their arrival in Egypt, then, as Citarella argued, probably coincided with that of the Fatimids, and may have been in the same ships - the latter as rulers of Sicily and nearby Tunisia would have long been familiar with the Italians. In this respect it is worth noting that Jawhar as-Siqilli, the Fatimid founder of Cairo, was of Christian Sicilian origin. The subsequent boom times, which brought prosperity to the merchants of Amalfi as well as to, *inter alia*, the House of Ibn 'Awkal, are reflected in Ibn Hawqal's vivid description of the port. Citarella, "Commerce of Amalfi," 541.

²⁸⁹ Cited in Bernard Lewis, *Muslim Discovery of Europe*, New York: 1982, 86.

²⁹⁰ Glass weights, made to match the weight and appearance of dirhams and dinars and other standard units, are commonly found in Fatimid contexts, and seem to be closely linked with Egyptian market practices. They were used for determining the precise weight of coins, assessing them for fineness, as well as in measuring the many substances that were sold in terms of the weight of a dirham or dinar, such as foodstuffs and pharmaceuticals. The issue of the weights was precisely regulated by the Fatimid authorities. It has been suggested that the Fatimid glass weights sometimes served as a fiduciary currency, but that idea has not generated much support: for an overview, see Michael L. Bates, "The Function of Fatimid and Ayyūbid Glass Weights," *Journal of the Economic and Social History of the Orient*, 24, 1 (1981): 63-92. Some glass weights were apparently manufactured in Old Cairo by Copts: S. D. Goitein, "The Main Industries of the Mediterranean Area as Reflected in the Records of the Cairo Geniza," *Journal of the Economic and Social History of the Orient* 4, 2 (1961): 168-197, 187.

²⁹¹ Paul Arthur, "Islam and the Terra d'Otranto: some archaeological evidence," in *Papers from the EAA Third Annual Meeting at Ravenna 1997, Vol. II, Classical and Medieval*, edited by M. Pearce and M. Tosi, 166-172. Oxford: 1998, 166.

regime.²⁹²

We find an apposite example of practical trade technologies in the *commenda* contract, perhaps the most well-known import from the House of Islam, and one of the few which has long been acknowledged to have preceded the first crusade.²⁹³ It was derived from the *qirād* partnership, common in Geniza records, in which partners contributed an agreed-upon amount of capital and/or work towards a venture, and shared the profits in a predetermined ratio.²⁹⁴ As both Banaji and Heck remark, the contract usually had no minimum buy-in amount, a feature which broadened the investor base, as even the less affluent might participate in the profits of merchant voyaging.²⁹⁵ The relevance of this to the relatively poor Italian cities is obvious. But it was further adapted to local conditions; capital in the *qirād* must by law consist of money, whereas in a *commenda* it was frequently made up of goods.²⁹⁶ This reflects the greater monetization of southern society; lacking an investor base with ready cash, Italian merchants found their own ways to mobilize their resources. At the same time, such contracts depended on mutual agreement, and were likely a factor in establishing (or maintaining) local oligarchies, as they were easily adapted to be an engine of social exclusion, a feature which could only have endeared them to the elites of any Italian city.

Other social pressures in addition to legal rulings must have mitigated against the formation of formal partnerships between, say, a merchant of Gaeta and of Mahdia. Within business communities, legal recourse was seen as a last resort, and accountability

²⁹² Al-Muqaddasī, *Best Divisions*, 198-99.

²⁹³ There is a single mention in Venice at the end of the tenth century, under the name *collegantia*, Lopez, 1951, while the first extant contract dates from 1073: Morozzo della Rocca, *Documenti del Commercio Veneziano nei Secoli XI-XIII* 1940, v.1, 12-13. Translated in Lopez and Raymond, *Medieval Trade in the Mediterranean World*, 176-77. The oldest Pisan mention is from 1156, in the *Constitutum Usas*. A precise genealogy of the *commenda* is impossible, but that it arose in Italy from antecedents in the Mediterranean Network is not controversial. An Islamic origin was advanced by Lopez, e.g. in 1970, 345, and has generally stood up in the literature. See for example A. L. Udovitch, "At the origins of the Western Commenda: Islam, Israel, Byzantium?" *Speculum* 37, 2 (1970): 198-207; G. Heck, *Muhammad, Charlemagne*, 2006, 238-45. J. Banaji, "Islam, the Mediterranean, and the Rise of Capitalism," *Historical Materialism* 15, 1 (2007): 47-74, is agnostic. Pryor, "The origins of the *commenda* contract," again considers influence from Byzantine, Jewish, and Muslim sources.

²⁹⁴ Goitein, *A Mediterranean Society*, I, 171-72; Heck, *Charlemagne*, 144-151.

²⁹⁵ Jainus Banaji, "Islam, the Mediterranean and the Rise of Capitalism," 56; Heck, *Charlemagne*, 242.

²⁹⁶ Although the law was sometimes broken: Pryor, "The origins of the *commenda* contract," 31. For an example see Stern, "Three Petitions," 181: a Jewish merchant speaks of carrying from India merchandise and *qirad*, i.e. he had his own goods, and also goods with investments by others. It dates to the reign of al-Amir (1101-1130).

was enforced chiefly through a combination of social pressure and reputation.²⁹⁷ Nāṣer-e Khusrow was able to draw “a great deal of money” in the obscure port of ‘Aydhāb on the Red Sea simply by presenting a letter from a Muslim merchant of Aswan.²⁹⁸ It is unclear to what extent confessional politics *per se* interfered with trading practices. In Italy, business communities look fairly homogenous, and likely took steps to stay that way. In cities where merchants of different faiths lived together, long-term arrangements appear to have existed. Certainly Ibn ‘Awkal relied on both Jewish and Muslim agents.²⁹⁹ There are some attested cases of partnerships between Muslims and Jews, and in one Geniza letter we read of two Muslim merchants bearing a letter for a Jewish merchant from Tripoli, Libya, to Fustat, where they expected the hospitality of another Jewish merchant.³⁰⁰ Around 1010, a Jewish merchant wrote of sending merchandise and gold with Muslim travellers.³⁰¹ We have also a case of a Muslim carrying queries to the yeshivot for a senior Jew of Qābis.³⁰² It would seem that the annual caravan from the Maghrib to Mecca, by way of Egypt, provided an outlet for travellers and correspondence, until the route fell into abeyance after the great calamity.³⁰³ This kind of routine interaction must have been quite common: the Muslim *litterateur* Ibn Hazm liked to socialize at the shop of a Jewish friend.³⁰⁴ Nonetheless, for cultural reasons and because enforcement across community boundaries was difficult, we should expect the majority of merchants to establish “agency relations,” i.e. partnerships, within their own

²⁹⁷ There is debate over how these mechanisms functioned. See the paper of Jeremy Edwards and Sheilagh Ogilvie, “Contract enforcement, institutions, and social capital: the Maghribi traders reappraised,” *The Economic History Review* 65, 2 (2012): 421-444, 443, and its rebuttal, Avner Greif, “The Maghribi Traders: A Reappraisal?” *The Economic History Review* 65, 2 (2012): 445-469. Jessica Goldberg offers a sensible resolution of the two sides in *Trade and Institutions in the Medieval Mediterranean: The Geniza Merchants and their Business World*. Cambridge: 2012.

²⁹⁸ Nāṣer-e Khusrow’s *Book of Travels (Safarnāma)*. trans. W.M. Thackston, Jr. New York: 1985, 66.

²⁹⁹ Stillman, “Merchant House,” 23.

³⁰⁰ Gil, “Jewish Merchants,” 281.

³⁰¹ Goitein, *Letters*, 78.

³⁰² Moshe Gil, “The Babylonian Yeshivot and the Maghrib in the Early Middle Ages,” *Proceedings of the American Academy for Jewish Research* 57 (1990-91): 69-120, 76.

³⁰³ *Ibid.*, 100.

³⁰⁴ Ibn Hazm, *The Ring and the Dove*, cap.1.

groups.³⁰⁵ Between distant cities, contract enforcement mechanisms were absent.³⁰⁶ In the absence of an established network of trust, that most valuable of financial instruments, the cheque, was not available.³⁰⁷ Geniza sources tell us that Jewish merchants sometimes had recourse to the Muslim authorities, who might dispatch troops to enforce the payment of cheques.³⁰⁸ Such security was not available to a southern merchant doing business in Pisa. Transactions, then, were likely conducted to minimize liability, although this does not imply either low frequency or volumes. Simple exchanges of commodities or money must have prevailed, sometimes in prearranged locations, such as the fair at Trebizond, where Greeks, Muslims, Armenians and Circassians met annually to trade, or at locations prompted by the arrival of a ship or caravan.³⁰⁹ Only after enough time had passed for the establishment of personal relations should we expect more sophisticated forms of exchange. In an early example of Italian-Muslim interaction, in the ninth century, a Muslim merchant was strolling in the market of Salerno when he met the prince, and warned him of a planned military expedition.³¹⁰ At the other end of our period, Jewish and Muslim merchants regularly consulted on trade conditions.³¹¹ The career of Ildeberto of Pisa certainly implies a long-term relationship between Pisans and Denians, although their formality is impossible to assess.

Citarella argued that in Amalfi, as in Venice, discretion prevented the merchant oligarchies from putting down on paper what they were willing to countenance in practice.³¹² Certainly, it would have been awkward to explain a formal treaty to the same emperor in Constantinople who issued bans on trade with the Muslims.³¹³ But while

³⁰⁵ Greif, for example, in a sample of 550 Maghribi traders, found only six to ten Muslims: Avner Greif, "The Maghribi Traders: A Reappraisal?" *The Economic History Review* 65, 2 (2012): 445-469, 457. That agents received a commission may have served as an incentive to keep the business within the community: Gil, "The Jewish Merchants," 316.

³⁰⁶ At least in the tenth and eleventh centuries. In the twelfth, with the Islamic merchant marine increasingly supine, it was possible for Italian cities to pressure the authorities of North Africa. See Hopley, "Aspects of Trade."

³⁰⁷ On cheques, Gil, "Jewish Merchants," 301-305.

³⁰⁸ Gil, "Jewish Merchants," 318.

³⁰⁹ Al-Mas'udi, 402; al-Iṣakhrī, 1870/1892, p.188, in Heck, *Charlemagne, Muhammad*, 287; Goitein, *A Mediterranean Society*, I, 277.

³¹⁰ *Chronicon Salernitanum*, edited by U.Westerbergh, Stockholm: 1956, 110-11, 122.19-123.16.

³¹¹ Geniza: Bodl d74.41; Constable, *Trade and Traders*, 68.

³¹² Citarella, "The Commerce of Amalfi before the Crusades," 550.

³¹³ Lopez, *Mediterranean Trade*, 333. See Samuel Romanin, *Storia documentata di Venezia*, I, 373-75.

reasonable, this explanation is superfluous. Firstly, given the parlous quantity of records surviving from this period, the absence of trade-related sources is not surprising. Second, it is far from clear that the Fatimids (or other Muslim states) would have been willing to stoop to formal arrangements. There is no evidence of formal trade agreements between, say, Sicily and Tunisia. Why should we expect them between minor cities? In 957-8, a Byzantine diplomat asked the Fatimid caliph al-Mu'izz to dispatch ambassadors to Constantinople. He rejected the request with contempt, observing that ambassadors were sent only out of necessity or obligation, neither of which applied.³¹⁴ If such an attitude prevailed with respect to the imperial court at Constantinople, we cannot expect much for Amalfi. Nor for Pisa, which lacked even an autonomous government in this period. Citarella, echoing Amari, thought that the mid-twelfth century trade treaties between Pisa and North African cities implied similar arrangements in the earlier period.³¹⁵ This is not the case: by the twelfth century the balance of power in the Mediterranean had decisively shifted. For the tenth century, and probably throughout the eleventh—since all peoples are reluctant to recognize change—it is unlikely that western merchants benefited from any special provisions. The parallel documents from the twelfth and thirteenth centuries emerge from a different world, in which Pisa or Genoa were able to enforce unequal treaties comparable, perhaps, to those forced on China by western powers in the nineteenth century.

The transmutation that attended the introduction of the *commenda* illustrates the difficulty of tracing trans-network innovations. It was precisely the sort of thing that would animate the conversation of merchants sharing a deck - the agencies of diffusion, in Glick's terms - yet its mundane and practical nature leave it the last thing to attract the attention of Latin writers. As for Arabic sources, Al-Qābisī (935-1012), a Malikite jurist living in Qayrawān, banned any contract that stipulated travel outside the House of Islam, due to the lack of enforcement mechanisms - a circumstance that implies people were

³¹⁴ Stern, "An embassy of the Byzantine Emperor," *Byzantion* 20 (1950): 247-8.

³¹⁵ Citarella, "The Commerce of Amalfi before the Crusades," 549; Michele Amari, *I diplomi arabi del Regno archivio fiorentino*, Florence: 1863, Introduction.

making the attempt.³¹⁶

GAPS IN THE RECORD

The *commenda* contract is an unusual example that historians have been able to tease out of scarce textual evidence. But that evidence consists of one mention and one example for the whole eleventh century, and its survival was clearly a matter of chance. Such a circumstance implies that other evidence for Mediterranean communication existed, and is now lost. But another way the *commenda* is exceptional is its status as a textual source, for we cannot assume that our Italian merchants committed everything - or anything - to paper. The balance of this chapter will address the question of whether the Italian infiltration of the Mediterranean network was a historical process likely to give rise to written evidence at all. Certainly, the written testimony for Christians trading in Muslims ports is not extensive, and for Muslims trading in Christian ports very weak indeed. It is possible to take a minimalist approach to the subject, as Patricia Skinner has recently done in her analysis of the history of Amalfi.³¹⁷ If the network was as integrated as suggested, we need to investigate why the sources don't tell us more about it, and whether this gap is a problem for our thesis.

The tenth century in particular is not an era in which the absence of evidence is conclusive—its sources are weak in every respect, not solely towards the history of commerce. Moreover, archaeology has magnified the gaps in the written record—the ceramic finds in Pisa have required us to completely rethink its tenth and eleventh century history, which formerly rested upon the scant lines of the annals. Secondly, there is a broader historiographical point, that we should not attribute to undocumented Italian merchants and ships what we can attribute to amply attested Jewish and Muslim trade. Around the year 1000, for example, there is zero evidence for Pisan traders, but a great

³¹⁶ His ruling, however, was in reference to non-Muslims south of the Sahara. It is preserved in a sixteenth century collection of the Moroccan jurist al-Wansharīshī, discussed and partially translated in Brett, "Islam and Trade in the *Bilād al-Sūdān*, Tenth-Eleventh Century AD," *Journal of African History* 24 (1983): 431-440.

³¹⁷ Skinner, *Medieval Amalfi and its Diaspora*, 247-248.

deal for Muslim and Jewish traders; the latter should therefore be our first suspects when we find goods from Muslim countries in Italian cities. There is, moreover, a strong tendency for historians of those cities to cast their citizens as the protagonists of stories in which they may have been but side characters. And finally, the subject of trade is one that even in a better documented age might not have attracted the pens of its writers. This last calls for extended comment.

McCormick has documented the aversion of Carolingian chroniclers to commerce. There is no reason to think such attitudes subsided in the following centuries.³¹⁸ Indeed, McCormick has a famous tenth century example of a perspective inimical to trade, in the person of St. Gerard of Aurillac, who upon discovering that he had inadvertently made a profit in the exchange of some textiles during a trip to Italy, returned the money.³¹⁹ Even gift exchange could be problematic. In mid-eleventh century Italy, Peter Damian stressed the danger of the world that accompanied transactions, observing that “it is not proper that we who serve God in spirit should soil our souls by accepting gifts from evil men because we are in need of temporal things.”³²⁰ The dangers of the secular world were even more acute when it came to market transactions, and strict guidelines hedged those monks who came into contact with it.³²¹ A mid-century text by Abbot Bono of Pisa celebrates the material success of his foundations, but although he makes much of treasures, he says little of how they they were acquired. It may be that some of his caginess derives from this unease with the market.³²² We will return to both these writers in subsequent sections.

The classical heritage was another gloss usefully applied to things that otherwise would have looked like straightforward contacts with the Islamic world, although it is not

³¹⁸ We see hints of them in the records of the missionaries in the east, whose attempts to convert the Slavs often ran counter to the interests of merchants hoping to deal in non-Christian slaves.

³¹⁹ McCormick, *Origins of the European Economy*, 12-15. Such examples may be multiplied: another is the merchant who attempted to raise the price of candles by buying up wax in early eleventh century Conques, and was severely punished by the local saint. Luca Robertini, ed., *Liber Miraculorum Sancte Fidis*, Spoleto: 1994, I.24, 125-127.

³²⁰ “Neque enim decet, ut qui spiritu Deo servimus, propter rei temporalis inopiam donis pravorum hominum nostras animas inquinemus.” Letter 37, ~1050s. See also letter 14.

³²¹ See Letter 18. Discussed in Michael Gledhill, “Peter Damian and ‘the World’: Asceticism, Reform and Society in Eleventh century Italy,” PhD diss, Department of History, King’s College London, 2012, 147-9.

³²² It is true that he brags about buying land with money, but real estate represents a different social category than movables. Abbot Bono of Pisa, *Breve ricordationis*. We will return to this source in detail in chapter three, p.98.

clear that the Latins would have recognized the categories modern historians designate as “antique” or “Islamic.” Antiquity provided its own legitimacy, as Walter Map would complain, noting that his *Dissuasio* was successful only because of its classical camouflage.³²³ It is worth considering the effect of the long-standing custom of maintaining toponymic appellations from antiquity. The survival of the classical names for the dioceses of North Africa, for instance in the mid-eleventh century letters of Pope Leo, had the effect of obfuscating the reality of Islamic rule. The same is true of maps in Beatus manuscripts, which use up-to-date toponyms for new Latin cities like Lisbon, but retain the antique for Africa.³²⁴ And the related tendency to designate as Carthage the chief city of Tunisia had a lot to do with the classicizing ambitions of poets, but may also have reflected common usage. We might ask, however, whether identifying Tunis or Mahdia as Carthage and Cairo/Fustat as Babilon had a legitimating function in reality as well as in verse. And if so, whether an object brought back from Babilon was more palatable than one from Al-Qahira. It seems that way to Peter the Deacon, who describes Constantine the African as from Carthage.³²⁵ Foreignness was easily assimilated to the conceptual axis of classical antiquity, as apparent in the architectural developments of Italy in the eleventh century, such as the atrium at Salerno (of which more below).³²⁶ Certainly it was convenient that the most imitated building of the Islamic world, the Dome of the Rock, was easily repackaged as the *Templum Domini* of Solomon or attributed to Romans, even though its true heritage was known to some.³²⁷ In Byzantium, artists seem to have used Kufic as a convenient shorthand for the unreadable letters of the

³²³ Walter Map, *De nugis curialium. Courtiers' Trifles*, Dist. 4, ch.5, ed. and trans. Montague Rhodes James, rev. Christopher N. L. Brooke and Roger A. B. Mynors, Oxford: 1983, 312–13.

³²⁴ A reliance on classical norms of course typified medieval Latin cartography in general, but is striking in Beatus maps, whose makers could easily have known of more recent toponyms. For some discussion, see Sandra Saenz-López Pérez, “The Image of France in the Beatus Map of Saint-Sever,” in *Space in the Medieval West: Places, Territories and Imagined Geographies*, edited by Meredith Cohen and Fanny Madeline, 159-174. Farnham, U.K.: 2014.

³²⁵ *De viris illustribus casinensibus opusculum*, cap.xxiii. Note also the Pisan merchant, Leo of Babilon, who shows up in Sardinia in 1103: *Codice diplomatico della Sardegna*, ed. P. Tola, I / 1, Sassari: 1984, #1, 2.

³²⁶ See chapter four, p.126.

³²⁷ eg. to Abbot Daniel in 1106. Wilkinson, *Jerusalem Pilgrimage 1099-1185*, 132.

ancient world.³²⁸ The sole extant Latin artist's manual of the period, the *De diversis artibus* of Theophilus, identified the gold of "antiquissimis vasis" as "auro arabica."³²⁹ Indeed, it is apparent that the word "antiquissimis" somehow meant the same thing as splendid.³³⁰ The situation seems to be one in which, to paraphrase Cutler's formulation, distance in space was conflated with distance in time.³³¹ Certainly Muhammad was understood as a Christian heresiarch: he was compared to Arius by the author of the Pisan *Carmen*, and likewise by Guibert of Nogent.³³² These factors should be seen as an independent literary strain - with its own heritage and tradition - which happened, more or less coincidentally, to intersect in a meaningful way with actual travel in our era. A euhemeristic world view, whereby mythology is unveiled as history, that saw Islam as a heresy within Christianity, aided Italians and crusaders to integrate Islamic styles of art, architecture and poetry without dissonance.³³³ Byzantium and Islam must have looked quite similar in this sense, and indeed the Pisans raided them indiscriminately.³³⁴ The situation appears to have been a response to the cultural milieu of the age, in which on the one hand, economic and social pressures valorized Islamic material culture, while a longstanding textual tradition emphasized the classical world. These two trends intersected in the literate strata of the Latin West, who responded by interpreting culture in terms of the lexicon they already possessed.

The persistence of such attitudes may go some way to explaining the curious silence of Italian municipal sources in the tenth and eleventh centuries: of what one may

³²⁸ Anthony Cutler, "Parallel Universes of Arab and Byzantine Art," in *L'Égypte Fatimide, son art et son histoire. Actes du colloque organisé à Paris les 28, 29 et 30 mai 1998*, edited by Marianne Barrucand, 635-648, Paris: 1999, 638-9. Later, pseudo-kufic would be excluded from ecclesiastical settings in Byzantium, but there is no evidence for that in our period: See Alicia Walker, "Meaningful Mingling: Classicizing Imagery and Pseudo-Arabic Script in a Byzantine Bowl," *Art Bulletin* 90 (2008): 32-53.

³²⁹ Theophilus, *De diversis artibus*, translated by Charles Dodwell, 1961, 96. This text is a manual of artisanal techniques, such as metalwork and painting. It is attributed to a Theophilus, not otherwise known, and internally dated to the first decade of the twelfth century. It is generally thought to have originated in the Rhineland, perhaps Metz.

³³⁰ E.g. Theophilus, 96.

³³¹ Cutler, "Parallel Universes," 639.

³³² Guibert also identified the Turks as the same people as the ancient Parthians, the name altered "because of the changes in the language." *The Deeds of God through the Franks by Guibert of Nogent*, translated by Robert Levine, at <http://www.gutenberg.org/cache/epub/4370/pg4370.html>.

³³³ The idea that Muhammad was a heterodox Christian was widespread. Guibert, for example, describes Islam as arising out of a dispute about the outcome of an episcopal election.

³³⁴ Discussed below in chapter three, p.104.

not speak, one must be silent. Only after sufficient time had elapsed to bolster the confidence of the commercial class, and to confirm their ascendancy, do we find texts celebrating their own values.³³⁵ The vast majority of our documents from the period are property transactions preserved by churches—clearly not the arena of secular commercial travellers. For the rest, we are ill served. To judge by Amalfitan sources, as Del Treppo long ago observed, there were no merchants in that city.³³⁶ The same holds true of Pisa, until the last quarter of the eleventh century, and even then the evidence is a lone charter of Henry IV.³³⁷ At the same time, as we have seen, Turks were walking Pisa's quays. If we hear of a Muslim ship, then, in the harbour of Amalfi, it should not blind us to the likelihood of others.³³⁸

Merchants were agents of redistribution of political capital and of knowledge and cultural values, but unlike bishops or princes, there was no room for them to play this role in the chronicles of the era.³³⁹ Or to put it another way, the idea that merchants could play this role was not congruent with the dominant ideologies of Latin Europe.³⁴⁰ The same was true for their goods. To Latin writers a precious object in the hands of a pilgrim bishop or soldier was naturally a gift, for they lived and wrote in a milieu in which the powerful did not trade but exchanged presents. But the same precious object in the east was likely merchandise, purchased with the money or goods the pilgrim bore to the Holy Land. The situation is directly analogous with that of technological innovators. We never

³³⁵ This, it is worth mentioning, is an expected outcome: for any social group or class, consolidation precedes culture. Persian letters exploded a full century after the Arab dominance of the caliphate waned; only after the French Revolution was successful do we hear of an art and literature of the bourgeois. Other examples are easy enough to find.

³³⁶ Mario Del Treppo and Alfonso Leone, *Amalfi Medioevale*, Naples: 1977, 82. This discussion has been taken up by almost every historian of the city since, notably Barbara Kreutz, "Ghost Ships and Phantom Cargoes: Reconstructing Early Amalfitan Trade," *Journal of Medieval History* 20 (1994): 347-57; and Skinner, *Medieval Amalfi and its Diaspora, 800-1250*. Oxford: 2013.

³³⁷ Charter of Henry IV: MGH HIV dip., v.6, m.336, 442-3. However, non-Pisan sources mention the merchants of that city a bit earlier, such as Malaterra under the year 1062.

³³⁸ Citarella, "Scambi commerciale fra l'Egitto e Amalfi in un documento inedito della Geniza del Cairo, (1977): 99-117.

³³⁹ The phrase is borrowed from from William North and Anthony Cutler, "The Bishop as Cultural Medium: Berthold of Toul, Byzantium, and the Episcopal Self-Consciousness," in *The Bishop: Power and Piety at the First Millennium*. Edited by Sean Gilsdorf, 75-111. Munich: 2004, who discuss bishops as "agents of redistribution."

³⁴⁰ This worked both ways: Theophanu, who could hardly have brought with her more Eastern luxuries than an entire Amalfitan or Venetian ship, nonetheless took the blame for introducing "multa superflua et luxuriosa mulierum ornamenta, quibus Graecia uti solet, sed eatenus in Germaniae et Franciaeque provinciis erant incognita, huc primo detuli," *Vita of Bernward of Hildesheim* by Thangmar, MGH SS, IV, 1841, 888; see also the vision of a certain nun in Otloh, *liber visionum*, MGH SS, XI, 1854, 385.

hear who developed new technologies, and yet they arose throughout the period, in milling, shipbuilding, and artistic production. Historians have had to tease out a history of technology from disparate and scattered notices. We must do the same with the mercantile activity of the era of transition.

MENTALITIES & CULTURE

In the maritime cities, gift exchange and commercial exchange existed in parallel. Of the meagre documentation, the former attracted the lion's share. This is because gifts are the kind of exchange that exemplified and perpetuated existing social hierarchies. Gift giving is an act that implies an established network of reciprocal relations, and that the actors expect to meet again. And also that they are, if not on the same plane, occupying the same conceptual space. Gift giving was the main conceptual model of exchange available in the Latin west, to the extent that even in legal trade documents, its trappings prevail.³⁴¹ To embark on other modes of exchange, i.e. merchant ventures, which by definition did not rely on pre-established social networks, was to invite the silence of the sources. This was not the case in the Muslim world, where gift giving and merchant exchange operated openly. Around 1020, the blind poet Al-Ma'rri noted that the thirty-odd *ghulam* slaves of the emir of Aleppo were either a gift from the Byzantine emperor or purchased on the market, and that the latter was better, as a gift has to be recompensed "so as to exceed their value many times," while a purchase is just a purchase.³⁴² Such a clear statement is rare, but Abbot Bono of Pisa's insistence that his abbey's lands were purchased with money perhaps is intended to underscore its freedom from obligation. Rory Naismith has recently emphasized how medieval elites most often used the neutral medium of money when outside of their peer groups.³⁴³ As such, we might generalize that the greatest

³⁴¹ Chris Wickham, "Compulsory Gift Exchange in Lombard Italy, 650-1150," in *The Languages of Gift in the Early Middle Ages*, edited by Wendy Davies and Paul Fouracre, 193-216. Cambridge: 2010.

³⁴² The slaves served as the bodyguard of Azizal-Dawlah, Fatimid-appointed governor of Aleppo. Pieter Smoor, *Kings and Bedouins in the Palace of Aleppo as reflected in Ma'arrī's Works*, Louvain: 1985, 130.

³⁴³ Rory Naismith, "The Social Significance of Monetization in the Early Middle Ages," *Past and Present* 223 (2014), 35.

number of outgroup transactions take place in the most monetized contexts, such as the maritime cities. Conversely, literature is usually aimed at in-groups, for the texts of our period are usually didactic, implying shared conventions and expectations, or polemic, which occurs in the context of established disputations, or panegyric, which almost by definition is restricted to client and patron environments, such as royal courts. Our written sources, then, will by nature tend to bypass the transcultural economic interactions that interest us.

Such reservations could only have been sharpened with respect to trade outside Christendom. In the religious discourse of the day, there were really only two reasons to associate with unbelievers: conversion and war. Although this was not an age of monolithic social conformity, the background radiation would not have warmed an Italian merchant doing deals with Muslims, as Donizone's fulminations against the "monstrous city" of Pisa, full of Turks and Parthians, make clear. The unboundedness of the port city must have been worrying. As Chiara Frugoni has observed, "a walled enclosure full of Churches [was] the mental landscape of felicity," an assertion backed up not only by reference to Isidore, but to the visual culture of the period, in which the city invariably appeared as a block of contiguous structures.³⁴⁴ This is the essence of Donizone's fulmination. The sea, as Mediterraneanists know, corrupts. Neither mobility nor openness were virtues.

A symmetrical attitude reigned south of the Mediterranean. Not, of course, that Islam shared Christian Europe's suspicion of trade. In the late tenth century, the Persian geographer Ibn al-Faqīh penned a passage unimaginable in the west:

"If God the Almighty had not distinguished with his benevolence every land of the lands and given every clime of the climes a thing which He kept from the others,

³⁴⁴ Isidore defined *urbs* according to the presence of walls. Chiara Frugoni, *A Distant City: Images of Urban Experience in the Medieval World*, translated by William McCuaig, Princeton: 1991, 13, 3. Moshe Barasch has emphasized that the didactic aspect of medieval art is better understood as normative; it was not intended to teach new information to the unlettered, but reinforce what was already known. That is, "to mould the thought and imagination" of their audience. Moshe Barasch, *Theories of Art: 1. From Plato to Winckelmann*. New York: 2001; repr. 2013, citing G.D. Mansi, *Sacrorum Conciliorum nova et amplissima collectio*, Paris: 1901, v.19, col.454. In the twelfth century, Honorius of Autun was clear that the role of art was to provide examples by recalling "the lives of those who have gone before." *De gemma animae* 1, PL 172, col.586.

commerce would be in vain and the handicrafts would go away. No one would journey abroad and no one would travel and they would abandon the exchange of gifts; buying and selling would go away, and receiving and giving. Therefore God the Almighty gave each locality in every opportunity an item of the good things and kept it from the others so that one must travel to the country with it, and people will enjoy the delights of [another] people, so that there is even distribution and the arrangement is well ordered.”³⁴⁵

But while not despised, the role of the merchant in our period was not valorised either. Muslim writers, such as al-Mas’udi and Ibrāhīm b. Ya’qūb al-Ṭar-ūshī, are coy about their own business, and while they do not shy from making observations about commerce, they maintained a hearty suspicion of merchants’ tales.³⁴⁶ Nor should we expect much from Arab merchants, no matter how literate, any more than we might from the *Couriers de Bois* returning from the shores of Lake Superior. There is the occasional shadowy presence, like that of al-Ṭar-ūshī, and we can only remark he is no more likely to have been the only Muslim merchant in France and Italy than Bernard the only pilgrim to Jerusalem.³⁴⁷ There are many places we know the Muslims ventured - Bari, Garigliano, Fraxinetum, Taranto - for which we have no accounts. In every age, commercial travellers have better things to do than comparative anthropology.

Trade with the non-Muslim world was potentially suspect, for reasons implicit in its common designation *Dar al-Harb*, the House of War. We know, for example, that controversy over trade with Norman Sicily agitated the *ulamā* of Ifriqiya in the early twelfth century.³⁴⁸ This was itself an adaptation to changing times: the great jurist Ibn Abī

³⁴⁵ Cited and translated by Anya King, *The Musk Trade and the Near East in the Early Medieval Period*. Unpublished PhD diss. Indiana University: 2007, 282

³⁴⁶ Both Qudama ibn Ja’far (d.948) and al-Mas’udi approvingly recount how Ptolemy distrusted the boasting of merchants. Discussed in Travis Zadeh, *Mapping Frontiers across Medieval Islam*, London: I.B. Tauris and Co, 2011, 8.

³⁴⁷ al-Ṭar-ūshī is known only through extracts in later works, such as those of Al-Bakri. His origin, ethnicity, and purpose have all provoked controversy. Bernard’s account of c.871 is the sole example of his period. See Leor Halevi, “Bernard, Explorer of the Muslim Lake: a Pilgrimage From Rome To Jerusalem, 867,” *Medieval Encounters* 4 (1) 1998: 24-50.

³⁴⁸ Russel Hopley, “Aspects of Trade in the Western Mediterranean During the Eleventh and Twelfth Centuries: Perspectives from Islamic Fatwā’s and State Correspondence,” *Mediaevalia* 32 (2010): 5-42, 19.

Zayd (d.996) had been explicit that trade with enemy lands was “wrong and hateful.”³⁴⁹ Ibn al-Awam displays a like unease with engaging the non-Muslim world in his famous agricultural treatise the *Kibab al-Felahah*.³⁵⁰ Even the great geographers of the tenth century saw the non-Islamic world as more-or-less irrelevant.³⁵¹ For this reason, Muslim writers may often have underplayed non-military encounters, or disguised them under the cover of jihad. For example Al-Muqaddasī was aware of the trade in eunuchs, but claims that the boys were castrated by the “Romans” in order to dedicate them to the church, and were then seized by Muslim raiders in legitimate warfare.³⁵² And while cities might depend on trade, their rulers depended on the legitimacy conveyed through war with the infidel. This was especially true of smaller polities unable to claim Caliphal authority.³⁵³ And new, increasingly military, trends were arising that might have accelerated this ambivalence about non-violent contacts with the infidel: as early as c.1002, Zawi b. Ziri Abu Muthanna proclaimed “War is our line of action, not administration; our pens are the lances and our pages are the fallen bodies.”³⁵⁴

It may be objected that if Christian merchants were traveling on southern ships, we should hear about it in the textual sources. But this is hardly the case. It is not doubted that the world of the Jewish merchants recorded in the Geniza is but a small slice of a much larger Muslim network. Their relative population sizes affirm this, even if Jews were disproportionately involved in business (which is not clear). And yet dealings with Muslim traders in the Geniza records, although regular, are not frequent, notwithstanding that they shared both language and urban setting. Neither was true for visiting Italians.

³⁴⁹ Ibn Abī Zayd al-Qayrawānī, *La Risāla*, edited and translated by Leon Bercher. Algiers: 1945, 318-19; Brett, “Islam and Trade in the *Bilād al-Sūdān*, Tenth-Eleventh Century AD,” 433.

³⁵⁰ He employed Christian sources, but observed “I have introduced the opinions of men, strangers to Islam; I do not name them but have indicated them in a round about way by prefacing the passages cited with the words: Another has said such a thing.” See Lois Olson and Helen L. Eddy, “Ibn-Al-Awam: A Soil Scientist of Moorish Spain,” *Geographical Review*, 33, 1 (1943): 100-109, 108.

³⁵¹ Both al-Mas’ūdī and al-Muqaddasī express this opinion, notwithstanding that the former does devote considerable text to the non-Muslim world in his *Meadows of Gold*. Discussed in Antrim, 97-101.

³⁵² Al-Muqaddasī, *Best Divisions*, trans. Collins, 200.

³⁵³ Their problems with legitimacy are exemplified by the famous sneer of Ibn al-Khaṭīb, that they bore misplaced names of royalty, like a cat puffed up like a lion. Ibn al-Khaṭīb, *A’māl*, German edition, 306.

³⁵⁴ Ibn Bassam, *Dhakhira*, part 4, 1:61, cited in *Zirids of Granada*, 14: I have substituted “administration” for *wizara*, i.e. holding the position of vizier.

Pisa's population in the twelfth century has been estimated at 11,000.³⁵⁵ It may have much less in the tenth and eleventh centuries. The merchant classes of a handful of Italian cities could not be numerous, those that traveled fewer still. If what we have suggested about the relative prosperity of north and south is true, it follows that commercial voyages must be in due proportion. Astren recently stated that "the most desirable and lucrative opportunity for a Geniza merchant was to to sell to European merchants who sought Eastern goods that were scarce and in high demand in their home-lands," but this perspective, while understandable, misinterprets the economic realities of the era.³⁵⁶ From the point of view of Alexandria, Naples or Pisa were obscure ports inhabited by an uncivil people. Only a small percentage of all merchant ventures would have encompassed such places. And when we subtract from that percentage transactions of goods in which the Jews did not deal—timber, weapons, slaves—it becomes clear why so little of the Geniza material deals with Christian ports.

We might ask, too, what other sources might have existed. The existence of the *Carta Pisana* assures us that some trade documents have been lost.³⁵⁷ And the extant notebook of Adémar of Chabannes suggests that detailed visual information may have moved in the network.³⁵⁸ We would have no idea that Muslims visited Genoa in the first half of the twelfth century, save for the chance survival of harbour dues. We lack those for Pisa (and Amalfi, and Naples, and Gaeta), but we do have Donizone's hostile report, and circumstantial evidence—certainly the ransoming of the heir to Denia, and the delivery of a letter from the ruler of Denia both imply more regular connections than are explicit in our sources.³⁵⁹ Italy was, however, a society both less literate and less supplied with cheap writing material than Egypt, and we can hardly suppose an Amalfitan Geniza

³⁵⁵ Herlihy, *Pisa in the Early Renaissance*, 36; Emilio Cristiani, *Nobilita e popolo*, 136.

³⁵⁶ Fred Astren, "Goitein, Medieval Jews, and the 'New Mediterranean Studies,'" *Jewish Quarterly Review* 102, 4 (2012): 513-31, 523.

³⁵⁷ Ignazio Baldelli, "La carta pisana di Filadelfia. Conto navale in volgare pisano dei primi decenni del secolo XII," *Studi di Filologia italiana* 31 (1973): 5-33.

³⁵⁸ His notebook, preserved at Limoges, has on folios 210v and 211v visual notes of pseudo-kufic and of abstract ornaments possibly derived from architectural sources Robert W. Scheller, *Exemplum. Model-Book Drawings and Practice of Artistic Transmission in the Middle Ages (ca. 900--ca.1470)*, translated by Michael Hoyle, Amsterdam: 1995, 110, fig. 21.

³⁵⁹ Travis Bruce, "The politics of violence and trade: Denia and Pisa in the eleventh century," *Journal of Medieval History* 32 (2006): 127-142.

ever existed.³⁶⁰ As such, even in the absence of ideological strictures, there were practical reasons why formal evidence of commerce between Muslims and Christians might not survive. The gold of the east exerted a magnetic pull upon the maritime cities. This serves to explain the relative dearth of sources for the trade in western sources, which are concerned above all with land and landholding. We have seen that the Naples linen business was invisible in Italian sources.³⁶¹ If Amalfi and Pisa were cities without merchants, the explanation is simple: there was little incentive for an Amalfitan or Pisan merchant to peddle his wares in the cash-strapped Latin west, where prices were low and commodities cheap, if he could sell them for gold in the east.

Sophia Menache has pointed out that it is surprising that the first crusade was not accompanied by economic sanctions, such as were promulgated by the papacy in the later twelfth century.³⁶² Such policies were practiced, after all, in the Byzantine world.³⁶³ It is possible that outside the coastal regions, the Mediterranean trade network was simply not well known in the 1090s. At this date none of the maritime republics were throwing their weight around the mainland, as they would later. But the fury of Donizone, himself of the papal party, suggests otherwise. The reason was likely more structural: economic blockades are made by the rich against the poor. From an eleventh century context—when Urban II was born, Saracen raids were still a recent memory—cutting off trade with the apparently flourishing House of Islam would do more harm than good to Christendom. The twenty-first century pirates of Somalia or the Malacca Straits might as well declare a

³⁶⁰ For the prolific use of paper in Egypt, which had entirely eclipsed papyrus as a writing surface by the eleventh century, see Jonathan Bloom, “Paper in Fatimid Egypt,” in *L’Égypte Fatimide. Son art et son histoire*, edited by Marianne Barrucand, 395-401. Paris: 1999. Archaeological results suggest a ratio of 90%, paper, 8% parchment, and 2% papyrus for the period 950-1050 (*ibid.*, 398). A recorded price for paper in late tenth century Egypt was six and two-thirds of a dinar for 125 sheets. One sheet, then, might go for ~2 dirhams. This was reasonable for an Egyptian merchant, but exorbitant for an Italian. However, we do not know the size of the sheets (*ibid.*, 400). Deborah Howard, *Venice and the East*, 56, considers paper a likely medium for written and artistic transmission between Italy and Egypt. Bloom, *Arts of the City Victorious*, 79, is skeptical - perhaps unduly. While expensive by later standards, paper was already in use for popular fiction, such as the *One Thousand and One Nights*, which suggests that it could have been used for other ephemeral but important tasks, such as architectural design. Nabia Abbot, “A Ninth-Century Fragment of the ‘Thousand Nights.’” *New Light on the Early History of the Arabian Nights*, *Journal of Near Eastern Studies* 8, no. 3 (July 1949) 129-164.

³⁶¹ Patricia Skinner, “Urban communities in Naples, 900-1050,” *PBSR* 62 (1994): 279-300.

³⁶² Sophia Menache, “Papal Attempts at a Commercial Boycott of the Muslims in the Crusader Period,” *Journal of Ecclesiastical History* 63, 2, (2012): 236-259, 236.

³⁶³ *ibid.*, 238; Tafel and Thomas, 26-27.

boycott on the West. It was not until the transition was complete in the twelfth century that the southern shores were seen as economically dependent in any way on the north, and hence vulnerable to economic weapons.

To sum up, there are many ways in which aspects of culture, material and otherwise, might traverse frontiers, but here we have considered those that transcend the linguistic and confessional boundaries that people use to define themselves. They are those that, because they do not rely on pre-established paradigms of transmission, are difficult to communicate. We have seen that even for the writers of the time, there were cultural and structural reasons why close records of trade between the Christians and the Muslims of the Mediterranean were not maintained. The lack of paradigms of transmission may or may not have impeded movement, but it certainly impeded talking about movement.

PISA'S PLACE IN THE MEDITERRANEAN NETWORK

“volunt omnes thesauros tollere nobis”³⁶⁴

Chapter one marshalled a wide range of evidence to construct a hypothesis about how the commercial expansion of the maritime cities before the first crusade developed under the aegis of the pre-existing Muslim-Jewish trade network in the Mediterranean, and how mercantile predominance switched from the Muslim and Jewish traders of the House of Islam to the Italians of such maritime cities as Amalfi, Gaeta, and Pisa.³⁶⁵ I argued that the trade network, both before and after the transition, saw little structural change, and that Italian trade developed organically and in conformity with the commercial paradigms of the existing Muslim and Jewish trade network. It appears that the weakness of the large Mediterranean polities (the ‘great calamity’) enabled a realignment of Italian merchants from participants to dominant players in the trade network.³⁶⁶ These assertions about trade expansion and transition are founded on evidence that spans the Mediterranean, which raises the question of whether such a coherent picture is useful for examining a smaller region. The next step, then, is to narrow the focus and apply chapter one’s conclusions in a specific case study - that of Pisa. In addition, a hypothesis emerged in the first chapter for how contacts between Italians and traders from the Muslim countries were initially forged - that is, through incremental expansion of the network’s shipping lanes. Although speculative, we shall also consider it in the light of specific Pisan evidence. In this chapter, then, our objective is to map the steps of Pisa’s economic transformation, as an example of the transition that affected the Mediterranean network as a whole.

At the beginning of the tenth century, Pisa was an undeveloped seaside town. But by the twelfth century, it had grown into a maritime superpower, able to defeat the

³⁶⁴ Thus the king of Mallorca about the attacking Pisans. *Liber Maiolichinus de guests Pisanorum illustribus*, edited by Carlo Calisse, Rome: 1904, line 2925.

³⁶⁵ Venice, as noted in chapter one, will remain outside our investigation.

³⁶⁶ See R. Ellenblum, *The Collapse of the Eastern Mediterranean: Climate Change and the Decline of the East, 950-1072*, Cambridge: 2012, for an ecological explanation of the collapse of the larger Mediterranean polities.

Fatimids and rival the Venetians, a surprising outcome for a city of perhaps 10,000. In the following pages we will examine Pisa's maritime history up the first crusade, using primary sources textual and material, in light of the interpretive framework supplied in chapter one. Because the city has frequently been seen solely in the context of its communal chronicles, which naturally privilege Pisa's own interactions with the wider Mediterranean, here we will examine the city as but one actor in a wider network.

FROM THE CAROLINGIAN ERA TO THE TENTH CENTURY.

Although Pisa was a port in Roman times, there is no evidence for a Pisan merchant marine between late antiquity and the eleventh century. Historians have deployed Carolingian sources to adduce some earlier prosperity, but the documentation does no more than establish that a port existed.³⁶⁷ Of these, the most famous – and the only one to mention Pisa by name – is the record of the arrival of Charlemagne's elephant in 801. The incident was popular among chroniclers, but most versions tell us only that the elephant came ashore at Portovenere, not Pisa. The *Annales Mettenses Priores* offers a fuller version; according to its entry for 801, a message came to Charlemagne in Ravenna that legates from the king of Persia, Amiral Mumminin [i.e. the Amir al-Mu'minin Harun al-Rashid] had arrived in Porto Pisano with the emperor's own ambassador Isaac the Jew, the famous elephant, and "immense treasures." Charlemagne then ordered "Herchenbaldus the notary to ready a flotilla in Liguria, which would convey up the coast the elephant and whatever came with it." In 802, Isaac reached Portovenere "de Africa cum elephante." He must have disembarked there, as he subsequently overwintered in Vercelli.³⁶⁸ This story is poor evidence for Pisan marine activity. Seemingly what happened is that a ship arrived at Porto Pisano in 801, where it deposited Isaac and the elephant. Ships were then readied in Liguria and sailed down the coast to Pisa, where

³⁶⁷ E.g. M. L. Ceccarelli Lemut, "Il sistema portuale pisano e le sue infrastrutture: riflessioni su una problematica aperta," in *"Un filo rosso" studi antichi e nuove ricerche sulle orme di Gabriella Rossetti in occasione dei suoi settanta anni*, edited by G. Garzella and E. Salvatori, 115-126. Pisa: 2007, 118.

³⁶⁸ *Annales Mettenses Priores*, MGH SS rer. Germ. 10, 88.

they picked up Isaac and the elephant. The pair then sailed back up the coast to Portovenere, where they disembarked and proceeded overland. That it was necessary for Herchenbaldus to prepare the flotilla in Liguria implies that a) the ship that dropped him off at Porto Pisano with the legates was no longer available, perhaps because it had returned home to Africa and b) that in Pisa there were no maritime resources sufficient to the task for conveying the elephant the short distance to Portovenere.³⁶⁹

A second piece of Carolingian-era evidence is the fleet supported by the Franks in the Tyrrhenian, which was used by Count Boniface to control Corsica and Sardinia. Some historians have associated these ships with Pisa, but whether they were based in Tuscany or Liguria or elsewhere is unknown.³⁷⁰ In any case, we do not hear of it after 828.³⁷¹

The joint popularity of charismatic megafauna and Charlemagne left conspicuous traces in the chronicles of the following centuries; these provide a useful index for Pisa's prominence as a place of contact with the wider Mediterranean. For Notker the Stammerer, the maritime reputation of Tuscany had so far declined that he relocated the entire story to Campania.³⁷² Since he lived on a main trunk route to Italy's west coast, he was well placed to know whether Pisa was a significant port. Southern Italy was altogether a more likely place for Muslim ambassadors in the early tenth century. The *Translatio Sanguinis*, written c.925 at Reichenau, retains Charlemagne's presence in

³⁶⁹ It is worth adding that they do not say much for Ligurian shipping resources either; despite the impressive sound of "in Liguriam ad classem preparandam," the vessels sailed no further than the 50 kilometres from Pisa to Portovenere, at which point the Apuan Alps were deemed more attractive than further waterborne transport.

³⁷⁰ *MGH, Scriptores rerum Germanicarum in usum scholarum*, VI, *Annales regni Francorum inde ab a. 741 usque ad a. 829, qui dicuntur Annales Laurissenses Maiores et Einhardi*, ed. F. Kurze, Hannover: 1895, 122, 124, 153. Catia Renzi Rizzo e Michele Campopiano, eds. *Pisa e il Mediterraneo: antologia di fonti scritte, dal secolo VII alla metà del XII*, Pisa: 2004; Ceccarelli Lemut, "Il sistema portuale pisano e le sue infrastrutture: riflessioni su una problematica aperta."

³⁷¹ *Royal Frankish Annals*, 176; A lone example of Tuscan shipping in the late ninth or early tenth century is the purported expedition of Bertha of Tuscany against North Africa, cited by McCormick, 519, 963. But this is a doubtful source, as shown by Ann Christys, "The queen of the Franks offers gifts to the caliph al-Muktafi'," in *The Languages of Gift in the Early Middle Ages*, edited by Wendy Davies and Paul Fouracre, 149-170. Cambridge: 2010. The testimony of al-Nadīm at least confirms the existence of a "queen of the Franks" and her gifts, and that the latter traveled via a North African subject of the Aghlabids. But rather than posit an otherwise invisible Tuscan raiding fleet, it is better to assume that the North African came on one of the well-attested Aghlabid ships. The fleet of the Ibrahim ibn Ahmad, for example, landed in Sicily in May 902 and subsequently invaded Calabria. See *The Fihrist of al-Nadīm: a tenth century survey of Muslim culture*, trans. Bayard Dodge. New York: 1970, vol.1, 38; Michele Amari, *Storia dei musulmani di Sicilia*, Catania: 1933-39, v.2, 97-110. In 891 the toponym "Porto Pisano" appears in a Tuscan document, but this tells us little: Muratori, *Aimae*, III, coll. 1039-1042; Caturegli, n. 34.

³⁷² Notker, *De Carolo Magno*, II.8.

Ravenna, but has him travel to Sicily to meet the eastern envoy.³⁷³ A half-century later, Benedict of Monte Soracte sent Charlemagne to southern Italy, and then to Jerusalem and Alexandria to pick up the treasures from Harun al-Rashid in person.³⁷⁴ The same source includes an epitome of Italian coastal regions: “Benetie [Venice], Quilegie [Aquileiae], Ravenna, Arimanum, Ancona “et cuncta litoris maris Adriaticae, usque ad Traversus... Et cuncta maris Terrine [Tyrrhenian], Eugenia [Genoa], Corsica, Sardinia, Pisani, Centucellensis, Rome et quicquid Napulie [Naples].”³⁷⁵ Between regions, islands and settlements important and otherwise, this list at least confirms that Pisa had some presence in the minds of contemporary writers.

The *Honorantie civitatis Paviae*, a text describing the market of Pavia, then capitol of the Italian kingdom, mentions Amalfitan, Gaetan, and Venetian merchants; the absence of Pisa suggests its tenth century marginality.³⁷⁶ The same held true from the Arab perspective: in the geographic treatise of Ibn Hawqal of c.970, there is no sign of Pisa, although he does mention Amalfi, Naples and Salerno, but when his work was copied a century later Pisa was added to the maps (see map in chapter one).³⁷⁷ Important Christian travellers disembarked at Pisa in the tenth century, as Harun al-Rashid's envoys had in the previous.³⁷⁸ As with Amalfi (see chapter one), it would be absurd to argue that Pisa had no ships in this era. But we do not hear of them, and must infer their presence from Otto I's award of rights over nearby islands – and as these islands are visible from the towers of Pisa, this does not mean much.³⁷⁹ Certainly, when King Hugh launched his

³⁷³ Who has become the prefect of Jerusalem, and has arrived bearing relics: MGH SS 4, 447-49.

³⁷⁴ MGH SS 3, 708-711, ch.23. Benedict even had the two rulers jointly presiding over a multi-faith festival in Alexandria – a generous attitude in a writer whose neighbourhood had been ravaged by Saracen raiders within his lifetime (“[Karolus] prudentissimus rex cum Aaron rex usque in Alexandria pervenit. Sicque letificantes Francis et Aggarenis, quasi consanguineis esset.”)

³⁷⁵ MGH SS 3, 710.

³⁷⁶ Liudprand *Antapodosis* III.16 calls Pisa “caput” of Tuscany, which is strange, as he does not otherwise refer to it, and he does (II.38-39) mention Lucca in terms that imply it held the same position. In context ([Pisa] “est Tusciae provinciae caput, duxerat, de qua sic Maro: ‘Alpheae ab origine Pisae’”), we should perhaps understand caput as “head” or even “mouth” of Tuscany, in a light wordplay with the Virgilian reference.

³⁷⁷ Beckingham, C.F., “Ibn Hauqal's Map of Italy,” in *Iran and Islam*, edited by C.E. Bosworth, 73-78. Edinburgh: Edinburgh University Press, 1971.

³⁷⁸ In 926, Hugh of Provence sailed to Pisa, through waters controlled by the Muslims of Fraxinetum. Liudprand, *Antapodosis*, III.16.

³⁷⁹ Busch, *Medieval Mediterranean Ports*, 193; Alberto Riparbelli, *Aegilon: Storia dell'isola di Capraia dalle origini ai giorni nostri*, Prato: 1973. However, I have not been able to find any such privilege of Otto I.

campaign against Fraxinetum, he found no naval support at Pisa.³⁸⁰ There is but one native Pisan chronicle record for the tenth century, that in 970, the “Pisans were in Calabria.”³⁸¹ This is an outlier, which may reflect the military obligations laid upon the city by Otto the Great, who had armies in the region around that time.³⁸² If so, there is no reason to presuppose a naval expedition: the Pisan contingent probably marched south with the other Italians.³⁸³

AN AGE OF AGGRANDIZEMENT

In Italy, famously, politics are based on the cities. This was, however, less true around the millennium than it was later, and in Tuscany least of all.³⁸⁴ That region, alone in the old Regnum Italicum, maintained some territorial coherence into the eleventh century. Until the death of Countess Matilda in 1115, most cities in Tuscany remained under her seigneurial orbit.³⁸⁵ Unlike both Venice and Genoa, which originated as confederacies formed respectively from the scattered communities of the lagoon and the precipitous Ligurian coast, Pisa was always a settlement centre with its own expansive and fertile hinterland. Pisa's isolation was less extreme than either of those cases; nonetheless, it was not on the main transit routes that spanned Tuscany from north to south (then, as now, there were no major east-west roads in the region).³⁸⁶ River transport, on the other hand, was important, and Pisa was well placed to control access to its hinterland via its place on

³⁸⁰ Liudprand records that Hugh attacked by land, relying on Byzantine naval assistance. *Antapodosis* V.9.

³⁸¹ “fuerunt Pisani in Calabria”: *Annales Pisani* 4.

³⁸² Otto was certainly in Calabria in mid-969: *MGH Diplomata Regum et Imperatorum Germaniae: Die Urkunden der Könige und Kaiser I*, #373, and he was still in the south, around Capua, in 970, *ibid.*, #396. The (much later) chronicle of Raniero Sardo mentions that seven German barons settled in Pisa around this time, which, if true, would seem to reinforce the connection: *Cronaca pisana di Raniero Sardo*, in *Arch. Stor. It.* 1, 6, vol.ii, 75.

³⁸³ As Maria Luisa Ceccarelli Lemut does, when she states that the Pisans were campaigning against “i musulmani della Sicilia e dell’Africa settentrionale,” which appears to be pure supposition. “Mare nostrum Mediterraneum. Pisa e il mare nel Medioevo,” *Pisa crocevia di uomini, lingue e culture. L’età medievale*, Atti del Convegno di studio (Pisa, 25-27 ottobre 2007), edited by Lucia Battaglia Ricci and Roberta Cella, 11-24. Rome: 2009, 16.

³⁸⁴ Thus Wickham, *Early Medieval Italy*, 184: “The rejection of cities was only possible in the brief period between the end of city-based Carolingian administration and the beginning of the power of the city communes.”

³⁸⁵ Wickham, *Sleepwalking*, 87, and *Early Medieval Italy*, 185ff.

³⁸⁶ Despite their proximity, there was relatively little traffic between Pisa and Lucca, with the latter chiefly relying on north-south travel on the Via Francigena. Osheim, D.J. *The Temporalities of the Episcopate of Lucca, 1050-1350*. Unpublished PhD diss. UC Davis: 1973, 12-13.

the Arno.³⁸⁷ It was, in addition, a well-furnished city. Pisa already had *murum veterem* in 1027, according to a charter of Conrad II.³⁸⁸ Some major cities in the peninsula, even in the north, were still surrounded by wooden palisades.³⁸⁹

Geography and the strength of the Tuscan marquisate sheltered Pisa from serious external threats in the tenth century.³⁹⁰ Moreover, with signorial lordships inhibited by the marquisate, it did not need to contend with a powerful rural aristocracy.³⁹¹ This freedom of action is apparent in the Pisan sources, which in the eleventh century are almost fixated on overseas adventures. A survey of the place names in Pisa's early chronicle demonstrates its offshore orientation (fig 8).³⁹² Later in the twelfth century, conflicts and connections with other cities became increasingly important.³⁹³ In the meantime, however, Pisa was able to expand into a world broader and richer than that of Tuscany, and it is to that wider world that we must now turn.³⁹⁴

Although the expansion of Pisa's commercial and military commitments in the eleventh century has been described as sudden, in fact the record suggests a gradual and methodical expansion.³⁹⁵ This slow expansion reflects several concomitant factors. First,

³⁸⁷ We hear nothing in the sources about river transport, however, until the second half of the eleventh century, for example in the diploma of Henry IV discussed below.

³⁸⁸ MGH, DK II, #77, p.101: "...donamus Leoni f. Bonii suisque heredibus quandam terram, sitam inter murum veterem et murum civitatis Pisae..." G. Golnella, *The History of Early Medieval Towns of North and Central Italy: The Contribution of Archaeological Evidence*, Oxford: 2008, 21. For further discussion of the extent of the walls, see Cinzio Violante, *Economia, società, istituzioni a Pisa nel Medioevo: saggi e ricerche*, Bari: 1980, 17-21.

³⁸⁹ E.g. in Mantua. David Nicolle, *Italian Medieval Armies 1000-1300*, Oxford, 2002, 38.

³⁹⁰ Wickham, *Early Medieval Italy*, 185, notes that Tuscany "avoided most of the disturbances of the north."

³⁹¹ Wickham, *Community and Clientele in Twelfth century Tuscany*, 14-16. In particular, the main expression of seigniorial independence, castle building, was only weakly developed around Pisa: Maria Luisa Ceccarelli Lemut, "L'incastellamento nel territorio pisano (secoli X-XIV)," in *Castelli e fortificazioni della Repubblica Pisana*, edited by Maria Luisa Ceccarelli Lemut and Massimo Dringoli, 3-31. Pisa: 2009, 3.

³⁹² Toponymic knowledge is itself a useful register of conceptual space. The Pisans understood North Africa as a territory containing cities whose names they knew, as they did their home territories on the west coast of Italy. This is a sharp contrast to the great majority of Latin mentions of North Africa, which use terminology derived from antiquity, e.g. Carthage and Hippo Regia.

³⁹³ Above all, in its protracted disputes with Genoa, and with Lucca, but also in the form of closer relations with such cities as Volterra, with which it shared a bishop in the early twelfth century. On the latter, see Maria Luisa Ceccarelli Lemut, "Ruggero, vescovo di Volterra e arcivescovo di Pisa," in *Studi di storia offerti a Michele Luzzati*, edited by S.P.P. Scalfati and A. Veronese, 53-71. Pisa: 2009.

³⁹⁴ It is worth noting that the advantageous circumstances adumbrated here characterized all the maritime republics to a greater or lesser degree. Venice and Genoa, who did the best in the long run, compounded their distance from predatory political actors with impenetrable geography. It is probably this factor that ruled out other possible marine contenders, such as Bari, whose advantageous sea access was compromised by its exposure to hostile armies.

³⁹⁵ Marco Tangheroni, *Commercio e navigazione nel Medioevo*, Bari: 1996, 127-29, characterized the years around 1000 as a "rivoluzione commerciale" for Pisa, but argues for fairly slow development, while Busch, 193, notes the Pisan strategy of methodical island hopping.

the existence of incentives to spur expansion; second, the development of navigational, military, and commercial potential in response to incentives; and finally the evolution of an oligarchic communal government able to draw support from a broad urban base in pursuit of its maritime ventures. The final point is not our concern here, but has been touched on in chapter one, and we will return to it in the context of material culture.³⁹⁶

We have already discussed the question of incentives in general terms. The disparity of wealth between the polities of North Africa, especially Egypt, and the Italian cities was a powerful motivator that served both to justify and recompense maritime expansion. The disproportionate impact of foreign wealth in the small worlds of Italy funded the creation of urban oligarchies and the exclusion of their minorities and neighbours.³⁹⁷

This chapter maps Pisa's maritime expansion chronologically, and therefore the specifics of our source material will be addressed in due order. However, a brief overview will be useful. There are two main bodies of evidence for eleventh century Pisa. The first is the corpus of Pisan texts. Non-narrative documents include imperial and papal decrees, property transactions, and the *Carta Pisana*, an enumeration of shipbuilding costs from c. 1100 preserved in Philadelphia.³⁹⁸ Some of the narrative sources are contemporary to the events described, such as the *Carmen in victoriam Pisanorum*, a celebration of a raid on

³⁹⁶ The development in communal government has been investigated by Tangheroni, *Commercio e navigazione*, and, for the parallel case of Genoa, by S. Epstein, *Genoa and the Genoese*. The most up to date work is Chris Wickham, *Sleepwalking into a New World: The Emergence of Italian City Communes in the Twelfth Century*, Princeton: 2015.

³⁹⁷ The likely minority competitors were Jews, who were accordingly rare in the maritime cities. In 1160 Benjamin of Tudela found only twenty in Pisa. Genoa was even worse off, with two, and both from Morocco. Gaeta is an exception with its large Jewish population. This was partly due to historical happenstance: the Chronicle of Ahimaaz makes it clear that the community was longstanding in the tenth century. But it was probably also sustained by its utility: Gaeta's dyeing industry was made up of Jewish families, who must have contributed to the city's place in the trade network. Benjamin Tudela, *The Itinerary of Benjamin of Tudela*, ed. and translated by M.N. Adler; Ahimaaz ben Paltiel, *Chronicle of Ahimaaz*, trans. M. Salzmann, New York: 1966, 63; Patricia Skinner, "Politics and piracy: the duchy of Gaeta in the twelfth century," *Journal of Medieval History* 21 (1995) 307-319, 314; *Codex diplomaticus Cajetanus* #317. On the case of the exclusion of Jews from Venice, see Jacoby, "Venice and the Venetian Jews in the Eastern Mediterranean" in Gaetano Cozzi (ed.), *Gli Ebrei a Venezia, secoli XIV–XVIII, Atti del Convegno Internazionale organizzato dall'Istituto di Storia della Società e dello Stato Veneziano della Fondazione Giorgio Cini, Venezia, 5–10 giugno 1983*, Venice: 1987, 29–59, and Francisco Apellániz, "Venetian Trading Networks in the Medieval Mediterranean," *Journal of Interdisciplinary History* 44, 2 (2013): 157–179, 167. For the exclusion of legal rivals in Pisa's own territories, see Wickham, *Sleepwalking*, 81-82.

³⁹⁸ The documents have been edited and published in three main collections: Mariella D'Alessandro Nannipieri, ed., *Carte dell'Archivio di Stato di Pisa*. Rome: 1978; Emma Falaschi, ed., *Carte dell'archivio capitolare di Pisa I-II*, Rome: 1971; Silvio P.P. Scalfati, ed., *Carte della Certosa di Calci*. Pisa: 1977. The *Carta Pisana* was published in Ignazio Baldelli, "La carta pisana di Filadelfia. Conto navale in volgare pisano dei primi decenni del secolo XII," *Studi di Filologia italiana* 31 (1973): 5-33.

Mahdia in 1087, and the obscure autobiographical *Breve recordationis* of Abbot Bono, drawn up on his retirement in 1048.³⁹⁹ There are also inscriptions, most of them on the facade of the cathedral.⁴⁰⁰ Of these, two stand out: the famous chronicle inscription, which documents Pisa's eleventh century history in a series of twenty-six terse lines, and the Palermo inscription, a poem celebrating the raid on that city and the subsequent foundation of the cathedral.⁴⁰¹ The contents of the inscriptions also appear in Pisa's earliest chronicles, which consist of three anonymous texts, the *Annales antiquissimi*, the *Fragmentum auctoris incerti* and the *Gesta triumphalis*.⁴⁰² All these works were reused by Bernardo Maragone in the 1160s when he composed his Chronicle of Pisa.⁴⁰³ Finally, the *Liber maiolichinus*, which provides valuable information about eleventh century Sardinian affairs, is another twelfth century production. These sources are not subtle in their glorification of Pisa's rise to power.⁴⁰⁴ We find another chronology of Pisan

³⁹⁹ The *Carmen* is published in Herbert E. J. Cowdrey, "The Mahdia Campaign of 1087," *English Historical Review* 92, 362 (1977): 1-29. It is the most extensive narrative source extant from eleventh century Pisa, and is crucial to our understanding of that city's changing role in the Mediterranean. The *Carmen* has seen little interpretation since its publication by Cowdrey, perhaps due to its apparent (and uncontested) role as blatant propaganda for Pisa. The *Breve recordationis* was printed in G. Grandi, *Epistula de Pandectis ad clarum virum Jos. Averantium*. Florence: 1727 and Muratori, *Antiquitates Italicae medii aevi*, vol.4, col.786-89, and – more accessibly – by S. R. Maitland, *The Dark Ages*, London: 1890, 68-72 and 82-85. The original does not survive. This source has received little attention from historians of the eleventh century, perhaps because it entirely bypasses dominant areas of scholarly interest, i.e. reformation and investiture. It is discussed in M. Ronzani, *Chiesa e «civitas» di Pisa nella seconda metà del secolo XI. Dall'avvento del vescovo Guido all'elevazione di Daiberto a metropoli di Corsica (1060-1092)*, Pisa: 1996, 90-96.

⁴⁰⁰ For discussion of the inscriptions, see Scalia, "Epigraphica pisana: Testi latini sulla spedizione contro le Baleari del 1113-15 e su altre imprese anti-saracene del secolo XI," *Miscellanea di studi ispanici* 6 (1963), 234-86 and "Romanitas pisana tra XI e XII secolo. Le iscrizioni romane del duomo e la statua del console Rodolfo," *Studi Medievali* 13 (1972): 791-843. The current Duomo facade dates from later in the twelfth century, but the inscriptions, which are paleographically diverse, may have been reset. They are also printed and discussed in C.B.Fisher, "The Pisan Clergy and an Awakening of Historical Interest in a Medieval Commune," *Studies in Medieval and Renaissance History* 3 (1966): 143-219, 161-177. The great majority of inscriptions are tombstones which postdate our period, but exceptions appear below.

⁴⁰¹ The most important inscription is the 26-line account of Pisa's early military encounters with the Muslim world, a chronicle inscription unparalleled in Italy, as Fisher points out (164). However, aside from rhetorical flourishes, the events recounted are the same as those mentioned in the Pisan annals, and it is the latter we will follow in the analysis of the events it covers. Scalia has dated it to c.1090; Fisher to 1116-19, both on internal grounds (Fisher, 165; Scalia, "Epigraphica pisana," 261). If the former is correct it was an inspiration for, if the latter a derivation from, the Pisan annals. The inscription must postdate 1063, however, for it was carved to incorporate, on a separate slab, an inscription commemorating the role of Bishop Guido in founding the cathedral in that year. As this short inscription mentions bishop Guido in the present tense, Scalia, 236, dates it to his reign (1061-76). Another long historical inscription, which describes the descent on Palermo in 1063 and subsequent founding of the cathedral is located on the facade of the duomo to the right of the north portal. We will discuss it below.

⁴⁰² The contents of the earliest, the *Annales antiquissimi*, are entirely encompassed in the second, the *Fragmentum auctoris incerti*. The period 1099 to ~1120 is covered in the *Gesta Triumphalis*. All these texts are anonymous, and were probably for the most part composed before 1120, although the *Fragmentum* was later extended into the 1130s. For the dates see Fisher, 151-56. They are printed in M. L. Gentile, *Gli annales Pisani di Bernardo Maragone*, *Rerum Italicarum Scriptores* 6, Bologna: 1930.

⁴⁰³ Michele Lupo Gentile, *Gli annales Pisani di Bernardo Maragone*, *Rerum Italicarum Scriptores* 6, Bologna: 1930.

⁴⁰⁴ The *Liber Maiolichinus*, for example, neglects to mention the Genoese participation in the earlier war in Sardinia. *Liber maiolichinus de gestis pisanorum illustribus*, edited by Carlo Calisse, Rome: 1904.

expansion in its material culture, both in its architecture and especially in the stratiography of the ceramic finds in the city. These latter, broadly speaking, may be divided into two groups: imports destined for household use, and shiny lustre ware set into the walls of prestigious buildings as surface decoration, conventionally known as *bacini*. Both were imported into the city in significant quantities.⁴⁰⁵ Taking these two chronologies in concert, and bearing in mind our conclusions about the nature of the network, we can propose a more definitive history of the Pisan entry into the Mediterranean Network.

The contents of both groups of evidence are easily summarized; their analysis will be more prolonged. We have a record that Saracens seized Pisa in 1004 or 5, and of a Pisan raid on Reggio Calabria in 1006.⁴⁰⁶ After an Andalusian fleet destroyed Pisa in 1011 or 1012, the Pisans waged aggressive and apparently successful war in Sardinia from 1015.⁴⁰⁷ In 1034 Pisa attacked Bona (modern Annaba) in Algeria, descended on Palermo in 1063, and, in concert with the Genoese, Romans and Amalfitans, on Mahdia in 1087. As for the ceramic imports into Pisa, they began with polychrome wares from Palermo in the last quarter of the tenth century, which persisted until the middle of the eleventh.⁴⁰⁸ Around the same time, we find wares from Qayrawān, which likewise end in the mid eleventh century.⁴⁰⁹ Ceramics made in other regions of Tunisia, however, continued. Finds from Spain, including Mallorca, also begin in the late tenth century. Others originated in south-eastern al-Andalus and Morocco.⁴¹⁰ Only a small percentage (4.6%) originated in Egypt, but these tended to be the valuable lustre ware from Fustat,

⁴⁰⁵ The fundamental work is Graziella Berti and Liana Tongiorgi, *I 'bacini' ceramici medievali delle chiese di Pisa*. Rome: 1981. There have since been refinements: I have relied on the summaries in Berti, "Pisa città mediterranea. La testimonianza delle ceramiche importate ed esportate," in Marco Tangheroni, ed., *Pisa e il Mediterraneo. Uomini, merci, idee dagli Etruschi ai Medici*. Milano: 2003, and now Graziella Berti and Marcella Giorgio, *Ceramiche con coperture vetrificate usate come "bacini": importazioni a Pisa e in altri centri della Toscana tra fine X e XIII secolo*. Florence: 2011. Further refinements may be necessary: see Claire Déléry, "Using Cuerda Seca Ceramics as a Historical Source to Evaluate Trade and Cultural Relations between Christian Ruled Lands and Al-Andalus, from the Tenth to Thirteenth Centuries," *Al-Masaq* 21 (2009): 31-58.

⁴⁰⁶ Pisan Annals: 1005: *Fuit capta Pisa a Saracenis*; 1006: *Fecerunt Pisani bellum cum Saracenis ad Regium, et gratia Dei vicerunt illos in die Sancti Sixti*.

⁴⁰⁷ *Ibid*: 1012: *Stolus de Ispania venit Pisas, et destruxit eam*.

⁴⁰⁸ Berti, "Pisa città mediterranea," 170.

⁴⁰⁹ *Ibid*, 170.

⁴¹⁰ *Ibid.*, 171.

which was reserved for church facades.⁴¹¹ In the wake of the discovery of the ceramics under Pisa's piazzas, there followed a sustained debate over their status as either war booty or trade goods, a discussion that might be characterized as an attempt to force the archaeological data into conformity with the texts.⁴¹² At this point, opinion has coalesced in favour of trade goods, but the question of whether trade occurred at all has until recently occluded investigation of how it occurred.⁴¹³

Pisa's eleventh century history is marked by sharp disparity between different groups of evidence. On the one hand, the Pisans portrayed themselves as virile attackers. The *Carmen* tells us that "they proceeded to combat with trumpets and lanterns; in its midst neither armour nor shields protected them; the power of the sole creator fought fearsomely, among them the Mahdians fell marvellously."⁴¹⁴ On the other hand, we have solid archaeological proof of normal, low-key commerce.⁴¹⁵ To understand this, we must recognize that the apparent contradiction does not exist. We have already seen that violence was endemic in the network, and that violence itself was a key medium of exchange. And it is worth remembering by whom history is written.

THE COURSE OF PISAN EXPANSION

The picture painted by the native Pisan texts, then, is subject to considerable nuance.

⁴¹¹ *Ibid.*, 170; Graziella Berti, "Pisa - A Seafaring Republic. Trading Relations with Islamic Countries in the Light of Ceramic Testimonies." In *Colloque international d'archéologie islamique*, edited by Roland-Pierre Gayraud, 3-1-318. Cairo: 1998, 304.

⁴¹² Berti, it should be noted, has maintained that the ceramics were trade goods from the beginning. Key texts are G. Berti and L. Tongiorgi, *I 'bacini' ceramici medievali delle chiese di Pisa*, Rome: 1981; G. Berti and S. Menchelli, "Pisa. Ceramiche da cucina, da dispensa, da trasporto, dei secoli X-XV," *Archeologia medievale* 25 (1998): 330-3.; G. Berti, "Pisa and the Islamic World. Import of ceramic wares and transfer of technical know-how," in G. Berti, C. R. Rizzo and M. Tangheroni, *Il mare, la terra, il ferro. Ricerche su Pisa medievale (secoli VII-XIII)*, 73-92, Pisa: 2004; Graziella Berti and Alberto García Porras, "A propósito de 'Una necesaria revisión de las cerámicas andalusies halladas en Italia'; D. Abulafia, "The Pisan Bacini and the Medieval Mediterranean Economy: a Historian's Viewpoint," in *Papers in Italian Archaeology IV: Classical and Medieval Archaeology*, edited by C. Malone and S. Stoddart, 287-302, Oxford: 1985.

⁴¹³ See Karen R. Mathews. "Other Peoples' Dishes: Islamic Bacini on Eleventh century Churches in Pisa." *Gesta* 53, 1 (2014): 5-23.

⁴¹⁴ *Carmen*, 3.

⁴¹⁵ See Berti, "I 'bacini' islamici," 146; Constable, *Trade and Traders*, xxi, 167; Déléry, "Using Cuerda Seca Ceramics," 47-48; Hobart, "Sardinian Medieval Churches," 49-50; Berti and García Porras, "A propósito de 'Una necesaria revisión'," 160. There is a recent review in Karen R. Mathews, "Plunder of war or objects of trade? The reuse and reception of Andalusí objects in medieval Pisa," *Journal of Medieval Iberian Studies* 4, 2 (2012): 233-258, 249-252.

Although the texts record a string of victories, not one was attended by lasting consequences for the victims. The cities of Bona, Palermo, and Mahdia all continued on as if nothing had happened.⁴¹⁶ Even the outcome of the war for Sardinia, as we shall see, is uncertain. One Pisan chronicler ascribed even the capture of Jerusalem to his countrymen, notwithstanding that their ships did not arrive until two months after the fall of the city.⁴¹⁷ The handful of non-Pisan sources agree. In addition to Donizone, who raged at the “pagans, Turks, Libyans and Parthians” present in the city, we have the even more explicit comment of Malaterra, that the Pisans were “devoted more to commercial gain than warlike exertion.”⁴¹⁸

Berti has suggested that many of the ceramic wares reached Pisa via an intermediate entrepôt, such as Sicily.⁴¹⁹ Certainly, Malaterra tells us that by the 1060s Pisans were sailing to Palermo.⁴²⁰ The theme to be emphasized here, however, is transition. Whatever the precise means of delivery, it is likely that conditions in 1063 differed from those around 1000. To begin, then, it is worth pointing out that there is no *prima facie* reason why pots from Tunisia should not have reached Pisa directly via Tunisian merchants. The ships, as we saw in chapter one, might hail from anywhere from Andalusia to Palestine. But ceramics might equally have been delivered in a Spanish ship, by a merchant of Fustat, who purchased them in Sicily from a Maghribi Jew, who bought them from a dealer in Qayrawan. Our evidence is not so specific, but this is how the network functioned. In any case, given the absence of evidence for a Pisan merchant marine in the tenth century, it is reasonable to conclude that at first the ceramic imports were delivered by foreign merchants.

⁴¹⁶ It should be noted that this conclusion is in contrast to much of the historiography, which speaks of the Pisans clearing out pirate nests, etc.

⁴¹⁷ “Hierusalem et Caesarea a Christianis capta est... cuius victoriae Pisanus populus fuit et caput et causa.” Heywood, 47; Muratori, *Rer. Italic. Script.* IV, 160; G. Müller, *Documenti sulle relazioni delle città Toscane coll’Oriente Cristiano e coi Turchi fino all’anno MDXXXI*, Rome: 1966 (rept.: 1st prnt: Florence: 1879), 365.

⁴¹⁸ “...commercialibus lucris plusquam bellicis exercitiis ex consuetudine dediti,” Malaterra II.34; Donizone di Canossa, *Vita di Matilde di Canossa*, edited and translated by Paolo Golinelli, with Vito Fumagalli, Milan: 2008, Lines 1368-72, 120. Note, however, the 1092 letter of Urban II subjecting the church of Corsica to Pisa, in which he mentioned Pisan successes over the Saracens: Ep. 63, Migne, P.L. cli. 345.

⁴¹⁹ Graziella Berti, “Pisa: dalle importazioni islamiche alle produzioni locali di ceramiche con rivestimenti vetrificati (2^om X-1^om XVII s.),” in *Pisa, Piazza Dante: uno spaccato della storia pisana. La campagna di scavo 1991*, edited by Silvia Bruni, 119-143. Pontedera: 1993, 125.

⁴²⁰ Malaterra, II.34.

Who these merchants were is an open question. The Fatimids had launched an expedition that reached Genoa in 946, but the reorientation of their state after the move to Egypt in the 960s disconnected them from the Western Basin. The destruction of Fraxinetum in 972 offers a more tantalizing possibility; certainly it is striking that in the decade after the loss of the Muslim-controlled port, ceramics from the Islamic world first appeared at Pisa. With Provence a hostile shore, Muslim-owned shipping of the sort preserved in the Cap Dramont and Bataiguiers wrecks may simply have relocated down the coast to Tuscany.⁴²¹ Certainly the wrecks contained trade goods and pottery originating in North Africa, Sicily and Al-Andalus, much like the earliest pottery deliveries in Pisa. It may be that the destruction of Fraxinetum in 972 was an important precondition of Pisa's initial rise.⁴²²

The origin of the ships wrecked off Provence remains a mystery. It is likely that we are dealing with the more venturesome merchant ships, which sometimes played pirate and sometimes trader. If they came via Palermo, a key hub of the entire network, they might have originated anywhere. It would have been a risky business, so it is no surprise not to find such voyages mentioned among the demilitarized Jewish communities of the Geniza.

We have already proposed the mechanism of expansion in the open network. Suffice to say that around 970, ships that traversed the network must have added Pisa to their circuits. It is possible that simple exchanges may have occurred at first, as the higher costs of labour in the south may have meant the prices for basic goods asked by visiting merchants would have been uneconomical in Italy. However, the early eleventh century

⁴²¹ On the Cap Dramont wreck: Joncheray, J-P., "L'épave Sarrasine Agay A. Campagne 1996," *Cahiers d'archéologie subaquatique* 16 (2007): 223–48. The ship was some 20-25m long, and skeleton-built largely from black pine; on Bataiguiers: Joncheray, J-P., "L'épave Sarrasine (Haut Moyen-Âge) de Bataiguiers, ou Batéguier, opérations archéologiques de 1973 et 1974," *Cahiers d'archéologie subaquatique* 16 (2007): 131–222. This wreck contained ceramics from south-east Spain, North Africa, and Sicily. It is estimated at ~20m in end to end, and may have been sheathed in leather. It is thought that the construction methods employed in both ships originated in Egypt, but by our era may have already diffused through much of the basin: P. Pomey, Y. Kahanov, and E. Reith, "Transition from Shell to Skeleton in Ancient Mediterranean Ship-Construction: analysis, problems, and future research," *The International Journal of Nautical Archaeology* 41, 2 (2012): 235–314, 74.

⁴²² There is little doubt that Fraxinetum was more closely integrated into the Italian sphere than widely acknowledged: in 1061, the erstwhile king of Italy Adalbert took refuge there from Otto, and sailed thence to Civitavecchia in 963: Liutprand, *Gesta* 4.7. In the same decade the *Novellesca Chronicle* mentions Fraxinetum Saracens at a market in Vercelli: *Chronicon Novaliciense*, MGH SS 7, 112-113.

appearance of gold in Pisa suggests that the Pisans sold something to our hypothetical *bacini*-bearing traders.⁴²³ As noted in chapter one, a merchant coming to Pisa's beaches might realize significant profits by purchasing slaves for twenty *solidi* a head, and selling them in the east for the same amount in dinars, or more.⁴²⁴ Such exchanges in the late tenth and early eleventh century would pay for a lot of ceramic imports. Moreover, such profit margins must have served as a stimulus to entrepreneurial Pisans.⁴²⁵ Reciprocal access might soon take an enterprising Pisan to Amalfi or Palermo.

There are only a handful of sources that mention any Pisan (or Genovese) involvement in the slave trade. Any argument from silence is not strong however; there are no written sources for the imported ceramics unearthed in Pisa at all. Certainly the Pisans were aware of the slave trade; a surviving document from 1006, the year of the Pisan raid on Reggio, records the sale of four slaves on the banks of the Arno outside the city.⁴²⁶ The *Carmen* explicitly celebrates the Pisan rescue of slaves from Mahdia.⁴²⁷ It is not improbable that at least part of this rescue may have been more of a re-appropriation of product. Certainly the fact that when the Pisans sacked Rapallo in 1077 they "led away captive men and women, their hands bound behind their backs," is ominous.⁴²⁸ Had this language been used about Saracen raiders, we would have no doubts about the fate of the captives.⁴²⁹

THE EXAMPLE AND OPPORTUNITY OF DENIA

⁴²³ A "nusca de auro una pro solidos septuaginta," in a land sale of 1015, is the first mention of gold in the Archivio Capitolare: *Carte dell'archivio capitolare di Pisa*, 1, Rome: 1971, #37. There is a smattering of earlier mentions in some other documents collections, e.g. *Carte dell'Archivio di Stato di Pisa*, #16. This is a sharp contrast with eastern Tuscany, where money substitutes remained common until the late eleventh century: Wickham, "Compulsory gift exchange in Lombard Italy, 650-1150," in *The Languages of Gift in the Early Middle Ages*, edited by Wendy Davies and Paul Fouracre, 193-216. Cambridge: 2010, 210-11.

⁴²⁴ In 965, a female slave named Cristina was sold in Pisa for 20 *solidi*. *Carte dell'Archivio di Stato di Pisa*, I, (780-1070), Rome: 1978, #6.

⁴²⁵ McCormick discusses the profit margins in slavery, chiefly in the eighth and ninth centuries: 758-9. Cristina's sale price of 20 *solidi*, i.e. 240 deniers (312g of silver), equates to 105.5 dirhams, or around 3.5 dinars! Slaves exactly contemporary in the Eastern Mediterranean were going for 20-30 dinars.

⁴²⁶ *Carte dell'Archivio di Stato di Pisa*, I, (780-1070), Rome: 1978, #15. The transaction, although assessed in silver, was paid in uncoined gold.

⁴²⁷ However, the early chronicle reference to the Mahdia expedition does not mention the rescue of captives, but only the acquisition of booty.

⁴²⁸ Maragone: "viros ac mulieres, manibus post tergum ligatis, captivos tripudianter perduxerunt."

⁴²⁹ For discussion of this question, see chapter 4.

The extent of the slave trade in Pisa remains unknown, but other avenues of Pisan expansion can be adduced from the sources. In 1015, according to the laconic Pisan annals, Pisa and Genoa together went to war in Sardinia against a certain Mugietus.⁴³⁰ This man was Mujāhid al-‘Āmirī, a senior *saqaliba* (i.e. European slave) soldier under the Spanish Umayyads who carved out for himself a realm centred on Denia from the collapsing Caliphate.⁴³¹ His seaward turn, inspired by growing competition from other *saqaliba* leaders following their ejection from Cordoba in 1009-10, had already encompassed the Balearics before he set his sights on Sardinia.⁴³² The role of Denia and its relations with Pisa have been examined in an insightful series of papers by Travis Bruce.⁴³³ His work is central to understanding the effect of the Sardinian War on Pisan expansion - and beyond, for Denia offers several parallels to Pisa in the eleventh century.

The Sardinian war had important consequences. First, Pisan relations with Denia, which controlled the Balearics, were maintained afterwards.⁴³⁴ We find here a rare example of a personal connection, between ‘Alī, the captured son of Mujāhid of Denia, and Ildeberto Albizone, a Pisan notable who was appointed his guardian in Pisa. Their relationship was evidently a good one, as it was maintained after ‘Alī returned to Denia. Their families continued corresponding for generations, apparently indifferent to ‘Alī’s depredations on the coast of Provence in the 1060s.⁴³⁵ The *Liber Maiolichinus* refers to a

⁴³⁰ “MXVI. Fecerunt Pisani et Ianuenses bellum cum Mugieto in Sardineam, et gratia Dei vicerunt illum. MXVII. Fuit Mugietus reversus in Sardineam et cepit civitatem edificare ibi, atque homines Sardos vivos in cruce murare. Et tunc Pisani et Ianuenses illuc venere, et ille propter pavorem eorum fugit in Africam, Pisani vero et Ianuenses reversi sunt Turrim, in quo insurrexerunt Ianuenses in Pisanos, et Pisani vicerunt illos et eiecerunt eos de Sardinea.”

⁴³¹ Roger Collins, *Caliphs and Kings: Spain, 796-1031*, Oxford: 2012, 201.

⁴³² *ibid.*

⁴³³ Travis Bruce. “Piracy as Statecraft: The Mediterranean Policies of the Fifth/Eleventh century Taifa of Denia,” *Al-Masaq: Islam and the Medieval Mediterranean* 22, 3 (2010): 235-248, and “The politics of violence and trade: Denia and Pisa in the eleventh century,” *Journal of Medieval History* 32 (2006): 127-142. Due to the premise of chapter one, however – that the Pisans sought to enter and trade in the network – the interpretation presented here differs from Bruce’s in a number of details.

⁴³⁴ For what follows, Bruce, “The politics of violence and trade: Denia and Pisa in the eleventh century,” 137-39. His version is the most up-to-date, but an earlier discussion of Ildeberto Albizone and his family’s relations with Denia may be found in Cinzio Violante, *Economia, società, istituzioni a Pisa nel Medioevo: saggi e ricerche*, Florence: 1980, 59-60.

⁴³⁵ *Vita Sancti Ysano abbate sancti*, in Bruce, “The politics of violence and trade: Denia and Pisa in the eleventh century,” 136. We find Ildeberto Albizone’s grandson, Pietro Albizone, as a “nobilis Pisanus miles,” leading the Pisan contingent against the Balearics in 1114 in the *Gesta triumphalis*.

letter sent between the families in the early twelfth century.⁴³⁶ The peaceable return of 'Alī to his father after his capture in Sardinia in 1016 represents an important moment in Pisa's links to the Muslim world, for it is impossible to imagine it occurred without a ransom being paid. We do not know what Mujāhid might have offered for the return of his son, but we do have a record of diplomatic gifts sent by 'Alī himself from Denia to the Fatimid caliph in 1060, which included silk with gold threads, a string of pearls, and other gifts totalling 100,000 dinars – probably enough money to buy the entire city of Pisa, were it for sale.⁴³⁷ The effects of a similar infusion of cash into the Tyrrhenian city can barely be imagined. 'Alī's mother was also captured in 1016. She elected to remain in Pisa, and was perhaps of Italian stock herself, as such a decision is difficult to imagine if she could not at least speak the language. She may have been buried in the cathedral, where an epitaph is preserved.⁴³⁸ That an ongoing family connection between Denia and Pisa probably promoted communication between the two cities is a reasonable supposition.

As we do not hear of Pisan ships venturing west of Sardinia until the end of the eleventh century, it is likely that Andalusian ceramics were brought to Pisa in ships from Denia—which are documented on the coast of Tuscany in 1011 and 1016—or exchanged in Sardinia.⁴³⁹ In 1027 Ildeberto and his wife Teuzia established the convent church of San Matteo, a structure not only decorated with *bacini* but ornamented with motifs found on the mosque of Al-Hakim in Cairo, so it is likely that he was involved in the ceramic import business⁴⁴⁰ We may only speculate on the impact of a citizen decorating his foundation with exotic goods imported from the wealthy foreign power with which he

⁴³⁶ *Ibid.*

⁴³⁷ The treasures are listed in *The Book of Gifts and Rareties*, cap.83.

⁴³⁸ The text of the epitaph indicates only a woman who “held the kingdom of Mallorca.” The Pisans captured, at the remove of a century, two women to whom the description might apply: the queen of Mujāhid, seized in Sardinia in 1014-16, and the sister of the King of Mallorca, taken in 1115. Scalia, 281-82, and Bruce, 2006, 138, prefer the former, Fisher, 169, the latter. The text of the inscription is no help, but its placement on the facade of the duomo adjacent to the chronicle inscription that mentions the war against Mujāhid reinforces the opinion of Scalia and Bruce. If this is correct, it may be the earliest of the inscriptions, although we have no way of knowing when she died. She was probably quite young in 1016, for her son, Alī ibn Mujāhid, lived into the 1070s.

⁴³⁹ Spanish fleets are attested in Tuscany: 1011, Pisan Annals; 1016, Thietmarus Merseburgensis episcopus, *Chronicon*, ed. R. Holtzmann, in MGH., *Scriptores Rerum Germanicarum, Nova Series*, IX, Berolini 1935, 452.

⁴⁴⁰ Bruce, “The politics of violence and trade,” 139; *Regesto della Chiesa di Pisa*, ed. N. Caturegli. Rome: 1938, 58, # 99 and #100.

maintained cordial relations. The church in this sense must have made physical the role of Ildeberto as a cultural intermediary, and demonstrates clearly the relationship between wealth accumulated via trade and an individual's standing in the community. San Matteo is, it should be noted, one of Pisa's larger churches, and stands prominently over the city's riverbank (fig 9). In Ildeberto, or his successors, we find a vector for the transmission of knowledge as well as goods from the House of Islam. Although we have no evidence either way, it is entirely possible that Pisan merchants could have traveled via ships from Denia on to other ports in the Network. There is no doubt that Jewish merchants traversed the network on ships stopping or originating in Denia.⁴⁴¹ Moreover, a ship (or ships) belong to the Denian ruler is attested in the Geniza as renting space to merchants.⁴⁴² Christian merchants appear infrequently but consistently in the Geniza documents. They are, however, almost never identified beyond the vague descriptor Rūm or Rūmi (of Rome), which derives from the Byzantine demonym *Romanoi* and was used to denote all Christians from the north coast of the Mediterranean, irrespective of precise origin. This changed in the twelfth century, when the economic realignment led to a new balance of power.

It should be noted that the traditional understanding of the outcome of the Sardinian war, that Pisa and Genoa defeated Mujāhid and excluded the Muslims from the island, is subject to qualification. Despite the tone of the Pisan records, it is clear that military advantage lay with Denia throughout the war: Pisa itself was burnt in 1011, and Mujāhid returned in 1016 to harry the Tuscan coast.⁴⁴³ Pisan influence, on the other hand, never extended beyond Sardinia, let alone to Denia itself. The rather hazy account in the Chronicon of Thietmar of Merseberg may make up in impartiality over the vainglorious Pisan annals what it loses in distance from the action:

⁴⁴¹ Goitein, *A Mediterranean Society*, I, 213, 318.

⁴⁴² Above, pp.13-14. Many Geniza letters mention a ship belonging to Denia's ruling family, but there is no reason to assume they all refer to the same vessel.

⁴⁴³ Thietmar of Merseberg, ed. Warner, 338.

In Lombardy Saracens coming by ship invaded the city of Luni, the bishop having fled, and with force and impunity swarmed over the borders of that region and misused the wives of the inhabitants. When news reached our apostolic lord Benedict, gathering all the rectors and defenders of the holy mother church he asked and instructed that they assault the presumptuous foes of Christ and with God's aid kill them. Moreover, he secretly sent an unthinkable multitude of ships, which cut off the possibility of escape. The Saracen king noticing this first was scornful and avoided the immediate danger in a ship with a few companions; but all of his men rallied and attacking first overran their enemies and, sad to say, harried the fugitives over 3 days and nights. Eventually, placated by the groans of the pious, God relented, and routed and wholly overthrew those who hated him, such that not one remained of these murderers, and the victors were unable to count the enormity of their spoils. Then their captured queen paid with her head for the audacity of her man. The pope claimed her golden, gem-encrusted, crown for himself before all others, and later dispatched it to the emperor as his share. It was valued at one thousand pounds.⁴⁴⁴

The text betrays Thietmar's preoccupation with the ecclesiastic hierarchy; other than the "rex sarracenorum," the actors are the bishop of Luni and pope, which immediately leads us into difficulty, for the idea that Benedict VIII could project force to the coast of Liguria is far from plausible. The episode of the captured queen - the mother of Mujāhid's heir 'Alī - makes it apparent that the "rectors and defenders" of the church

⁴⁴⁴ In Longabardia Saraceni navigio venientes Lunam civitatem fugato pastore invadunt et cum potentia ac securitate fines illius regionis inhabitant et uxoribus incolarum abutuntur. Quod cum domno apostolico nomine Benedicto fama deferret, omnes sanctae matris aecclisiae tam rectores quam defensores congregans rogat ac precipit, ut inimicos Christi talia presumentes viriliter secum inrumperent et adiuvante Domino occiderent. Insuper ineffabilem navium multitudinem tacito premisit, quae eis redeundi possibilitatem interciperet. Hoc rex Saracenus animadvertens primo indignatur et tandem paucis comitatus navicula periculum imminens evasit; sui vero omnes conveniunt et adventantes prius irruunt hostes eosque mox fugientes, miserabile dictu, III dies et noctes prosternunt. Respexit tandem Deus gemitu piorum placatus et odientes se fugavit et in tantum devicit, ut nec uno de hiis relicto interfectorum et eorundem spoliolum multitudinem victores numerare nequirent. Tunc regina eorum capta [ob] audaciam viri capite plectitur. Aurum capitale eiusdem, ornamentum invicem gemmatum, papa sibi pre caeteris vendicavit postque imperatori suam transmisit partem, quae mille libris computabatur. Thietmarus Merseburgensis episcopus, *Chronicon*, ed. R. Holtzmann, in MGH., *Scriptores Rerum Germanicarum, Nova Series*, IX, Berolini 1935, 452.

were from Pisa and Genoa, both cities unknown to Thietmar.⁴⁴⁵ The chronicle entry is usually interpreted as dealing solely with the Denian attack on Luni, but a close reading reveals a vague chronology that might easily describe multiple engagements. It describes Mujāhid's successful raid on Luni, from which the bishop barely escaped, and the Saracens marauding with impunity. The passage in which Mujāhid avoided danger in a small ship suggests a withdrawal to Sardinia, whereupon the narrative matches up with the Pisan record, in which the latter were victorious and the queen was captured. Her execution appears to be Thietmar's own interpretation. That the Pisans failed to record that they were overwhelmed and pursued for three days before rallying is less than surprising. It is also worth noting that a thousand pounds, i.e. 20,000 solidi or 3,502 dinars, although remarkable to Thietmar, is a moderate amount in comparison to the wealth available in Denia.

Finally, Thietmar tells us of the threatening missive subsequently allegedly sent by the Denian ruler to the pope:

With the booty divided, the victorious mob happily returned to their homes, belting out suitable songs for the victory to Christ. But the aforementioned king, much discomfited by the death of his wife and friends, dispatched to the pope a bag via a sailor, who said that as many soldiers as the bag contained chestnuts would surely come forth against him the following summer. Understanding the message, the pope returned the bag full of millet with these words: "If he has not sufficiently lacerated the Apostolic See, let him return a second time and he may be sure to meet as many armoured men or more again." Man speaks and thinks, but God determines.⁴⁴⁶

⁴⁴⁵ Thietmar makes no mention either city elsewhere in his chronicle. The conflation of municipal with Papal forces can be found again a century later in Leo of Ostia, who attributed the raid on Mahdia entirely to Pope Victor, former abbot of his house of Montecassino: *Montecassino chronicle* III.lxxi, 453.

⁴⁴⁶ "Divisa omni preda victrix turba leta mente ad propria revertitur et victori Christo dignas persolverat odas. Prefatus vero rex morte coniugis et sociorum oppido turbatus summo pontifici saccum castaneis refertum remisit per portitorem ita ei demandans: "Proxima estate tot milites tibi venturos esse non dubites." Percepta hac legacione pontifex marsupium idem a milio plenum legato talibus dictis reddidit: "Si non sufficiat sibi apostolicam satis lesisse sedem, secundo veniat et tot loricatos vel plus se bic inventurum pro certo sciat." Homo loquitur, que cogitat, Deus autem diiudicat; quem suppliciter quisque fidelis oret, ut talem plagam misericorditer amoveat et necessariam securitatem optate pacis pius indulgeat." Thietmarus Merseburgensis episcopus, *Chronicon*, edited by Robert Holtzmann, in *MGH., Scriptores Rerum Germanicarum, Nova Series*, IX, Berolini 1935, 452.

It may be that this episode conceals diplomacy between Denia and Pisa, as is implied by the presence there of Mujāhid's son and spouse. Paolo Squatriti has observed that the message was more specific than it initially appears, for chestnuts were the accustomed diet of mariners in the Mediterranean, and the Denian ruler was thus advertising his ongoing ability to maintain a force upon the sea.⁴⁴⁷ It was a well-founded boast, for he continued to rule the Balearics to the end of his reign.

A revival in Denian fortunes would be consistent with the dissension that erupted between the Genoese and Pisan contingents in 1016.⁴⁴⁸ We know that Denian forces were active in Sardinia in 1044 and 1056, and that as late as 1150 Valencia (the successor *taifa* to Denia) was exacting tribute from Pisan ships in Sardinia.⁴⁴⁹ Writing about that time, Al-Zuhari stated that Pisa's rise had begun when Sardinia was in Muslim hands.⁴⁵⁰ A much later source, the thirteenth century *Breviarum Pisanae historiae*, records additional battles in the 1020s.⁴⁵¹ These facts suggest that while Mujāhid failed to achieve hegemony over Sardinia, his forces likely continued to influence at least a portion of the island.⁴⁵² In the Sardinian *vita* of St. Gavin, cited by Bruce, a persecution by Muslims is substituted for that of Diocletian, a circumstance that suggests at least the possibility of an ongoing Muslim administration. It might also cast light on the assertion of Ralph Glaber that Sardinia was an island "abundant of heresy."⁴⁵³ The point is of interest because a drawn-out low-intensity border conflict on Sardinia may better explain the development of longstanding relationships, like Ildeberto Albizone's with 'Alī, than a

⁴⁴⁷ See the extensive discussion in Paolo Squatriti, *Landscape and Change in Early Medieval Italy: Chestnuts, Economy, and Culture*. New York: 2013. The missive would have been particularly pointed if directed at Pisa, for chestnuts, common cultivars at Luni or Amalfi, were less viable on Pisa's soggy soils.

⁴⁴⁸ Pisan Annals, *anno* MXVII: "insurrexerunt Ianuenses in Pisanos, et Pisani vicerunt illos et eiecerunt eos de Sardinea." The rather mysterious phrase in Thietmar, that "with all the booty divided, the victor, moved by the thought of death, returned home," does imply that not all was well with the triumphant Italians.

⁴⁴⁹ Two Arab poets, Ibn Bashkuwāl and al-Humaydī, died in action during a campaign in Sardinia on those dates. Bruce, "The politics of violence and trade," 136.

⁴⁵⁰ Specifically, he states that Pisa's harbour defences were built when Muslims held Sicily, Sardinia and Messina, whose attacks they feared. Pierre Guichard, *L'Espagne et la Sicile musulmanes aux XIe et XIIe siècle*, Lyon: 1991, 66.

⁴⁵¹ *Breviarium Pisanae Historiae*. *Chronica varia Pisana*, in *Rerum Italicarum Scriptores*, vol. 6, edited by Ferdinando Ughelli. Milan: 1725, 167.

⁴⁵² Presumably the region of Artabax, known in Medieval sources as *Sarabus*. See Bruce, "The politics of violence and trade," 134-6, who finds late-eleventh century evidence for the descendants of Muslim slaves, and also notes a "castro di Mugete," i.e. Mujāhid, near Cagliari.

⁴⁵³ Glaber, *Histories*, II.xii.23. He might, however, have been referring to the presence of Byzantine customs on the island.

handful of sharp encounters in 1015 and 1016.

Although Sardinia was largely demonetized at the beginning of the eleventh century, it may be significant that we do not hear of Pisan money in Sardinian documents until 1089, more than two decades after they were circulating in Mahdia.⁴⁵⁴ Abbot Bono's statement of 1048 makes no mention of the island, although he makes a big deal of his abbey's lands on Corsica and the mainland.⁴⁵⁵ Perhaps we may take the synod at Cagliari, which occurred under Alexander II (1060-73), as the true end of hostilities on the island.⁴⁵⁶ Around then, in 1066, Pisa fought its first war with Genoa, in which the latter perhaps sought to reestablish itself in Sardinia.⁴⁵⁷ If we are correct in seeing Muslim influence persisting until ~1060, we may understand the coasts of south-west Sardinia (for neither Pisans nor Denians much penetrated the interior), then, as a microcosm of the middle ground that spanned the whole Mediterranean. It finds physical expression in the adoption of *bacini* imported from the Muslim world on the churches of Sardinia, beginning in the middle of the eleventh century. Hobart suggests that the ceramics were brought to Sardinia by Pisan traders, and considers their popularity in Sardinia as dependent on Pisa's "colonial" influence.⁴⁵⁸ However, the ceramics, which chiefly originate in Sicily and Tunisia, may have been delivered by a southern ship. This could be the case even if – as is likely – their use was inspired by Pisan examples.⁴⁵⁹ Nor is it impossible that *bacini* in Pisa were imported via Sardinia from other locations. In a fragment of a sermon about Saint Constantius of Capri, we hear of a small ship in 991

⁴⁵⁴ i.e. *Denari* of Lucca. Philip Grierson, Lucia Travaini, *Medieval European Coinage: Volume 14, South Italy, Sicily, Sardinia: With a Catalogue of the Coins in the Fitzwilliam Museum, Cambridge*, Cambridge, 1998, 287; 288; P. Tola, *Codice diplomatico della Sardegna*, Turin: 1861, 163. However, a hoard of around 200 *ottolini* of Otto III minted in Lucca was found in Sassari in 1879, so clearly some money made it to the island. Grierson, *ibid.*, 288

⁴⁵⁵ By the early twelfth century, there was considerable investment in Sardinia by the various religious bodies of Pisa. For example, in 1115 the canons of the Cathedral and the abbey of San Zeno made an agreement over the monastery of Plaiano on the island, in which the latter the paid rent to the former. Matilde Carli Tirelli, ed., *Carte dell'Archivio Capitolare di Pisa*, vol. 4, 1101-1120, Rome: 1969, #72, 159-62.

⁴⁵⁶ Michelle Hobart, *Sardinian medieval churches and their bacini: Architecture embedded with archeology*, 14; Raimondo Turtas, *Storia della chiesa in Sardegna*, Rome: 1999, 971.

⁴⁵⁷ That is the suggestion of Epstein, *Genoa and the Genoese*. It is worth noting at any rate, based on the example of Sicily, that 50 years is about how long it takes to pacify a large Mediterranean island.

⁴⁵⁸ Hobart also argues that *bacini* were in fact a valuable and prestigious form of ornament, at least in Sardinia. This is consistent with Sardinia's status as an impoverished region. For the same reason, we find no trace of exotic Egyptian wares on the island: Hobart, 23-24, 215. Ceramics imports, chiefly from Al-Andalus, have also been found in Corsica, and Claire Déléry, like Hobart, suggests that they were delivered by Pisans: Déléry, "Using Cuerda Seca Ceramics," 44.

⁴⁵⁹ On which see the Chapter Three.

traveling between Sardinia and Naples, which is a likely enough vector for ceramics from Sicily or Tunisia.⁴⁶⁰ That the greatest proportion of *bacini*-ornamented churches on the island are clustered in the Sarabus region is suggestive.⁴⁶¹ Moreover, the resources of Sardinia were known in the Muslim world; the anonymous *Account of Marvels* of c.1030 notes in particular its forests.⁴⁶² These, in addition to its mineral wealth, may have motivated both Denian and Pisan interest in the island. It is even possible that Mujāhid's earlier attack on Luni had something to do with this, as Abbot Bono mentions the city as a source of chestnut wood.⁴⁶³ Three ships found in the harbour of Olbia in north-eastern Sardinia, perhaps deliberately sunk by the Pisans to form the foundation of a pier, were made from local oak.⁴⁶⁴

Another major consequence of the Sardinian war was the growth of Pisan navigational prowess. The sailing route to Bona (modern Annaba, and ancient Hippo Regius), which the Pisans raided in 1034, was an extension of Sardinian waters.⁴⁶⁵ Sailors from along the African coast assembled at Marsâ Manî', Bona's port, in preparation for raids north via the island.⁴⁶⁶ It is possible that a Denian connection led the Pisans to Bona, as al-Bakrī states that it was frequented by merchants from Al-Andalus.⁴⁶⁷ The Pisan attack on the city may have been purely piratical, for it was prosperous at that time,

⁴⁶⁰ There are no extant *bacini* in Sardinia with a Spanish origin from before c.1200: M. Hobart, "Merchants, Monks, and medieval Sardinian architecture," in *Studies in the Archaeology of the Medieval Mediterranean*, edited by J. Schryver, 93-114, Leiden: 2010, table.1; Hofmeister, "Aus Capri und Amalfi. Der Sermo de virtute und der Sermo de transito s. Constantii und der Sarazenenzug von 991," *Münchener Museum für Philologie des Mittelalters und der Renaissance* 4 (1924): 233-272, 225.

⁴⁶¹ This is the southern region with the greatest contact with Muslim world. See map at plate 1C in Hobart.

⁴⁶² *L'Abrégé des Merveilles*, trans. Carra de Vaux, Paris: 1984, 69.

⁴⁶³ *Breve Recordationis*, in Maitland, *The Dark Ages*, 85.

⁴⁶⁴ They have been carbon-dated to the tenth or early eleventh century, and might have been sunk by Sardinians or Muslims, but the proximity of the port to Pisa is interesting. Some of them are quite small, like the "navicula" of the Neapolitans mentioned above. See Edoardo Riccardi, "Medieval Boats from the port of Libia, Sardinia, Italy," in *Connected by the Sea: Proceedings of the 10th International Symposium on Boat and Ship Archaeology, Roskilde, 2003*, edited by A. Englert, F. M. Hocker, and L. Blue, 312-17. Oxford: 2006, 314-15.

⁴⁶⁵ Both the Sardinia and Bona campaigns are recorded in the chronicle inscription on the Duomo facade: G. Scalia, "Epigraphica pisana: Testi latini sulla spedizioni contro le Baleari del 1113-15 e su altre imprese anti-saracene del secolo XI," *Miscellanea di studi ispanici* 6 (1963), 234-86, 252-3.

⁴⁶⁶ Al-Bakrī, *Description de l'Afrique septentrionale*, 135.

⁴⁶⁷ Al-Bakrī, *Description de l'Afrique septentrionale*, 134.

or in retaliation for the city's own predatory ventures.⁴⁶⁸ It is perhaps significant that among the ports of North Africa, Bona is little attested in Geniza records in comparison to Denia, and may have been only loosely integrated into the network.⁴⁶⁹

The raid on Bona may not have been Pisa's only act of aggression in the 1030s. A surviving *fatwā* of Abū 'Imrān al-Fāsī, a judge of Qayrawān who died in 1038, mentions an attack on a ship sailing from Alexandria to Mahdia.⁴⁷⁰ The pirates were *Rūm*, which could mean Latins or Byzantines, but as the incident occurred off the coast of Barqa (in Libya) and they then sailed northwest towards Sicily, an Italian origin appears likely.⁴⁷¹ Beyond that, all is speculation, but since the Pisans are the only Italians documented in North Africa in this decade, they seem likely culprits. The case was known to the judge because a Sicilian fleet intercepted the *Rūm* corsairs and took them to Sicily. Outcomes such as this go a long way to explaining why no sources other than the Pisan mention the attack on Bona.

Whether Pisa's 1034 attack had any long-term consequences on Bona itself is unknown. It is not clear that any of the known ceramics in Pisa were manufactured in the area.⁴⁷² Al-Bakrī's description of Bona's wealth and piratical tendencies postdates the Pisan expedition by perhaps thirty years, so if Pisa sought to reduce piracy – an intention

⁴⁶⁸ al-Bakrī says it contributed 20,000 dinars to the sultan's purse, 134. He describes it as a prosperous town, which enjoys the advantages of both an inland and a maritime city, and that beef, milk, fish, and honey are all very abundant, and coral was harvested down the coast. He further observes that whites fall ill there, but blacks thrive. Greenhalgh has noted that *spolia* from the ruins of Hippo Regia, largely intact in the eleventh century, may have tempted the Pisans: Greenhalgh, *Constantinople to Córdoba: dismantling ancient architecture in the East, North Africa and Islamic Spain*, Leiden and Boston: 2012, 93.

⁴⁶⁹ Goitein XXXXX; Bona possessed wells of some sort, the "puits de Al-Nathra" mentioned by Al-Bakri, and may have functioned as a water station for mariners, which could have brought it to the attention of the Pisans. Its main export, on the other hand, was probably iron, which may explain its relative rarity in the Geniza, since Jewish merchants did not usually trade in that material. For discussion, see S. Dahmani, "Le port de Būna au moyen âge," in *Afrique du nord antique et médiéval. Spectacles, vie portuaire, religions. Actes de Ve Colloque International sur l'histoire et l'archéologie de l'Afrique du nord*. Avignon, 1990. Paris: 1992, 361-377.

⁴⁷⁰ The *fatwā* is known because of a citation by the fourteenth century writer al-Wansharīshī: P. Guichard and D. Menjot, *Pays d'islam et monde latin, X^e-XII^e siècle. Textes et documents*. Lyon: 2000, 31-32.

⁴⁷¹ There is, however, another possibility, not mentioned by Guichard and Menjot, nor by Benjamin Kedar and Reuven Amitai, "Franks in the Eastern Mediterranean, 1047," in *Quel mar che la terra inghirlanda. In ricordo di Marco Tangheroni*, edited by Franco Cardini and Maria Luisa Ceccarelli Lemut, v.2, 465-468. Rome: 2007. That is, that the attack, which occurred before or during 1038, was connected to the Byzantine invasion of Sicily under George Maniakes, which began in 1038.

⁴⁷² Some Tunisian ceramics in Pisa have been localized to Qayrawān: Graziella Berti and Alberto García Porras, "A propósito de 'Una necesaria revisión de las cerámicas andalusíes halladas en Italia,'" 164. These would not have been exported from Bona, then part of the Hammadid domain. The intermittent conflict between the Zirids and Hammadids, discussed in chapter one, need not have much disrupted commerce. However, Qayrawān had its own ports in nearby Mahdia and Susa.

often imputed to it, but nowhere suggested in contemporary sources – it did not succeed.⁴⁷³ Certainly there were captive Christians there in 1076.⁴⁷⁴ But there was also a native community of Christians, on whose behalf the Hammadid ruler al-Nāṣer dispatched a letter to Gregory VII, requesting the ordination of an African bishop.⁴⁷⁵ Bishop Servandus probably traveled as a private citizen via the network, perhaps via Pisa, as southern Italy was then vexed by Robert Guiscard's wars. The exchange was unusual, but not unprecedented: Leo IX corresponded with bishops in Tunisia, and 180 years prior, legates came to Pope Formosus on behalf of a community of African Christians.⁴⁷⁶ It is significant, however, as reflecting North Africa's ongoing awareness of Latin Christendom.

The links between Italian merchants and the Christians of North Africa are extremely shadowy. We hear nothing direct about it, but the account of the Amalfitans in Egypt in 996 states that they stayed in a house in Qasr al-Shama', long the Coptic heart of Fustat, and worshipped in the adjacent Melkite church of St. Michael, a saint traditionally popular with the Lombards of Italy - both facts that point at connections with the local Christian population.⁴⁷⁷ It's likely that the Pisans made similar connections with

⁴⁷³ Al-Bakrī's text is thought to have been finished in 1068. Much of his information does come from earlier sources, but his description of Bona contains a reference to the building of fortifications around the new town, adjacent to the old one once inhabited by St. Augustine, in the late 1050s. Some monks returning from Sardinia to Montecassino were later seized by Saracens from the region: *Chron Cas.* IV.50, p.516, specifies Calama (modern Guelma), an inland city whose closest port was Bona. As the Pisans had done exactly the same in 1063, we should perhaps see the cities as competitors for the same prey: *Montecassino Chronicle*, III.21, 387.

⁴⁷⁴ According to Gregory's letters: *PL* 148. Paris: 1853, 449-52. This exchange is cited by Cowdrey, 9, as an example of Gregory's ambitions in the Moslem world, but it appears that the initiative came from the Hammadid side.

⁴⁷⁵ Gregory's letters are often cited as an example of a Christian statesman reaching out across the religious divide, recently by Pope Jean-Paul II: *Message to the faithful of Islam at the end of the month of Ramadan*, April 3, 1991 (<http://www.usccb.org/beliefs-and-teachings/ecumenical-and-interreligious/interreligious/islam/vatican-council-and-papal-statements-on-islam.cfm>, accessed July 19, 2014). Be this as it may, it is probable that both al-Nasir's initial letter and Gregory's replies were carried by the bishop himself, who came to Gregory from Hippon (i.e. Bona) to be consecrated and instructed "in our legal customs, as much as possible in the space of time," before being sent back to North Africa. Gregory also alludes to the messengers of two Romans, Alberic and Cencius, who were travelling to Al-Nasir to convey their "amicitiam et amorem," as well as to gifts he had received from the Muslim ruler. Sadly, we know nothing more of this exchange.

⁴⁷⁶ *PL* 143.728-730; Flodoard of Reims, *Historiae Remensis ecclesiae* 4.2, ed. Martina Stratmann, *MGH SS* 36, Hannover, 1998, 372.

⁴⁷⁷ The district of Qasr al-Shama' was next to the ancient fortress of Babilon, whose name the Amalfitans used for the entire city. That the Amalfitans attended the church is not stated, but inferred from the fact that it was sacked during the anti-Amalfitan riot in 996. For background on the district, see Kurt J. Werthmuller, *Coptic Identity and Ayyubid Politics in Egypt, 1218-1250*, Cairo and New York: 2010, 40-41. The text on the Amalfitans in Egypt was first printed in Claude Cahen, 'Un texte peu connu relatif au commerce oriental d'Amalfi au Xe siècle', *Archivio storico per le province napoletane* xxxiv (1955), 61-67. Reprinted in *Turcobyzantina et Oriens Christianus*, London: 1978, but now see Skinner, *Medieval Amalfi*, 225-6.

Christians in southern cities, not least for linguistic regions. Al-Muqaddasī tells us that a Romance language was still spoken in the Maghreb in his day, in addition to Arabic.⁴⁷⁸ The correspondence between the papacy and various North Africa dioceses confirms that Latin was still known, which is further confirmed by a remarkable Latin tombstone surviving from Qayrawān (fig 10).⁴⁷⁹

As we have seen, the interconnected nature of the network meant that access to one town often meant access to others. Indeed, the practice of coastal cabotage ensured that it was impracticable to sail from Pisa to Naples without stopping at Gaeta.⁴⁸⁰ If any Pisans found themselves in Denia, therefore, they could go to Mahdia or Alexandria. The city's integration into the network is well illustrated by an episode described by Goitein, in which a legal document was drawn up in Denia, confirmed in Mahdia, and re-confirmed in Alexandria before being used in court in Cairo.⁴⁸¹ It is likely, in fact, that Denia, like many littoral cities in this era, was more closely integrated into the broader Mediterranean than to its own hinterlands, which were often threatened by its rival *taifas*.⁴⁸² Regular traffic linked it to the east: we have a record of a ship arriving in Alexandria from Denia in 1065.⁴⁸³ It had a Jewish population, one of whom, a scholar, emigrated to Baghdad around 1070.⁴⁸⁴ 'Alī, the son of Mujāhid, who became friends with Ildeberto, was known for his wealth and interest in trade.⁴⁸⁵ As we have seen, he was able to send diplomatic gifts worth 100,000 dinars to Cairo in 1060.⁴⁸⁶ If we accept the model of the open network, it is easy to imagine a Pisan such as Ildeberto embarking on Denian

⁴⁷⁸ Al-Muqaddasī, *Best Divisions*, 201. For a rare discussion of this subject, see See T. Lewicki, "Une langue romane oubliée de l'Afrique du Nord: observations d'un arabisant," *Rocznik orientalistyczny* 17 (1951-52): 415-80.

⁴⁷⁹ It is the grave of a Christian who died in Qayrawān in 1007. The date is provided according to both Christian and Islamic calendars. Published in *De Carthage à Kairouan* (exhibition catalogue), Paris: 1982, no. 288, 217. Of the inscription, only the following survives: "Luna dies nobe Domini nostri Ihesu Christi millensimo septimo.....annorum infidelium. Resurgat in vita eterna cum omnibus sanctis."

⁴⁸⁰ See chapter one, 16-17, for the structure of trade, and John Pryor, *Geography, Technology, and War: Studies in the Maritime History of the Mediterranean, 649-1571*, Cambridge: 1992, 75-86, esp. 80-81, for limits imposed by infrastructure on Mediterranean shipping.

⁴⁸¹ Goitein, *A Mediterranean Society*, I, 69.

⁴⁸² For a good discussion of the wars of mainland Al-Andalus in this period, see Handler, *Zirids of Granada*.

⁴⁸³ Goitein, *A Mediterranean Society*, I, 213.

⁴⁸⁴ Goitein, *A Mediterranean Society*, I, 126.

⁴⁸⁵ Perhaps too much so - Denia fell to the Ibn Hud of Zaragoza in 1076, although Ali himself did alright out of it, and was maintained in state until his death: 'Abd Allāh B. Buluggīn. *The Tibyān: Memoirs of 'Abd Allāh B. Buluggīn, Last Zīrid Amīr of Granada*, Leiden: 1986, 94.

⁴⁸⁶ *Book of Gifts and Rareties*, cap.83. See above.

ships in Sardinia, or in Pisa itself. The ship (or ships) of the ruler of Denia are one of the most frequently mentioned in the Geniza.⁴⁸⁷ It was available to merchants; in 1044-5 a trader paid 15 and a sixth dinars for a bale of flax transported on the ship of Mujāhid.⁴⁸⁸ With all the opportunities available at Denia, it would be surprising if a people as venturesome as the Pisans did not take full advantage. Nor should the Denians object: Christians entering Muslim lands were never a concern to jurists. And Denia had, in any case, a Christian population.⁴⁸⁹ In 1058, 'Alī negotiated a concordat with Barcelona, by which his name would be mentioned in the prayers in the cathedral of Barcelona, while in return the Christians of Denia were subject to the bishop of the Catalan city.⁴⁹⁰

Denia was, then, exactly the kind of place where technical know-how as well as foreign goods might be picked up. A tenth century capital in Pisa, signed in Arabic by a craftsman named Fath, and stylistically linked to the Medina al-Zahra or Cordoba, has usually been interpreted as war booty (fig 11). But unlike the better-known Pisa Griffin, it may have been purchased. A market in *spolia* from the Medina al-Zahra is known to have existed around the middle of the century, and Pisans are documented buying architectural components elsewhere.⁴⁹¹ One commodity that was certainly available in Denia were slaves. After the Sardinian raids, high volumes depressed their prices.⁴⁹² In the 1040s, monks seized from the abbey of Lérins were for sale, although 'Alī had them freed as a diplomatic gesture.⁴⁹³ In 1070, he dispatched a gift of slaves and eunuchs to the Fatimid

⁴⁸⁷ Goitein, *Letters*, 283, n.23. Note that the "ship of Mujāhid" may refer to more than one vessel.

⁴⁸⁸ Goitein, *Letters*, 283: the price included shipping on the vessel; Gil, "Ships," 249; Constable, *Trade and Traders*, 122-23.

⁴⁸⁹ We cannot know the relative sizes of the Muslim, Christian and Jewish communities in Denia, but there was a Christian administrator named Abu 'l-Rabī living in Denia in the late eleventh century: *Tibyān* of 'Abd Allāh B. Buluggīn, 85, and in the 1060s a Christian diplomat is attested in an embassy sent to Seville from Denia. David J. Wasserstein, "Toledan Rule in Cordoba," *Israel Oriental Studies* 13, 251.

⁴⁹⁰ Discussed in Cheyette, *Ermengard*, 83. There also exists a story that 'Alī lent a fleet to the count of Barcelona to aid him against the ruler of Toulouse.

⁴⁹¹ The text of Ibn Hayyam on the despoliation of the palace-city, in which the ruler of Cordoba allowed the sale of marble, columns, wood and metals, is preserved in Ibn Bassam, *Al-Dajira* I, 2, 111-113, translated in E. García Gómez, "Algunas precisiones sobre la ruina de la Córdoba Umayyad," *Al-Andalus* 12 (1947): 267-293. The sale of *spolia* occurred under Ibn al-Saqqā, who was murdered in 1063. See also Contadini, "Translocation and Transformation," 50-53. Abbot Bono had earlier travelled to Rome in order to purchase columns for S. Michele in Borgo. *Breve recordationis*, in Maitland, *The Dark Ages*, 83.

⁴⁹² Ibn al-Khatīb, *Kitāb ā'māl al-ā'lām*, 251, cited in Bruce, "Piracy as Statecraft," 243.

⁴⁹³ *Vita s. Ysarno abbate s. Victoris*, 748, cited in Bruce, "Piracy as Statecraft," 243.

ruler in Cairo.⁴⁹⁴ There is no reason to suppose that Denia's raids against Catalonia or Francia should have pricked the conscience of the Pisans, who were not above marooning the monks of Montecassino.⁴⁹⁵ It is possible that if Pisan merchants did frequent Denia, they brought slaves to market themselves.

To sum up, Denia's situation mirrored that of Pisa. Pisa's ships were owned by the same urban oligarchy that (one way or another) ran the city; at least some of Denia's ships were owned by the city's autocrat. Both cities were effectively autonomous fragments of larger polities, and both grew rich through maritime trade. Both embraced a rhetoric of violence, which buoyed up their legitimacy in the eyes of the outside world. It is possible that the early appearance of communal government, in the form of consuls, was in part a result of the legitimacy accrued through successful violence. It is not coincidence that it is in Pisa that we find some of the earliest signs of city-focused urban patriotism.⁴⁹⁶ Denia, likewise, enjoyed success in the flurry of inter-*taifa* warfare in Spain. But unlike Pisa, Denia was never able to resolve the problem of legitimacy that plagued the *taifa* states: essentially a military autocracy, it was unable to draw on the popular support that energized the Italian cities.⁴⁹⁷ This was not due to the relative sophistication of their commercial mechanisms: investment opportunities for non-elite citizens would have been greater, if anything, in Denia. But as Mujāhid and his son did not monopolize commerce in Denia, investment in trade benefited them only indirectly, in the form of taxes (and ship fees), and in consequence, when push came to shove, they were run out of the city without a murmur of complaint.

IN THE WAKE OF THE GREAT CALAMITY

⁴⁹⁴ *Book of Gifts and Rareties*, cap.96. The gifts also included furniture, silk, and "thirty perfectly straight coral twigs... as thick as arrows or reed pens, the like of which no one had ever seen before."

⁴⁹⁵ *Montecassino Chronicle* III.21, 387.

⁴⁹⁶ As Wickham points out, *Early Medieval Italy*, 191, Pisa celebrated its victories without reference to the Italian kingdom to which, *de jure*, it still belonged.

⁴⁹⁷ The rulers of Denia, as foreign military slaves, could not easily mobilize their populations behind them. 'Ali ibn Mujāhid's problems of legitimacy are highlighted by the attempts of his panegyrist Ibn Garcia, himself an Arabic-speaking Muslim Basque, who went so far as to attribute "Sassanian authority" to him - a necessary riposte, perhaps, to Ibn Mujāhid's lack of Arab ancestry. Göran Larsson, *Ibn García's Shu'ūbiyya Letter: Ethnic and Theological Tensions in Medieval Al-Andalus*, Leiden: 2003, 176, Ibn Garcia's probable heritage, 38. Wickham, *Sleepwalking*, 86, emphasizes Pisa's social cohesion.

The Zirid state suffered near collapse in the 1050s, followed shortly by Fatimid Egypt. As these polities went into recession, the profits available from legitimate trade weakened, which would have transformative effects on Pisa's relations with Islamic cities. From the perspective of the northern Tyrrhenian, there were two routes to North Africa. One via Corsica and Sardinia, passing west of Sicily to the Gulf of Râs al-Hamrâ, which Pisa followed to raid Annaba (Bona) in 1034, and which continued west to Morocco and Spain, and another down the coast of Italy to Palermo, and then counterclockwise around Sicily to Tunisia. The two routes are clearly distinguished in Italian commercial documents of the twelfth century, but dictated as they are by geography and the direction of the current in the Strait of Sicily, they must have prevailed in the eleventh as well.⁴⁹⁸ Pisa's initial success had hinged on Sardinia, the route to Denia and Bona. The war for Sardinia consolidated the western route, but with the continuing disruptions of Al-Andalus, and the Almoravid expansion south of the straits of Gibraltar, trade – especially for newcomers – may have been threatened.

The Pisans had known the eastern route to Sicily since at least 1006, when they raided Reggio, and according to Malaterra they were accustomed to trade in Palermo by the 1060s.⁴⁹⁹ In Sicily and other parts of the Islamic West the cost of living was lower than in the east.⁵⁰⁰ That the usual currency on the island was worth one quarter that of Egypt is itself suggestive of the relative sizes of their economies. This is apparent in Sicily's role as a supplier of basic commodities; it exported grain to Tunisia, cheese to Egypt, and also leather.⁵⁰¹ It exported silk, but generally of low quality, which befits its status as a centre of cheap labour, presumably attended by higher volumes.⁵⁰² Ibn Hawqal

⁴⁹⁸ Hilmar C. Krueger, "The Routine of Commerce between Genoa and North-West Africa during the late Twelfth Century." *Mariner's Mirror* 19 (1933): 417-438, 419-20.

⁴⁹⁹ *Annals*, anno.MVI; Malaterra, II.34.

⁵⁰⁰ L. Chiarelli, *A History of Muslim Sicily*, Malta: 2011, 267.

⁵⁰¹ Goitein, "Sicily and Southern Italy," 19; Sicily exported "corn and provisions, male and female slaves, cattle" - Ibn Hawqal, 53. Al-Istakhri: Sir William Ouseley, *The oriental geography of Ebn Haukal, an Arabian traveller of the tenth century, translated from a manuscript in his own possession*. London: 1800, 16. This early edition, which misattributes the text to Ibn Hawqal, is not entirely trustworthy, but is widely available.

⁵⁰² Goitein, "Sicily and Southern Italy," 13; A trend that continued; in the twelfth century, raw cotton, not finished cloth, was a key export. See Abulafia, *Two Italies*, 48.

observed that linens sold for fifty to sixty dinars in Egypt were inferior to those sold for the same amount of tarī in Sicily.⁵⁰³ Linen was manufactured in both countries, which suggests that in this sector, at least, labour costs on the island were less than in Egypt. The significance of such disparities is more fully discussed in chapter one. Sicily was, nonetheless, more expensive and more monetized than Latin Italy. In this sense it would have been both a lure and a potential trap for the merchants of the west; close by and fairly welcoming, goods brought to Sicilian markets were unlikely to have realized the profits possible in Egypt or North Africa. Some Pisan merchants must have been witness to the disruption on the island, and we know that the supply of Palermitan ceramics to Pisa failed around this time.⁵⁰⁴ The Kalbid dynasty, which had defeated Otto II in the 980s, had slipped into terminal decline, and the cities of the island sundered into a handful of *taifas*. Ibn al-Tumna of Syracuse seemingly invited the Normans to the island sometime between 1052 and 1061.⁵⁰⁵ It was likely the vacuum of power in Sicily that prompted the Pisan descent on Palermo, which otherwise, as one of the greatest cities on the entire sea, was an implausible goal for Pisa.⁵⁰⁶

The details of the Pisan descent on Palermo are obscure. It has often been characterized as connected to the Norman conquest of Sicily, apparently on the basis that when fighting Muslims, all Christians must be brothers.⁵⁰⁷ But the poetic inscription that commemorates the event on the Duomo suggests no motive save piracy; the outcome was

⁵⁰³ Michele Amari, *Biblioteca Arabo-Sicula*, I, 24-25; Lewis, *Islam from the Prophet Muhammad*, 101.

⁵⁰⁴ Berti, "Pisa città mediterranea," 170.

⁵⁰⁵ For the date, see Alex Metcalfe, *Muslims and Christians in Norman Sicily*, 26 and 235, n.82.

⁵⁰⁶ David Abulafia has commented on the absurdity of little Pisa setting itself against the Sicilian capital: *Two Italies*, 52.

⁵⁰⁷ The Pisans did seek Norman aid, but the fact that they had already arrived in Sicily with their fleet before broaching the matter with Count Roger suggests that it was little more than opportunism: Malaterra II.34. Amatus says that Roger requested Pisan aid, but this leaves us with the question of why the two forces did not co-ordinate their attacks. Amato di Montecassino, *Storia de' Normanni volgarizzata in antico francese*, De Bartholomaeis V. (ed.), in *Fonti per la Storia d'Italia pubblicate dall'Istituto Storico Italiano*, 76, Roma 1935, 255-256; Amatus of Montecassino, *The History of the Normans*, trans. P.N.Dunbar, intro & notes, G.A.Loud, Woodbridge: 2004, V.28.

the seizure of “six great ships,” five of which were burnt and one sold, i.e. ransomed.⁵⁰⁸ Ship numbers in the sources are no more reliable than troop numbers, but this modest result feels realistic, and suggests that the Pisan attack was less successful than the vainglorious tone of the text implies. So does the detail that the Pisans were able to pitch their tents on the beaches—had they been able to do so in the city, the point would have been superfluous. This is consistent with the slighting account of Malaterra, who says the Pisans managed only to break the harbour chain before withdrawing. Amatus mentions that the Pisans attacked “from land and sea,” but also fails to record any success save the breaking of the chain.⁵⁰⁹ From the perspective of a Norman recounting a campaign of conquest, burning a few ships may well count as “achieving nothing,” but from the Pisan point of view, it may be that the elimination of potential competitors was worth celebrating.⁵¹⁰ And gold dinars gained from the ransom of a ship might go a long way in Pisa, which is suggested by the inscription, which associates the foundation of Pisa’s cathedral with the descent on Palermo.⁵¹¹

The Pisans had no dedicated war-fleet. In order to attack Palermo, then controlled by the Zirids, they had to collect ships from all over, which meant a loss of commercial profits while their impromptu armada was engaged.⁵¹² As such, while combat constitutes most of the Pisan accounts, it must have been restricted to high-confidence outcomes and situations where the opportunities for non-violent profit were weak. As the Muslim world entered recession from mid-eleventh century, these occasions increased.

⁵⁰⁸ The Palermo inscription is located on the facade of the duomo to the right of the north portal. Scalia, “Epigrafica pisana,” 261, dates it to 1087-90, and highlights its similarity to the chronicle inscription. Fisher, conversely, adduces from its classicizing language a date in the 1130s (174). He also notes that its description is corroborated by non-Pisan sources, presumably those of Malaterra and Amato, and argues for its general accuracy. The inscription fails to identify Palermo as a Muslim city, which Fisher attributes to the Pisan author’s desire to conflate the Palermo of the 1060s with that of the Norman kingdom, which which Pisa was at war in the 1130s (175). However, many other Pisan texts, such as the Golden Gate inscription and the account of the raid on Bona, fail to identify the foe. The inscription was recycled into Maragone’s *Annales pisani*, 238. There are two Geniza letters referring to an attack on Palermo by unspecified enemies, the first, written by Salāma b. Mūsā on 7th September 1064, mentions the destruction of ships in the harbour, but no other consequences. The other is dated eleventh November of the same year. Moshe Gil, *Jews in Islamic Countries in the Middle Ages*, Leiden: 2004, 556.

⁵⁰⁹ Amatus of Montecassino, *The History of the Normans*, V.28.

⁵¹⁰ Malaterra, II.34.

⁵¹¹ O. Banti (ed.), *Monumenta epigraphica pisana saeculi XV antiquiora*, Pisa: 2000, 47-48.

⁵¹² Malaterra II.34 “navali exercitu undique conflato... sustinere, ne lucris assuetis diutius privarentur, nolentes.” During the later campaigns against Mahdia (1087), Jerusalem (1099), and the Balearics (1114), they constructed new fleets from scratch. According to an Arab source, the Mahdia armada took four years to construct. Ibn Al-Ahtfīr, *Kāmil at tawārīkh*, in Amari M., *Biblioteca Arabo-Sicula*, Torino-Roma 1880, I, 440-441; *Liber Maiolichinus*, lines 98-104.

Like the Pisans and the Normans, the Zirid regime in Tunisia saw Sicily's collapse as an opportunity. The nomads of the interior, perhaps in cahoots with the Fatimids, had destroyed the Zirid inland dominions and sacked their ancient capital at Qayrawān, thus forcing a seawards turn that led to an invasion of Sicily and occupation of Palermo. But the foreign entanglement proved too great a strain for the Zirids, who had also lost the obedience of several former vassal cities on the Tunisian coast.⁵¹³ They were unable to stand up to the combined danger of local insurgents, who had little interest in Tunisian rule, and the well-known invasion by the Normans under Guiscard and his brother Roger. That Norman military operations were hostile to commerce is suggested by the gap in the Geniza records pertaining to Sicily from 1070 to 1123 – a period, as noted by Jeremy Johns, that begins with the Norman conquest of Palermo and ends with the reestablishment of relations between Roger II and the Egyptian Caliph al-Ḥāfiẓ.⁵¹⁴

The Norman-induced exclusion of Sicily from the trade network must have impinged upon those who depended on its status as middlemen. If, as suggested in chapter one, the linen business of Naples made it a satellite of Sicily, then the apparent decline that afflicted that city in the eleventh century may be explained as a consequence of the many disruptions suffered by Sicily. An industrial city relies on demand, and as the island fractured, Amalfitan dealers in Neapolitan cloth will have found the market for their product collapsing. They must have turned elsewhere, but consumer bases in the House of Islam were everywhere receding. Ships from Al-Andalus had begun to bypass the island.⁵¹⁵ This development must have promoted Zirid Tunisia into a Singapore-like transition zone adjacent to the Strait of Sicily, and would provide geographic context for the 1087 attack on Mahdia. Even without the total eclipse of Geniza records, we may surmise that fewer ships were available to merchants in the region of Sicily. At the same time, the the coinage of Sicily, dependent as it was on southern sources, was devalued.⁵¹⁶

⁵¹³ On the fragmentation of Ifriqiya, see chapter one, p.34.

⁵¹⁴ Jeremy Johns, "Arabic Sources for Sicily," in *Byzantines and Crusaders in Non-Greek Sources 1025-1204*, edited by Mary Whitby, 341-360. Oxford: 2007, 349.

⁵¹⁵ Goldberg, 324-6, 333, documents the weakness of the ports of Sicily.

⁵¹⁶ Philip Grierson and Lucia Travaini, *Medieval European Coinage: Volume 14, South Italy, Sicily, Sardinia*, Cambridge: 1998, 84.

Although the evidence is slight, this vacuum must have impacted Amalfi, Naples, Pisa and Sardinia. The problem was not insurmountable: ships from Tunisia were likely still sailing directly to the Gulf of Salerno, such as the one which carried Constantine the African. But the travel pattern that prevailed earlier in the century, in which Amalfitan travellers took small vessels to Palermo, and then found a big ship for the voyage to Egypt, became less viable. The obvious alternative was a crossing to Tunis or Mahdia, where larger ships bound for Egypt still stopped. In any case, the Amalfitans continued to visit Egypt, and in 1081-2, their bishop Giovanni died there.⁵¹⁷ Another possibility is that the north-eastern route, across the Otranto strait, around the Peloponnese and along the south coast of Anatolia to the Levant, may have predominated. Certainly this is the route employed by ships from Bari, and was used by the Pisans in 1099.⁵¹⁸ But notwithstanding that contacts continued, from the perspective of those in the vicinity of Sicily, trade patterns must have changed for the worse.

As Pisa's route to anywhere in the network east of the Gulf of Râs al-Hamrâ (Bona) was via Sicily, visits to Pisa and the Tyrrhenian zone from ships of the network, friendly or not, must have been curtailed. Certainly we hear no more of Saracen raids in the region after the Great Calamity.⁵¹⁹ The period saw some significant political disruptions in the Tyrrhenian zone. Among them the first serious war between Pisa and Genoa (not counting the single engagement off Sardinia in 1016), and the collapse of Gaeta's long-lasting independent ducal dynasty in 1062.⁵²⁰ The Docibili dynasty had perhaps depended on its connections to the Muslim world, which would have been disrupted at this time.⁵²¹ But it also saw the consolidation of local, i.e. Pisan and Genoese, influence over the

⁵¹⁷ *Anonymi chronicon Amalphitanum* edited by Ferdinando Ughelli, *Italia Sacra*, 2nd ed., vii, Venice: 1721, 198-99.

⁵¹⁸ Although the Pisans may have been motivated by the predatory possibilities offered by the Byzantine settlements in the region. The route of Barese sailors is known in detail from the accounts of the translation of Saint Nicholas, discussed in chapter one.

⁵¹⁹ The final mention of refugees from raids in Genoa is from 1056: Epstein, *Genoa*, 20.

⁵²⁰ The war: Maragone, *annales* 6.

⁵²¹ Patricia Skinner, "Politics and piracy: the duchy of Gaeta in the twelfth century," *Journal of Medieval History* 21 (1995) 307-319, 310. Skinner has persuasively argued that the dynasty's first member, back in the ninth century, was a trader who rose to prominence on wealth accumulated by trade, and who was able to rely on hired Saracen manpower. Salerno also saw significant, but more gradual, changes in this period: Vito Loré, "L'aristocrazia salernitana nell'XI secolo," in *Salerno nel XII secolo. Istituzioni, società, cultura, Atti del congresso Internazionale, Raito di Vietri sul Mare (Salerno), 16-20 giugno 1999*, edited by P. Delogu and P. Peduto, 61-102. Salerno: 2004.

region.

Not coincidentally, it was following the great calamity that the Sardinian conflict appears to have subsided, and the Pisans were able to consolidate their power in the Tyrrhenian zone, an effort which promptly led to renewed conflict with Genoa. Silvia Orvietani Busch has described the extension of Pisan influence over the adjacent coasts, and the environmental advantages it possessed over nearby Luni.⁵²² The latter settlement, indeed, was a source of spolia for Pisan churches.⁵²³ On Gorgona, Pisan property since the 960s, an abbey was established in 1051, and another at Vada, on the coast south of Pisa, by the following year.⁵²⁴ Elba, whose mines are first mentioned in 1066, but which had provided columns for the church of San Michele by the 1040s, probably came under Pisa's control around this time.⁵²⁵ On the high seas, a famous episode of Pisan piracy saw monks traveling to Sardinia from Montecassino plundered and marooned.⁵²⁶ Leo X had to emphasize that Gorgona be inhabited only by monks, "lest what was originally a house of prayer become a den of bandits"⁵²⁷ Busch suggests this is a reference to Muslim pirates, which is possible, but in light of the fate of the Sardinia-bound monks, it could have been aimed at the Pisans themselves. Gorgona's close links with Pisan noble families can only have heightened Leo's fears.⁵²⁸

We can see another step in Pisa's maritime aggrandizement in 1084, when Henry IV decreed that no one coming and going between the mouth of the Arno and the city

⁵²² Busch, *Medieval Mediterranean Ports*, 162. Luni's decline, due to the silting of its harbour and accelerated by successive sacks by Vikings and Muslims, was entirely to Pisa's advantage. *ibid.*, 161-62; Silvia O. Busch, "Luni in the Middle Ages: The Agony and the Disappearance of a City," *Journal of Medieval History* 17 (1991): 283-296.

⁵²³ According to Abbot Bono: see below, p.98.

⁵²⁴ It was established as a *castro* by 996, and possessed a church and abbey by 1052. Although the ruins of Roman structures in Vada were still inhabited in the sixth century, it may have been subsequently abandoned. Busch, *Ports*, 184; the castle is attested in a diploma of Otto III, MGH, DO III, Berlin: 1956, I, part 2, 448-49; the abbey is in *Carte dell'Archivio di stato di Pisa*, edited by Luigina Carratori and Gabriella Garzella. Pisa: 1988, I.136-7.

⁵²⁵ A document of Alexander II of 1066 concedes to Bernard, bishop of Populonia, "all the oblations of all the churches of the diocese And since, by divine grace, within the boundaries of your church silver and iron and other metals are excavated from the ground, particularly within the limits of that island called Elba... all tithes for you and your successors are to be received in iron." Julius von Pflugk-Hartung, *Acta Pontificum romanorum inedita*, Graz: 1958, 2: 124-125, #137, (102-3, of the 1888 edition). Abbot Bono sent ships to bring columns back from Elba for his abbey, see below, p.99. It is possible that these were *spolia*, but according to Maragone the island also provided columns for the baptistry in the mid-1100s.

⁵²⁶ *Montecassino chronicle*, III.21, 387.

⁵²⁷ Busch, 197, citing S.P.P. Scalfati, ed., *Carte della Certosa di Calci*, 1:38.

⁵²⁸ Busch, 197.

should suffer assault.⁵²⁹ This may imply that Pisa had yet to fully control its own sea access, but the provision *unless they deserve it* (*nisi fortasse per meritum*) suggests that the city sought to secure a legal basis for its own exercise of force in the region. The decree also stated that in case of shipwreck, no one should exercise the right of salvage upon Pisan goods anywhere between Gaeta and Luni.⁵³⁰ This, then, likely represents the true extent of Pisan power in the second half of the eleventh century, and even that was doubtless contested by the Gaetans and the Genoese.⁵³¹ The latter sent a fleet to the mouth of the Arno in 1066, and the Pisan outpost at Vada was assaulted in 1077.⁵³²

For our purposes, Henry's diploma is significant as the first native mention of Pisan merchants. It is clear from the context that they were not a new phenomenon, as they are attested ranging from Rome to Pavia. Certainly, relations with Gaeta were well-established by this date: in 1040 a Gaetan document mentions a warehouse owned by a Pisan, and 55 years later, a syndic of Pisa was a certain Roberto son of Piero Gaetano.⁵³³ The diploma also states that *negotiatores* were permitted to travel to Pisa. These no doubt included men from Volterra, who rented a Pisan ship in the 1090s.⁵³⁴ And it would seem that the Muslim merchants who delivered the ceramics and *bacini* were still visiting, to judge by Donizone's complaints about a "sordid city of pagans, Turks, Libyans and Parthians..."⁵³⁵

Whether these "pagans" were still arriving in southern ships in the 1080s is an open

⁵²⁹ MGH HIV dip., v.6, m.336, 442-3. The importance of Henry IV's charter should not be overestimated, nor Pisa's exceptional status. In the same year (1084) the emperor granted a similar set of privileges to Lucca, specifying protection for merchants reaching the city by river: MGM, HIV dip., v.6, m.357, 471-72. It is worth noting that for Henry IV, the privileges served to detach both cities from the orbit of his foe, Matilda of Tuscany. Notwithstanding this, Pisa apparently welcomed Matilda's contribution to the attack on Mahdia: Ian S. Robinson, *Henry IV of Germany, 1056-1106*, Cambridge: 2003, 215.

⁵³⁰ The privileges that the Pisans received for their own shores in 1084 may have served as a model for later Pisan commercial expansion. In 1187, Conrad of Jerusalem granted them the same freedom of movement and freedom from salvage for the Latin Kingdom. See Reinhold Röhricht, ed., *Regesta regni Hierosolymitani*. Oeniponti: 1893, #665.

⁵³¹ The monks of Montecassino, in the episode recounted above, were marooned on the Isle of Giglio, off modern Ortobello. The Gaetan ship conveying them was evidently following a coastal route that brought it within Pisa's orbit. *Montecassino Chronicle*. III.21, 387.

⁵³² Maragone, *annales* 6. It is interesting that there is no record of serious conflict between Gaeta and Pisa, not even after the Pisan attack on the Gaetan ship carrying the monks of Montecassino recorded in 1063. However, Gaeta's ruling dynasty had collapsed the previous year, so the circumstance may reflect a moment of Gaetan weakness.

⁵³³ CDC 174; R. Maffei, *Storia Volterrana*, Volterra: 1887, 46.

⁵³⁴ Heywood, 48; Paolo Tronci, *Annali pisani*, Pisa: 1828, 56; Maffei, *Storia Volterrana*, 46.

⁵³⁵ Lines 1368-72, Donizone di Canossa, *Vita di Matilde di Canossa*, edited and translated by P. Golinelli, with V. Fumagalli, Milan: 2008, 120. The diatribe appears in connection with the death of Beatrice of Canossa in 1076 in Donizone's *Vita Mathildis*, although it is possible that it reflects conditions at the time of writing, c.1111-16.

question. Henry IV's diploma does not mention Pisan ships, only Pisan goods carried on ships. Nonetheless, in the late eleventh century Muslim shipping recedes from the Tyrrhenian.⁵³⁶ Sicily, as we have seen, once a hub of the network, becomes a great void in the Geniza records.⁵³⁷ It was probably in those years that Pisan merchants began to travel chiefly in Pisan hulls, rather than on board ships from elsewhere in the network, a fact perhaps corroborated by Ibn Al-Ahtîr's (much later) account, which reports that Pisa (and Genoa) spent four years preparing their armada in order to attack Mahdia.⁵³⁸ The *Carta Pisana* in Philadelphia, which lists Pisan artisans paid for shipbuilding work, may date from as early as this period.⁵³⁹ In Genoa, the last mention of defensive measures against Saracens is in 1056.⁵⁴⁰ The friendly regime of 'Alî in Denia came to an end in 1076, and Christian piracy became increasingly endemic. This phenomenon, invisible in Latin sources save when it happens to intersect with a monastic chronicler, is well attested by Muslim writers.⁵⁴¹ Ceramic exports from Qayrawan to Pisa ended after the Tunisian capital succumbed to the harrowing of the nomads in 1057.⁵⁴² The silver currency of the Zirids suffered a massive devaluation mid-century, which would naturally encourage a search for finer alternatives.⁵⁴³ Probably not by coincidence, in 1063 a Jewish merchant remarked on "Pisan money" circulating in Mahdia.⁵⁴⁴ Some historians have taken this as evidence for Pisan merchants in Mahdia at that date, but all the incident really tells us is that the Jewish merchant knew of Pisa, and that coins associated with the city - although

⁵³⁶ It did not, however, altogether vanish: a surprisingly knowledgeable entry in the Montecassino Chronicle (IV.50, 516), late in the century, mentions raiders from Calama, modern Guelma, an inland city whose closest port is Bona. Once again, we hear about it because the victims were monks.

⁵³⁷ Jeremy Johns, "Arabic Sources for Sicily," in *Byzantines and Crusaders in Non-Greek Sources 1025-1204*, edited by Mary Whitby, 341-360. Oxford: 2007, 349.

⁵³⁸ Ibn Al-Ahtîr, *Kâmil at tawârikh*, in Amari M., *Biblioteca Arabo-Sicula*, Torino-Roma 1880, I, 440-441. That Pisa did not maintain a regular war fleet is clear from the *Liber Machiaolinus*, which emphasizes the shipbuilding that preceded the 1114 attack on the Balearics.

⁵³⁹ A date in the early twelfth century is usually preferred, however. See the discussion in Baldelli, "La carta pisana di Filadelfia."

⁵⁴⁰ Steven A. Epstein, *Genoa and the Genoese, 958-1528*, Chapel Hill, NC: 1996, 20.

⁵⁴¹ Travis Bruce, "Piracy as Statecraft," 244.

⁵⁴² Graziella Berti, "Pisa città mediterranea," 170; Jamil M. Abun-Nasr, *A History of the Maghrib in the Islamic Period*, Cambridge: 1987, 67, 69.

⁵⁴³ Dirhams issued by the Zirids fell to as low as 55% silver in the second half of the eleventh century: H. Ben Abdelouahed, *et al.*, "PIXE analysis of medieval silver coins," *Materials Characterization* 61 (2010) 59-64, 62.

⁵⁴⁴ In that year a local Jewish merchant used it to buy pepper and remarked on the exchange rate, which was worse than that of Sicilian coinage. Goitein, *Letters*, 122.

not minted there - had somewhere entered the network.⁵⁴⁵ If not at Pisa itself, then Denia or Palermo are likely candidates, especially since Palermo was subject to the Zirids of Mahdia in that year.⁵⁴⁶ At the same time, the availability of gold, while not curtailed, was diminished by the Almoravid seizure of the western Sahara.⁵⁴⁷ If payments had been made in gold for Pisan exports, they were likely reduced at this time.⁵⁴⁸ In light of the purchasing power of gold in the Christian West, this alone might be sufficient to motivate new piratical ventures, such as the attacks on Palermo and Mahdia.

For the joint Pisan-Genoese-Roman-Amalfitan assault on Mahdia, Cowdrey's article remains the most exhaustive.⁵⁴⁹ There is, for a change, good evidence in the *Carmen*. In 1087, after long preparation, a combined flotilla of Pisans and Genoese sailed down the west coast of Italy, stopping at Rome and Amalfi to pick up additional contingents, before sailing to Tunisia via the island of Pantelleria.⁵⁵⁰ Upon arrival they seized the suburb of Zawīla, butchered its inhabitants – including women and children – and assailed Mahdia itself, withdrawing only after much violence and the payment of an indemnity by the Zirid ruler Tamīn.⁵⁵¹

It is the Amalfitan contingent that interests us. Its size is unclear.⁵⁵² It contained,

⁵⁴⁵ We do not know what coins the merchant saw in Mahdia, for Pisa did not mint its own coinage until 1155. The most likely candidates are denari of Pavia, for the denari of nearby Lucca were produced only in tiny quantities at that time. See Alessia Rovelli, "Nuove zecche e circolazione monetaria tra X e XIII secolo: l'esempio del Lazio e della Toscana," *Archeologia Medievale* 37 (2010): 163-170, 165.

⁵⁴⁶ As we have seen, merchants regularly came to Mahdia from Denia: above, p.83. Pisan traders were present in Palermo in 1063 according to Malaterra, II.37, and regular shipping connected those two cities as well.

⁵⁴⁷ Both Audaghust and Tadmakka show significant declines in trade volumes at this time: Sam Nixon, "Excavating Essouk-Tadmakka (Mali): new archaeological investigations of early Islamic trans-Saharan trade," *Azania: Archaeological Research in Africa* 44, 2, (2009): 217-255, 248-49.

⁵⁴⁸ We have no specific evidence for Pisa on the availability of gold. But in the same year of 1063 in Naples, we find a garden belonging to the convent of S. Gregory leased for 25 solidi in Amalfitan gold tari which specifies that if a better coinage becomes available again, the rate would be only 20 solidi: RN 493; Skinner, *Family Power*, 281.

⁵⁴⁹ Herbert E. J. Cowdrey, "The Mahdia Campaign of 1087," *The English Historical Review* 92, 362 (1977): 1-29.

⁵⁵⁰ It is worth noting that Pantelleria was on the established route between Mahdia and Sicily: a Zirid fleet was wrecked there in 1026, according to Ibn al-Athir, and another in 1052, according to al-Nuwayri (in Amari, *Biblioteca Arabo-Sicula* 2, I:440 and 2 II:144), although Metcalfe notes that both accounts are quite late, and suggests there was only a single disaster, and the first is a confusion with the latter. *Muslims of Medieval Italy*, 86, n.14. The island is also noted as en route from Tunisia to Palermo in the *Book of Curiosities*.

⁵⁵¹ It is not entirely clear that Mahdia, as opposed to its suburb Zawīla, was taken by the Italian forces. Ibn al-Atīr, writing over a century later, mentioned only the sack of Zawīla. 'Abū 'as Salt, who was a contemporary and possibly an eyewitness, is clear that the castle, at least, remained in Zirid hands, as it was from there that Tamīn negotiated with the Italians.

⁵⁵² Cowdrey thought it must have been small, for its share of the booty is not recorded. However, it is likely that this omission is more to do with the circumstances of the *Carmen's* author, probably a cleric in Pisa, who would not have seen the distribution of booty to the southern Italian contingents. The poem mentions no allocation of booty to the Roman contingent either. On the author, Cowdrey, 2-3.

however, one of the few named characters in the *Carmen*, Pantaleone, son of Maurus. The Amalfitan connection helps resolve a nagging puzzle about the Mahdia campaign: that in a trans-Mediterranean expedition, the Pisans happened to attack at a moment when not only were 1) the ruler and his entire army conveniently absent, and 2) the defences in ruinous condition, but 3) exactly at the same time as a substantial force of nomad raiders were launching at attack on the city.⁵⁵³ All of this points to the Amalfitans as the guides, or even instigators, of the raid; the writer of the *Carmen* was not interested in the niceties of navigation, but of the contingents mentioned, it was the Amalfitans who made regular voyages outside of the confines of the Tyrrhenian, and who maintained good relations with the Fatimids, sometime foes of the Zirids and, according to some sources, overlords of the nomads.⁵⁵⁴ It is possible to interpret the Mahdia raid, then, as an Italian-Fatimid operation, co-ordinated by the Amalfitans.⁵⁵⁵

The Amalfitans had been trading in Mahdia for over a century, and the 1087 raid is the first record of an Amalfitan attack on the House of Islam since the early tenth century. Such a novel reversal suggests a novel situation: the collapse of their traditional markets for Neapolitan linen and other goods, and the unprecedented weakness of a city that they well knew how to exploit. With the loss of its hinterlands to nomads, and the defection of nearby cities, Zirid Mahdia was dependent on trade and piracy.⁵⁵⁶ Cowdrey cites the fulsome description of Idrisi, from the mid-twelfth century, to suggest Mahdia's eleventh century opulence, but it was probably worse off in the 1080s, when its chief trade partner, Sicily, was prostrate, than in the twelfth century when it enjoyed close relations (and the

⁵⁵³ Abū l-Salt, a contemporary and possible eyewitness to the assault, complained that the walls were in a bad state, the army elsewhere, and the populace (who would successfully repel the Normans in 1123) were unarmed. Brett, "The Armies of Ifriqiya, 1052-1160," in *Guerre et paix dans l'histoire du Maghreb, VIe Congrès internationale d'histoire et de civilisation du Maghreb, Tunis, décembre 1993, Cahiers de Tunisie 48. Université de Tunis, 1997*, 118; AT-TIJĀNI, *Rahlah, ivi*, in M. Amari, *Biblioteca Arabo-Sicula* II, 62-63. The nomads, called "gentes Arrabites" in the poem, were identified as the Banu Hillal by Cowdry, 10; *Carmen* 61.

⁵⁵⁴ A Fatimid document of some thirty years previous records the nomads delivering booty to Cairo from Tunisia, but we do not know whether the relationship was maintained. See Brett, "Fatimid Historiography: A Case Study - the Quarrel with the Zirids, 1048-58," in *Medieval Historical Writing in the Christian and Islamic Worlds*, edited by D.O. Morgan, 47- 59. London: 1982.

⁵⁵⁵ Ronzani, *Chiesa e "Civitas"*, 223-28, however, argues strongly for a Pisan initiative.

⁵⁵⁶ Around 1050, the Zirids were no longer able to import the 'abid slave soldiers, likely from the Sudan, upon whom they had relied. Brett, "Ifriqiya as a market for Saharan trade," 354-5.

occasional war) with the Norman kingdom.⁵⁵⁷ The precise amount extracted by the Pisans from Mahdia is unclear. Cowdrey cites five different Arab writers, whose suggestions range from 1,000 dinars to 100,000 in Ibn Khaldun.⁵⁵⁸ The figure given by Ibn al-Athīr of 30,000 dinars is a reasonable guess. In comparison, 33 years later at Sidon, Baldwin of Jerusalem extracted 20,000 dinars from the inhabitants, “taxing their last penny and reducing them to poverty.”⁵⁵⁹ As a Latin example, Benevento avoided sack by Roger of Sicily in 1095 by paying out 1,500 *aurei*.⁵⁶⁰ In addition to money, the booty must have included many precious objects, perhaps including the famous bronze Griffin now in the Museo dell’Opera dell Duomo in Pisa (fig 12).⁵⁶¹

It may be significant, too, that the Zirid ruler Tamīn was the same man who had controlled Palermo twenty years before; the Pisans, then, were perpetuating a long-term exchange of violence against same foe they had engaged in 1063. The Zirids of Tunisia also had a cadet branch, with whom they maintained good relations, in the Zirids of Granada in Spain.⁵⁶² These latter had been the longtime foes of Denia, under Pisa’s sometime associate Alī ibn Mujāhid.⁵⁶³ In any case, it may be that the greatest benefit to Pisa (and Amalfi) of the Mahdia campaign was the burning of the thousand ships in Mahdia’s harbour.⁵⁶⁴ It cannot be coincidence that in the following decade Pisan ships are for the first time documented as entering the eastern Mediterranean. The foregoing is

⁵⁵⁷ Cowdrey, “Mahdia Campaign,” 10. Idrisi describes the city as an entrepôt in which customers may always be found: al-Idrisi, *Description de l’Afrique et de l’Espagne*, translated by R. Dozy and M. J. de Goeje, Leiden: 1968, 126.

⁵⁵⁸ Cowdrey, 29. The low figure is especially problematic, as it is provided by ‘Abū ‘as Salt, the closest witness to the action. 1,000 is not a small amount of money, but it is hard to believe the Italians would be content with so little. On the other hand, it is notable that the Mahdia raid was celebrated with a church, S. Sisto, that was more modest than that founded after the descent on Palermo, i.e. the Duomo.

⁵⁵⁹ Ibn al-Qalānisi, 171, translated in Francesco Gabrieli, *Arab Historians of the Crusades*, 28.

⁵⁶⁰ Malaterra IV.26 does not specify whether these were local tari, or Byzantine coins. If the former, it was equivalent to ~375 dinars.

⁵⁶¹ The precise provenance of the Griffin will likely never be known. It is too princely an object, however, to have been sold in this era, or sent as a gift to a minor Christian city. It must have arrived as booty, which points to Mahdia, one of the richest of Pisa’s victims, and a rare case in which the palace of a reigning monarch was despoiled. Jenkins, *Art of Medieval Spain*, 81, argues for a North African provenance for the beast, but Dodds, *Al-Andalus*, 218, and Anna Contadini, “Beasts that roared: the Pisa Griffin and the New York Lion,” in *From Cairo to Kabul: Afghan and Islamic Studies presented to Ralph Pinder-Wilson*, edited by W.Ball and L.Harrow, 65-83, London: 2002, 67–68, prefer an Andalusian origin.

⁵⁶² A. Handler, *The Zirids of Granada*, 59.

⁵⁶³ Alī had, however, by 1087 lost power to the Ibn Hud of Zaragoza: ‘Abd Allāh B. Buluggīn. *The Tibyān: Memoirs of ‘Abd Allāh B. Buluggīn, Last Zirid Amīr of Granada*, Leiden: 1986, 94.

⁵⁶⁴ *Carmen in victoriam Pisanorum* 54: “mille naves traunt inde que cremantur litore.” The precise number is seemingly a Homeric echo.

largely supposition; the point is that there exist avenues of interpretation that do not emphasize sectarian frontiers. In particular, the fact that no historian of this era (that I know of) has noted that the Pisan attacks on both Palermo and Mahdia were directed against a single political entity, the Zirid sultanate, is a testament to the tendency to conflate the Saracen world into a single monolithic foe.

TOWERS OF SUCCESS

Architecture, as is often the case, is in Pisa the best surviving source material. Its elaboration may be mapped onto the narrative of Pisa's seaward expansion. The wealth flowing into Pisa from the wider Mediterranean began to crystallize into architecture in the wake of the Sardinian war. After almost two centuries without monastic foundations, eight new abbeys arose in the second and third decades of the eleventh century, four in Pisa proper, and a further four in its hinterlands.⁵⁶⁵ In addition to S. Matteo, whose founder is documented in Sardinia, S. Michele in Borgo, S. Paolo a Ripa d'Arno, and S. Zeno all appeared in the city, and with the exception of the last, adjacent to the banks of the Arno. We have, exceptionally, a witness to this burgeoning age, worth examining in detail. Abbot Bono, formerly a monk at Nonantula north of the Apennines, arrived in Pisa in 1018, in the wake of the Sardinian war. Together with his uncle Peter, he founded the

⁵⁶⁵ There is one exception to the barrenness of the previous centuries, S. Michele di Verruca, an inland castle given to the imperial abbey of S. Salvatore di Sesto by Marquis Hugh of Tuscany in 996, and confirmed by Otto III: G. Giuliani, "Il monastero di San Michele alla Verruca: profilo delle vicende storiche," in *L'aratro e il calamo. Benedettini e Cistercensi sul Monte Pisano*, edited by S. Gelichi and A. Alberti, S. Giuliano Terme: 2005, 14.

abbey of S. Michele and served as its abbot for thirty years.⁵⁶⁶ The dignity was not, at first, very impressive:

I, Abbot Bono, issue this brief record of how in the beginning I began to dwell at the church of Saint Michael, which is now a monastery. Lord Stephen ordered me hence from Nonantula, along with my uncle Petrus, and invested me with the chapel. It was then held by a priest, and I found there neither monks nor abbot, nor house nor lodgings, but only a single hovel. There my uncle and I lived. And I then laboured on the tower of the church, and I gave whatever I had and whatever I could get to the masters and the workmen for the restoration of that tower. And Stephen stopped working in the church one month after I began to live there, and he did not raise the height of the tower a single span without likewise raising the church. And after the end of that year that holy church was offered to the honour of God and Saint Michael, and to the order of Saint Benedict, and to the rule of those monks who might come to live there in perpetuity. And you should know that I did not find in that church but one missal, one tin chalice, one camisia with cover, one

⁵⁶⁶ What we know about Bono comes largely from his own writing, but he also appears in several charters, which attest to his importance in the city's monastic scene. He came to Pisa probably around 1018. He received at that time a chapel dedicated to St. Michael, east of the city proper by the gate dedicated to Samuel. There he founded a community of Benedictines, sustained by the initial gift of goods given by Stephen. The gift was, in Bono's own words, very modest, and much of his *Breve Recordationis* is dedicated to extolling his success in overcoming their initial strained circumstances. This motive, together with emphasizing the abbey's independence from episcopal authority, is particularly emphasized by Ronzani, "Il monachesimo toscano del secolo XI: note storiografiche e proposte di ricerca," in *Guido d'Arezzo monaco pomposiano (Atti dei convegni di studio, Codigoro (Ferrara), Abbazia di Pomposa, 3 ottobre 1997; Arezzo, Biblioteca Città di Arezzo, 29-30 maggio 1998)*, edited by A. Rusconi, 21-53. Firenze 2000, esp. 34-35.

In addition to his own abbey, now known as San Michele in Borgo, Bono was elected abbot at S. Quirico a Moxi in 1033 (Caturegli, #105-106). He also supervised the early days of San Matteo before it was taken over by Ermengarde, daughter of the founding couple. The *Breve* does not survive in any medieval manuscript. The text was recorded by Mabillon, and subsequently by Grandius (Guido Grandi), in his *Epistola de Pandecta ad Josephum Averianum*, published in Florence in 1727 (on pages 128-132). It may now be found in Muratori, *Antiquitates italicæ mediæ ævi*, IV, col.787-792. An accessible version is in S. R. Maitland, *The Dark Ages*, London: 1890, 82-85, which I used for this translation.

The precise date of the text is unknown, but its exculpatory tone suggests it was written around 1048, the year in which Bono lost out in a political dispute, and left Pisa under a cloud. He repaired to Gorgona, where he was elected abbot, and remained there until his death around 1070: Giuseppe Piombanti, *La Certosa di Pisa e dell'isola di Gorgona*, Livorno: G.Fabbreschi, 1884, 40-41. A letter of Leo IX of 1051 is addressed to Bono as abbot of Gorgona (Migne, *PL* 143: no.LX, 677-78). The most important recent discussion of the *Breve* are Mauro Ronzani, *Chiesa e «Civitas» di Pisa nella seconda metà del secolo XI. Dall'avvento del vescovo Guido all'elevazione di Daiberto a metropolita di Corsica (1060-1092)*, Pisa: 1997, 91-101.

linen stolum, one planeta.⁵⁶⁷ [...]

Now hear and understand how much that place is improved thanks to omnipotent God, and me, and my monks and the good Christians of our city. After five years I began to labour on the building that you may now see at the almonry [helemosina] of the good men that was given to us, and I built there a church which now is visible to all. I went to Rome for the columns of that church, and I bought them there and paid to have them brought here by sea in a ship. And after that I built a campanile for the church. When the campanile with the church and its annex were finished, I walked through the city with the late Burello and Landulf his father and three other religious men and we acquired that day one hundred solidi, which I gave to the masters as their fee, and I established two bells in the campanile. But after fifteen years the campanile seemed to me and my brothers too small and quaint. Therefore I levelled it to its foundations and I had built in its place a much more beautiful one, just as you see it now, and I placed in it seven bells, which were made at the almonry by the lord Dominic, my prior, whom I mentored, and who is now abbot of the monastery of Saint Zenobius.

And those bells in the campanile contain so many pounds of metal; 1200 in the biggest bell, five hundred in another, three hundred in a third, two hundred in a fourth, one hundred in a fifth, and fifty in the sixth and seventh.

When I arrived there, as I said above, I found only one camisia with a planeta with a linen stole. But now we have in that holy place thirteen camisias with their covers, and three of them are so perfect and good that bishop Opizus might wear them with honour to say mass on Easter in the cathedral of Holy Mary.⁵⁶⁸ And we have three planetas, two of silk, one worth one hundred solidi, another thirty, the third *de castanea*, and three good stoles with their maniples, two of purple and

⁵⁶⁷ The stole is essentially a scarf, worn in various ways around the neck; a planeta is a ceremonial vestment, so named because it is made from a wide circle of fabric. A fragmentary sentence is omitted here, also pertaining to the exiguous circumstances of the church.

⁵⁶⁸ Opizus was bishop in 1044: Ughelli, *Italia Sacra*, iii, 407.

another of silk, and three high grade *corporales* of silk.⁵⁶⁹ One *corporale* of the three is of gilded embroidery worth twenty solidi, which the Roman pope Leo IV made, and it has on it the image of our saviour in embroidery, and on another part the image of Saint Peter the Apostle and on another the image of Saint John the Evangelist, and we have one pluvial of purple, and another of high grade silk. When I first arrived in that place there was nothing to read for almost a full year but the epistles and the gospels, since we had nothing but a single missal. Now, however, you should know that the situation here with respect to books is much improved... There are moreover as many as thirty-four.

When I came to this church I found but a single tin chalice. But with the aid of the Lord we have here four chalices: one is eleven ounces of very fine gold, another is three and a half pounds of superior silver. The other two are a pound of silver each.⁵⁷⁰ When I came to this place I found but one small dwelling, and after I started living here with my monks, I raised new dwellings, but after ten years they were dilapidated, since they were of badly-made wood, namely Turkey Oak.⁵⁷¹ And I razed those dwellings to their foundations, and built new ones from chestnut wood which I had brought across the sea from Luni.

And not long after I purchased from Erigo son of Erigo land, where now the monastery stands, and I gave for that land forty-two pounds, and after that I built an edifice of rock and limestone, with every office an abbey ought to have. And it is a perfect house, none better in the entire March, with columns I had transported from the island of Elba and from Luni.

And this you should know, that when I came to this place Stephen did not offer much land to this church, save for six *stadia* near Sejo and it bad, and twenty-four *stadia* at Tramarice, likewise bad. Now hear how, with God's aid, we enlarged

⁵⁶⁹ The maniple was an ornamented band of fabric hung from the wrists; a corporal is a type of altar cloth, usually a narrow band laid atop a wider cloth.

⁵⁷⁰ Note the ratio of silver to gold at S. Michele was 88 to one! This is not so far from the 78 to one at the great treasury of Canossa, melted down in 1082 to support Matilda's war against Henry IV. *On the treasure from the Church of Canossa that was sent to Rome and on the Compensation made to the Church of Canossa*, edited by Luigi Simeoni, in *Rerum Italicarum Scriptores* 2, Bologna: 1930, 108-9.

⁵⁷¹ This identification for "cerro" is uncertain.

this place with good land. The monastery of Saint Michael has around 600 *stadia* of land. We gave money for this land, which for the most part the Lord gave us, namely one hundred good pounds, more or less...

Bono was a chief actor in the renewal of monasticism in Pisa, as Ronzani has emphasized.⁵⁷² In addition to his role at San Michele and influence at San Zeno, he was abbot at San Quirico a Moxi, south of the city, and supervised the early days of San Matteo.⁵⁷³ But for our purposes, it is the rags-to-riches story that is important. It well exemplifies what was going on in Pisa in those years, which saw a dramatic rise in affluence. Few movable goods or textiles survive a millennium later, but we may still see many of the churches with their columns.⁵⁷⁴

And as with the descent on Palermo, the Mahdia campaign was celebrated with the foundation of a church, San Sisto. It is a substantial church, containing “the best selection outside Rome” of antique monolithic columns (fig 13).⁵⁷⁵ It is possible that its marble came from the Great Mosque of Mahdia, but it is significant that none of the *bacini* upon its facade originate in that city.⁵⁷⁶ It was after this campaign, too, that the portentously named *Porta Aurea* makes its appearance in Pisa. Fisher suggests this was inspired by the gate of the same name in Rome or Constantinople.⁵⁷⁷ This is unnecessarily specific: golden gates are a pan-Mediterranean toponym, and Pisa was asserting its place alongside Cairo, Jerusalem, and Aleppo, in addition to the Christian capitals.⁵⁷⁸ The gate sported an

⁵⁷² M. Ronzani, *Chiesa e «civitas» di Pisa nella seconda metà del secolo XI. Dall'avvento del vescovo Guido all'elevazione di Daiberto a metropolita di Corsica (1060-1092)*, Pisa: 1996, 90-96.

⁵⁷³ Caturegli, #99 (1029), “ubi nunc Bonus abbas preesse videtur,” and #106, (1033) he was “Bonas abbas electus” at S. Quirico.

⁵⁷⁴ The columns of Bono's San Michele are undistinctive, but at San Pietro a Grado, which is likely contemporary with Bono, a capital survives that seems to have come from San Nicola in Carcere in Rome: Greenhalgh, *Marble Past, Monumental Present: Building With Antiquities in the Mediaeval Mediterranean*, Leiden: 2009, 416.

⁵⁷⁵ Greenhalgh, *Marble Past*, 153.

⁵⁷⁶ Greenhalgh, *Marble Past*, 156. The Pisans knew how to move heavy objects: According to Greenhalgh, 187, the monolithic columns in the duomo are perhaps the largest ever transported in medieval Europe, a feat celebrated in the epitaphs for the architect Baskets on the facade: Fisher, 171; Graziella Berti and Alberto García Porras. “A propósito de ‘Una necesaria revisión de las cerámicas andaluzas halladas en Italia,’” *Arqueología y territorio medieval* 13, 1 (2006): 155–95, 160.

⁵⁷⁷ C. B. Fisher, “The Pisan clergy and an awakening of historical interest in a medieval commune,” *Studies in Medieval and Renaissance History* 3 (1966): 143-219, 168-9.

⁵⁷⁸ Cairo: Nāṣer-e Khusrow, 45; Jerusalem: *Gesta Francorum Expugnantium Iherusalem* XXXI.3, in *Receuil des Histoires des Croisades, Historiens Occidentaux* III, 509-512. Paris: 1866; Aleppo: Nāṣer-e Khusrow, 10.

inscription that began “For outstanding citizens this is called the Golden Gate, on which the honour of nobility thus declares: You may regard this city as the general splendour of empire...” (fig 14)⁵⁷⁹

Like the kings of Christian Spain, Pisa grew fat on the wealth of the south. The diploma evidence from the city shows steady increases in money use and quantities. In 1029, the coins of Lucca had to be specified.⁵⁸⁰ It is difficult to know what commodities were exported by Pisan merchants in return.⁵⁸¹ By 1224 the Pisans were exporting saffron, a highly prized spice and dye, from San Gimignano, but it is unlikely that this trade was established in the eleventh century.⁵⁸² Cash cropping of prestigious commodities, after all, arises in response to demand - that is, after contact with a trade network is already well established. Slaves are a likely export.⁵⁸³ Timber is another, and in that case the devastation wrecked in the harbour of Mahdia could only have increased demand.⁵⁸⁴ If the Pisans did export wood, then we find them in the position of providing military material to their foes – not that unusual a situation, as we saw in chapter one.

It is not possible that Pisa was running a serious trade deficit: the increasing wealth of the city, especially relative to other Tuscan towns, is still apparent in its urban fabric. Pisa was a city of towers by the late eleventh century (fig 15). The density of the city mirrors that of the coastal cities of southern Italy, which had achieved a high degree of urban concentration earlier, as befits their longer-standing integration into the Mediterranean network.⁵⁸⁵ Pisa likely did well out of redistributing goods from the House

⁵⁷⁹ The inscription is now mounted above the main portal of La Madonna dei Galletti, formerly known as S. Salvatore in Porta Aurea, a church standing against the medieval wall of Pisa where the golden gate once stood. It once surmounted the portal of that gate. As it mentions the Balearic expedition, it is dated to the second decade of the twelfth century. Scalia, “Epigraphica pisana,” 272; Fisher, “The Pisan Clergy,” 167.

⁵⁸⁰ *Carte dell'archivio capitolare di Pisa*, 1, Rome: 1971, #61.

⁵⁸¹ The question has occasioned a longstanding debate among historians of the maritime republics, not least Pisa. For example, Epstein, *Genoa and the Genoese, 958-1528*, Chapel Hill, NC: 1996, 24: the Genoese “had little to take to North Africa as trade wares except timber and salt. More likely, the earliest traders brought silver and were tolerated as cash customers.” His conclusion is difficult to credit, however, as the era was one of notorious silver shortage.

⁵⁸² D. Abulafia, “Crocuses and crusaders: San Gimignano, Pisa and the Kingdom of Jerusalem,” in *Outremer - Studies in the History of the Crusading Kingdom of Jerusalem, Presented to Joshua Prawer*, edited by B.Z. Kedar, H.E. Mayer and R.C. Smail, 227-243, Jerusalem: 1982.

⁵⁸³ Heywood, *History of Pisa*, 30.

⁵⁸⁴ Bruce has suggested that the expansion of Denia was in part motivated by the necessity of acquiring timber: Bruce, “Piracy as statecraft,” 240.

⁵⁸⁵ In Amalfi, for instance, we find prestigious stone architecture at an exceptionally early period, as well as intricate architectural ornament. Caskey, *Art and Patronage*, 57.

of Islam throughout Italy: the 1084 Privilege has them roaming from Rome to Pavia - which is at least partially confirmed by archaeology, for Roman ceramics have also been found at Pisa.⁵⁸⁶ It is perhaps not coincidence that we find *bacini* at Pavia, and also at Ravenna, a city which demonstrated its links to Pisa when, against all geographic logic, its crusaders sailed on Pisan ships.⁵⁸⁷ Consumable valuables, such as incense and medicine, may have loomed large. We have already suggested, in section one, that the political utility of prestige gifts may have encouraged urban oligarchies to restrict minorities and aliens from distributing luxury objects. They probably also provided the elites of Pisa with a difficult to detect but important source of political capital; one example is the two porphyry columns used to buy off the Florentines in 1116.⁵⁸⁸ Pisa was probably the only viable source for such material in Tuscany, which is suggestive with respect to the architectural ambitions of the region's inland cities. It may be that a new building in Florence or in Lucca meant new revenues for Pisa.⁵⁸⁹ That it was in Pisa that the region's first school of architecture and sculpture developed reinforces the point.

If the spoils of Palermo and Mahdia were used to embellish the Duomo, so too were those of Constantinople. In 1099 the Pisan crusading fleet ravaged the islands of Leucadia and Cephalonia "since they barred the road to Jerusalem," and also assisted

⁵⁸⁶ Lidia Paroli, "La ceramica invetriata tardo-antica e medievale nell'Italia centromeridionale", in *La ceramica invetriata tardoantica e altomedievale in Italia*, edited by L. Paroli, 33-61. Florence: 1992, 45.

⁵⁸⁷ Two Egyptian wares, late tenth - mid eleventh century, were present in Pavia on the Torre Civica, and another at S. Michele di Pavia: Berti, "Pisa - A Seafaring Republic," 308-9. A *bacino* of the mid-eleventh century is still *in situ* at Pomposa, near Ravenna: Sergio Nepoti, "Ceramiche tardo medievali spagnole e islamiche orientali dell'Italia centro-settentrionale adriatica," in *Acta del segundo coloquio internacional de ceramica medievale en el Mediterraneo occidental, Toledo: 1981*, Madrid: 1986, 354. A single *bacino* is set into S. Apollinaire Nuovo in Ravenna: *Trésors fatimides du Caire*, [Exhibition Catalogue, Paris, Institut du monde arabe], Paris: 1998, 216. Ravennese on Pisan ships: *Gesta Francorum*, "Daimbertus, Pisanus episcopus, multique alii Pisani et Ravennenses, qui portui Laodiciae applicuerant."

⁵⁸⁸ They ended up on the portal of the Florence's baptistry: Greenhalgh, *Marble Past*, 419; Banti, *Cronaca di Pisa*, Rome: 1963, 24-5. Pisa seems to have made a mini-industry out of columns. From the beginnings recounted by Abbot Bono, we find ongoing mentions in the twelfth century, when Maragone records columns brought from Elba and Sardinia for the new baptistry: *anno mclviii*: "Cornettus quondam Conetti operarius in mense Julio et Augusto, cume nave Sancti Iohannis, tres columnas magnas lapideas de Ilba usque ad ecclesiam Sancti Iohannis transportavit." And *anno mclxii* "Cornettus quondam Conetti operarius Sancti Iohannis, ivit in Sardineam ad portum Sanctae Reparatae, et transportavit inde duas columnas lapideas magnas; qui fortuna et maris ad Portum Veneris ivit, et sic septimo idus Iulii Pisas cum magno triumpho reversus est." Smith, *Baptistry of Pisa*, New York: 1978, 56-57, considers the columns from Sardinia and Elba as celebrating their role as conquered places.

⁵⁸⁹ Rosa Basso, "I capitelli romani di San Miniato al Monte," *Archeologia classica* 44, 1 (1992): 147-84, 170-72, suggests that Pisans supplied some of the material for San Miniato in Florence.

Bohemond against Byzantine Laodicea.⁵⁹⁰ In 1108, they received privileges in Antioch from Count Tancred *pro auxilio quod ei fecerunt ad devincendos Grecos*.⁵⁹¹ In 1112, after a year of negotiation, Alexius gave in and paid the Dane. In a Chrysobull he granted the Pisans wide privileges, even agreeing to protect them against the Venetians. More to the point, he promised to give annually to the Pisa's cathedral 400 gold coins and two *palii*, plus bonuses for the Archbishop.⁵⁹² For historians, Mahdia, Muslim Palermo, and the Byzantine capital are different entities; to the administrators of the Opera del Duomo, they must have appeared quite similar.

TOWARDS THE FIRST CRUSADE

I have been arguing for a Pisan relationship with the House of Islam in the eleventh century that, although often violent, was driven by profiteering more than sectarian antipathies. This runs counter to interpretations of Pisan history that cast the city as a hotbed of proto-crusading ideology even before the first crusade.⁵⁹³ And while we cannot doubt the Pisan contribution to the first crusade, one might question how far back such attitudes extended. The Pisan annals are, as we have seen, laconic. But they, and the chronicle inscription, use the same language irrespective of whether the Pisans warred with Lucca, Genoa, or "gens sarracenorum."⁵⁹⁴ They have a great deal to say about the glory of Pisa, but their religious terminology is restricted to dates and formulaic

⁵⁹⁰ "quoniam Ierosolimitanum iter impedire consueverunt," according to the *Gesta triumphalia*, an anonymous Pisan source likely composed by a canon of the Cathedral, Fisher, 151-53; the edited text is *Gesta triumphalia*, edited by Michele Gentile, in Muratori, *Rerum Italicarum scriptores*, new edition, VI:2, 89-96; Heywood, 49

⁵⁹¹ Heywood, *History of Pisa*, 53.

⁵⁹² *ibid.*, 54-55. He paid the gold in the new *hyperpera*, introduced in 1092 to replace the debased *nomismata*.

⁵⁹³ E.g. Christopher J. Marshall, "The Crusading Motivation of the Italian City Republics in the Latin East, c. 1096–1104", *Rivista di Bizantinistica* 1 (1991); William Chester Jordan, *Europe in the High Middle Ages*. New York: Viking, 2001, 29; Giuseppe Scalia, ed. *Gesta Triumphalia per Pisanos facta*, Florence: 2010, xl-xlii. The idea of Pisans as proto-crusaders has long suffused the discipline, and is referred to without reflection, e.g. Kenneth John Conant, with Henry Willard, "Arch and Vault in Romanesque Architecture," *Viator* 2 (1971): 203-207, makes casual mention of crusaders capturing Mahdia in 1088 (sic).

⁵⁹⁴ e.g. "MLV. Fuit bellum inter Pisanos et Lucenses ad Vaccule. Pisani vero gratia Dei vicerunt illos... MLXIII. Pisani fuerunt Panormiam; gratia Dei vicerunt illos in die Sancti Agapiti." This attitude is not unique; in the Montecassino Chronicle, Saracens and Byzantines are classed together as foreign interlopers, eg. *Montecassino Chronicle* I.47. See also J. Hysell, "Pacem portantes advenerint: Ambivalent images of Muslims in the chronicles of Norman Italy," *Al-Masaq: Islam and the Medieval Mediterranean* 24, 2 (2012): 139-156 for a recent discussion of how complex attitudes towards Muslims persisted into the Norman period.

ascriptions of victories to God.⁵⁹⁵ A twelfth century inscription reads “Christi famulis inimicas, Temptant Pisani Maometi regna profani,” but there is nothing like this for most of the eleventh century.⁵⁹⁶

In 1087, just a decade before the first crusade, there is evidence for Pisans as crusaders. This comes in the *Carmen*, a text probably written at the time of the expedition, but by a cleric who did not participate.⁵⁹⁷ He tells us that the church provided leadership, in the form of the inspiring speeches of the Bishop of Modena, and a banner lent by the pope. However, bishops frequently served not only as urban leaders, but also as mediators, an important task in any expedition that included both Pisans and Genoese.⁵⁹⁸ And his presence does highlight the absence of both Pisa and Genoa's own bishops.⁵⁹⁹ As for the banner, the fact that a similar honour was granted in the 1060s to Erlembald of Milan and to William of Normandy, cautions against a crusading interpretation. It is perhaps significant that while the pope recognized some Christian expeditions in Spain and Sicily as holy wars, no mention was ever made of maritime attacks on North Africa.⁶⁰⁰ Writing in 1115, Peter the Deacon stated that the Mahdia raid

⁵⁹⁵ Fisher, 1966, 152, 167-8, emphasizes the lack of crusading impetus in the Duomo epigraphy, and identifies its first appearance in the *Fragmentum auctoris incerti*, a Pisan text written in 1119.

⁵⁹⁶ This is a commemorative inscription for the dead of the Balearic campaign (1114-16), preserved in the Musée Calvet in Avignon, and formerly at Saint Victoire in Marseille, where the bodies were (presumably) buried. It is exceptional in the crusading tone of its language. The text gives the date of 1114, leading Fisher to suppose it was erected long after the campaign, which was not wrapped up until 1116. This is not conclusive, as casualties from an early stage of the conflict could certainly have been buried before the end of the war. Scalia, “Epigraphica pisana,” 268, and plate III; Fisher, “The Pisan Clergy,” 176. Fisher gives another epitaph, not known by Scalia, that is now in the Camposanto. It commemorates a warrior named Ugo, who fought against the Moors (“Mauri”). It may, Fisher argues, relate to the Balearic campaign, for the foe is “towards the setting sun” i.e. to the west (“sub occiduo... sole”). He dates it to c.1120. It also has the Pisans fighting a holy war: “...numina sacra iubent.” Fisher, 170-71.

⁵⁹⁷ Cowdrey, 2-3.

⁵⁹⁸ It is possible that Mathilda of Canossa sent him along because at that time it was impossible for him to enter his diocese. David J. Hay, *The Military Leadership of Matilda of Canossa, 1046-1115*, Manchester: 2008, 118, 122. For bishops as mediators, see Sean Gilsdorf, “Bishops in the Middle: Mediatorial Politics and the Episcopacy,” in *The Bishop: Power and Piety at the First Millennium*. Edited by Sean Gilsdorf, 51-73. Munich: 2004.

⁵⁹⁹ It would seem that these absences were due to the confused ecclesiastical politics of the reform era. See Cowdrey, 14-15.

⁶⁰⁰ See Paul E. Chevedden, “A Crusade from the First: The Norman Conquest of Islamic Sicily, 1060-91,” *Al-Masāq* 22, 2 (2010): 191-225. The distinction may have rested on the seizure of Saracen territory, which the Pisans never managed. Malaterra, III.8-9 states that the Pisans sought to hold Mahdia, and finding they could not, offered it to Roger of Sicily. It seems improbable; in no other case did Pisa attempt any territorial aggrandizement, and a sober assessment suggests that it would have been well beyond their capacities. Even tiny Pantellaria, taken by storm as a staging post against Mahdia, was not colonized (*Carmen* 15-17). The offer made to Roger underscores the profiteering nature of the raid, and perhaps as well the desire to curry favour with a major potentate.

was undertaken “sub remissionie omnium peccatorum.”⁶⁰¹ But there is nothing like this in the *Carmen*.⁶⁰² Even the famous use of the cross, while certainly suggestive, is hardly conclusive. A cross is a probable call-sign for a military coalition, led (in part) by a bishop, against a foe guaranteed not to use it.⁶⁰³ It is worth mentioning that even during the first crusade, the behaviour of the Pisans was ambiguous. The Pisan relief of Jerusalem represented the first hostilities ever taken by the city against the Fatimids, and it was famously late to the party. The opportunism of the Pisans in 1099 equaled (or exceeded) that of the Normans. Their predatory approach to Byzantium, as well as their belated entry into war with the Fatimids, may represent a lingering attachment to commercial engagement. As late as early 1099, the Fatimid vizier Al-Afdal still hoped to work with the crusaders against the Seljuks.⁶⁰⁴ And had the crusaders been defeated at Jerusalem, the newly arrived Pisans would have been able to present themselves to the victorious Fatimids as raiders against Byzantium.

None of this, of course, effaces the fact that the Pisans were a Christian people. Some aspects of crusade ideologies were doubtless present in 1087. Twenty years later, the raid probably did look like a crusade, even to its participants. But that does not mean it was initiated for the remission of sins.⁶⁰⁵ If there is little evidence for crusading zeal in the city before the era of the first crusade, that does not mean that the Pisans did not see the Muslims as foes, but that raids against Muslim regions may have been prompted by geopolitical concerns, especially the famous attacks against Palermo and Mahdia, both directed against the Zirid sultanate. Our model of Pisan Mediterranean expansion begins with merchants from the network delivering ceramics to the Tuscan coast sometime in the

⁶⁰¹ Peter the Deacon, *Chronica Monasterii Casinensis*, ed. H. Hoffmann, in *MGH., Scriptores*, XXXIV, Hanover: 1980, 453.

⁶⁰² Peter in fact ascribed the entire expedition to Pope Victor, and subsumed the various contingents under the rubric of Christians. We may suppose that the intent was to burnish Victor, who had been abbot of Leo's monastery, with the glamour of crusading.

⁶⁰³ Even the use of coins marked with a cross was forbidden by some Muslim jurists at this time: Russel Hopley, “Aspects of Trade in the Western Mediterranean During the Eleventh and Twelfth Centuries: Perspectives from Islamic Fatwā's and State Correspondence,” *Medievalia* 32 (2010): 5-42, 19.

⁶⁰⁴ Discussed in Hadia Dajani-Shakeel, “Diplomatic Relations between Muslim and Frankish Rulers, 1097-1153,” in *Crusaders and Muslims in Twelfth century Syria*, edited by M. Shatzmiller, 190-215. Leiden: 1993, 195-6.

⁶⁰⁵ e.g. Karen R. Mathews, “Other Peoples' Dishes.” 18, suggests that Pisan crusading activities served to assuage the “moral taint” brought on by their commercial engagement with Muslim regions.

970s. Not for decades do we hear of any violent contacts. And regular trade continued, as archaeological evidence and the odd record confirm.

THE CULTURE OF AN AGE OF EXPANSION

We have seen that Pisa's rise to commercial pre-eminence is easily interpreted as an organic progress that occurred within the established structures of the existing Muslim and Jewish trade networks. That is not, however, the impression conveyed by most of Pisa's eleventh century written sources. Some of the reasons for this have already been addressed. Others, however, are more specific to Pisa's own milieu. With the exception of Bono's statement, all the texts are concerned with Pisa's efforts to assert itself on the international stage. The impression of these sources is of non-stop military action and, frequently, over-the-top violence: "Women, girls and widows were slaughtered, and their babies so bruised they could not survive. There was neither house nor street in all Zawīla not stained red and livid with gore..."⁶⁰⁶ If we may judge by the letters they have left behind, the Pisans of the eleventh century had turned their backs on Tuscany and wagered their future on maritime expansion.⁶⁰⁷ While in the long run the bet did not pay off, for a century or more it brought ample dividends.⁶⁰⁸

The tenor of the sources is easily enough explained. As more than one historian has remarked, peoples and polities forge their identities out of their memories, which is to say, out of the events that their historians choose to remember.⁶⁰⁹ In Pisa, the decision to remember only victories - an unsurprising outcome - occluded their true relationship with

⁶⁰⁶ *Carmen* 38-39:

*occiduntur mulieres virgines et vidue, et infantes alliduntur ut non possint vivere.
Non est domus neque via in tota Sibia, que non esset rubicunda et sanie livida;
tot Saracenorum erant cadavera misera, que exalant iam fetorem per centena milia.* Cowdrey, 26

⁶⁰⁷ Things looked this way to Pisans of the following century as well. When Maragone came to compose his history, he found nothing worth preserving other than the sequence of overseas adventures we have been discussing. His perspective is discussed in Wickham, "The Sense of the Past in Italian Communal Narratives," in Chris Wickham, *Land and Power*, 295-313. Rome: 1994.

⁶⁰⁸ The seaward turn of Pisa was perhaps expressed symbolically in the fact that sometime in the early eleventh century, the court of justice of the March of Tuscany was moved to a location on the banks of the Arno, outside the west walls of the city. Maureen Miller, *The Bishop's Palace: Architecture and Authority in Medieval Italy*, Ithaca and London: 2000, 141.

⁶⁰⁹ Eg. Patrick Geary, *Phantoms of Remembrance*, Princeton: 1994; Bernard Guenée, *Histoire et culture historique dans l'Occident médiéval*, Paris 1980.

Islamic regions prior to the first crusade. Intrusion into the trade network of richer neighbours is no foundation for a national myth; righteous and gore-flecked triumph was a better approach.⁶¹⁰ For Pisa's chroniclers, the city's eleventh century past was a thread of victories connected by the light they shone on Pisan valour. The writer of the *Liber Maiolichinus* re-narrated and embellished some of the early wars in order to connect his subject – the attack on the Balearics – to those victories. This is apparent in what they leave out as well. Pisan chroniclers saw the first crusade as one more victorious Pisan expedition.⁶¹¹ This trend in literary production was both atypical and normal. Normal because most Italian communes in their early days produced self-aggrandizing texts, even if Pisa was the first to do so.⁶¹² Atypical, because Pisa eschewed the usual genres in which such literature flourished: the elaboration of the legends of saintly founders, often accompanied by convenient *inventiones* of relics, and the embroidery of classical antecedents.⁶¹³ That striking survival of Pisan clerical culture in the eleventh century, the *Breve recordationis* of Abbot Bono, is remarkable for what it does not contain: no saints, no miracles, no pope, bishop, or even scripture, just a self-congratulatory recitation of personal success. Where expanding cities in southern Italy invented new hagiographies, in Pisa we have the *Carmen in victoriam Pisanorum* and the *Gesta triumphalis*.⁶¹⁴ New maritime vistas stood in for miraculous *vitas*. Not until later in the twelfth century do we find novel hagiographies, such as that of Saint Ranieri, a holy fool whose overt rejection of mercantile activity perhaps suggests some unease with Pisa's commercial success. But despite Donizone's fulminations, it would be silly to argue that the Pisans were irreligious. They evolved a vocabulary of urban glorification that was like little else in Italy, the blood-soaked tone of which bears more than a whiff of overcompensation. That

⁶¹⁰ And one shared by almost every nation that has managed at least one poetic epic in its past.

⁶¹¹ Wickham, "The Sense of the Past," 302.

⁶¹² See also the Norman case, discussed in Kenneth Wolf, *Making History: The Normans and their Historians in eleventh Century Italy*, Philadelphia: 1995.

⁶¹³ In fact, a certain Guido of Pisa uncovered a story that Pisa had been founded by Pelops, but this invention was not taken up by any other writers: Fisher, 177-83. In addition, the *Carmen* compares Pisa's expedition to North Africa to Rome's war against Carthage, but as Wickham has observed, this really only tells us that the Pisans were impressed with themselves. Wickham, "The Sense of the Past," 300.

⁶¹⁴ On the new saints see in particular Paul Oldfield, *Sanctity and Pilgrimage in Medieval Southern Italy, 1000-1200*, Cambridge: 2014.

the textual sources conceal the background of regular commerce is not surprising. It would be stranger for the marble mantle of the Duomo to recount the quotidian arrivals and departures of regular trade.

Literary production is not the whole story of the Pisan church in the eleventh century. The most significant Pisan foundation of the first half of the eleventh century was the convent church of San Matteo, an impressive building that dominates the bank of the Arno. Its dedication suggests some connection with Salerno, where the apostle's body lay, for Amatus tells us that Pisan mariners would pray to Saint Mathew against storms at sea, and made offerings at his shrine at Salerno.⁶¹⁵ Moreover, San Matteo contained the relics of Saint Gemiliano (or Emiliano) of Cagliari, who was venerated in Sardinia.⁶¹⁶ Likewise, in a significant location outside the *porta maris*, the foundation of San Nicola, which commemorates the new patron saint of Bari, a port city of longstanding maritime importance (fig 16).⁶¹⁷ Other connections are more exiguous, but not irrelevant. San Zeno, whose church in Pisa was dedicated in 1029, was an African bishop, as was Miltiades, the co-patron of another church founded in 1061.⁶¹⁸ The tiny chapel of Sant'Agatha, usually said to be mid-eleventh century, suggests a Sicilian connection (fig 17).⁶¹⁹ The Duomo, dedicated to the Virgin, was in 1088 the scene of the translation of Ephisius and Potitus from Sardinia.⁶²⁰ Few Pisan manuscripts survive from our era, but liturgical texts attest to devotional trends in the city. They demonstrate an engagement

⁶¹⁵ Amatus of Montecassino, *The History of the Normans*, trans. P.N.Dunbar, intro & notes, G.A.Loud, Woodbridge: 2004, VIII.4.

⁶¹⁶ Piero Sanpaolesi, *Il duomo di Pisa*, 94-101.

⁶¹⁷ The church is first mentioned in 1097 (Maria Luisa Sirolla, ed. *Le carte dell'archivio di stato di Pisa 2 (1070-1100)*. Pisa: 1990, n. 78, 140- 141), although arguments have been made that it is older: G. Garzella, *Pisa com'era. Topografia e insediamento dall'impianto tardoromano alla città murata dell secolo XII*, Naples: 1990, 84-85. It is interesting to note that among the first healed by the newly-translated Nicholas was a Pisan with a withered arm. This in the eleventh century *translatio* by Nicephorus, *Biblioteca Hagiographica Latina Antiquae et Mediae Aetatis*. no. 6179.

⁶¹⁸ The former was, in addition to his role as patron of Verona, the dedicatee of the duomo of Pistoia and - perhaps more importantly - patron of fishermen.

⁶¹⁹ The dating of the chapel rests on rather flimsy stylistic grounds, but is not impossible. There are no mentions of the chapel in any written source until the mid-twelfth century. The Pisan interest in Agatha intersects with the saint's popularity in Palermo, attacked by the Pisans in 1063, where the *Book of Curiosities* reports a gate of Saint Agatha (the Bab Shantaghatat). However, the saint was associated chiefly with Catania, and her relics were restored there in 1126, after a sojourn in Constantinople, where Maniakes allegedly dispatched them during the Byzantine invasion of Sicily in 1040. *Book of Curiosities* 2.12; Oldfield, *Sancity and Pilgrimage in Medieval Southern Italy*, 140-44.

⁶²⁰ The *Passio Sancti Ephysii*, AS January, vol.1, BHL 2567, ch.68, col.1004. See Maria Luisa Ceccarelli Lemut, "Santi nei Mediterraneo dalla Sardegna a Pisa," *Bulletino Storico Pisano* 74 (2005): 206-207, where she expresses doubt about the date.

with the hagio-geography of the Tyrrhenian, including an emphasis on such Sardinian saints as S. Luxorius, and S. Ephisius of Cagliari, and those of the Tuscan littoral like S. Cerbonius and S. Regulus, both also said to originate in Africa, in addition to the aforementioned Miltiades and Torpes.⁶²¹ It is dangerous to rely overmuch on hagiography, which is a genre notoriously subject to diachronic distortion, but here the confluence of transmarine saints appears to be significant.⁶²² Although Pisan sources are silent, the political dimension of calendars of saints is suggested by a tenth century example, in which the marriage of Otto the Great to Edith led to the appearance of English saints in Saxon calendars.⁶²³ In other cases, chance may bring a saint to prominence, as in the case of S. Sisto, where the coincidence of his feast day and a Pisan victory led to the erection of a church within the city and longstanding local veneration.⁶²⁴ Pisa's devotional landscape, then, bears much the same aspect of eclectic sampling that we will see in its architecture.

FURTHER HORIZONS

Trade permitted Pisa to erect ostentatious monuments, but that trade overlay the usual patterns of the agrarian economy. Pisa's elites depended first on surplus extraction from their hinterlands; second on external commerce. And it was in the hinterland that they invested their profits.⁶²⁵ That Pisa had access to both spheres, as well as respite from local rivalry, may explain its rapid and precocious expansion in the eleventh century.⁶²⁶ The

⁶²¹ Lists of the contents of these bibles, sacramentaries and psalters, can be found in Knut Berg, *Studies in Tuscan Twelfth century Illumination*, Oslo: 1968, 65, 224. We find also the Southern Italian S. Vitus, the Provençal Aegidius (Giles), Projectus, Salvius, Pontianus, plus Fredianus and Minias, and Romulus, the latter three reflecting the proximity of Lucca, Florence, and Fiesole respectively.

⁶²² For example, we cannot be sure that the Pisans were aware of the African origins of such saints as Miltiades or Regulus, although the fact that the earliest extant *vitae* of many of them are found in Italian manuscripts of the eleventh century is grounds for optimism. In the case of Cerbonius and Regulus, for example, see Nick Everett, "The Hagiography of Lombard Italy," *Hagiographica* vii (2000): 49-126, 108-109.

⁶²³ Karl Leyser, "The Ottonians and Wessex," in Karl Leyser, *Communications and Power in Medieval Europe: The Carolingian and Ottonian Centuries*, edited by Timothy Reuter, 73-104. London and Rio Grande: 1994, 78.

⁶²⁴ *Carmen*, 70.

⁶²⁵ Horden and Purcell. *The Corrupting Sea*, 119.

⁶²⁶ Already advantageously placed, Pisa contrived to sit out the almost two decade war between Henry IV and Matilda of Tuscany. See Wickham, *Sleepwalking*, 75-76.

wealth of Pisa in this era was predicated on its ability to enter the Mediterranean trade network. Despite the tone of the sources, therefore, violence was not the aim of Pisa's overseas ventures, which were infrequent, with a generation between recorded expeditions in some cases. The objective was profit, and the military expeditions appear to have been prompted by a combination of irresistible opportunity and lapses in regular trade. The Sardinian war, for example, seems to have been in response to Mujāhid's expansionist policy, which transformed the island from a trading post into a war zone. The great calamity, of course, led to a lapse in profits, thus providing an impetus for an investment in violence in the form of the Mahdia expedition and the First Crusade. As it turned out, Pisa's strategy was successful. When a Genoese character in the *Liber Maiolichinus* (c.1118) grudgingly observed that "all the seas are open to the Arno-born," he makes it sound like the natural state of affairs, but in fact he is describing the results of over a century's slow development.⁶²⁷

By the late eleventh century Pisa had established itself as the main stopping point on the sea route north from southern Italy. In 1095, the daughter of Count Roger of Sicily sailed north to Pisa to marry Conrad, son of the emperor Henry IV, with many ships and treasures.⁶²⁸ In the same year, we find the monks of St. Victor of Marseilles established in Pisa at the new monastery of S. Andrea di Chinzica.⁶²⁹ The previous year, the newly-consecrated bishop of Arras traveled home from Ostia by way of Porto Pisano.⁶³⁰ This remained the city's role throughout the twelfth century.⁶³¹ Inland Tuscany may have been

⁶²⁷ "Pervia arnigenis sunt equora cuncta..." Fisher, 205.

⁶²⁸ Malaterra IV.23. Conrad (1074-1101) was at that time in rebellion against his father, and had the support of Matilda of Tuscany and Urban II.

⁶²⁹ Gabriella Garzella: "Tra città e territorio: monasteri pisani medievali. Materiali per la ricerca" in *Monasteri e castelli tra X e XII secolo. Il caso di San Michele alla Verruca e le altre ricerche storico-archeologiche nella Tuscia occidentale*, edited by Sauro Gelichi and Riccardo Francovich, 69-78. Florence: 2004; d. Tanfani Centrofanti, 1885: cfr. Violante, 1991, 41-43

⁶³⁰ *Gesta Lamberti Atrebatensis episcopi*, in J.P. Migne, *Patrologiae cursus completus. Series latina*, 162, Paris: 1889, coll. 627-644, and coll. 636-638.

⁶³¹ "A station well-known to the ships of pilgrims," was how Gunther of Paris (c.1150-c.1220) characterized the city in his *Ligurinus*: Guntheri Poetae Ligurinus, E. Assmann, ed. MGH SS Rerum Germanicarum Ixiii. Hanover: 1987, 244. Evidence for coastal transit exists in the *Liber de existencia riveriarum et forma maris nostri Mediterranei*, a Pisan portolan from the late twelfth century. It mentions "Port'Ercole, il porto di Talamone, le Rocchette di Capalbio a Occidente di Castiglione della Pescaia, Piombino e la vicina Falesia, Porto Baratti, Portoferraio nell'isola d'Elba, Vada, e dopo Livorno e Porto Pisano, la città di Luni" See Patrick Gaultier-Dalche, ed., *Carte marine et portulan au XIIIe siècle. Le Liber de existencia riveriarum et forma maris nostri Mediterranei (Pisa, circa 1200)*, Rome: 1995, 158, 160-161.

peripheral to Pisa's prosperity in this period, as the city delivered goods to other coastal regions. This would seem to be the case in the second decade of the twelfth century, when the Pisans negotiated with Count Raymond of Barcelona.⁶³² At the same time, whatever foreign imports made it to the interior of Italy must have come via such vectors as Pisa. In a poem surviving from mid-eleventh century Ivrea, we hear of a market brimming with such eastern exotica as ginger and frankincense, sent by "Mauri."⁶³³ Such goods were certainly imported to the Alpine city, perhaps from Pisa, whose counts had adhered to Arduin of Ivrea in the early eleventh century during his ill-fated bid for the crown of Italy.⁶³⁴ These, as we shall see, might pay for much of Pisa's glory.

In this chapter we have mapped the process of Pisa's integration into the Mediterranean network. We have identified the landmarks that punctuate its advance and its limits. These landmarks - Sardinia, Denia, Sicily, North Africa - are rubricated by incidents of violence, but also denote increasing degrees of participation in the network. The case of Denia in particular suggests how cooperation with traders from Islamic regions was just as important as military expeditions. This is to be expected, for as we saw in chapter one, it was via the open flow of the network that wealth was accumulated. Wealth is not a value-free medium - quite the opposite - and it thus led in Pisa to the distribution and creation of material and visual cultures, which was itself shaped by the far-flung contacts of Pisa's traders. The evidence for this lies in the ceramics imported into Pisa, and the array of churches that still ornament the town. These are the subject of the next chapter.

Pisa's efflorescence was probably contingent on a series of external factors. Had foreign merchants not shown up with cargos of pottery, had Fraxinetum not fallen, had

⁶³² See the *Gesta Triumphalia*, 90; Busch, *Mediterranean Ports*, 252; the document is mentioned in a 1233 charter of James I. See C. Calisse, *Liber Maiolichinus*, Appendix 1.

⁶³³ The poem is the *Versus Eporedienses* (so-called by Dümmler), and was written by Wido of Ivrea, c.1080. Ernst Dümmler, "Gedichte aus Ivrea," *Zeitschrift für deutsches Altertum* 14 (1869): 245-65, 248. In the context of the poem, the narrator is trying to impress a beautiful woman, so we must understand his market of Ivrea as more aspirational than real.

⁶³⁴ As a result, the title of the counts of Pisa ceased to exist, although the family remained prosperous, and built castles in Pisa's hinterland near Livorno. Gaetano Ciccone, "Famiglie di titolo comitale nel territorio di Livorno e Porto Pisano," *Bollettino Storico Pisano* 57 (1988): 117-156, 124-152; Maria Luisa Ceccarelli Lemut, "L'incastellamento nel territorio pisano (secoli X-XIV)," in *Castelli e fortificazioni della Repubblica Pisana*, edited by Maria Luisa Ceccarelli Lemut and Massimo Dringoli, 3-31. Pisa: 2009, 18.

Tuscany been less stable or Denia less accessible, its destiny might have been one with Taranto or Ancona. Port cities, certainly, but not Mediterranean powers, with productive hinterlands to supply their needs. Integration into the network of Mediterranean trade, however humbly, propelled Pisa on a different path.

MEDIA OF EXCHANGE : MATERIAL CULTURE IN ELEVENTH CENTURY PISA

The most substantial body of evidence from eleventh century Pisa is material culture, above all architectural. This is, as already suggested, exceptional; most Italian cities flowered in the twelfth century and have only a few buildings from the previous century, and those modest, in comparison to over ten in Pisa, where modesty is an exception.⁶³⁵ The Pisan buildings share a number of elements that add up to a distinctive style historians have called Pisan Romanesque. This is the earliest regional architectural style of central Italy.⁶³⁶ Its prime exemplar is the Duomo (fig 18). Christine Smith has emphasized that over the long campaign which created the cathedral and the associated baptistery, Leaning Tower, and Camposanto, a set of shared features – blind arcading, banded masonry, free-standing arcades, coloured stone inlays, etc. – “unite the buildings stylistically and characterize what we call the Pisan Romanesque style.”⁶³⁷ This is undoubtedly true: the aesthetic experience of the complex is remarkably consistent, especially considering its construction span from 1063 to 1464. However, we must emphasize diachronic change. The elements that in 1200 typified a Pisan style of architecture could not have played that role in 1063. They must have meant something else. It is this observation that will guide our analysis throughout this section.

A crucial component of Pisan architecture in our period, in addition to the architectonic elements just mentioned, were the *bacini*. Were we referring to a prehistoric period, we might call the Pisans the bowl-display people (fig 19). Such an approach is perhaps not wrong, given the lack of written references to *bacini*, and will inform what follows.⁶³⁸ We have already discussed in chapter one the importance of the *bacini* for our

⁶³⁵ Quiros Castillo and Juan Antonio, *Modi di costruire a Lucca nell'alto medioevo: una lettura attraverso l'archeologia dell'architettura*. Siena: 2002, 111, think that links to the Caliphate of Cordoba explains the greater sophistication of Pisan architecture vis a vis the rest of Tuscany, but I have not been able to consult this work.

⁶³⁶ It may be distinguished from the somewhat later romaneseque of Florence, which, in a fine example of history being written by the winners, is known as Tuscan Romanesque.

⁶³⁷ Christine Smith, *The Baptistery of Pisa*, 233-34.

⁶³⁸ Such an approach, although not strictly applied here, can bear fruit in medieval studies, such as in the now classic Christopher J. Arnold, *Roman Britain to Anglo-Saxon England: An Archeological Study*. London: 1984, which examined Dark Age Britain with no reference to any written sources.

understanding of trade in Pisa over the era of the great calamity. The purpose of this section is to investigate the meaning of such trans-cultural objects within Pisa itself. The term *bacino*, introduced in 1758 by Gian Battista Passeri to describe ceramics inserted into churches in Pesaro, has been adopted by historians to denote the pottery, usually (as the name implies) concave basins, that were used to ornament the exterior of churches in Italy.⁶³⁹ As a phenomenon, it lasted several centuries and spanned much of the peninsula. However, the greatest proportion, and earliest examples, are from Pisa and Sardinia. By counting basin-shaped recesses, most now empty, it has been estimated that some four hundred *bacini* ornamented the eleventh century churches of Pisa, of which 146 survive.⁶⁴⁰ In Sardinia, 90 ceramics survive from an estimated sum of over seven hundred, although this total extends beyond our period.⁶⁴¹ The true numbers were likely even higher, as some churches, such as San Sepolcro and San Michele in Pisa, have had their exterior fabrics entirely rebuilt.⁶⁴² For its size, this body of evidence has received surprisingly little attention in the 40 years since serious investigations began, outside of the persistent efforts of Graziella Berti and colleagues, whose 1981 study is the *fons et origo* for this avenue of research.⁶⁴³ It has recently been updated with the publication of *Ceramiche con coperture vetrificate usate come "bacini": importazioni a Pisa e in altri centri della Toscana tra fine X e XIII secolo* in 2011.⁶⁴⁴ In recent years there have been valuable new contributions by Clare Déléry, Karen Rose Mathews and, on the Sardinian

⁶³⁹ Graziella Berte and Liana Tongiorgi, *I bacini ceramici medievali delle chiese di Pisa*. Rome: 1981.

⁶⁴⁰ Karen Rose Mathews. "Other Peoples' Dishes: Islamic Bacini on Eleventh century Churches in Pisa." *Gesta* 53, 1 (2014): 5-23, 6.

⁶⁴¹ Michelle Hobart, "Merchants, Monks," 95.

⁶⁴² One critical assumption of this study (and of most *bacini* studies) is that the fabric of the churches more or less corresponds to the foundation date found in the documents. In other words, that while the churches of Pisa may have taken a decade or two to build, they did not take centuries. This assumption cannot be proven, of course, but it is supported by the statement of Abbot Bono, whose tells us that his own church of San Michele was constructed from the ground up, and its campanile built, torn down and rebuilt, within such a time frame. It should be emphasized that while each church will be discussed as if it were built within a few years, a variance of a few decades does not materially affect the arguments.

⁶⁴³ A partial list: Graziella Berti and Liana Tongiorgi, "Per lo studio dei bacini delle chiese di Pisa: rassegna di recenti contributi alla storia della ceramica, in *Le ceramiche medievale delle chiese di Pisa. Contributo per una migliore comprensione delle loro caratteristiche e del loro significato quale documento di storia*, 37-79, Pisa: 1983; Graziella Berti and S.Menchelli, "Pisa. Ceramiche da cucina, da dispensa, da trasporto, dei secoli X-XV," *Archeologia medievale* 25 (1998): 330-33; G.Berti, "Pisa and the Islamic World. Import of ceramic wares and transfer of technical know-how," in Graziella Berti, Catia Renzi Rizzo and Marco Tangheroni, *Il mare, la terra, il ferro. Ricerche su Pisa medievale (secoli VII-XIII)*, 73-92, Pisa: 2004.

⁶⁴⁴ Graziella Berti and Marcella Giorgio, *Ceramiche con coperture vetrificate usate come "bacini": importazioni a Pisa e in altri centri della Toscana tra fine X e XIII secolo*. Florence: 2011.

examples, Michelle Hobart.⁶⁴⁵

In Pisa, imported Islamic pottery became “legitimate, desirable, and worthy.”⁶⁴⁶ This implies a process of value formation across cultural boundaries that must have been quite complex, not to say unexpected. Modern analyses of cultural mediation offer complex theoretical paradigms of how this process may have happened - via mechanisms of framing, expertise, and impact - but for the eleventh century most of these components are irrecoverable. However, some general statements are possible. Ceramics were available in the markets of the Islamic world: Nāṣer-e Khusrow wrote that “In Old Cairo they make all types of porcelain, so fine and translucent that one can see ones hand behind it when held up to the light. From this porcelain cups, bowls, plates and so forth and paint them... so different colours show depending on how the article is held.”⁶⁴⁷ Somewhere between the markets of Pisa and those of Fustat, Palermo, or Mahdia, acts of cultural mediation took place that transformed the tableware of foreign, heterodox, and sometimes hostile powers into suitable ornaments for prestigious architecture.⁶⁴⁸ The physical spaces for that mediation were touched on in section one; that is, it took place on the decks of the ships that plied the trade network - and on which the ceramics were themselves carried.

Oleg Grabar has observed that while “lists of *bacini* are interesting,” they do little “to explain anything about an Islamic influence on Europe.”⁶⁴⁹ Certainly a single *bacino* in a museum vitrine is a mute witness (fig 20). But the agency of objects functions in several ways. Most obviously, their representational properties bear messages - a field that has been amply discussed. They might bear associations, and Caskey has suggested that for Italian merchants, the *bacini* evoked the experience of trade in ways that are

⁶⁴⁵ Claire Déléry, “Using Cuerda Seca Ceramics;” Hobart, “Sardinian Medieval Churches;” K. R. Mathews. “Other Peoples’ Dishes.”

⁶⁴⁶ Jennifer Smith Maguire and Julian Matthews, “Are we all cultural intermediaries now? An introduction to cultural intermediaries in context,” *European Journal of Cultural Studies* 15 (2012): 551-563, 553.

⁶⁴⁷ Nāṣer-e Khusrow, 54.

⁶⁴⁸ It is possible, of course, that this development was deliberate. That is, that some merchant, probably Egyptian, set out to market lustre-ware in Italy as commercial policy. Such a thing would not be out of character for the merchants revealed in the Geniza, who were nothing if not opportunistic, but we obviously can never know

⁶⁴⁹ Oleg Grabar, “Trade with the East and the Influence of Islamic Art,” *Islamic Visual Culture, 1100-1800: Constructing the Study of Islamic Art*, 44.

locally significant.⁶⁵⁰ Also significant is the mediating power of their mobility. To some extent, if a Pisan merchant carries an Islamic object he or she is an agent of cultural diffusion. Putting up an attractive foreign object for display is not necessarily a deeply freighted act, but it does - at a minimum - help establish its place of origin as a source of desirable things.⁶⁵¹ Equally important, there are the human vectors implicit in object transfer: transactions, in other words, which might include purchase, theft, or gift exchange, all in turn implying further levels of engagement. Finally, there is the performative aspect of objects. It is to that we shall now turn.

THE SOCIAL ROLE OF BOWLS

When considering their significance, it is important to remember that the *bacini* of Pisa were new. If the idea had antecedents, they are not to be found in Italy. Moreover, if the chronology of Berti *et al.* is correct, the use of the *bacini* corresponded to the development of Pisan styles of architecture. The first use of the *bacini* was coeval with the first churches of the 1020s, San Matteo and San Zeno, as well as the difficult to date (but probably early) San Piero in Grado.⁶⁵² As such, we should not isolate the ceramics as a para-architectural or purely archeological phenomenon.⁶⁵³ They were original elements in the polymaterial “colour and variety” of Pisa’s architecture.⁶⁵⁴ A second point is that the *bacini* themselves were new. Lustre ware was not available to antiquity or the

⁶⁵⁰ Caskey, *Art and Patronage*, 162.

⁶⁵¹ In contrast to some other Pisan usages, the architectural display of *bacini* does not have any obvious antecedent in the Islamic world. It may be that the idea is original to our Pisan travellers. But it is possible that they were inspired by examples now lost. The later Torre del Oro in Seville, for example, preserves turquoise ceramic ornament in the spandrels of the its blind arches on its second register. The mihrab at Qaywaran is covered in ceramic tiles, but the effect is quite different. Ceramic panels were also used at Sabra for decoration, some of them figurative, but all that remains are fragments: Slimane Mostafa Zbiss, “Mahdiya et Sabra- Mansouriya: Nouveaux documents d’art fatimide d’Occident,” *Journal Asiatique* 244 (1956): 79–93, 88, pl. IV.

⁶⁵² San Piero is first mentioned in 1046 (March 1047 Pisan style): Caturegli, #46.

⁶⁵³ This has been the tendency of most discussions of the *bacini*, a trend perhaps exacerbated by the removal of the basins to the Museo San Matteo, which decontextualizes them in table-top vitrines. Karen Rose Mathews has noted how archaeological approaches have dominated study of the *bacini*: “Other People’s Dishes,” 1.

⁶⁵⁴ Mathews, “Other People’s Dishes,” 10.

Carolingians, but was the invention of Islamic potters of the tenth century.⁶⁵⁵ Finally, the wealth of the Pisan elite who deployed the *bacini* was new. From the perspective of the city, it was an unprecedented and dynamic wealth. It is not improbable that it transformed the internal political structure of the city's elite, as it seems to have done in Gaeta, but our records are too sparse to really say.⁶⁵⁶ The novel use of *bacini* may be a clue, however.

We should not view the *bacini* simply as meaningless or cost-effective ornament, as some scholars have suggested. But nor should we assign them an ideological or propagandistic posture that is not supported by contemporary usage.⁶⁵⁷ They were beautiful and expensive objects eminently suitable to be sold to the elites of the Latin world, yet were instead taken out of circulation on the walls of churches.⁶⁵⁸ In that sense they were a sacrifice, and like all sacrifices attested to the wealth of the men who gave them up, and also to their status as men who make such public gestures. At the same time, they displayed the ability of those men to acquire them. As the habit of making such sacrifices lasted for more than a century, it must have acquired some aspect of public ritual. That is, putting lustre ware on church walls became an action that was appropriate to a certain group of people, or was expected of them. All of this suggests that the *bacini* probably, through an organic process of affiliation, served to represent membership of some sort. When we recall that they were a new mode of display, located on new churches, that arose at a time that new wealth was available via new vistas of maritime trade, it is almost superfluous to observe that they must have denoted the group that acquired that wealth.

⁶⁵⁵ Graziella Berti and Sauro Gelichi, "Trasmissioni di tecnologie nel Medioevo: tendenze e linee di ricerca attuali," in *Circolazione di tecnologie, maestranze e materie prime nelle produzioni ceramiche del mediterraneo dal medioevo all'età moderna*, 23-41. Albisola: 2001.

⁶⁵⁶ See chapter one for a more extensive discussion of the transformational potential of foreign wealth in the maritime cities.

⁶⁵⁷ William Tronzo, in another context, has warned against over-interpreting architectural ornament. Against claims that sculpture on the facade of San Marco in Venice must have expressed that city's "grand geopolitical ambitions," he observes that "base and ultimately trivial acts of derogation" are an unlikely end for the "façade of their greatest church." William Tronzo, "Review of Maguire, Henry and Robert S. Nelson. *San Marco, Byzantium, and the Myths of Venice. Dumbarton Oaks Byzantine Symposia and Colloquia*. Washington D.C.: Dumbarton Oaks Research Library and Collection, 2010," *The Medieval Review* 11.10.26.

⁶⁵⁸ Karen Rose Mathews, "Other People's Dishes," 19, also draws attention to this aspect of the use of *bacini* on church walls. Sixteen years ago, David Abulafia made a like observation: D. Abulafia, "The Impact of the Orient: Economic Interactions between East and West in the Medieval Mediterranean," in *Across the Mediterranean Frontiers: Trade, Politics and Religion, 650-1450*, edited by Dionisius A. Agius and Ian R. Netton, 1-40. Turnhout: 1997, 2.

Michelle Hobart writes that “Pisa used Arab symbols as a reflection of their power and the breadth of their growing maritime republic.”⁶⁵⁹ This appears to be true as far as it goes, but to whom were they signalling? The answer need not remain the same over the centuries, or indeed decades. Even in the later stages, it is not easy to sustain Hobart's characterization of the situation in Sardinia as “an odd colonial interplay, whereby the conquering nation, in this case Pisa, re-represents the culture of the repressed as a symbol of their own dominion.”⁶⁶⁰ Sardinia's Muslim population is all but invisible in the sources. If they existed - and they probably did - they must represent one of the most distant hinterlands of the House of Islam. It is difficult, on the one hand, to imagine that they saw themselves in the lustrous ceramics of Spain or Tunisia. And on the other, it is hard to see why the Pisans should associate the *bacini*, redolent of their far-flung and prestigious commercial success, with the subject peasants of Sardinia. Or indeed, as Dale Kinney has argued, that appropriated objects should have any precise meaning at all. Surely medieval people were as able as we are to reconcile apparently contradictory contexts in material culture.⁶⁶¹ As such, inasmuch as *bacini* had any meaning at all, we should look for it in the dynamics of actual usage.

We must remember that in the period in which the Pisan style developed, Pisa was not the exploiter of a supine orient. Inasmuch as the relationship can be so simplified, Pisa was the third-world hinterland of the Muslim metropolis.⁶⁶² One cannot but suspect that the use of *bacini* in Pisa might have appeared ridiculous to visiting Muslim merchants, in the same way that the adoption of western uniforms and dress by Asian and African elites struck nineteenth century Europeans as malapropos. Such mis-adaptations are perhaps what we should expect from a region so remote from the metropolis as Pisa. It may be that the situation in Qayrawān in the 860s, when the Aghlabids decorated the mihrab of the great mosque with ceramic tiles in imitation of distant Samarra, was similar

⁶⁵⁹ Hobart, “Merchants, Monks,” 114. It is not entirely accurate to characterize the *bacini*, whose origins spanned Egypt, North Africa and Spain, as “Arab.”

⁶⁶⁰ Hobart, “Merchants, Monks,” 114.

⁶⁶¹ Dale Kinney, “Ancient Gems in the Middle Ages,” in *Reuse Value. Spolia and Appropriation in Art and Architecture from Constantine to Sherrie Lavine*. Edited by Richard Brilliant and Dale Kinney, 97-120. Farnham, U.K., and Burlington, VT: 2011, 116-117.

⁶⁶² It is worth reiterating that the effects of the great calamity, although profound, could not have been apprehended in Italy for several generations.

- although in that case, the ceramics were at least intended for architectural ornament, and not the table.⁶⁶³ It is more likely, then, that the *bacini* were chiefly aimed at a Pisan audience, at least in the first stages.

Only certain members of Pisa's elite could both acquire *bacini* and choose to display them on the walls of the churches they financed. Therefore, they likely came to denote those individuals. We can name Ildeberto Albizone and his wife Teuza in this group. We might add our sole locuter from the period, Abbot Bono, who supervised at San Matteo while it was under construction, and mentored the abbot of San Zeno, both of which associate him with *bacini*-bearing churches (fig 21).⁶⁶⁴ He also commissioned voyages to procure building supplies. Unfortunately, the foundation documents for the other early churches that bear *bacini* do not survive, although San Zeno's abbot, Dominic, could certainly have been connected to Ildeberto through their mutual acquaintance Bono.

If the above interpretation is correct, it would represent an early (among the earliest) example of the renegotiation of the politics of display to suit a new mercantile class. In the eleventh century there were no models of appropriate display for merchants in the Latin west. The *bacini*, then, may represent a mode of appropriating traditional modes of aristocratic prestige spending, i.e. church building, while developing new signposts of local identity.⁶⁶⁵ Investing in churches provided a suitable outlet for the necessities of conspicuous consumption. The churches might retain the family association, one way or another: at San Matteo, for example, Ildeberto's daughter became the first abbess after the initial phase under Abbot Bono.⁶⁶⁶

The likelihood, then, is that the Pisan elite saw the *bacini* as emblems of commercial success and their own association with the wealth of the Islamic world. The

⁶⁶³ R. Ettinghausen and O. Grabar, *The Art and Architecture of Islam: 650-1250*. New York: 1987, 116-7. The Byzantines also used ceramics on prestigious church facades, e.g. at St. Catherine's in Thessaloniki: Greenhalgh, *Marble's Past*, 414; Sharon E. J. Gerstal, "Ceramic icons from Medieval Constantinople," in *A Lost Art Rediscovered: The Architectural Ceramics of Byzantium*, edited by S. E. J. Gerstal, and J. A. Lauffenburger, 43-65. University Park: 2001.

⁶⁶⁴ His own church, San Michele, was rebuilt during the Gothic era. Bono's supervision of S. Matteo is recorded in a document of 1029 (Caturegli, #99), "ubi nunc Bonus abbas preesse videtur."

⁶⁶⁵ Wickham, *Sleepwalking*, 204, has noted how the new elites of Italian cities cloaked themselves "in imagery which belonged to other political systems."

⁶⁶⁶ Gabriela Garzella, "Tra città e territorio," 72.

embedding of the ceramics on church walls was a manifestation of elite success, for nothing demonstrates wealth like wasting it. Their use as badges obviates the need to display the imagery on the *bacini* - what mattered was that they were visible, but not that they were easily examined. Significantly, in this era, none of the churches of Pisa's hinterland bear *bacini*; they were an urban phenomenon, and their target audience were citizens.

If in the 1030s the use of *bacini* could have denoted the faction of the Pisan elite who traveled or traded, the placement of a *bacino* on the Duomo, and the subsequent spread of the habit to many churches, might therefore indicate the success of that faction in the city, presumably due to the reserves of liquid wealth acquired through trade. This is speculative, but not too different from what Skinner suggested for the rise of the Docibili dynasty in Gaeta.⁶⁶⁷ Certainly, we can trace the success of the family of Ildeberto: his descendent Pietro Albizone was a commander during the Balearic raid of 1114.⁶⁶⁸ We don't know about Pietro's trading activities, but certainly he was in the same social group as merchants, such as the Leo of Babilon (i.e. Cairo) with whom he co-signed a charter in Sardinia in 1103.⁶⁶⁹

We saw in chapter one how the rulers of the maritime cities of Campania were concerned to control access to the sea. In Pisa, unsurprisingly, the oligarchy established itself on the water, both symbolically, as in the case of Ildeberto's church of San Matteo, and more literally for Pietro, who held property on the river bank.⁶⁷⁰ A related concern with visual access is suggested by the placement of many of Pisa's churches. San Piero in Vinculis, San Matteo, and San Paolo all display their long axes to the river, and it is possible that the same was true of San Michele and San Nicola as well, although now there are intervening buildings. At San Paolo, the elaborate polychrome north wall of the

⁶⁶⁷ Liquid wealth, she suggests, enabled the Docibili to mobilize the resources necessary to establish themselves in power, such as Saracen mercenaries. See Patricia Skinner, "Politics and piracy: the duchy of Gaeta in the twelfth century," *Journal of Medieval History* 21 (1995): 307-319.

⁶⁶⁸ *Liber Maiolichinus*, lines 2815-16. He had a comrade in arms, "clarus Lanfrancus," lines 1809-20. Incidental mentions of family property crop up in the records as well, e.g. Caturegli #242, "terra de filio quondam Albiti," in 1111. The same "Petrus Albithonis" shows up in the *Gesta Triumphalis per Pisanos facta*, ed. L. Gentile, *Rer. Ital. Script.*, vi. 2, 92, as "nobilis pisanus miles." There is discussion in Cinzio Violante, *Economia, società, istituzioni a Pisa nel Medioevo: saggi e ricerche*, Florence: 1980, 59-60.

⁶⁶⁹ *Codice diplomatico della Sardegna*, ed. P. Tola, I / 1, Sassari: 1984, #1, 2.

⁶⁷⁰ Cinzio Violante, *Economia, società, istituzioni a Pisa nel Medioevo: saggi e ricerche*. Bari: 1980, 40.

church was designed from the top down to be visible from the river (fig 22). The landward side is not decorated at all. At San Matteo, the masonry of the landward side that survives within the structure of the more recent buildings appears significantly coarser and less regular than the river face.⁶⁷¹ As for San Piero, a cafe now conceals its river-view, but traces of masonry suggest that it too may have been heavily decorated (fig 23).

We know Pisa's elite were competitive. A decree of Daibert banned the Pisan clans from rearing towers above a certain height, in an attempt to rein in "the ancient disease of pride which has daily caused innumerable homicides."⁶⁷² That the Pisans used their towers to murder each other implies the sharpness of internecine competition, while the fact that they had begun building high-rises at all speaks volumes about the development of Pisa as a city. Assigning the *bacini* to a portion of the city's elite, presumably the most commercially-minded, does not seem farfetched. The rather sporadic incidence of overseas ventures recorded in the chronicles may reflect the back and forth of the city's internal politics, as does the insistence that the 1063 descent on Palermo was carried out by both the *maiores* and *minores* of the city in concert.⁶⁷³ But by late in the century, Pisa was wholly committed to overseas engagement (and investment), so we may surmise that the *bacino*-displaying group had triumphed. Presumably it did so, at least in part, through the maritime ventures that dominate Pisa's own historiography (which therefore represents the self-fashioning of the dominant group), and not through actual infra-urban conflict, for which there is no evidence other than Daibert's decree.⁶⁷⁴ Internal conflict, as Ceccarelli Lemut suggests, was redirected by the possibilities of foreign investment.⁶⁷⁵ We should perhaps understand a process of ongoing affiliation, in which citizens attached

⁶⁷¹ See figs 20-23 in Juan Antonio Quirós Castillo, "Técnicas constructivas altomedievales en la ciudad de Pisa y en la Toscana nordoccidental," *Arqueologia De La Arquitectura*, 4 (2005): 81-109.

⁶⁷² The document is in G. Rossetti, "Il lodo del vescovo Daiberto sull'altezza delle torri," in *Pisa e la Toscana occidentale nel medioevo: A Cinzio Violante nei suoi 70 anni*, v.2, 25-31. Pisa: 1991. Translation by Patricia Skinner, in Katherine L. Jansen, Joanna Drell, and Frances Andrews, eds., *Medieval Italy. Texts in Translation*, Philadelphia: 2009, #57, 230-33.

⁶⁷³ On the Palermo inscription: see above, p.88. Note in particular the 30 year gap between overseas expeditions mentioned in the Pisan chronicle, from the 1034 attack on Bona and the 1063 descent on Palermo.

⁶⁷⁴ Indeed, city charters show no changeover in notable Pisan families over the entire eleventh century: Wickham, *Sleepwalking*, 86.

⁶⁷⁵ Maria Luisa Ceccarelli Lemut, "Mare nostrum Mediterraneum," 18.

themselves to the successful group. They then may have taken that group's visual identity, for nothing breeds imitators like success. This in turn must have buoyed up that visual identity, until it eventually represented the entire city.

This may explain the eccentric position of San Sisto among the *bacini*-bearing churches (fig 24). It, as Karen Mathews points out, was unique in Pisa as a commemorative and votive church, founded in memory “in victoriam Pisanorum” and paid for with the booty of Mahdia. Although it largely eschewed the architectonic vocabulary of the “Pisan Romanesque,” which perhaps marked it as in some way neutral, it was bedecked with 129 *bacini* from every region of the Islamic Mediterranean with which Pisa had dealings - North Africa, Sicily, Spain and Egypt.⁶⁷⁶ We may see San Sisto, then, as beginning the tendency to deploy the *bacini* as a mark of Pisa, rather than a group or groups within Pisa - much as the raid on Mahdia seems to have called upon the resources of the entire city.⁶⁷⁷ From then on, the imported *bacini* can no longer be associated with any subsection of the city's population, and would soon spread into the hinterlands. A similar process may have occurred in the south, where Peduto has argued that Islamic motifs, which presumably arrived first in Amalfi, came to serve as markers of local identity for the entire eponymous coast.⁶⁷⁸

To sum up, the role of the *bacini* must have changed. In the eleventh century, the imported ceramics were novel and remarkable, and reflected the superior wealth and technical achievement of the House of Islam. Probably the *bacini* were taken up by those Pisans able to engage with foreign wealth, such as Ildeberto. By the mid-twelfth century, economic roles were different. The ability to import such items was no longer a thing to flaunt. But by that time Pisa had made the *bacini* part of its visual identity - they were part of the ‘look’ of Pisan architecture. The “*bacini* aesthetic,” to use Karen Mathews's

⁶⁷⁶ That none of the *bacini* that decorated San Sisto, founded in celebration of the raid, in fact originate from Mahdia seems to weaken the early suggestion of Abulafia that they served as trophies: Berti, Graziella and Alberto García Porras. “A propósito de ‘Una necesaria revisión de las cerámicas andaluzes halladas en Italia’.” *Arqueología y territorio medieval* 13, no. 1 (2006): 155–95, 160); David Abulafia, “The Impact of the Orient: Economic Interactions between East and West in the Medieval Mediterranean,” in *Across the Mediterranean Frontiers: Trade, Politics and Religion, 650-1450*, edited by Dionisius A. Agius and Ian R. Netton, 1-40. Turnhout: 1997, 36.

⁶⁷⁷ Wickham, *Sleepwalking*, 85-86, has emphasized the relative harmony of Pisa's *cives* around 1100.

⁶⁷⁸ Peduto, “Materiali Arabo-Islamici nella Ravello del secolo XIII,” in *Presenze araba e islamici in Campania, Atti del convegno sul tema, 1989*. Edited by A. Cilardo, 467-72. Naples: 1992.

convenient phrase, persisted, but it could no longer mean the same thing as it meant in the 1030s.⁶⁷⁹

As Pisa was itself influenced by the metropolises of the Mediterranean, so Pisa emerged as the metropolis of its own region. Around the time of the first crusade, we find the elaboration of the Pisan style in the rural dependencies of the city, such as Calci and Cascina (fig 25). One example is Pappiana, where fragments of a Pisan church survive, perhaps erected in response to Henry IV's 1089 donation of a court there to the city.⁶⁸⁰ Later, the *bacini* and other elements emerge as a more general motif of Pisan predominance. By the thirteenth century, they appear in the larger towns of the Pisan hinterland, such as Empoli and the strategic border town of San Miniato. In the simple church of S. Jacopo at San Gimignano, we find a row of *bacini* below the cornice, and a portal in the characteristic Pisan style (fig 26). San Bartolo, also in San Gimignano, likewise quotes the stacked blind arcades and double arch of Pisa. Both of these belonged to knightly orders, so that their builders looked to the Mediterranean port is not surprising. By the later period, then, we can no longer speak of Tuscan *bacini* in response to Islamic contacts, but rather to the example of Pisa itself.⁶⁸¹ The chronology I have suggested for the use of the *bacini* will be familiar to any historian. The model of a new idea or idiom adopted by an elite or avant-garde, which is subsequently taken up by the mainstream, only to eventually become antedated and provincial, is common, and is, I think, a strong argument for its applicability here.

CONTEXTS, ITALIAN AND OTHERWISE

The figurative ornamental resources of the Romanesque in Tuscany were considerable. A

⁶⁷⁹ Karen Rose Mathews, "Other Peoples' Dishes: Islamic *Bacini* on Eleventh century Churches in Pisa," *Gesta* 53, 1 (2014): 5-23.

⁶⁸⁰ MGH, Diplomata, VI, Heinrici IV Diplomata, ed. D. von Gladiss and A. Gawlik, Hannover 1941-1978, 2, n. 404, 534-535; Maria Luisa Ceccarelli Lemut, "Terre pubbliche e giurisdizione signorile nel comitatus di Pisa (secoli XI-XIII), in *La signoria rurale nel medioevo italiano*, edited by A. Spiccianni and C. Violante, 87-137. Pisa: 1998, 99-100. Only a portion of wall and a carved architrave survive, integrated into the fabric of a neo-classical renovation.

⁶⁸¹ For discussion on this theme, see Anthony Cutler, "Byzantine Art and the North: Meditations on the Notion of Influence," in *Byzantium: Identity, Image, Influence. Major Papers, XIXth International Conference of Byzantine Studies, University of Copenhagen, 18-14 August, 1996*, 169-182, 176.

trove could be found in nearby Lucca, which bedecked its churches in a riot of what we may call architectural marginalia: a menagerie of ambiguous creatures, hybrids, spirals, crosses, interlaces, and so on. In the absence of written contexts, historians have rarely engaged deeply with these motifs.⁶⁸² This visual vocabulary suffused the region, even the distant hinterlands. But with the exception of interlace reliefs, this vocabulary makes little appearance in Pisa (fig 27).⁶⁸³ Rather, the preferred expression of Pisan artists was aniconic and geometric (fig 28). The Pisans had the wealth, knowledge, and technical ability necessary to deploy the same ornament as at Lucca, but chose instead to do something different. To explain this, we must again turn seaward.

Thus far, we have been discussing the *bacini* as if they were the sole visual badge of our hypothetical group of Pisan traders. However, it is a mistake to examine the *bacini* in isolation. They are found on churches which themselves possess a distinctive look. With one exception, every eleventh century *bacini*-bearing church is marked with blind arches, recessed lozenges, alternating or striped masonry, and most of them also sport stacked arches and geometric stone inlays.⁶⁸⁴ Mathews, echoing Mack and Berti, observes that the *bacini* might have served as a cheaper alternative to the complex stone intarsias, usually framed by a lozenge, that ornament the Duomo and other churches.⁶⁸⁵ But this appears to reverse the chronology of construction, for the *bacini* appear on the earliest churches, San Matteo and San Zeno, from the late 1020s, while the inlays appear for the most part from the 1060s. Mathews also notes that they are mutually exclusive: for the most part, *bacini* do not appear in the same contexts as inlays. The sole *bacino* on

⁶⁸² This has left the field open to fringe researchers, who have been happy to discover pagan and magical interpretations. See Patrik Reuterswärd, “The Forgotten Symbols of God,” *Konsthistorisk tidskrift/Journal of Art History* 51, 3 (2008): 103-125.

⁶⁸³ The interlaces of Pisa are a strange case, for they are common but inconspicuous, restricted to a design in stone relief, usually the size of a single block, inserted in its masonry somewhere on its south-east exterior. Some of these are fairly crude in their execution, but that on the duomo is, as one might expect, very refined. The phenomenon is consistent enough to suggest a deliberate program of some sort.

⁶⁸⁴ The exception is San Sisto, which nonetheless shares the row of small blind arches, the so-called Lombard bands, below the cornice with several of the others. Lombard bands are entirely characteristic of early Romanesque architecture along the Mediterranean littoral, from Italy, Provence, and Catalonia. It is less commonly noted that they also occur along the corresponding southern coast, for example at the early tenth century Aghlabid ribat at Sousse.

⁶⁸⁵ K. Mathews, “Other People’s Dishes,” 11; R. Mack, *Bazaar to Piazza*, 3; G. Berti, “Pisa città mediterranea. La testimonianza delle ceramiche importate ed esportate,” 169; *ibid.*, “Pisa: ceramiche e commerci (2nd metà X-1a metà XIV s.),” in *Atti I Congresso Nazionale di Archeologia Medievale*, edited by Sauro Gelichi, 346-351. Firenze: 1997, 346.

the Duomo appears within a lozenge on the south flank, filling a niche otherwise occupied by inlays. This may be happenstance, but it raises the possibility that combining both motifs might have been redundant from a signalling point of view. Perhaps they bore the same meaning? Although a few famous examples are figurative, the majority of the *bacini* feature abstract designs that complement the inlays, for example, the seal of Solomon visible on a *bacino* embedded below the eaves of Sant' Andrea Forisportam (fig 29). It is not impossible that the inlays were in part inspired by the *bacini*, for like them, they are a new development in Pisa's architecture. This fact is easily overlooked, as they bear an obvious kinship with the Cosmati work that would ornament so many churches of the peninsula and beyond - but in the mid-eleventh century, that remained in the future.⁶⁸⁶

Although they had no precedent in Italy, the aniconic geometric inlays had near siblings. In Salerno, the new cathedral founded in the 1080s featured a large atrium (fig 30).⁶⁸⁷ In the tympana of the atrium are found roundels of geometric inlays apparently of white limestone and black lava.⁶⁸⁸ Salerno's duomo was related to the new abbey of Montecassino, erected by abbot Desiderius (later pope Victor III), destroyed in World War II.⁶⁸⁹ Perhaps it too bore similar geometric stonework. A kinship, both in material and novelty, seems to exist between such inlays and mosaic work, which according to Leo of Ostia and Alfanus of Salerno was introduced to Italy at Montecassino after a break of five hundred years in 1071.⁶⁹⁰ Nonetheless, the Pisans were probably already employing such stonework at that date. Perhaps the Pisans even had some influence at

⁶⁸⁶ They may also be related to the use of stone intarsia as architectural ornament in Amalfi. Most extant examples seem to postdate our period, but it is likely that it began earlier. See J. Caskey, *Art and Patronage*, 57-58.

⁶⁸⁷ Gregory VII, *Reg. VIII.8*, 526-7; Cowdrey, *Montecassino*, 373-4.

⁶⁸⁸ A combination of materials that also appears in Amalfi and in Sicily, for example at the ruined monastery church of La Cuba. Charles E. Nicklies, "The Church of the Cuba near Castiglione di Sicilia and Its Cultural Context," *Muqarnas* 11 (1994): 12-30, 14; Caskey, *Amalfi*, 57-60.

⁶⁸⁹ *Inter alia*, Vinni Lucherini, "Rome, Naples et le rôle du Mont-Cassin: des politiques architecturales entre la papauté et des puissants évêques locaux," in *La cathédrale romane. Architecture, espaces, circulation*, = Les cahiers de Saint-Michel-de-Cuxa, 44 (2013):123-139, 136. The close dependence of Salerno on Montecassino has recently been convincingly contested by Oliver Becker, "Der Dom von Salerno und die Abteikirche von Montecassino: Anspruch und Wirkung zweier Bauprojekte in Unteritalien im 11. Jahrhundert," *Frühmittelalterliche Studien* 41 (2007): 105-140.

⁶⁹⁰ *Montecassino Chronicle*, 3.27. See discussion in a now classic paper by Ernst Kitzinger, "The Byzantine Contribution to Western Art of the Twelfth and Thirteenth Centuries," *DOP* 20 (1966): 25-47, esp. 36-37. Alfanus wrote: "Lustra decem novies redeunt, / quo patet esse laboris opus / istius urbis Italiae / illicitum; peregrina diu / res, modo nostra sed efficitur." *I carmi di Alfano I*, 176; PL 147, 1237B & C. See discussion in H. Bloch, "The New Fascination with Ancient Rome," in *Renaissance and Renewal in the Twelfth Century*, edited by Robert Louis Benson, Giles Constable, Carol Dana Lanham, 615-637. Toronto: 1982, 620.

Salerno, for Amatus of Montecassino states that Pisan merchants decorated the church of Saint Mathew in gratitude for a miraculous escape at sea.⁶⁹¹ Artists from Byzantium were brought in to Montecassino, and according to one source, from Alexandria.⁶⁹² Although sometimes overlooked, the latter location is likely enough, and indeed, Desiderius did not need to go as far as Constantinople; impressive mosaic floors ornamented the palaces of nearby Tunisia, and al-Muqaddasī speaks of travelling Syrian and Egyptian mosaicists in the late tenth century.⁶⁹³ A fragment from Fatimid Mahdia may (hopefully) still be seen at the Raqqada museum in Tunisia (fig 31).⁶⁹⁴ Similarly, the technique of marble inlay was alive and well in Al-Andalus, where fragments survive from a Caliphal palace of the late tenth century.⁶⁹⁵ If, as suggested above, the *bacini* and intarsias occupied the same signalling space, we must conclude that they both pointed to the south and the Mediterranean trade network from they both, one literally and the other figuratively, sprang.

Christine Smith has observed how “the earliest Pisan style of interlace and abstract ornament... seems to draw heavily on the Arabic example in the approach to the relief medium.”⁶⁹⁶ In section one we emphasized the unity of the Mediterranean regions yoked together by the trade network. In our era, as in others, sea travel was cheaper and faster than overland; for a citizen of Amalfi, who had to board a ship to go anywhere, Mahdia was closer than any city of Northern Italy. Many scholars have argued that the novel use of the atrium at Montecassino must have been inspired by early Christian Rome, and this

⁶⁹¹ But more likely, he meant that they offered portable goods to the shrine. Amatus VIII.4.

⁶⁹² Alexandria: Amato di Montecassino, *L'Ystoriède li Normant*, Vincenzo Bartholomaeis, ed., *Fonti per la Storia d'Italia dell'Istituto Storico Italiano per il Medio Evo*, Rome: 1935, 175: “...pour ce qu'il non trova en Ytalie homes de cest art, manda en Constantinoble et en Alixandre pour homes grex et sarrazins, pour aorner le pavement de la eglise de marmoire entaille et diverses peintures, la quelle nous clamons 'operede mosy,'ovre de pierrede diversesclores.”

⁶⁹³ Al-Muqaddasī, *Best Divisions for Knowledge of the Regions*, trans. Basil Collins. Reading, U.K.: 2001, 67.

⁶⁹⁴ Louhichi, A., “La mosaïque de Mahdia: contexte et interprétation”, *Africa* 20 (2004): 143–66.

⁶⁹⁵ Marilyn Jenkins, “Al-Andalus. Crucible of the Mediterranean,” in *The Art of Medieval Spain A.D. 500-1200*, 77.

⁶⁹⁶ Christine Smith, *Baptistry*, 127, n.148. Greenhalgh, *Marble Past*, 412 notes how the mosaic inlays, such as that preserved in the Museo del Opera del Duomo, were made in Pisa by Master Rainaldo based on Islamic styles. And Richard Ettinghausen and Oleg Grabar, *The Art and Architecture of Islam: 650-1250*, 122-23, note that the Pisan commitment to non-figural ornament must reflect their southern orientation.

is undoubtedly true.⁶⁹⁷ But it is equally the case that the the Fatimid use of the same Roman plan could only have been a spur to its adoption in southern Italy.⁶⁹⁸ The point is strengthened by the use of pointed arches at Montecassino, which appear in no Roman examples but do show up in the atrium of the mosque of Al-Hakim.⁶⁹⁹ Indeed, many of the other features adduced to demonstrate the *romanitas* of Montecassino, such as the use of *spolia* and inscriptions, were earlier revived by the dynasties of North Africa and Al-Andalus.⁷⁰⁰ Greenhalgh suggests that the deployment by the Fatimids of public inscriptions, as at the mosque of al-Hakim, provided a stimulus to Latin inscriptions, which were rare in Italy until our period.⁷⁰¹ Even the Leaning Tower, he suggests, may have had a North African prototype, the minaret at the Zirid palace-city of Sabra al-Mansuriyya, just adjacent to Qayrawan, which al-Bakri described as a cylindrical tower with seven tiers of columns.⁷⁰²

⁶⁹⁷ A summary of the Roman influence on Montecassino may be found in Krautheimer, *Rome. Profile of a City 312-1308*. Princeton: 1980: 178-80. The theme has been much amplified over the years, perhaps most importantly by Herbert Bloch, *Montecassino in the Middle Ages*, 3 vols. Cambridge, MA: 1986, and *ibid.* "The New Fascination with Ancient Rome," in *Renaissance and Renewal in the Twelfth Century*, edited by R. L. Benson, G. Constable, and C. D. Lanham, 615-637. Toronto: 1982.

⁶⁹⁸ It is important to remember that the Islamic use of the atrium, which went back to the Umayyad Great Mosque of Damascus, was itself a continuation of Roman architecture, and at Damascus was even built by Roman craftsmen. Tom Nickson, "Copying Córdoba? Toledo and Beyond," *The Medieval History Journal* 15 (2012) 15: 319, presents a related Spanish example, where churches in Toledo derived their nave galleries from the example of the nearby Friday Mosque.

⁶⁹⁹ As well as around the atriums of the mosques of Ibn Tulun and al-Azhar, both in Cairo. The transmission of these features is sometimes attributed to the Amalfitans, on the strength of a version of the Montecassino chronicle that mentions craftsmen from that city working at the monastery, a suggestion strengthened by the presence of pointed arches in the old duomo of Amalfi: Caskey, *Art and Patronage*, 21; Conant, "Arch and Vault in Romanesque Architecture."

⁷⁰⁰ The use of *spolia* in Pisa was extensive, and according to C. B. Fisher, represented a conscious adoption of Roman models - notwithstanding its higgledly-piggledly deployment. For reused inscriptions on the Duomo, see P. Fabiani, A. Mennucci, C. Nenci, "Indagini Sui Paramenti Murari Esterni Del Duomo Di Pisa: Rapporto Preliminare," in *Atti del I Congresso Nazionale di Archeologia Medievale (Pisa, 29-31 maggio 1997)*, edited by S. Gelichi, 449-455. Firenze: 1997.

⁷⁰¹ *Marble's Past*, 413, 460. He offers a less well-known example in the Duomo of Foligno, where a monumental inscription is mounted amid ablaq and diamond diapered masonry. Public inscriptions were of longstanding in Egypt, where the Abbasid Nilometer of 861 bore the earliest extant Arabic inscriptions in the region: Doris Behrens-Abouseif, *Islamic Architecture in Cairo: An Introduction*, Leiden: 1992, 51. Barely any inscriptions survive in Mahdia, but they are recorded in written sources: Bloom, *Arts of the City Victorious*, 30. In Qayrawān, the Mosque of the Three Doors offers extant examples.

⁷⁰² Greenhalgh, 157. Al-Bakri, *Description*, 84, completed his book in 1068, but may have been in North Africa a decade or more previous. The minaret is no longer extant, although we do not know whether it was destroyed during the sack of 1057 or subsequently. Greenhalgh's tentative suggestion that the columns of Pisa's tower actually came from Sabra is difficult to sustain, as nomad forces controlled the hinterlands around Mahdia during the time of the Pisan raid, although they might have been purchased subsequently. The dome of Pisa's cathedral, the earliest of its kind in Italy, has also been attributed to southern influence, for instance by Sanpaolesi, *Il Duomo di Pisa*, 229-235. Smith argued strongly against the idea, but her main point, that Pisan ships did not traverse the eastern Mediterranean in the period, is hardly conclusive. Pisan merchants certainly could have done so, as we have seen. Christine Smith, "East or West in 11th-Century Pisan Culture: The Dome of the Cathedral and Its Western Counterparts," *The Journal of the Society of Architectural Historians* 43, 3 (1984): 195-208, 201.

As for *spolia*, Al-Muqaddasī tells us that antique blocks were carried over great distances to build the Al-Aqsa mosque, and that the Fatimid caliph Al-Mahdi brought columns from Alexandria for a mosque in Mecca.⁷⁰³ Even the creative use of *spolia* that characterizes Pisa's duomo had its precedents, for example at Sfax, where the city mosque prominently displays an Early Christian peacock relief (fig 32).⁷⁰⁴ Abd al-Rahmen went as far as Carthage to acquire material for the Medina Al-Zahra, a voyage which certainly transcends mere pragmatism.⁷⁰⁵ Antique columns used by the Fatimids to build Mahdia are still visible underwater in the harbour.⁷⁰⁶ Although Fisher saw a conscious revival of antiquity in twelfth century Pisa, the arbitrary placement of Roman materials complicates his arguments (fig 33). Here, again, things probably changed over time: Finbar Flood has argued that the casual use of Byzantine *spolia* in Syrian mosques before the crusades may have been reinterpreted under Nur al-Din as an expression of Islamic triumph.⁷⁰⁷ A similar casual use of *spolia* in eleventh century Pisa may have come to mean something else later in the middle ages. Such reinterpretation is likely, for as Rajagopalan points out, the mere presence of *spolia* suggests a history of violence, irrespective of how it was acquired.⁷⁰⁸ Dale Kinney warns not to reduce *spolia* to iconography.⁷⁰⁹ Indeed, the consensus of recent *spolia* studies, to the extent that there is one, is that reuse is multivalent, perhaps to the degree that the very concept of *spolia* is

⁷⁰³ Al-Muqaddasī, *Best Divisions for Knowledge of the Regions*, trans. Basil Collins. Reading, U.K.: 2001, 67; Bloom, *Arts of the City Victorious*, 41.

⁷⁰⁴ Other examples may be cited, e.g. a lion relief inserted in a tower at Aleppo, Creswell Archive EA.CA.5629. Compare San Marco in Venice, where a similar peacock relief is still extant.

⁷⁰⁵ Whether Al-Rahmen III was motivated more by its classical heritage, or by the fact that the ruins lay in the territories of his Fatimid rivals is an open question: Greenhalgh, *Constantinople to Cordoba*, 130, for Al-Aqsa, 43.

⁷⁰⁶ Greenhalgh, *Constantinople*, 113; Bloom, *Arts of the City Victorious*, 2007, 23-32 on the construction of Mahdia. Greenhalgh, 43, also notes that a great deal of *spolia* went into Qayrawān and the Zirid capital at Sabra al-Mansuriyya.

⁷⁰⁷ Finbar Flood, "The Medieval Trophy as an Art Historical Trope: Coptic and Byzantine 'Altars' in Islamic Contexts," *Muqarnas* 18 (2001): 41-72, 63.

⁷⁰⁸ Mrinalini Rajagopalan, "A Medieval Monument and its Modern Myths of Iconoclasm: The Enduring Contestations over the Qutb Complex in Dehli, India," in *Reuse Value. Spolia and Appropriation in Art and Architecture from Constantine to Sherrie Lavine*, edited by Richard Brilliant and Dale Kinney, 199-222. Farnham, U.K., and Burlington, VT: 2011.

⁷⁰⁹ Dale Kinney, "Ancient Gems in the Middle Ages," in *Reuse Value. Spolia and Appropriation in Art and Architecture from Constantine to Sherrie Lavine*. Edited by Richard Brilliant and Dale Kinney, 97-120. Farnham, U.K., and Burlington, VT: 2011, 116.

meaningless.⁷¹⁰ Beat Brenk emphasizes that moving *spolia* over great distances must be more important than the casual reuse of local ruins.⁷¹¹ Pisan sources emphasize the performative aspect - to move columns was a magnificent thing worthy of record.⁷¹² Whether or not the large scale reuse of antiquities was about propaganda or pragmatism, it was the kind of thing Mediterranean rulers did, and the Pisans must have known this.

A third thread in our story is *ablaq*. The term is Arabic, and signifies alternating light and dark masonry, a technique inherited from the architecture of late antiquity. It was not common in Fatimid architecture, but did show up in the mihrabs of some mosques, and on the impressive new gates of Cairo. After the late tenth century, the expanding Fatimid empire came to encompass several important monuments built with *ablaq* masonry.⁷¹³ These were the Dome of the Rock and the Great Mosque of Damascus, widely acknowledged as a wonder of the world.⁷¹⁴ The latter likely inspired the Great Mosque of Cordoba, where *ablaq* was perpetuated in continual rebuilding until the late tenth century.⁷¹⁵ At Cordoba, “the effect of alternation and polychromy... encased the message of Umayyad authority.”⁷¹⁶ This effect was conscious: Al-Hakam, aware that the mosque at Damascus had been built by Byzantine craftsmen, even requested that the “King of the Rūm” send him a “capable worker.”⁷¹⁷ It was understood in this way by the Christians of Spain as well, who seem to have used alternating *voussoirs* as a shorthand in illuminated manuscripts to designate the architectural settings of the impious - for

⁷¹⁰ Dale Kinney, “The Concept of Spolia,” in *A Companion to Medieval Art*, edited by Conrad Rudolph, 247-49. Oxford: 2006. She cites Thomas Raff, *Sprache der Materialien*, 9, 72-4, who argues that the material qualities of objects outweighed their role as reused objects, Philippe Buc, “Conversion of Objects,” who thinks that whether an object is reused or not is irrelevant to its political or mental associations, and Antje Krug, “Antike Gemmen,” 67, who notes that medieval individuals were themselves open to multivalent readings of objects.

⁷¹¹ Beat Brenk, “Spolia from Constantine to Charlemagne: Aesthetics versus Ideology,” *DOP* 41 (1987): 103-09.

⁷¹² For example, in the epitaph of Busketus, which states “Quod vix mille boum possent juga juncta movere,/Et quod vix potuit per mare ferre ratis,/Busketi nisu quod erst mirabile visu,/Dena puellarum turba levat onus.” Fisher, 171, dates this inscription to the second decade of the twelfth century.

⁷¹³ Later, under the Mamlukes, *ablaq* would become the dominant visual feature of Cairene architecture.

⁷¹⁴ E.g. by Tha’alibī, c.1030, Bosworth 119. The Dome of the Rock, due to difficulty of research access, has aroused much discussion. H. R Allen, “The Original Appearance of the Dome of the Rock” argues that the *ablaq* pointed arches of the inner annular arcade are the seventh century originals. See *Bayt Al-Maqdis. Jerusalem and Early Islam*. Edited by Jeremy Johns, 197-213. Oxford: 1999, 199-201.

⁷¹⁵ Dodds, J., *Architecture and Ideology in Early Islamic Spain*. University Park: 1990, 164, n.50; Jerrilynn Dodds, “Remembering the Crusades in the Fabric of Buildings,” in *Remembering the Crusades. Myth, Image, and Identity*, edited by N. Paul and S. Yeager, 99-124. Baltimore: 2012, 107.

⁷¹⁶ Dodds, “Remembering the Crusades in the Fabric of Buildings, 107.

⁷¹⁷ Muhammad Ibn Idhari al-Marrakushi, *Histoire de l’Afrique et de l’Espagne*, 2 vols. Leiden: 1848-51, v.2, 392.

example in the Morgan Beatus (fig 34). It was also used in close proximity to Cordoba, in the splendid palace-city of Medina al-Zahra, where it may still be seen in the reconstructed reception room. The Medina al-Zahra seems to have set the standard for the foundation of palace cities in the Islamic west, although its inspiration was Samarra in Iraq, and it had a precedent in the region at Visigothic Reccopolis (fig 35). It was followed near Qayrawān in Tunisia by Sabra al-Mansuriya, al-Qahira (Cairo) in Egypt, and Qal'at Beni Hammad, founded by the Hammadids in Algeria after their break from Zirid-Fatimid rule in 1014.⁷¹⁸ Of these little survives, but they must have exerted a major influence on the visual expression of power. Aspects of the later Norman Zisa in Palermo, for example, was based on the Zirid palace at Ashir (in Algeria), now lost, although the latter was more than twice as large.⁷¹⁹ In particular the palaces of the Fatimids in Cairo, which have been effaced by subsequent construction, were said by Nāṣer-e Khusrow to tower like a mountain.⁷²⁰ When Italians reached the thriving cities of the House of Islam, secular and religious examples of architectural splendour were offered them in splendid profusion (fig 36).⁷²¹

Among these examples, one in particular must have stood out: the Dome of the Rock in Jerusalem (fig 37). The identity of the Dome fluctuated in this era. The crusaders took it as the Temple of Solomon, an identification made as early as the pilgrim Bernard, who visited around 870. The Russian abbot Daniel, however, who was there in 1106, knew it was built by an Islamic Caliph.⁷²² Achard, prior at the Dome in 1118-31, claimed

⁷¹⁸ Barrucand, Marianne, and Rammah, Mourad. "Sabra al-Mansuriyya and her neighbours during the first half of the eleventh century: Investigations into stucco decoration," *Muqarnas* 26 (2009): 349-76 emphasize the Andalusian connection at the palace at Sabra.

⁷¹⁹ Henri Stierlin, *Islam. Early Architecture from Baghdad to Cordoba*, Cologne: 1996, 196; Lucien Golvin, "La palais de Ziri à Achir [dixième siècle J.C.]," *Ars Orientalis* 6 (1966): 47-76; Ursula Staacke, *Un palazzo normanno a Palermo: la Zisa, la cultura musulmana negli edifici del Re*, Palermo: 1991.

⁷²⁰ We know they were extensive; Nāṣer-e claimed that 12,000 hired servants worked in the palace, plus women and others for a total of 30,000. When Saladin took over, he evicted 12,000 people - more than the population of Pisa! Monneret de Villard, Ugo, *Introduzione allo studio dall'archeologia islamica*, Venice: 1966, 232. Nāṣer-e Khusraw, *Book of Travels*, 45.

⁷²¹ Sicily, of course, was the first place Italian travellers might have seen Islamic architecture, but nothing now survives from the pre-Norman era. The twelfth century, however, saw plenty of building that included Islamic elements. The Church of the Annunziata dei Catalani in Palermo, for example, displays stone inlays under an ablaq dwarf gallery on its apse. For the influence of palace architecture on Amalfitan examples, see Caskey, *Art and Patronage*, 82.

⁷²² He stated that it was founded by "a Saracen chieftain called Amor," i.e. Umar. Wilkinson, *Jerusalem Pilgrimage 1099-1185*, London: 1988, 132.

its builder was unknown, but he suspected Justinian, Saint Helena, or Heraclius.⁷²³ The importance of the Dome and the temple mount was new in our period, and some scholars have seen it as a consequence of the establishment of the Latin Kingdom.⁷²⁴ But it would seem that it was already becoming a focus of Latin interest before the first crusade, when it already had a sufficient profile for Urban to evoke it in his preaching of 1096.⁷²⁵ If Latin travellers could thus interpret as completely an Islamic building as the Dome of the Rock, then the idea of Christian or Muslim architecture was meaningless - a supposition reinforced by the cartography of the day, which shows the same schematic architecture in Africa as in Belgium.⁷²⁶ We may be sure that there could be no ideological barrier to any ornamental motifs, especially one as easily mobile as alternating voussoirs. Dodds notes that it was reproducible in whatever stone was locally available, while retaining much the same visual impact.⁷²⁷ The striped voussoirs of the arcade of the Dome of the Rock are one source for the same motif in romanesque architecture in Tuscany.⁷²⁸ San Sepolcro in Pisa, modelled after the Dome, has partial stripes (fig 38).⁷²⁹ The pointed arches of the same church, based on the oblate pointed arches in Jerusalem, were also new in Tuscany.⁷³⁰

⁷²³ Acardus de Arroasia, *Tractatus super Templo Salomonis*, in *Corona Querneae, Festgabe Karl Strecker*, edited by Karl Lehman; *Schriften der Monumenta Germaniae Historica* 6, Leipzig: 1941, 329. *Ibid.*, 329: Achard celebrated its "marble and mosaic," maintained by the infidels, and condemned the Christians who plundered its treasures.

⁷²⁴ Hugh Nibley, "Christian Envy of the Temple," *Jewish Quarterly Review* 50 (1959-60): 119-20; Sylvia Schein, "Between Mount Moriah and the Holy Sepulchre: the Changing Traditions of the Temple Mount in the Central Middle Ages," *Traditio* 40 (1984): 175-195, 177.

⁷²⁵ According to Baudri of Bourgeuil, Balderic of Dol and Ekkehard of Aura. Baudri of Bourgeuil, *Historia Hierosolymitana* IV, *Recueil des Historiens des Croisades. Historiens occidentaux*; Baldrici Dolensis *Historia Jerusalem* (RHC HOcc 4.11); Ekkehard Abbatis Uraugiensis, *Hierosolymita* (RHC HOcc 5.14).

⁷²⁶ For example, in the map in the Saint-Sever Beatus.

⁷²⁷ Dodds, "Remembering the Crusades," 118.

⁷²⁸ Conversely, Marco Franzini has suggested that ablaq arose from difficulties in acquiring sufficient building supplies. "La ripresa, in epoca medievale, dell'estrazione del marmo nella Toscana costiera," *Acta Apuana IV-V Carrara*: 2005, np. This idea founders on the fact that it is the more prestigious monuments, i.e. the better supplied, that make the most use of ablaq masonry.

⁷²⁹ Christine Smith suggests that the original exterior walls of San Sepolcro may have originally featured the grey ablaq common to other Pisan churches: *Baptistry*, 221. One might add that the pilasters of the two extant portals of San Sepolcro feature simplified acanthus capitals that resemble those of the Dome's porches, and that a classisizing fragment featuring vegetal relief reminiscent of the Dome's mosaics has been set into the church's exterior - but both these features are generic around the Mediterranean. The Venetians likely copied the Dome as well, when they refashioned Santa Fosca at Torcello with an exterior arcade in the twelfth century: D. Howard, "Venice as Gateway to the Holy Land: Pilgrims as Agents of Transmission," in *Architecture and Pilgrimage, 1000-1500. Southern Europe and Beyond*, edited by Paul Davies, Deborah Howard and Wendy Pullan, 87-113. Farnham, UK: 2013, 103.

⁷³⁰ But not in Italy, for they had already appeared at Montecassino and Amalfi, *inter alia*, in which it had arrived from North Africa. Lynn White, Jr., "Cultural Climates and Technological Advance in the Middle Ages," *Viator* 2 (1971): 171-202, 183-84;

With one exception, ablaq masonry did not appear in Latin Christendom until the eleventh century, when we find it Salerno, in Tuscany, and Sicily.⁷³¹ All of these display alternating bands of hewn stone, as in the Islamic examples, and not stone alternating with brick, which was used in Byzantium.⁷³² Banded voussoirs or arches are found in Pisa on the flanks of San Matteo (its original facade was destroyed in the seventeenth century), the fragmentary facade of San Nicola, on the northern portal (now filled in) of San Pietro in Vinculis, both on the exterior and interior rotunda of San Sepulcro, on the upper register of the facade of San Frediano, and on various locations on the Duomo, such as the window flanking the portal of San Ranieri, and the blind arcades of the south transept (fig 39).⁷³³ It went on to have a long heritage, especially in Sardinia.

Looking at the Pisan stone intarsias in more detail, it is interesting that some motifs do show up elsewhere (fig 40). For example, the device of filling spandrels with inlaid stone patterns, used at Pisa, is also found at the Al-Zaytuna mosque in Tunis (fig 41). And the green, white, and red herringbone ornament found on windows on the apse and south transept of the Duomo of Pisa also appears in the Great Mosque of Damascus.⁷³⁴ Indeed, these monuments, together with the Dome of the Rock, seem to share both ablaq masonry and also stone inlay ornaments with Pisa. Other geometric stone roundels appear on the minarets of the mosque of Al-Hakim.⁷³⁵

⁷³¹ The exception is Charlemagne's palace chapel. Greenhalgh, *Marble's Past*, 353, suggests it may have been inspired by Cordoba, although no longer extant Roman buildings are also possible. A likely Sicilian example is the Cuba, which probably dates c.1080-1131: Charles E. Nicklies, "The Church of the Cuba," *Muqarnas* 11 (1994): 12-30, 26.

⁷³² Although it was much less common in the Middle Byzantine Era. See discussion in Jerrilynn Dodds, *Architecture and Ideology in Early Medieval Spain*, University Park, Pa., and London: 1990, 95, 164-165, n.50.

⁷³³ Further examples may be found from later in the twelfth century, such as San Paolo Ripa d'Arno, San Paolo all'Orto, on the facade of the extra-urban San Casciano in Calci, and the main portal of San Giovanni ed Ermalao. There are also a few Florentine examples, most famously San Miniato, but also San Stefano al Ponte in Florence, whose portal with its mihrab-like enclosure and banded masonry (with matching bifores) dates from either the eleventh or (more likely) twelfth century. It is interesting that the entire Piazza dei Miracoli in Pisa ended up an image of the temple mount, albeit rotated 180°, with the Leaning Tower corresponding to the Dome of the Ascension, and the Camposanto to Al-Aqsa.

⁷³⁴ Where it was perhaps a reference to the Ka'ba, which Al-Walīd had clad in marble of those colours: Finbar Flood, "Light in Stone. Commemoration of the Prophet in Umayyad Architecture," in *Bayt Al-Maqdis. Jerusalem and Early Islam*. Edited by Jeremy Johns, 311-359. Oxford: 1999, 317. We find the herringbone repeated again at St. Marcarius in the western desert in Egypt, painted on as a fresco, and in a mosque in Cairo founded by two Fatimid noblewomen: Jonathan M. Bloom, "The Mosque of the Qarafa in Cairo," *Muqarnas* 4 (1987): 7-20, 7. Other no longer extant monuments probably also shared these features, such as the 'Amr mosque in Fustat, which still had mosaics and polychrome marble in 997: Greenhalgh, *Marble Past*, 457; F. Flood, *The Great Mosque of Damascus: Studies on the Makings of an Umayyad Visual Culture*, Leiden: 2001, 19.

⁷³⁵ Creswell, *Muslim Architecture of Egypt*, Oxford: 1952, v.1, fig.36. Also reproduced in Jonathan Bloom, "The Mosque of al-Hakim in Cairo," *Muqarnas* 1 (1983): 15-36, 17.

The Pisan romanesque is unusual in the specificity of its badges. The lozenge within the blind arch is its unequivocal marker, born by almost all its exemplars (the exception in the city is S. Sisto) (fig 42). No other regional family of architecture is so clearly emblazoned. The motif would become common in the wake of Pisan success, not only in Tuscany but in Sardinia, Corsica, and along the Via Traiana in Apulia, the latter perhaps stimulated by connections amidst the ecclesiastical personnel of the two regions.⁷³⁶ The motif appears on the oldest portions of the basilica at Siponto, which may date from the 1040s, i.e. slightly after San Matteo in Pisa, and whose resemblance to a mosque is conspicuous (fig 43).⁷³⁷ However, it is otherwise foreign to the lexicon of the Romanesque in this era. But lozenges may be found in the decade prior to the first Pisan examples on monumental portal of the mosque of Al-Hakim in Cairo, where - as in Pisa - they enclose geometric ornament (fig 44).⁷³⁸ It is possible to adduce a genealogy for the lozenge ornament in the Levant, where in the early middle ages it appeared in the synagogue of Dura Europos, and on pilgrim vessels from Jerusalem that seem to have been used by Christians, Jews, and Muslims.⁷³⁹ We also find the motif on the portal of the Umayyad palace of Qasr al-Hayr al-Gharbi, a possible inspiration for Al-Hakim, if such is needed.⁷⁴⁰ But these could hardly weigh on our Pisans, while the mosque was the most prestigious foundation of the sea's largest and richest city, which was also the source of

⁷³⁶ This is the suggestion of Evelyn Jamison, "'Pisan Churches' on the Via Traiana," *The Journal of the British Archaeological Association* (1930): 163-188. Earlier researchers sought, but failed to find, possible common origins for the style in Byzantine architecture. Adolfo Venturi, *Storia dell'arte italiana*, III, Milan: 1903, 499-500;

⁷³⁷ Tessa Garton, *Early Romanesque Sculpture in Apulia*, New York and London: 1984, 123, thinks that, although the basilica at Siponto was consecrated in 1117, it may date as far back as the 2nd quarter of the eleventh century, when the city was elevated to archepiscopal status. The old portal at Siponto, with a central portal flanked by four blind arcades, each containing a lozenge relief, matches the portal arrangement at Al-Hakim, while its low, almost windowless facade, articulated only with arches, would not look out of place almost anywhere in Tunisia.

⁷³⁸ It is certainly co-incidence, but may nonetheless have impressed itself on visiting Pisans, that Al-Hakim's mosque occupied a similar location - on a northern corner of the wall's circuit - in Cairo that the duomo did in Pisa.

⁷³⁹ Julien Raby, "In Vitro Veritas. Glass Pilgrim Vessels from 7th-Century Jerusalem," in *Bayt Al-Maqdis. Jerusalem and Early Islam*. Edited by Jeremy Johns, 113-190. Oxford: 1999.

⁷⁴⁰ The portal is now in the National Museum of Damascus. The geometries of the facade of another Umayyad palace, at Mschatta, have been compared to the duomo at Pisa: Josef Strzygowski, "Mschatta," *Jahrbuch der Preussischen Kunstsammlung* 25 (1918): 205-373. Creswell, however, attributed the portal carving at Al-Hakim to local artisanal tradition: *Muslim Architecture of Egypt*, v.1, 69.

much of the lustreware with which they ornamented their churches.⁷⁴¹ The lozenges, although themselves not common, do partake in a general tendency towards framing decorative medallions in blind arches that is common to much of the Mediterranean, although not to Italian romanesque architecture.⁷⁴² The *mihrabs* of several major mosques in Ifriqiya, for example al-Qasr in Tunis and the congregational mosques in Monastir and Sousse, present an aspect not foreign to the cladding of the Pisan churches (fig 45). Such examples may have once been much more widespread, for Ibn Jubayr speaks of seeing ornaments like a vertically stretched mihrab worked in stucco.⁷⁴³ It is not impossible that the exterior of the mosque of al-Hakim was so ornamented.⁷⁴⁴ Later, similar medallion devices would appear elsewhere in the Tyrrhenian, for example on the church of S. Maria dei Catalani in Palermo (fig 46).

The portico of the Salerno atrium, ornamented with geometric stonework, ablaq, and spolia and surmounted by a clerestory and a square tower, would have seemed familiar to a visitor from the House of Islam, such as Constantine the African, who might have seen something similar in prestigious contemporaneous mosques, such as Al-Aqsa in Jerusalem, Al-Azhar in Cairo, the great mosque of Damascus, Al-Zaytuna in nearby Tunis, and others now lost to us.⁷⁴⁵ Constantine may have attended the lectures of the physician Ibn al-Haitham by the entrance of the mosque of Al-Azhar, presumably

⁷⁴¹ Cutler, following Krautheimer, has emphasized that the immediate source of an image or motif usually outweighs a more distant antecedent. Anthony Cutler, "Byzantine Art and the North: Meditations on the Notion of Influence." In *Byzantium: Identity, Image, Influence. Major Papers XIXth Conference of Byzantine Studies, University of Copenhagen, 18-24 August 1996*, edited by Karsten Fedelius, 169-182. Copenhagen: 1996, 169; *ibid.*, "Misapprehensions and Misgivings: Byzantine Art and the West in the Twelfth and Thirteenth Centuries," *Mediaevalia* 7 (1981): 41-77. Richard Krautheimer, "Introduction to an 'Iconography of Medieval Architecture,'" *Journal of the Warburg and Courtauld Institutes* 5 (1942): 1-33. The importance of the mosque at the time: "The major architectural monument of a time already notable for its prosperity." Bloom, "Mosque of al-Hakim," 15.

⁷⁴² And it is interesting that while elements of the Pisan style of architecture penetrated as deep into Tuscany as Arezzo, the lozenges appear no further inland than Lucca.

⁷⁴³ Ibn Jubayr, *Rihla*, 83, quoted in Bloom, "The Mosque of al-Hakim in Cairo," *Muqarnas* 1 (1983): 15-36, 23.

⁷⁴⁴ In fact, enormous amounts of stucco work is lost, for example that which adorned the Lulua mosque in Cairo (erected 1015/16). The small amounts that survive, for example at the mosque of Al-Salih Tala'i, are impressive enough. The palace city at Sabra, from which the Zirids ruled Ifriqiya until the calamity, was decorated in stucco, now entirely lost: Slimane Mostafa Zbiss, "Mahdiya et Sabra-Mansouriya: Nouveaux documents d'art fatimide d'Occident," *Journal Asiatique* 244 (1956): 79-93. For discussion of stucco in this period, see Jill Caskey, "Stuccoes from the Early Norman Period in Sicily: Fabrication, Figuration, and Integration" *Medieval Encounters* 17 (2011): 80-119.

⁷⁴⁵ Such as the enormous mosque of 'Amr in Fustat, which according to Al-Muqaddasi, was bigger than the great mosque of Damascus, and had marble columns: Muqadasi, *Best Divisions*, 168. For Tunis, see L. Golvin, "Note sur les coupes de la Grande Mosque al-Zaytuna de Tunis," *Revue de l'Occident musulman et de la Méditerranée* 2 (1966): 100-05.

meaning in its atrium, which casts an interesting light on the tradition that the medical school at Salerno began with lectures in the atrium of Salerno's cathedral.⁷⁴⁶ We have already seen how Pisa's heteroclitic tower may have aped the minaret of Qayrawān, and its churches the surface decoration of the mosque of al-Hakim. We may understand an entire Tyrrhenian zone, anchored by the maritime cities, of Italian-Islamic architecture, in which the characteristics discussed above - stone inlay work, atriums, spolia, and ablaq - although sometimes of Roman inspiration, were mediated by the example of the more up-to-date Islamic world.⁷⁴⁷ This zone may also have included Gaeta, whose duomo was rebuilt in the mid-eleventh century, but later lost to earthquakes, and whose tower would look out of place nowhere on the North African coast.⁷⁴⁸ It may be correct to see in these Latin foundations at least a partial link between the lost architecture of Islamic Sicily and that of the Normans. None of this is to detract from the *romanitas* of the buildings, which appears incontrovertible. The point is more that this avenue of Roman revival was part of a continuum that had begun centuries earlier on other Mediterranean shores, and that its development in Italy represents less a new phenomenon than the perpetuation or maintenance of the Mediterranean's common visual language.

Moreover, this architecture parallels another revival, that of medicine. The same protagonists - Alfanus, Desiderius - presided over the translation of medical texts from Islamic sources. But crucially, they didn't represent it as such. In Constantine the African's adaptation of Al-Majūsī, amendments are made for a Latin audience: characters in the text like 'Umar' and 'Zaid' become 'Socrates' and 'Plato.'⁷⁴⁹ Alfanus perhaps intended to revive the knowledge of Greece, and translated Greek texts himself, but he

⁷⁴⁶ Ibn Abi Usaiba, 703; James D. Breckenridge, "The Two Sicilies," in *Islam and the Medieval West, Volume 2*, edited by S. Ferber, 39-60. Binghamton: 1975, 50.

⁷⁴⁷ This is the implication of the comparisons made in Charles E. Nicklies, "The Church of the Cuba near Castiglione di Sicilia and Its Cultural Context," *Muqarnas* 11 (1994): 12-30.

⁷⁴⁸ We hear about donors to the rebuilding effort in the documents, such as *Codex Diplomaticus Caetense* I#191, which mentions a Stephen son of John, who received a burial site in the portico - presumably new - in return for his donation.

⁷⁴⁹ Charles Burnett, "*Verba yprocratis preponderanda omnium generum metallis*. Hippocrates *On the Nature of Man* in Salerno and Montecassino with an edition of the chapter on the elements in the *Pantegni*," in *La scuola medica Salernitana. Gli autori e i testi*, edited by Danielle Jacquart and Agostino Paravicini Bagliani, 59-92. Florence: Sismel, 2007, 64, 90.

ended up with doctors from Muslim North Africa.⁷⁵⁰ It is reasonable to suppose, then, that the *romantias* sung by Alfanus was more rhetoric than reality, and just as Arabic names in medical manuscripts, and on maps, were occluded by classical references, any architectural practices derived from Islamic regions were likewise attributed to antiquity.

A great deal of research has been done on the origins of the *bacini*. The preceding has, in a summary fashion, attempted to likewise position the other aspects of Pisa's architecture. To sum up, the elements of architectural ornament that arose in the eleventh century in Pisa were either without precedent in Italy or exceedingly rare - but all could be found overseas. Origins, however, provide only a baseline point of reference. It is more valuable to consider objects according to their deployment and use by local viewers in their own contexts.⁷⁵¹ As such, I have analyzed the *bacini* not in terms of the intentionality of their patrons, but in terms of community and change, unconscious affiliation, and "between men and buildings."⁷⁵² As the entire complex of the Pisan style mirrors the specific case of the *bacini*, I suggest that the architecture as a whole probably operated in the same way. My interpretation is not exclusive of others, not should it be, for there is no reason to think that any aspect of this material culture did only one thing.

CONCLUSION: MEDIA EXCHANGED

The literature on figurative architectural ornament outweighs that on the non-figural. This is to be expected; representational art is easier to talk about. That need not mean it was more important. Such considerations are especially important in Pisa, where aniconic ornament predominated until the mid-twelfth century. Inasmuch as a Pisan aesthetic existed, it was in tension between a sort of local *urbanitas* and the ultra-urban

⁷⁵⁰ Danielle Jacquart and Françoise Micheau, *La Médecine arabe et l'occident médiéval*, Paris: 1990, 99-101, note that it was the recovery of Greek medicine that animated the scholars at Salerno and Montecassino. Nonetheless, what they got was from the Arabic. For the convergence of translation between Arabic and Greek under Alfanus, see Charles Burnett, "Verba ypocratis preponderanda omnium generum metallis. Hippocrates *On the Nature of Man* in Salerno and Montecassino with an edition of the chapter on the elements in the *Pantegni*," in *La scuola medica Salernitana. Gli autori e i testi*, edited by Danielle Jacquart and Agostino Paravicini Bagliani, 59-92. Florence: 2007.

⁷⁵¹ An approach currently popular, eg. Michele Bacci, "Veneto-Byzantine Hybrids," and Marian Bleeke, "Sheelas, Sex, and Social Significance in Romanesque Sculpture," *Studies in Iconography* 26 (2005): 1-26.

⁷⁵² Oleg Grabar, *The Iconography of Islamic Architecture*, 85-86.

Mediterranean, whose material culture must have been ambiguous in meaning but freighted with significance. The *bacini*, solid testaments to a richer world beyond the sea, embodied this process. It is apparent that sometime in the early eleventh century, they became fashionable in Pisa. We do not know how the fashion began. Two possibilities are the ransom paid by Mujāhid for his son, or via the agency of the wealthy Albizone, who inserted them in his church on the Arno. Subsequently a trend of some sort took off, and the display of imported dishware became a badge of Pisa's church building elite.⁷⁵³ The fad was consolidated at the duomo, whose role as civic monument and cenotaph could only propagate it further. Eventually it spread to the provinces, and subsequently out of favour. Although some historians have seen the *bacini* as more-or-less meaningless chromatic ornament, we have seen that other explanations are possible. Such possibilities interpret the unique assemblage of the *bacini* not solely as evidence but as emblems of Pisa's unique place in the Mediterranean network. Embedded prominently on the walls of the city's great monuments, they play a paradoxical role: they testify both to the importance of transmarine links, and the domestication of that ambiguous exoticism within the fabric of the city.

⁷⁵³ The Bandwagon Effect is the "extent to which the demand for a commodity is increased due to the fact that others are also consuming the same commodity." H. Leibenstein, "Bandwagon, Snob, and Veblen Effects in the Theory of Consumers' Demand," *The Quarterly Journal of Economics*, 64, 2 (May, 1950): 183-207, 189.

MOBILITY AND MATERIAL CULTURE ACROSS THE MEDITERRANEAN NETWORK

“Art and ceremony, gesture and rituals, were its primary modes of expression.”⁷⁵⁴

In chapter one we looked at the means of transmission of material objects, and in chapter four at what the Pisans did with some of those objects once they arrived in Tuscany. In the process, we noted several parallels between the material cultures of Pisa and Islamic regions, on the understanding that a relationship exists between these cultures. But to find objects or motifs of apparently Islamic origin in Pisa is an elementary task. As Deborah Howard points out, the process of visual matching is the easy part.⁷⁵⁵ However, just because something can move, doesn't mean it will, and in this chapter we must look more closely at the mechanisms that propelled the “things that travelled” through the network.

There are different reasons styles or motifs of art or architecture might be propelled across the sea. Historians have assumed that chief among them is the principle of substitution, in which local structures stand in for distant. There is a degree to which almost all medieval buildings partake in this mechanism: every church choir is paradise, every congregation Jerusalem. But, as Krautheimer long ago argued, the specific iconography of architecture might also derive from far-away exemplars, in order to exploit their spiritual or symbolic resonance in a new context. Such copying need only approximate the original, in its “general pattern and its implications” in order to achieve ends that were essentially performative and spiritual.⁷⁵⁶ Thus the essential characteristic of the Church of the Holy Sepulchre - that is, the Anastasis rotunda - was reproduced across the Latin west to create an architectural “type” that was recognized as referring back to its original. This mode of transmission, often only implicit, was occasionally

⁷⁵⁴ Henry Mayr-Harting, *Church and Cosmos in Early Ottonian Germany*, Oxford: 2007, 193.

⁷⁵⁵ Deborah Howard, “Venice and Islam in the Middle Ages: Some Observations on the Question of Architectural Influence,” *Architectural History* 34 (1991): 59-74, 60.

⁷⁵⁶ Richard Krautheimer, “Introduction to an “Iconography of Medieval Architecture””, in *Studies in early Christian, Medieval, and Renaissance Art*, London: 1971, 115–50, 121.

clearly expressed in our period. We read in the early eleventh century *Vita Beati Bononii*, that the church of Santo Stefano in Bologna was built “in imaginem Palestinae.”⁷⁵⁷ Around 1030, Bishop Meinwerk of Paderborn (1009-1036), desirous of copying the Anastasis in his see, dispatched Wino von Hemarshausen to Jerusalem in order to ascertain its proportions.⁷⁵⁸ In Pisa, we do not have such texts, but the circular church of San Sepolcro, a building erected just after the first crusade, clearly derives both from its eponym and the Dome of the Rock. Perhaps the same is true of the little chapel of Sant’Agata. These are easy to see as dry runs for the Pisa’s baptistry, which Krautheimer identified as the most perfect copy of the sepulchre. In addition to structural types, the decorative cycles of churches were also subject to the process of copying and reconfiguring, with Saint Peter’s in Rome operating as a prestigious exemplum in this period.⁷⁵⁹ It is another question, however, whether the aniconic decoration of Pisa’s churches was propelled by a similar process of imitation, intended to invest a copy with spiritual resonance.

A related approach to architectural transmission hinges on power relations. Such long-range architectural copying is sometimes carried out by deliberate policy. Crossley cites the case of President Truman’s intention to rebuilt American embassies worldwide in the form of the White House, an ambition unrealized, but not implausible - as reproductions of Britain’s parliament buildings in Canada, Australia and other former colonies suggests.⁷⁶⁰ It is likely that later in the twelfth century, Pisan-style churches were built in Corsica and Sardinia to similar ends. But we may assume that motifs in Pisa were not imposed by the Fatimids as a marker of their long-range ambitions. For while the Fatimids were a uniquely proselytizing regime, their active propaganda was aimed at fellow Muslims, and does not seem to have borne an architectural dimension. Nor, indeed, should we imagine that the caliph Al-Hakim, for example, even knew Pisa

⁷⁵⁷ In Testi Rasponi. “Note marginali a Liber Pontificalis di Agnello,” *R. Deputazione di storia patria per le provincie di Romagna, Atti e memorie*, s.4, 1 (1911): 397-464, 403; Robert Ousterhout, “The Church of Santo Stefano: a ‘Jerusalem’ in Bologna,” *Gesta* 20, 2 (1981): 311-321.

⁷⁵⁸ *Vita Meinwerki episcopi Patherbrunnensis*, MGH, ed. G. H. Pertz, Hannover: 1854, ii.158ff..

⁷⁵⁹ William Tronzo, “The Prestige of Saint Peter’s: Observations on the Function of Monumental Narrative Cycles in Italy,” in *Pictorial Narrative*, edited by Herbert Kessler and Mariana S. Simpson, 93-115. Washington, D.C.: 1985.

⁷⁶⁰ Paul Crossley, “Medieval Architecture and Meaning: The Limits of Iconography,” *The Burlington Magazine* 130, 1019 (1988): 116-121, 116.

existed.⁷⁶¹ Their hegemony was propagated more passively through such means as uniformity of weights and measures, a uniquely strong currency, and Cairo-Fustat's place as metropolis of the Mediterranean - and these did have their effect, as we have seen. Here we should be aware that influence is not a one-sided process, as much recent scholarship warns us.⁷⁶² It is not only a question of the Fatimids constructing (or not) their hegemony, but of Pisans creating their own structures out of their relationship with the Islamic regions. But one thing the Pisans in our era did not possess, as Wickham says, was a coherent political policy, and as a corollary, we should not look for a deliberate scheme of visual propaganda.⁷⁶³

Nonetheless, in Pisa, Salerno and elsewhere, seemingly Islamic forms thrived. Eastmond discusses a parallel case from a few centuries later, in which Hagia Sophia in Byzantine Trebizond bore geometric intarsias and reliefs of apparently Islamic inspiration.⁷⁶⁴ Talbot Rice had interpreted these ornaments, which incorporated the star and crescent motif used by Turkish Islamic states, as trophies of Byzantine ascendancy over Islam.⁷⁶⁵ Here she was seemingly in line with Oleg Grabar's suggestion that in Byzantium, Islamic elements were incorporated when that state "felt strong enough to incorporate such exotic themes as seemed interesting."⁷⁶⁶ As a general principle, this seems right - modern sociologists have confirmed that cultures that feel endangered are more hostile to external cultural practices.⁷⁶⁷ This outcome is also visible in the post-Crusade reaction in the Muslim world. But this cannot be the whole story. Indeed, Eastmond demonstrated that the motifs on Hagia Sophia were not understood as explicitly Islamic at the time, although they later became so, and that they instead

⁷⁶¹ But it is worth remembering the letter attributed to Hassan-i Sabbah that mentions sailing to preach among the Franks.

⁷⁶² Robert S. Nelson, "Appropriation," in *Critical Terms for Art History*, edited by Robert S. Nelson and Richard Shiff, 160-173. Chicago and London: 2003; Kirk Ambrose, "Influence," *Studies in Iconography* 33 (2012): 197-206.

⁷⁶³ Wickham, *Sleepwalking*, 204.

⁷⁶⁴ Anthony Eastmond, *Art and Identity in Thirteenth-Century Byzantium. Hagia Sophia and the Empire of Trebizond*, Aldershot: 2004.

⁷⁶⁵ Tamara Talbot Rice, *The Church of Hagia Sophia at Trebizond*, Edinburgh: 1968.

⁷⁶⁶ As Eastmond, *Art and Identity*, 82, points out. Oleg Grabar, "Islamic Influence on Byzantine Art," in the *Oxford Dictionary of Byzantium*, Orford: 1991, 2, 1018-19.

⁷⁶⁷ e.g. Patricia Mollay, *Canada/US and Other Unfriendly Relations: Before and After 9/11*, New York: 2012, esp. 73-77; Linda J. Skitka, et al. "Dark Clouds and Silver Linings: Social Responses to 9/11," in *The Impact of 9-11 on Psychology and Education*, edited by Matthew J. Morgan, 63-80. New York: 2009, 73.

belonged to a ubiquitous vocabulary of shared ornament, and testified to “the enormous fluidity of people and ideas at all levels of society.”⁷⁶⁸ This suits the eleventh century Mediterranean as well, which like Anatolia was the scene of long term exchange between faiths. The example of Hagia Sophia is relevant because it bears ornament of the same genera as at Pisa: reliefs, intarsias, roundels, interlaces, all of which look Islamic to the casual observer. As at Hagia Sophia, the Islamicity of the ornament in Pisa may be doubted. On the other hand, the motifs adorning the churches of Pisa were not ubiquitous, but unique in Italy at the time, which highlights their intentionality. As Michelle Bacci puts it, with respect to material culture, “alleged ‘hybridization’ was always the final outcome of a selective process.”⁷⁶⁹

In the previous chapter I avoided seeking out iconographic or ideological meanings in Pisa’s visual culture. Without precise documentation - and often not even then - abstract ornament rarely supports specific ideological interpretations.⁷⁷⁰ And even if the *bacini* or the lozenges did have a specific meaning in the context of Cairo or Qaywaran, it is - as already noted - doubtful that it would be transferred to Italy. Indeed, things richly imbued with meaning are probably less transportable, and things with a low “iconographic charge” - to use Grabar’s term - more accessible.⁷⁷¹ We have seen how crosses were forbidden by some Islamic jurors; we may imagine that if the *bacini* were specifically Islamic, the Pisans would have been less keen to accumulate them, or if the lozenge reliefs suggested a mosque, they would not have deployed them on churches. But why, then, should such ornament be adopted at all? Obviously for reasons that have nothing to do with iconography. We are left with the conclusion that the Pisans imported a specific set of forms which were meaningless, yet served their purpose.

⁷⁶⁸ Eastmond, *Art and Identity*; 83, 91.

⁷⁶⁹ Michele Bacci, “Veneto-Byzantine “Hybrids”: Towards a Reassessment,” *Studies in Iconography* 35 (2014): 73-106, 102.

⁷⁷⁰ Finbarr Flood has argued, in certain contexts, for specific iconographic meanings to some of these medallions. Whether or not he is correct, it is unlikely that such interpretations could have made the shift to Pisa. See Finbarr Flood, “Light in Stone. Commemoration of the Prophet in Umayyad Architecture,” in *Bayt Al-Maqdis. Jerusalem and Early Islam*. Edited by Jeremy Johns, 311-359. Oxford: 1999, 324. For discussion on the general point, see Oleg Grabar, *The Mediation of Ornament*, Princeton: 1989.

⁷⁷¹ Oleg Grabar, “The Iconography of Islamic Architecture.” In *Early Islamic Art, 650-1100, volume I, Constructing the Study of Islamic Art*, 69-86. Hampshire: 2005, 74. First published in Priscilla P. Soucek, ed., *Content and Context of Visual Arts in the Islamic World*, University Park and London: 1988, 51-65.

In chapter one we saw that one of the most famous examples of transcultural material culture, the adoption of Islamic coinage in southern Italy, had a financial justification. It is hardly likely that the import of visual motifs and ornaments was similarly functional, but it is worth looking for motivations more complex than “il desiderio dell'Oriente.”⁷⁷² There are reasons beyond propinquity that the House of Islam had the impact it did. These reasons are simple enough, but not always sufficiently acknowledged. Namely, that economic disparity has consequences outside the narrow definitions of trade and commerce.

A principle introduced earlier is that of commensals, or fellow travellers. The transfusion of money or power brought along with it cultural baggage, expressed in the material culture of the period. This way of putting it sounds passive, but it was not. It was, rather, the complex outcome of what were probably difficult negotiations of culture and identity, even if they cannot usually be recovered. The Pisans did not embark on maritime adventures to find new artistic motifs, but to get rich. Wealth however is not transparent. It is expressed in things. And things have associations, which may travel with them.

SOCIAL MECHANISMS

We have seen that through a process of value formation across cultural boundaries the *bacini* became legitimate and desirable in Pisa. Legitimacy and desirability are cultural productions, and therefore somewhat arbitrary, in that they are “material accomplishments that involve interdependent networks of human and non-human actors, rather than... monolithic or static canons.”⁷⁷³ The *bacini* are a remarkable example, but whatever social processes gave rise to their legitimacy and desirability probably guided the flow of other objects around the Mediterranean. It will be useful to consider the social mechanisms behind such circulation. To begin with, these goods are to a greater or lesser

⁷⁷² Peduto, “Materiali Arabo-Islamici nella Ravello del secolo XIII,” 469.

⁷⁷³ Jennifer Smith Maguire and Julian Matthews, “Are we all cultural intermediaries now? An introduction to cultural intermediaries in context,” *European Journal of Cultural Studies* 15 (2012):551-563, 558.

degree luxuries. “Luxury is a necessity that starts where necessity stops,” is an epigram often attributed to Coco Chanel.⁷⁷⁴ It is to the point, in that in most societies humans devote resources to un-necessities as soon as their necessities are met. It also nicely characterizes the scene in the Latin west from the late tenth century, in which demographic and social growth had reached a stage in which luxuries began to be normalized. The meaning of necessity and luxury have been subject to quibbles as far back as Adam Smith.⁷⁷⁵ Medieval churchmen would have defined as necessary rituals that others might consider superfluous, and may have similarly viewed the liturgical accessories that were employed in their celebration. For example, Gregory VII wrote to reprimand a bishop who dared to make the holy chrism not from balsam but butter.⁷⁷⁶

Research has shown that necessity and luxury are understood not in absolute but in relative terms. That is, luxury depends on social context. An implication is that standards of luxury are never static. In order to be sustained, luxurious living must surmount itself. Once you start importing foreign luxuries, it is difficult to stop, for they establish the standards by which luxury is judged. In the world of gift-giving, for example, the mobility of gifts stimulated demand for more of the same.⁷⁷⁷ Not coincidentally, social prestige or status, which is a construct that is relative by definition, works in a similar way. A key observation is that status derives from assumptions made by others in the community.⁷⁷⁸ Of course, the details of any individual or institution’s power or wealth are not usually known – sometimes, in the uncertain climate of the middle ages, not even to

⁷⁷⁴ The poet Pierre Reverdy issued a set of maxims, which he attributed to Chanel, in a rather self-conscious imitation of La Rochefoucauld. It is not clear who in fact wrote them. Isabella Alston, *Coco Chanel*, Charlotte, NC: 2014, 44; Clive James, *Cultural Amnesia*, New York: 2007, 111.

⁷⁷⁵ In 1841, Julian Jackson noted, in opposition to Adam Smith and Hume, “that every object of consumption is either necessary or superfluous; the extremes are well-known, but it is difficult to determine when necessity ends, and superfluity begins.” *What to Observe, or, The Traveller’s Remembrancer*, London: 1841, 352. A Pew Research Center Report from 2006 tells us that more than two-thirds of Americans consider cars, clothes washers, and driers basic necessities. *Luxury or Necessity? Things We Can’t Live Without: The List Has Grown in the Past Decade* at <http://pewresearch.org/files/old-assets/social/pdf/Luxury.pdf>

⁷⁷⁶ Gregory VII, *Das Register Gregors VIII*, ed. Erich Caspar, MGH ES 2, Berlin: 1920, VIII.1.

⁷⁷⁷ This happened in other times and places, as in seventeenth century SE Asia, where “elite desire for European commodities” was stimulated by diplomatic gift-giving: Rosemary Crill, “Visual Responses: Depicting Europeans in South Asia,” in *Encounters: The Meeting of Asia and Europe 1500-1800*, edited by Anna Jackson and Amin Jaffer. London: 2004, 192.

⁷⁷⁸ See discussion in Norman Ireland, “On Limiting the Market for Status Signals,” *Journal of Public Economics*, 53 (1994): 91-110; Amihai Glazer and Kai Konrad, “A Signaling Explanation for Private Charity,” *American Economic Review*, 86 (1996): 1019-1028; Laurie Simon Bagwell and B. Douglas Bernheim, “Veblen Effects in a Theory of Conspicuous Consumption,” *American Economic Review*, 86 (1996): 349-373.

their owner. As such, observers make assumptions based on what they can see, which is visible consumption. In other words, looking rich is an important part of social status. This basic socioeconomic calculus explains the longstanding emphasis on guest-rights, hospitality, and charity in the medieval period (and others), as these functions are invariably the most visible to the community at large.

Visibility, luxury production and prestige come together in the concept of conspicuous consumption, a facile label for a social phenomenon both global and millennial. A certain reluctance to acknowledging its importance may be put down to bias that is beyond the remit of this study. That humans desire rank and prestige, and to display the wealth it entails, is one of the oldest assumptions of economic thought.⁷⁷⁹ The second part of this assertion was formalized in the nineteenth century by Veblen, upon whose work all subsequent theories of conspicuous consumption have rested. His observation that “consumption is evidence of wealth, and thus becomes honorific, and ... failure to consume... a mark of demerit,” still serves.⁷⁸⁰ Given that status is so inextricably linked to visible consumption, it is important for the wealthy to demonstrate it to the community. We have seen that in Pisa, the group we call merchants were important. To be associated with that group must have conveyed status, and therefore modes of signalling arose to convey such associations - the imported *bacini*.⁷⁸¹

Conspicuous consumption is relative. An insight helps contextualize our picture: that the broader the income distribution in a population, the more conspicuous consumption is necessary. That is, the more poverty, the more people or institutions spend to distinguish themselves from the poor.⁷⁸² Likewise, the greater the status gains to be

⁷⁷⁹ Adam Smith, *Theory of Moral Sentiments*, London: 1790, 6th ed., 121.

⁷⁸⁰ Thorstein Veblen, *The Theory of the Leisure Class: An economic study of institutions*, London: 1899. Sixth edition, 1915, 74.

⁷⁸¹ Paolo Peduto makes a like observation of Amalfi's elite in “Materiali Arabo-Islamici nella Ravello del secolo XIII,” in *Presenze araba e islamici in Campania*, edited by A. Cilardo, 467-72. Naples: 1992. For a modern example of such signalling, see the discussion in Francis Bloch, Vijayendra Rao and Sonalde Desai, “Wedding Celebrations as Conspicuous Consumption: Signaling Social Status in Rural India,” *The Journal of Human Resources* 39, 3 (2004): 675-695.

⁷⁸² Kerwin Kofi Charles, Erik Hurst, and Nikolai Roussanov, “Conspicuous Consumption and Race,” *The Quarterly Journal of Economics* 124, 2 (2009): 425-467. These authors found that poorer social groups in the contemporary United States spend proportionally more on conspicuous consumption.

made via consumption.⁷⁸³ This is why consumption is more conspicuous in poor countries and less so in rich ones, where the status gains to be made from consumption are flatter. It is possible to extract evidence for this phenomenon from the sources of our period. At the extreme end, Ibrahim ibn Ya'qub al-Tartushi (d. c.999) roundly denounced the massive inequality he observed between the chariot-ensconced kings of the Slavs and their miserable subjects.⁷⁸⁴ Conversely, we find that in rich regions such consumption may be less conspicuous. In Siraf in the tenth century – the highpoint of that port's prosperity – we hear of a millionaire trader who dressed like a regular citizen.⁷⁸⁵ Likewise in Shiraz, a black woollen cape was worn by rich and poor alike.⁷⁸⁶ And of course, bishops in Constantinople were not ashamed to serve their own tables and open their own doors. Conspicuous consumption may therefore have been more important in the Latin west in our period – certainly al-Tartushi was taken aback by the external display of church ornaments at Fulda.⁷⁸⁷ Labour, as we have seen, was cheap: luxury had to be expressed in other ways. For our purposes, the most important of these was via goods imported through such ports as Pisa, Amalfi or Gaeta.

We know that the concept of exclusive luxury did exist in our era, as Hoffman and Freedman have both emphasized.⁷⁸⁸ In the House of Islam, locally produced frankincense and myrrh were depreciated in favour of exotic musk and camphor.⁷⁸⁹ Textiles made in Al-Andalus might bear a false marque of faraway Baghdad. Peter Damian complained

⁷⁸³ Andrew E. Clark, Paul Frijters and Michael A. Shields, "Relative Income, Happiness, and Utility: An Explanation for the Easterlin Paradox and Other Puzzles," *Journal of Economic Literature*, 46, 1 (2008): 95-144.

⁷⁸⁴ Semen Rapoport, "On the Early Slavs: the narrative of Ibrahim ibn Yakub" *The Slavonic and East European Review* 8 (1929): 331-341, 341.

⁷⁸⁵ Al-Iṣṭakhri, 1870, 127, 139. This observation goes far to explain an otherwise perplexing phenomenon: that evidence of conspicuous investment in splendid objects does not always correspond to increases in overall wealth in historic regions. For example, the most splendidly carved funerary monuments from Siraf date from 975-1067, a century of decline in that city, which suggests it was becoming more necessary to distinguish rich from poor: N. Lowick, *Siraf XV: The Coins and Monumental Inscriptions*. London: 1985. Likewise, in the years following the collapse of the Umayyad regime in Al-Andalus, the disparate taifa courts likely spent more on visible consumption. A more famous example can be found in the Italian renaissance, when the magnificence of such cities as Florence reached its height after the decline of independent wealth of their oligarchs.

⁷⁸⁶ Al-Muqaddasī, *Best Divisions for Knowledge of the Regions*, trans. Basil Collins. Reading, U.K.: 2001, 6.

⁷⁸⁷ A. Miquel, "L'Europe occidentale dans la relation arabe d'Ibrahim b. Ya'qub (Xe siècle)." *Annales ESC* 21 (1966): 1048-1064.

⁷⁸⁸ See discussion of this phenomenon, in the context of court culture, in Hoffman, "Pathways of Portability," 25-26. With respect to aromatics, Freedman, *Out of the East*, 7, 43.

⁷⁸⁹ King, *Musk Trade*, 1-2.

that among the rich of Italy, domestic goods were despised in favour of things “transmarina... purchased at high prices.”⁷⁹⁰ Theophilus is plaintive in his plea that local products should be treasured as much as foreign things. If good things can be acquired at home, he argues, then there should be no need to “voyage over lands and seas to procure foreign things... men are accustomed to place in the first rank precious things that are sought with much toil and acquired with great expense, and to look after them with great solicitude.”⁷⁹¹

Such cosmopolitanism is an elite habit: Esperanza Alfonso notes that eleventh and twelfth century panegyrics “reduce cultural otherness to the minimum” by portraying a homogenous world of upmarket superiority.⁷⁹² One might make a like observation about the aesthetic vocabulary of the time. This is not simply a matter of literature. Theophilus overlooks the reality that the exoticness of foreign goods was itself a register of value - or perhaps rejects it as actively sinful, as Gerard of Aurillac did.⁷⁹³ Elite consumption habits often both presuppose and perpetuate a cosmopolitanism that serves to distinguish rich from poor.

STATUS AND EMULATION

Consumption delimited status, and in turn provided avenues of emulation. Cluny and its brand of monasticism was a large-scale exercise in status consumption. The supposed excesses of Cluny have animated modern historians, for they were a focus of debate, and a spur to reform, in the twelfth century. Saint Bernard’s condemnation of the “deformed beauty” of the cloisters is well known, but he was even harsher on the resplendent objects of the church *ornatus*.⁷⁹⁴ A twelfth century illuminator illustrated his opinion by putting

⁷⁹⁰ Peter Damian, Epistola prima, *AD S. R. E. Episcopos Cardinales*, PL 144 0254C; *Quod divitiae non appetantur ad indigentiam, sed ad luxum*, cap.vi, PL 145 0538B.

⁷⁹¹ Theophilus, *De diversis artibus*, cap.3, 1961.

⁷⁹² Esperanza Alfonso, *Islamic Culture through Jewish Eyes. Al-Andalus from the Tenth to Twelfth Century*. London and New York: 2008, 51

⁷⁹³ McCormick, *Origins of the European Economy*, 12-15.

⁷⁹⁴ As Brigitte Buetner, “Towards a Historiography of the Sumptuous Arts,” in *A Companion to Medieval Art: Romanesque and Gothic*, edited by C. Rudolph, 466-87. Oxford: 2006, 470, observes.

liturgical furnishings at the bottom of a *Ladder of Virtues* (fig 47).⁷⁹⁵ The contours of this debate are not our concern here; what is significant was that it was new.⁷⁹⁶ Earlier hieromachies had arisen over material culture, but in the Carolingian and Ottonian eras the question had been the legitimacy of the figural arts, not their resplendence. As we saw in chapter one, labour was cheap, and so the human energy that went into the incessant ritual was probably its least expensive component – although it should be noted that the labour of educated monks was worth more than that of most people. It was the setting and its ornaments that cost money. Architecture, “an essential theatrical prop when considering how power is represented,” was a one-off expense, but a huge one.⁷⁹⁷ And the lights and incense, as well as costume and drapery, were ongoing. Saint Bernard was being ingenuous when he remarked of the architecture of many monasteries, “By God! If they do not blush at the inanities, might they at least spare the expense!”⁷⁹⁸ The expense was the point. Latin Christendom had never been so rich, and it would behave as every parvenu culture does in such circumstances. One might note the enormous expenditure on imported luxury brands current in contemporary China, an example which replicates a pattern of indiscriminate consumption historians find whenever brand-new wealth intersects with an older and established civilization. Occasionally we find this clearly expressed, as in the case of some coins of Lombard Salerno, issued in imitation of Byzantine currency, but stamped with *OPULENTIA SALERNUM*.⁷⁹⁹

It was necessary to show off in the right way. When Peter Damian returned from Cluny in 1063, he met Archbishop Hugh of Besançon (1031-66), who showed him his tomb, already prepared to receive the archbishop’s body. From each of the funeral drape’s four corners hung five *solidi* (presumably in a bag), as an offering to those who will

⁷⁹⁵ A much reproduced image from the *Hortus Deliciarum* of Herrad of Hohenbourg.

⁷⁹⁶ Gerhard Weilandt, *Geistliche und Kunst. Ein Beitrag zur Kultur der ottonisch-salischen Reichskirche und zur Veränderung künstlerischer Traditionen im späten 11. Jahrhundert*, Böhlau: 1992, 253-294, n.17 notes that criticism of monastic excess increased greatly from the second half of the eleventh century.

⁷⁹⁷ Chris Wickham, “Introduction,” in *Topographies of Power in the Early Middle Ages*, edited by M. de Jong and F. Theuvs, 1-8. Leiden: 2001, 6.

⁷⁹⁸ “Proh Deo! si non pudet ineptiarum, cur vel non piget expensarum?” See “Apologia to William of St. Thierry.” *Saint Bernard Abbot of Clairvaux Selections from His Letters, Meditations, Sermons, Hymns and Other Writings*, trans Horatio Grimley, 24-25.

⁷⁹⁹ Philip Grierson, Lucia Travaini, *Medieval European Coinage: Volume 14, South Italy, Sicily, Sardinia: With a Catalogue of the Coins in the Fitzwilliam Museum, Cambridge*, Cambridge, 1998, 63.

perform the funeral rite. Damian approved this display, offering as it did a chance for Hugh to meditate on the brevity of life and loathsomeness of death, but in the meantime the considerable sum of 20 solidi - enough to buy a farm in Pisa - offered everyone else a chance to meditate on the wealth of the archbishop.⁸⁰⁰ But the sartorial opulence of the prelates of southern Italy drew Damian's ire, as did the adornment of the secular elites. Unwritten rules governed the distribution of gifts. For churches, vessels of various kinds - to burn or grind incense, to elevate the host, or to simply drink from - dominated the treasure lists. The vocabulary to describe them was correspondingly labyrinthine.⁸⁰¹ The same can be said for a second major gift category, liturgical clothing.⁸⁰² As in every age, taste followed wealth. Indeed, material culture penetrated far beyond the limits of political action. In the twentieth century, the rulers of Asia and Africa wore the styles of Wall Street; in the eleventh the German Emperor aped the garb of Cairo and Constantinople.⁸⁰³ People in Tunisia wore embroidery from Armenia; Sicilian robes were popular in Yemen, the same earrings were worn in Egypt and Greece.⁸⁰⁴ In Tuscany, the new churches of a newly rich city were bedecked with ornaments from the richest city of all.

Secular elites spent conspicuously on monasteries, where their names would be recited in rituals and conserved in necrologies, acts analogous to the commemoration of twenty-first century benefactors on the walls of institutional buildings. Southern long ago observed that monastic patrons "would have thought it a poor reward for their munificence if they had found marks of poverty in the buildings, dress or equipment of

⁸⁰⁰ The drape, too, was probably a significant item. Peter Damian, *Die Briefe*, 3: 246-258, #111, at 248-9.

⁸⁰¹ In a single sentence, Rather of Verona lists five different kinds of vessel: "...qui scyphis aureis, scutellis argenteis, cuppis auctioris pretii, crateribus imo conchis ponderis gravioris et invisae ulli saeculo magnitudinis instant operandis auro." *Praeloquia* I.5, 143.

⁸⁰² For example, the Montecassino Chronicle III.31 offers a list of different vestments.

⁸⁰³ Which, it is important to note, were more or less indistinguishable. Anna Muthesius, "Silk in the Medieval World," in *The Cambridge History of Western Textiles*, vol.1, edited by David Jenkins, 325-354, 327.

⁸⁰⁴ al-Jawdhari, *Inside the Immaculate Portal. A History from Early Fatimid Archives*, Hamid Haji, ed. and trans., London: 2012, 155; Abulafia, *Two Italies*, 45. For the earrings, compare the Byzantine examples published in the RA exhibit *Byzantium*, and the Egyptian models preserved in the Museum of Islamic Art at the Pergamon Museum, Berlin, inv. I2334. Robin Cormack, Maria Vassilaki, et al. *Byzantium: 330-1453*, London: 2008.

the monks.”⁸⁰⁵ And the monks knew it. As Bernard would later gripe, “money attracts money” and “purses are opened” when there is splendour to be seen.⁸⁰⁶ The autobiographical statement of Bono of Pisa is explicit in celebrating his achievement in building “an edifice of rock and limestone, where are found all the offices that an abbey should possess; and it is a perfect house, such that in the entire March there is none better, with columns I had brought from Luni and Elba.”⁸⁰⁷ And as we saw earlier, the entire tone of his text is that of justification by wealth. Increased wealth, as we have seen, required more consumption. At Santiago de Compostela, it was forbidden to fill the seven receptacles of the great silver lamp hanging before the altar with anything but balsam, myrtle, whale or olive oil.⁸⁰⁸ As for Cluny, it is hardly coincidence that in that first flush of wealth in the Latin west, the monks who did the best were those who best displayed that wealth. The theory of such practice can be found in its critics: “ordinary people think [saints] more holy if they are plastered with precious stones.”⁸⁰⁹ It was a reasonable way for ordinary people to think, as it was perfectly correct to consider individuals wearing precious stones more important.

PRODUCTIVE FORCES

A principle that emerged from chapter one is that greater allocation of resources implies more significant outcomes. In particular, that the large and well-documented merchant marine of the House of Islam is a more likely motor for the expansion of Italian

⁸⁰⁵ Richard W. Southern, *The Making of the Middle Ages* (first pub. 1953), London: 1990, 155. There was of course a contrary tendency, which viewed the expense and ostentation of monumental architecture with grave suspicion, which would reach its apotheosis with Saint Bernard. For a classic discussion of this tendency, see Panofsky, *Abbot Suger on the Abbey Church of St-Denis and Its Art Treasures*, New Jersey: 1946. A recent and extensive discussion may be found in Alexandra Gajewski, “Stone Construction and Monastic Ideals: From Jotsald of Cluny to Peter the Chanter,” in *Ex Quadris Lapidibus. La pierre et sa mise en oeuvre dans l'art médiéval. Mélanges d'histoire de l'art offerts à Éliane Vergnolle*, edited by Yves Gallet, 35-49. Turnhout, 2011.

⁸⁰⁶ In the “Apologia to William of St. Thierry.” *Saint Bernard Abbot of Clairvaux Selections from His Letters, Meditations, Sermons, Hymns and Other Writings*, trans Horatio Grimley, 24-25. Cambridge: 1910.

⁸⁰⁷ My translation. I used the text printed in S. R. Maitland, *The Dark Ages*, London: 1890, 82-85. The emphasis on stone matches that of southern cities like Amalfi: Caskey, *Art and Patronage*, 57.

⁸⁰⁸ *Liber Sancti Jacobi*, V, 17, trans. Kenneth John Conant, *The Early Architectural History of the Cathedral of Santiago de Compostela*, Cambridge, MA: 1936, 57. Olive oil was a more prestigious substance in the northwest than further south in the peninsula.

⁸⁰⁹ Saint Bernard, *Apologia ad Guillelmum*, XII.28, in *Opera*, ed. J. Leclercq and H.M. Ochais, vol.iii, Rome: 1963, 104-106. Sumption, p.155.

commerce than an autochthonous impulse on the part of Pisans or Amalfitans. The same principle arises here to suggest that the expansion of material culture is likewise dependent on the allocation of resources. Following the valuable formulation of Wickham, “a market that was sufficiently elaborate to encourage productive specialization... depended on aristocratic demand.”⁸¹⁰ Elite demand is linked to the availability of disposable wealth, which in turn is predicated on the size of the economy and elite capacity to extract surplus from its workers and peasants. Under the rubric of productive specialization, we might include stone carvers, ivory workers, sculptors, mosaicists, and so on.⁸¹¹ In short, since all artisanal demand in the middle ages comes from the elite, the larger the elite and the richer the region, the more artisans and the more precise their specializations.⁸¹² The situation is little different today, save only that demand is no longer the province of the elites.⁸¹³ So far so common sense; a town of 1000 inhabitants may support one or two artisans; a town of half a million many more. This means in turn that the big city will produce more material culture, and probably also better, on the simple grounds that the greater the range available, the more likely the best will appear.⁸¹⁴ There were, then, many more artists in Egypt than in Italy. The *bacini* are an indirect testament to this. What was prestige ornament in Pisa was tableware in Cairo. As such, it is more parsimonious of the evidence to assume such things as the ivory boxes and oliphants were imported into southern Italy rather than made there, as has been

⁸¹⁰ Chris Wickham, “Productive Forces and the Economic Logic of Feudal Mode of Production,” *Historical Materialism* 16 (2008): 3-22, esp.13-14.

⁸¹¹ It is worth noting, in passing, that priests and monks might also be seen as specialists, productive of ritual; in this sense, in a given context monks and artisans may be seen as being in competition.

⁸¹² The effects of elite demand are discussed in detail in Wickham, “Productive Forces.”

⁸¹³ Wickham, “Productive Forces,” 13-14. The history of modern art is to a great extent an urban history of the world’s richest cities, a fact particularly clear in studies of the nineteenth century but still true today.

⁸¹⁴ The general applicability of this principle is implicit in the work of many scholars, e.g. when Jonathan Bloom makes the passing comment that it was “unlikely that the Hijaz was a centre of artistic innovation.” Bloom, “Mosque of Al-Hakim,” 24.

suggested (fig 48).⁸¹⁵ We have, at least, solid archaeological evidence for ivory and bone carving workshops in Egypt.⁸¹⁶

The link between elite demand and artistic production is a specific case of how economic disparity structures the relationships between regions. It is worth emphasizing as a corrective, for there is a tradition of seeing regions like North Africa as a vacuum susceptible to foreign influence. But in our era, that region was richer than Italy. It therefore should have had a greater investment in material culture, and more artisans, which would have had repercussions beyond its borders. This is not solely theoretical; the diffusion of ceramics from Tunisia to Pisa and beyond demonstrates the nature of their connection in our era, as does the export of specialists like Constantine the African, and architectural motifs like those of the Zirid palace at Ashir.

The manual of Theophilus of c.1106 imagines artisans who are simultaneously metalworkers, foundry workers, painters; in Egypt, each of these categories might have supported a community of workers. Robert Mason has emphasized that the most artistically and technologically sophisticated ceramics are consistently associated with the greatest centres of wealth - for our purposes, with Fustat from ~975-1075, which reflects the centrality of Egypt in this era.⁸¹⁷ It is also in Egypt that we find evidence of artistic communities, as when in the reign of al-Mustansir (1036-94), the vizier Yazuri summoned the painter Ibn ‘Aziz to compete with the Egyptian al-Qasir, who “demanded extravagant wages and had an exaggerated opinion of his work.”⁸¹⁸ The two competed in their depictions of beautiful women, and ended up costing Yazuri plenty of money anyway. Similar differences may be inferred from other crafts: no city gates built in the Latin west in this era can compare to the new portals of Cairo erected by Badr al-Jamali

⁸¹⁵ Shalem is confident as least some of the oliphants were carved in an Islamic context, *Oliphant*, 73, 77. The right panel of the Farfa Casket and the Amalfan pen case known as the Tauro Casket, *inter alia*, are similar in style to Coptic and Fatimid wood carvings of the period, *ibid.*, 73. Hoffman comments on the varying attributions of ivory to Egypt, Venice, Amalfi, and Spain in “Pathways of Portability,” 18, 43, n.7.

⁸¹⁶ Mieczyslaw Rodziewicz, “Transformation of Ancient Alexandria into a Medieval City.” In *Colloque international d’archéologie islamique*, edited by Roland-Pierre Gayraud, 369-386. Cairo: 1998, 381.

⁸¹⁷ Robert B. Mason, “New Looks at Old Pots: Results of Recent Multidisciplinary Studies of Glazed Ceramics from the Islamic World,” *Muqarnas* 12 (1995): 1-10, 7.

⁸¹⁸ The anecdote is in Maqrizi’s *Khitat*. See Richard Ettinghausen, “Early Realism in Islamic Art,” in *Studi Orientalistiche in onore di Giorgio Levi della Vida*, vol.1, 25-73. 1956, 267-8. Reprinted in *ibid.*, *Islamic Art and Archaeology. Collected Papers*, ed. M. Rosen-Ayalon, Berlin: 1984.

in the 1080s. We have observed that the Pisans deployed such material culture as the *bacini* not because they wished to reference Islamic forms *per se*, but because those forms were components of the shared Mediterranean culture. This raises the question of why, if they were relying on shared forms, so many of them look Islamic. The answer is simple: the Muslims had more money.

In methodological terms, then, if an extant object, such as the Morgan Casket, might be assigned either to Cairo or, say, Amalfi, the odds favour Cairo. In a more general sense, economic contexts may impact how we assess other aspects of material culture. For example, there has been debate over the attribution of a certain Fatimid ivory casket of the tenth century. Based on similarity of motifs, Bloom has suggested that it was modelled after Byzantine examples, but Guérin has observed that those prototypes are wood with an ivory veneer, while the Fatimid casket is solid ivory.⁸¹⁹ The solid structure was probably due to the easy availability of ivory in Fatimid Mahdia, which was a transit centre from Sub-Saharan regions, and need not be traced to antecedents at all. Similar considerations help us understand the flow of mobile objects in much of the Mediterranean. To remain with ivory, the thin veneers used in Byzantium have been put down to the scarcity of the material. The same explanation might be advanced for the equally thin pieces of ivory from Fatimid Cairo. But this represents too simple an interpretation of the material evidence. In fact, the veneers probably do not represent short supply but rather a high demand which workshops sought to meet by maximizing the workable surfaces of available ivory. Some of that demand was from Latin Europe - and it is interesting that a major boom in Latin ivory carving, seen in the Ottonian Magdeburg and Milan ivories, appears to correspond exactly with the arrival of the Fatimids, and their Amalfitan clients, in Egypt.

However, a caveat: here, once again, we have to emphasize diachronic change. Italy around 900 was an underdeveloped economy in comparison to the House of Islam. This was still the case around the millennium, as we saw in chapter one, but to a lesser degree,

⁸¹⁹ Sarah M. Guérin, "Forgotten Routes? Italy, Ifrīqiya and the Trans-Saharan Ivory Trade," *Al-Masaq* 25, 1, (2013): 70-91, and 84-85 for discussion of the availability of ivory in Tunisia.

and over the course of the eleventh century things changed still more. The conditions outlined in the preceding paragraphs would no longer obtain once Italy's economy reached parity with that of Egypt or Tunisia's. As a general trend, this is easily understandable. What is less clear is the timing in various cities and regions. We know that the city of Pisa, for example, was a highly monetized economy well in advance of inland Tuscany.⁸²⁰ Not by coincidence, it was in Pisa that monumental architecture first rose in central Italy, and - a bit later - that indigenous modes of sculpture and deluxe manuscripts would arise.⁸²¹ In Amalfi, as Anna Contadini has noted, the import of large ornamental metalwork, such as cathedral doors, and candlesticks donated to Mount Athos, suggests that there was no significant metalworking tradition in southern Italy in the central decades of the eleventh century.⁸²² But as the aftereffects of the great calamity were consolidated and economic disparity declined, we should expect increased specialization of artisan activity in Italy. And indeed, in the second decade of the twelfth century we meet Oderisius of Benevento, who made the bronze doors at Troia, and Roger "Melfie," responsible for the right-hand door of Bohemond's mausoleum at Canosa.⁸²³ That both the doors at Canosa, right and left, bear inscriptions in Greek and in Arabic, is suggestive both of the immediate horizons of their makers and the pretensions of their patrons.

ASSIMILATION AND DIFFERENCE

In southern Italy, the regions in close contact with the House of Islam were increasingly assimilated within it. We have already noted the convergent tendency of architecture.⁸²⁴ Amalfitan habits, such as their propensity for bathhouses, while not Islamic *per se*, do

⁸²⁰ Chris Wickham, "Compulsory gift exchange in Lombard Italy, 650-1150," in in *The Languages of Gift in the Early Middle Ages*, edited by Wendy Davies and Paul Fouracre, 193-216. Cambridge: 2010, 210-11.

⁸²¹ Pisa's manuscript collections are dispersed, but the colossal Giant Bible of 1168, preserved at Calci, is suggestive of their artistic ambitions. Knut Berg, *Studies in Tuscan Twelfth century Illumination*, Oslo: 1968, 146-57.

⁸²² Anna Contadini, "Beasts that Roared," 73.

⁸²³ Contadini, "Beasts that Roared," 73; discussion in Francesco Aceto, "L'Abruzzo e il Molise," and *La scultura d'età normanna tra Inghilterra e Terrasanta*, edited by Mario d'Onofrio, 49-70. Rome and Bari: 2001.

⁸²⁴ See also Caskey, *Art and Patronage in the Medieval Mediterranean*, 100.

seem to place them within the Muslim cultural sphere, and Amalfitan architecture, both secular and religious, bore a North African stamp.⁸²⁵ Small details may prove illuminating. In an Exultet roll and a fresco fragment from a Cairo bathhouse, we find a female attendant and an upper class male holding what might be a towel in exactly the same way (fig 49). The style of the paintings is also similar, which raises the possibility of a wide-ranging current of figural depiction.⁸²⁶ More prosaically, in the Gulf of Salerno region Islamic bathing practices were easily incorporated into the existing Christian economy, as when in 1047 the bishop of Minori paid for the water for the public bathhouse with a gift of candles upon a local saint's holy day.⁸²⁷

Even the extravagant emphasis on genealogy in Amalfi, which sometimes led to *isnads* nine generations long, might have served them well in this context.⁸²⁸ Rich Amalfitans equipped themselves with the trappings of the elite of the House of Islam. We may think of the ivory pen case belonging to the Mansone family of Amalfi: carved with a series of animals, its function attests at once to the secular luxury trade and to the literacy necessary to carry out that trade (fig 50).⁸²⁹ The suggestively named Maurus of Amalfi donated an ivory casket to Farfa on which the lines appear “I am rightly called

⁸²⁵ Jill Caskey, “Steam and “Sanitas” in the Domestic Realm: Baths and Bathing in Southern Italy in the Middle Ages,” *Journal of the Society of Architectural Historians*, 58, 2 (1999): 170-195, 184-186, 189-90.

⁸²⁶ Lucy-Anne Hunt, in the context of a twelfth century mosaic in the Church of the Nativity, suggests that it may represent “the tip of the iceberg of an unbroken Christian artistic tradition” in Syria. The mosaic’s artist is identified in a bilingual Syriac and Latin inscription. Lucy-Anne Hunt, “Art and Colonialism: The Mosaics of the Church of the Nativity in Bethlehem (1169) and the Problem of ‘Crusader’ Art,” *DOP* 45 (1991): 69-85, 75. The mosaic’s inscription is one of the only indicators of Syrian Orthodox activity in the Latin Kingdom at this time, as Jaroslav Folda points out, in “Crusader Art in the Twelfth Century: Reflections on Christian Multiculturalism in the Levant,” in *Intercultural Contacts in the Medieval Mediterranean*, edited by Benjamin Arbel, 80-91. London: 1996, 90.

⁸²⁷ Ulrich Schwarz, *Regesta amalfitana: Di älten Urkunden Amalfis in ther Überlieferung*, Tübingen: 1978, #16, 92-93. The document is translated by Jill Caskey in Katherine L. Jansen, Joanna Drell, and Frances Andrews, eds., *Medieval Italy. Texts in Translation*, Philadelphia, 2009, #56, 228-29.

⁸²⁸ An anecdotal comparison from the author’s experience: a major Canadian shipping firm, when commissioning a corporate history in the 1990s, hoped to lengthen the history of their company in order to impress their new Chinese trade partners. On Amalfitan genealogies, Caskey, *Art and Patronage*, 169. She draws attention to a possible connection to Jewish practices, for which see Goitein, *Mediterranean Society*, vol.3, 3-48.

⁸²⁹ In this respect, we should note the late tenth century poet al-Kashajim’s criticism of learned men being too proud of their inkwells of gold and silver. Eva Baer, “An Islamic Inkwell in the Metropolitan Museum of Art,” in *Islamic Art in the Metropolitan Museum of Art*, edited by Richard Ettinghausen, 199-212. New York: 1972, 209, n.2.

Maurus because I have associated with dark people...”⁸³⁰ Ivory containers were a standard luxury object throughout the Mediterranean world: we find them used by slave girls in Cordoba to keep their perfume-soaked love letters, as well as associated with Andalusian royalty and senior administrators.⁸³¹ Maurus’ gift fit within this idiom. It would have been recognizable to a Byzantine emperor or a *Taifa* sultan.⁸³² Such things were likely commensals of trade, and served the function of easing communications. But later, as Caskey has argued, they were renegotiated into signifiers of local identity and importance.⁸³³ Maurus also donated in 1066 the great bronze doors of Montecassino, where according to one source, workers from Alexandria participated in Desiderius’s campaign of redecoration.⁸³⁴ Maurus’ son Pantaleone engaged in like patronage, but is also notable for leading the Pisans to Mahdia in 1087.⁸³⁵

In Salerno, just down the coast from Amalfi, a like situation prevailed. Salerno’s intersection with the network led to assessments of cultural value that permitted the free flow of information and people.⁸³⁶ This development, as elsewhere, hinged on the transfer of wealth, which permitted Guaimarius IV to establish Salerno as a regional leader in the

⁸³⁰ “Iure vocor Maurus quoniam sum nigr[os] secutus.” Susan Boynton, *Shaping a Monastic Identity: Liturgy and History at the Imperial Abbey of Farfa, 1000–1125*, Ithaca, NY: 2006, 168–174, interpreted the “nigr” as among dark peoples, alluding to Maurus’ dealing in Ifriqiya and punning on his name, a reading accepted and reinforced by Sarah M. Guérin, “Forgotten Routes? Italy, Ifriqiya and the Trans-Saharan Ivory Trade,” *Al-Masaq* 25,1 (2013): 70–91, 87–91. Earlier readings offered the black of Benedictine robes and the blackness of sin for “nigr.” See R. P. Bergman, “A School of Romanesque Ivory Carving in Amalfi,” *Metropolitan Museum Journal* 9 (1974):163–86, 164–5; Herbert Bloch, *Monte Cassino in the Middle Ages*, volumes I–III (Rome: 1986), I: 155–159. Bergman, *Salerno Ivories*, 128 and Caskey, *Art and Patronage*, 167–8, do not support this reading, preferring to translate “nigr” as “sin.” Maurus’ name could imply North African descent, or merely a dark complexion. In the anonymous late eighth century *Chronicle of Cordoba*, “mauri” apparently meant Berbers, as distinct from Arabs. But by the mid-ninth century writings of Alvaro Paulo, it had come to mean any Muslim. See Nevill Barbour, “The significance of the word *Maurus*, with its derivatives *Moro* and *Moor*, and of other terms used by medieval writers in Latin to describe the inhabitants of Muslim Spain,” in *Actas do IV congresso de estudos Arabes e Islâmicos*, 253–266. Leiden: 1971. The term also appears in the Royal Frankish Annals under the year 798, describing raiders in the Balearics: *Annales Regni Francorum*, ed. F. Kurze, 104.

⁸³¹ At least according to Ibn Hazm, *The Ring and the Dove*, ch.. See also F. Prado-Vilar, “Circular Visions of Fertility and Punishment: Caliphal Ivory Caskets from al-Andalus,” *Muqarnas* 14 (1997): 19–41.

⁸³² Its format closely matches that of a casket made in Muslim Sicily, now in Berlin, while the carved iconography derives from both local Italian and Byzantine sources. The Berlin casket is published in *Trésors fatimides de Caire*, 1998, 219; Bergman, 168–70.

⁸³³ Thus the art of *mercantatoria*, as Caskey terms it: *Art and Patronage*, esp. 1–15, 113–15, 156–77, conclusion.

⁸³⁴ Amato di Montecassino, *L’istoriede li Normant*, ed. Vincenzo Bartholomaeis, Rome: 1935, 175:“...pour ce qu’il non trova en Ytalie homes de cest art, manda en Constantinoble et en Alixandre pour homes grex et sarrazins, pour aornerle pavement de la eglise de marmoireentaille et diverses peintures, la quelle nous clamons 'operede mosy,'ovre de pierre de diverses clores.”

⁸³⁵ *Carmen* 13.

⁸³⁶ As Skinner points out, *Health and Medicine in Early Medieval Southern Italy*, Leiden: 1997, 142–3, it is tempting to see the emphasis on long-distance travel in Italo-Greek hagiography of the period as connected to the great mobility of people in the network, specifically of doctors.

eleventh century. His son Gisulf, to judge from the hostile report of Amatus, set himself up as a corsair potentate on the model of Denia or Bona.⁸³⁷ The great intellectual and medical enterprise that historians call the School of Salerno was itself closely entwined with intellectual trends of the south, and perhaps linked to the early peregrinations of such doctors as Shabbetai Donnolo of Oria, who seems to have maintained connections with co-religionists in North Africa and beyond.⁸³⁸ If in Salerno great efforts were made to resurrect the medical knowledge of antiquity, the same was true of the Arab world. Galen was well known to the educated in the south - we find a casual reference in the correspondence of the Fatimid caliph in the 960s.⁸³⁹ And if Muslim intellectuals sought to move past Galenic theory, and produce practical treatises, we find the same impulse at Salerno, for example in the early twelfth century pharmacopeia known as the *Antidotarium Nicolai*. It is worth noting that pharmacopeia were also, among other things, lists of treasure. The musk, nutmeg, ambergris, cinnamon, and cloves they regularly cite were kingly delicacies that, like ivory, were part of a pan-Mediterranean vocabulary of luxury (fig 51 map).⁸⁴⁰ Medical knowledge and ingredients were, then, one of the commensals of the wealth of the south that adhered to Italy in our period. While it is necessary to infer the transfer of such information technology as cheques and trade ledgers, with medical texts we are on (slightly) firmer ground. We even hear of the import of medical books, some of them, alas, lost in a storm in the Gulf of Salerno.⁸⁴¹ Over the eleventh century, the ebb and flow of the network cast up on the shores of Southern Italy highly-educated individuals from the Arabic-speaking world. Many, such as George of Antioch and Philip of Mahdia, would enter the service of the Norman rulers. Another was

⁸³⁷ On this model, See Travis Bruce, "Piracy as Statecraft."

⁸³⁸ Andrew Sharf, *The Universe of Shabbetai Donnolo*, Warminster: 1976. The famous story of the Four Captives seems to present a fictionalized version of a true circumstance, which is that Jewish doctors from southern Italy could end up practicing at the highest levels.

⁸³⁹ al-Jawdhari, *Inside the Immaculate Portal. A History from Early Fatimid Archives*, Hamid Haji, ed. and trans., London: 2012, 30.

⁸⁴⁰ Ambergris in particular had royal associations in the Islamic world, to judge from the *Book of Gifts and Rareties*. Nāser-e, 50, reports the Fatimid caliph attended by "thurifers burning ambergris and aloe." The other substances, irrespective of their connotations, were expensive. Musk went for five dinars a small flask: Stillman, "Merchant House," 50.

⁸⁴¹ Known from a twelfth century account of Constantine the African by a certain Magister Mathaeus. Rudolf Creutz, "Die Ehrenrettung Konstantins von Afrika," *Studien und Mitteilungen zur Geschichte des Benediktiner-Ordens und seiner Zweige* 49 (1931): 25-44, 40-41.

Constantine the African, who towards the end of the century translated Arabic medical texts into Latin. This trail leads us to Pisa, for an unfinished translation by Constantine of the *Kitāb Kāmil aṣ-Ṣināʿa aṭ-Ṭibbiyya* of Al-Mağūsī was later completed by his student Johannes Agareus (John the Saracen) together with a certain Rusticus of Pisa.⁸⁴² Another Pisan, Stephen of Antioch, undertook his own translations in the following decade.⁸⁴³ These two cannot have been the only Pisan linguists - Arabic words were already showing up in the *Carmen* of c.1087.⁸⁴⁴

Doctors are highly mobile people; that some, like Constantine or Agareus, strayed into Campania is entirely congruent with the nature of the network - apparently Constantine first visited Salerno on a merchant ship. We hear of others traveling from Egypt to Al-Andalus.⁸⁴⁵ And when Guiscard patronized Constantine the African, he was not acting much differently from al-Mustanṣir, who appointed the equally prolific Ibn Riḍān in Cairo.⁸⁴⁶ The Fatimid influence may have been more than indirect, for Peter the Deacon tells us that the brother of the king of Babilon (i.e. of Egypt) visited Salerno in the mid-eleventh century, presumably in an honourable state, and that when he recognized Constantine the African, then in penury, the latter was immediately honoured by Guiscard.⁸⁴⁷

In our period, then, the elite of the Gulf of Salerno were a cultural annex of the House of Islam. Bishop Alfano of Salerno admitted as much, when in a poem dedicated

⁸⁴² This work became known as the *Pantegni*, one part of which, the *Practica*, was compiled with elements from another translation of Constantine, the *Zād al-Muṣāfir* of Ibn al-Jazzar (895-979), perhaps also by Johannes Agareus. See Monica Green, "The Recreation of the *Pantegni Practica* VIII," in *Constantine the African and 'Alī Ibn Al-'Abbās Al-Mağūsī: The Pantegni and Related Texts*, edited by Charles S.F. Burnett, 121-160. Leiden: 1994.

⁸⁴³ He is also known as Stephen of Pisa, but Burnett, his foremost investigator, prefers "of Antioch." He dwelt in the Pisan quarter of Antioch in the 1120s. See discussion in C. Burnett, "Stephen, the Disciple of Philosophy, and the Exchange of Medical Learning in Antioch," *Crusades* 5 (2006): 113-129, and *ibid.*, "Antioch as a link between Arabic and Latin culture in the Twelfth and Thirteenth Centuries," in *Occident et Proche-Orient: Contacts scientifiques au temps des croisades*, edited by Isabelle Draelants, Anne Tihon, and Baudouin Van den Abeele, 1-78. Turnhout: 2000.

⁸⁴⁴ *Carmen*, 52, mesquitam; 53, darsanas, i.e. "arsenal."

⁸⁴⁵ Or made even longer journeys: Al-Kirmanī came from Kirman in Iran, lived in Cordoba, and went to Harran in Mesopotamia, and came back to live in Zaragoza. Ibn Hayy of Cordoba left Spain in 1051 for Egypt due to "severe ordeals," went onwards to Yemen, and gained the favour of its ruler, who made him envoy to the Abbasid caliph in Baghdad. Later he returned to Yemen and there died 1064 or 65. Both are discussed by Sā'id al-Andalusī (1029-70), in *Science in the Medieval World. "Book of the Categories of Nations"*, translated by and edited by Sema'an I Salem and Alok Kumar. Austin: 1991, 65, 67.

⁸⁴⁶ Guiscard's patronage is mentioned in Peter the Deacon's biography *De Viris illustribus* 23, ed. Herbert Bloch, in Bloch, *Montecassino in the Middle Ages*, Cambridge, Mass.: 1986, vol.1, 127-29.

⁸⁴⁷ Peter the Deacon, *De viris illustribus casinensibus opusculum*, cap.xxiii.

to the brother of the Prince of Salerno, he situated their city adjacent first to its Campanian neighbours, but then listed Babilon (Cairo) and Carthage (Ifriqiya), before the vague rubric “German kings.”⁸⁴⁸ As for nearby Naples, we have already seen in chapter one how it probably functioned as an offshore economic colony of North Africa.

Pisa’s advent into the network must have been mediated by southern Italy - the first recorded Pisan expedition, to Reggio in 1006, carried its ships along the Campanian coast. If the argument of chapter one is correct, it was along the same route that traders from the network first reached Pisa, sometime in the late tenth century. Its rise in importance is dimly suggested in the sources. Already in the 1040s we have Pisans in Gaeta and Naples, and we have noted its appearance on Arabic maps around 1050. And despite the unfortunate incident of the marooned monks, in the 1080s Montecassino was buying clothing in Pisa, just as in Amalfi in the 1020s.⁸⁴⁹ Pisa seemingly became a standard stopping place on the voyage north taken by notables, such as the bishop of Arras.⁸⁵⁰ And Roger II’s daughter married Conrad of Germany at Pisa in 1095, presumably because it had its attractions.⁸⁵¹ Who knows if these travellers met any of the Parthians and Turks that so irked Donizone.

DRESSING FOR DIASPORA

It must be emphasized that some cultural assimilation is the expected reaction to long-term contact between a poor region and one of major wealth. Elite demand in the House of Islam far outweighed that of southern Italy, until the aftershocks of the Great Calamity changed the situation. The twentieth century parallel, in which sundry regions of the globe were in cultural lockstep with the United States, needs no elaboration. This

⁸⁴⁸ “Theotonici reges.” Alphanus Salernitanus, *XXXV. Ad Guidonem fratrem principis Salernitani*, PL 147, 1257A. Goitein has noted how similar concentric zones of familiarity predominated in the geographic thinking of the Geniza merchants. Goitein, *Mediterranean Society* I, 43.

⁸⁴⁹ Mentioned in a letter of Matilda of Tuscany, who was responding to the complaint of the monks that the Pisans had charged an impost on the clothing, which she forbade. *Die Urkunden und Briefe der Markgräfin Mathilde von Tuszien*, ed. Elke Goetz and Werner Goetz, MGH Laienfürsten und Dynasten Urkunden der Kaiserzeit. Hanover: 1998, 62.

⁸⁵⁰ *Gesta Lamberti Atrebatensis episcopi*, in J.P. Migne, *Patrologiae cursus completus. Series latina*, 162, Parisiis 1889, coll. 627-644, and coll. 636-638.

⁸⁵¹ Malaterra iv.23.

example helps to define the limits of assimilation as well: during the Six-Day War, an apogee of anti-western sentiment in Egypt, American clothing and styles remained pre-eminent, while *Peyton Place* was the most popular show on television.⁸⁵² To reject the possibility of cultural influences due to political differences is to completely misunderstand how such phenomena work. For while complex, the flow of cultural exchange is rarely even. Above all, the poor and vulnerable rarely exert much influence on the rich and powerful. In theory, this need not be the case, for millinery need not follow military success, but in practice it almost always does.⁸⁵³ The Normans of Sicily, for example, when it came time to establish their realm on firmer grounds, did not look to their Kalbid or *taifa* predecessors on the island.⁸⁵⁴ What interest could those fractious and vanquished foes hold for them?⁸⁵⁵ It was to faraway Cairo, brilliant and undefeated (by them), that they looked for inspiration. They in turn had their own influence: Orderic Vitalis complained about the influx of Sicilian fashions in 1080s Normandy.⁸⁵⁶ While the flow of objects permeated the Mediterranean, that does not mean everything flowed equally. An Abbasid provenance was fashionable in Al-Andalus; the reverse was not true. By the millennium, textiles under the Sunni caliphs were made in imitation of Fatimid tiraz fabrics, a sharp reversal of the great days of the Abbasids, whose styles were once copied from Spain to Persia.⁸⁵⁷ The floriated Kufic inscriptions of the Shi'ite dynasty were copied in the furthest reaches of the Islamic world, and also in the manuscripts of

⁸⁵² Clive James, *Cultural Amnesia*, 478.

⁸⁵³ Often literally: in the nineteenth century, not only other European countries but also Turkey, Egypt, Persia, and Japan aped the military uniforms of whichever western nation was most successful in war. There is discussion in, *inter alia*, I. T. Schick, ed. *The Uniforms of the World's Great Armies: 1700 to the Present*. New York: 1984.

⁸⁵⁴ Jeremy Johns, "The Norman Kings of Sicily and the Fatimid Caliphate," in *Anglo-Norman Studies* 15, Proceedings of the Battle Conference (1993), 133-159; William Tronzo, *The Cultures of His Kingdom. Roger II and the Cappella Palatina in Palermo*, Princeton, NJ: 1997; Jill Caskey, "Stuccoes from the Early Norman Period in Sicily: Fabrication, Figuration, and Integration," *Medieval Encounters* 17 (2011): 80-119, 82.

⁸⁵⁵ It was characteristic of the Normans, in fact, to ridicule the weak. See John R.E. Bliese, "The Courage of the Normans. A Comparative Study of Battle Rhetoric," *Nottingham Medieval Studies* 35 (1991): 1-35.

⁸⁵⁶ It is interesting to note that the fulling mill, known in Italy from the 960s, is first attested in Northern Europe in Argentan in Normandy in 1086: John H. Munro, "Medieval Woollens: Textiles, Technology and Organization," in *The Cambridge History of Western Textiles*, vol.1, edited by David Jenkins, 181-227. Cambridge: 2003, 204. A case could perhaps be made for the introduction of the new technology to meet the demands of style.

⁸⁵⁷ Ernst Kühnel, *Catalogue of Dated Tiraz Fabrics*, Washington, D.C.: 1952, 102.

Southern Italy.⁸⁵⁸ In Byzantium, we find evidence of the material culture of the Fatimids, but little from Latin Europe - unsurprisingly, as the gifts sent east to Constantinople would seem to have consisted of hunting dogs and castrated slaves.⁸⁵⁹ But in Germany, local artists painstakingly copied motifs from Byzantine or Fatimid textiles, as we see in the marriage document of Theophanu (fig 52).⁸⁶⁰ In the same way, Latin rulers bedecked themselves in eastern clothing for their most important rituals.

A drawing from the Islamic Museum offers a depiction of sartorial custom from Fatimid Egypt (fig 53). These fashions, like other forms of material culture, pervaded the shores of the Mediterranean. The geography of the clothing business reinforces the point; if raw flax was shipped from Egypt to Sicily, and perhaps also to Naples, to be worked into clothing that would be sent back east to be sold, then there was significant overlap in Sicilian (and Neapolitan) and Egyptian sartorial tastes. And even if that were not the case at first, a decade of such a system would probably make it so, as it is impossible to imagine that the products of the Sicilian workshops could have been kept out of local markets. We know little about costume in eleventh century Italy, but to judge from the Exultet Rolls, a superfluity of fabric signified wealth (fig 54). Certainly it did in Egypt, where at the funeral of the son of the Fatimid caliph al-Mu'izz's, the body was wrapped in sixty splendid robes.⁸⁶¹ Peter Damian, with his usual acerbity, noted the investment of Italy's secular elite in textiles and tapestries "which serve no purpose but to display their beauty."⁸⁶² He griped that, among other things, the rich had bedcovers that were better than altar covers.⁸⁶³ Nor was it purely secular. As is well-known, the officials of the

⁸⁵⁸ Sheila S. Blair, "Floriated Kufic and the Fatimids," in *L'Égypte Fatimide. Son art et son histoire*, edited by Marianne Barrucand, 107-116. Paris: 1999, 91; Guglielmo Cavallo, "Between Byzantium and Rome: Manuscripts from Southern Italy," in *Perceptions of Byzantium and its Neighbours (843-1261)*, edited by Olenka Z. Pevny, 136-153. New Haven: 2000, 140-142.

⁸⁵⁹ Liudprand, *Antipodosis*, in Squatriti, *Complete Works*, 119. This would change in the twelfth century, when economic growth and the success and proximity of the Crusader states changed their relationship with Constantinople.

⁸⁶⁰ The document is written in gold letters on a purple background of roundels containing lions or griffins upon the backs on hinds, made in imitation of textile patterns. The griffins are of a clearly Mediterranean design, and not dissimilar to the Pisa Griffin. Made in 972, the document has been attributed to the important illuminator known as the Gregory Master: Hartmut Hoffman, *Buchkunst und Königtum im ottonischen und frühsalischen Reich*, *Textband & Tafelband*. Stuttgart, 1986, 103-16; Mayr-Harting, *Ottoman Book Illumination*, 40, agrees.

⁸⁶¹ Ibn Khallikun, *Biographical Dictionary*, translated by M. G. De Slane, 4 vols., Paris and London: 1843, 279-281: Abu Ali Tamim ibn al-Mu'izz ibn al-Mansur was a noted poet, hence the surviving detail of his death. He died in 985.

⁸⁶² Peter Damian, *Letters 91-120*, #97.17

⁸⁶³ *Ibid.*, #97.17

church were walking canvases of bejewelled splendour, and a handful of their garments survive from our era.⁸⁶⁴ The practice of draping entire church interiors for Lent, as done at Cluny, is obviously a part of this trend, although it should be noted that textile ostentation could signify a variety of things in addition to wealth.

It is not simply that Islamic craftsmen were working in Italy (although they may have been) or vice versa, but simply that the common idiom was common, and that a common mode of visual communication implies other commonalities that are less well documented. Polychrome on figure sculpture is an example. A rare surviving example, in Barcelona, is wearing a belted, long-sleeved robe painted in a series of roundels unmistakably belonging to the shared idiom - it would not look out of place on Fatimid dish ware (and its long belt likewise - see the tasseled silk belt excavated at Naqlun in 2004).⁸⁶⁵ As with textiles, surviving examples suggest that jewelry was more or less identical wherever the Mediterranean network touched. Actual depictions of such adornments are harder to come by, especially in the house of Islam. Exultet rolls, however, do show us dangling earrings of a sort that survive from Egypt and Byzantium. Such motifs as the geometric stars of Pisan and Salernitan architecture could certainly have been informed by textiles, such as a silk from tenth century Syria now in the Cleveland Museum, in which a floriated cross is surrounded by a six-pointed star. Similar motifs are found on the earthenware filters used in Egypt to keep fountain water free from dirt, which often featured animals or geometric starbursts (fig 55). It has been suggested that *ablaq* was intended to suggest the patterns of woven cloth, itself one of the highest prestige categories of material culture.⁸⁶⁶ Nor should the performative aspect should not be overlooked. “Non-technical phenomena, like magic, superstition, or ritual can be materially efficient in preserving techniques not otherwise used.”⁸⁶⁷ Precious

⁸⁶⁴ For the fullest discussion of this subject, see Maureen C. Miller, *Clothing the Clergy, Virtue and Power in Medieval Europe, c. 800-1200*, Ithaca and London: 2014.

⁸⁶⁵ Barbara Czaja-Szewczak, “Textiles from Naqlun, 2004,” *Polish Archaeology in the Mediterranean* 16 (2004): 203-210, 203, fig.4; similar tunics, *ibid.*, “Burial Tunics from Naqlun,” *Polish Archaeology in the Mediterranean* 14 (2002):177-184.

⁸⁶⁶ Glyn Davies and Kirstin Kennedy, *Medieval and Renaissance Art: People and Possessions*, London: 2009, 171.

⁸⁶⁷ Pierre Lemonnier, ed., *Technological Choices: Transformation in Material Cultures Since the Neolithic*, London and New York: 1993, 27.

objects were displayed: Naser-e commented on “hunting and sporting scenes” in the decorations for a banquet of the Fatimid Caliph, and “carpets and pillows of Byzantine brocade.”⁸⁶⁸ At the same banquet, he saw “a confection like an orange tree, every branch and leaf of which had been executed in sugar, and thousands of images and statuettes in sugar” - which presents us with the surprising possibility of sugar sculpting as a branch of the arts.

Many writers, including Hoffman and Kinoshita, have emphasized the continuity of court culture around the Mediterranean.⁸⁶⁹ The emphasis on royal examples is inevitable, for they are the best documented. But the raiment of monarchs represents only the visible tip of the iceberg: submerged beneath records of court extravagance is a wider world of consumption. The citizens of the Maghreb dressed in Egyptian fashions and used Egyptian currencies and standards.⁸⁷⁰ Elite displays, and the transmission of their motifs, helped perpetuate the same motifs on less prestigious churches, such as the griffin savaging a deer on S.Maria intus Castrum in Messina, or the dog gnawing its prey at SS.Trinità at Mileto Vecchia, or the stucco medallion at S.Maria Théothòkos or at Gerace, or indeed the *bacini* and lozenges in Pisa.⁸⁷¹ In the same way, the social and economic pressures we have been discussing infiltrated many aspects of life.

AVENUES OF EMULATION

Throughout this study, we have emphasized the economic disparity that structured contacts between the House of Islam and Italy around the millennium. This model should not be misunderstood. The relationship between the maritime cities and the Islamic world was not one of direct dominance. Although the greater wealth and power of the House of Islam, especially Fatimid Egypt, was the prime structural agent in shaping the material

⁸⁶⁸ Nāṣer-e Khosraw, 57.

⁸⁶⁹ Hoffman, “Pathways of Portability”; Kinoshita, “Animals.”

⁸⁷⁰ Al-Muqaddasī, *Best Divisions for Knowledge of the Regions*, trans. Basil Collins. Reading, U.K.: 2001, 197-99.

⁸⁷¹ Giovanna Maria Bacci, and Maria Amalia Mastelloni, eds. *I Normanni nel Sud. Nuovi segmenti di storia europea*, Rome: 2003, 41, 56; *ibid*, 74, 77. There are many such examples, not all of them in the south, e.g. the griffins in the abbey facade at Pomposa.

culture of the Mediterranean, it was not a hegemonic hyperpower. With respect to material culture, therefore, it is not correct to say that the Italians were simply imitating the Muslims due to the political dominance of the latter, as is sometimes said of Mozarabic art.⁸⁷² They *were* imitating the material culture of the Muslim world, but their object was to participate in the shared visual culture and to avail themselves of the shared vocabulary of affluence it represented. Hoffman writes that “the affiliation with a ‘fellowship or family of kings’, exemplified by the Fatimid, Abbasid and Byzantine rulers, was taken with particular seriousness by the smaller states as a validation for identity and legitimacy.”⁸⁷³ This is certainly true, but the question calls for further comment. Her observation that smaller states felt obliged to mimic the greater characterizes not solely state-level actors but the entire social hierarchy. As the Zirid state imitated the Fatimid, so citizens aped their monarchs, with the end result that a sequence of emulation that began in, say, Cairo or Constantinople might reach all the way to Pisa or Genoa.

Veblen identified emulation as, after self-preservation, “probably the strongest and most alert and persistent of the economic motives.”⁸⁷⁴ Other theorists might quibble, but there is no doubt that imitation was an important register of social behaviour, as Abbot Bono of Pisa demonstrated when he described a new vestment of his own as one that the bishop of Pisa “might wear with honour to say mass on Easter.”⁸⁷⁵ Everywhere, people mimic those they perceive to be their betters - who may or may not correspond to their legal superiors. Inasmuch as there existed a theory of power relations in this era, it was based on the concept of *familiaritas*. The word denotes something stronger than its modern derivation, and implies a relationship hovering between teammate and blood kin.⁸⁷⁶ Power was expressed by demonstrating, via ritual or symbol or material,

⁸⁷² See discussion in Jerrilynn Dodds, “Mudejar Tradition and the Synagogues of Medieval Spain: Cultural Identity and Cultural Hegemony,” in *Convivencia. Jews, Muslims, and Christians in Medieval Spain*, edited by Vivian B. Mann, Thomas F. Glick, and Jerrilynn D. Dodds, 113-131. New York: 1992.

⁸⁷³ Hoffman, “Pathways of Portability,” 25.

⁸⁷⁴ Thorstein Veblen, *The Theory of the Leisure Class; An Economic Study of Institutions*, 83. Online at <http://www.gutenberg.org/files/833/833-h/833-h.htm> (accessed March 2015).

⁸⁷⁵ Abbot Bono, *Recordationis breve*: see chapter three.

⁸⁷⁶ As noted in Mayr-Harting, *Ottoman Book Illumination*. New York: 1991, 43.

familiaritas with someone further up the ladder: by count with emperor, by bishop with papacy, by king with the distant Byzantine emperor, by anyone with Christ, as in the famous mosaic of Roger II of Sicily depicted as a Byzantine emperor at the Martorana (fig 56). It is a useful concept because it frames a hierarchy of emulation. At the same time, emulation provided a mechanism with which to construct an image of *familiaritas* - for in a world in which personal relationships predominated, all political relationships were assimilated to at least the appearance of the personal. For the episcopal class, the exchange of ornaments, such as golden crosses, embodied personal relationships and demonstrated them to others.⁸⁷⁷ Monks might justify their practices by reference to angels or saints, for whom liturgy was as much of a necessity as for mortal men, to judge from the vision of Romuald, who beheld St. Apollinare with a golden thurible censuring the altars of his own church.⁸⁷⁸ The way in which legitimacy is conveyed by appearances is particularly clear in the case of coinage: in southern Italy, Guiscard, Count Roger, and others (including Guiscard's son Roger Borsa), all issued coins closely modelled on the currency of Fatimid Egypt. A 1072 *tari* of Guiscard, now at the Fitzwilliam, even has the legend "There is no God but God [and] Muhammad is the Prophet of God," and Roger styled himself sultan of Sicily and Imam, the latter in imitation of the title of the Fatimid ruler.⁸⁷⁹ Later in the twelfth century, Roger II had coins struck at Bari juxtaposing the head of St. Nicolas with a Kufic legend.⁸⁸⁰ Thus the Normans associated themselves with the Mediterranean's most prestigious power, the Fatimid dynasty (fig 57 map). A clearer example of how the imperatives of emulation may outweigh inherited customs would be hard to find.⁸⁸¹

⁸⁷⁷ Thus Gerbert to Egbert of Trier in 988, about the receipt of a cross: "Sic sancta societas unum et idem sentiens manet. Nec nos soli dulcem affectum vestrum circa nos sentimus. Sentiunt et illi qui admirabile opus cruces a vobis nostro nomini elaboratae, non sine magna oblectatione conspiciunt, in quo pignus amicitiae aeternitatem sibi affectat." Ep. 126, in Gerbert of Aurillac, *Correspondences*, ed. Pierre Riché and Jean P. Callu, Paris: 1993, 302.

⁸⁷⁸ In Peter Damian, *Petri Damiani Vita beati Romualdi*, ed. Giovanni Tobacco, *Fonti per la storia d'Italia* 94. Rome: 1957, c.2.

⁸⁷⁹ J. Johns, "I titoli arabi dei sovrani normanni di Sicilia," *Bollettino di Numismatica* 6/7 (1986): 11-54, 37.

⁸⁸⁰ Paul Oldfield, "The Bari charter of privileges of 1132: articulating the culture of a new Norman monarchy," *Historical Research* 88, 242 (2015): 577-598, 587; P. Grierson and L. Travaini, *Medieval European Coinage with a Catalogue of the Coins in the Fitzwilliam Museum, Cambridge*, xiv: Italy (III). South Italy, Sicily, Sardinia, Cambridge: 1998, 24, 116.

⁸⁸¹ For a modern example, in the 1920s the Emir of Afghanistan required his subjects to dress in western-style suits, and his queen even appeared in public (itself unprecedented in that region) wearing a hemline that exposed her feet and ankles.

But the example of Guiscard or Roger demonstrates the ambivalence of the concept, for their relationships with the Fatimid caliphs was largely imaginary.⁸⁸² They chose their perceived superior, an act of agency that undermines the concept of hierarchy, and serves to remind us that *familiaritas* and emulation are performative and dynamic structures subject to manipulation. Abbot Bono invoked his superior the bishop because it was an appropriate way to contextualize his liturgical garb, but his text makes no other reference to the episcopacy, and seems to be speaking both from and to the position of a Pisan citizen. It is possible that one reason the maritime cities were able to invest in foreign material culture was the absence of strongly defined formal hierarchies within their walls, which would have diverted their energies in other directions.⁸⁸³ Indeed, for the Pisans, like Roger II, emulation of the Islamic world would seem to have been a choice freely taken. Their reasons certainly included the glamour of wealth, consumption, and success that illuminated Cairo or Mahdia, and the concomitant incentive to conform to the standards of the network.⁸⁸⁴ But they may have had other reasons as well.

When Roger issued his coins in imitation of Fatimid dinars, he was responding not only to the rumour of Fatimid prestige, but because he knew that the best money looked Fatimid.⁸⁸⁵ So did his subjects. Before the Normans ever arrived in Italy, cities were issuing quarter-dinars, likewise in imitation of Fatimid coins. The coinage was not introduced for the purpose of aping the Fatimids, but in order to ease the flow of wealth and business, as we saw in chapter one. But if a useful coinage was to be established, the imitation of the Islamic world was inevitable. Decisions such as Roger's perpetuated the image of power in which he participated. In turn, Roger's own *familiares* sought to

⁸⁸² This is not to say that the Normans had no contact with the Fatimids; they did, as Jeremy Johns, "Norman Kings of Sicily and the Fatimid Caliphate," *Anglo Norman Studies* 15 (1992): 133-59, makes clear. But as far as we know, their acts of self-definition, like issuing coins, had no formal relationship to the caliphate.

⁸⁸³ It is certainly the case that major seaports that did not maintain an independent status, like Bari, did not produce a strong tradition of Mediterranean material culture.

⁸⁸⁴ The Fatimids were much imitated in the Islamic world as well, including by their ideological enemies the Abbasid caliphs. For example, the floriated kufic inscriptions they erected in Mahdia and Cairo had imitators as far off as Inner Asia: Sheila S. Blair, "Floriated Kufic and the Fatimids," in *L'Égypte Fatimide. Son art et son histoire*, edited by Marianne Barrucand, 107-116. Paris: 1999, 91.

⁸⁸⁵ The Latin Kingdom of Jerusalem drew similar lessons in the early twelfth century, when it issued coins with Arab inscriptions. D. M. Metcalf, *Coinage of the Crusades and the Latin East*, London: 1983, 7-14; M. Bates and D. M. Metcalf, "Crusader Coinage with Arabic Inscriptions," in K.M. Setton, ed., *A History of the Crusades*, v.6, edited by H. W. Hazard and N.P. Zacour, 439-57. Madison and London: 1989.

imitate him, creating a hierarchy of emulation, in which ideas received in a subordinate node of the network might be repackaged and redistributed to increasingly obscure locations. With each redistribution, new patinas of meaning might be accrued. This, as we have seen, is how the *bacini* came to be taken up in Pisa's hinterlands. That these social operations are reciprocal is not coincidence - otherwise they would not be self-sustaining.

The effect of wealth and power radiated outward from its source, through dependents, neighbours, peripheries, unto the distant realms. In Latin Francia, Italy was the land of wealth and culture; in Italy, the south of the peninsula, which in turn looked to the local polities of the Islamic world (and Byzantium), which were themselves in the orbit of Egypt.⁸⁸⁶ Bishop Heribert of Canossa (r.1086-91?) in northern Italy felt obliged to acquire a resplendent vestment the colour of blood and embroidered with gold, valued at 30 pounds of silver, so he might not be ashamed in the company of the ecclesiarchs of the south.⁸⁸⁷ Perhaps these included the bishops of Trani and Ascoli, who had the most magnificent accoutrements Peter Damian had ever seen.⁸⁸⁸ Similar informal hierarchies have prevailed in most times and places. It was for like reasons that Luidprand sought to buy cloth in Constantinople, or the Abbot of Montecassino in Amalfi, and later in Pisa, or a certain Persian king dispatched agents and 20,000 dinars to Egypt to buy clothes.⁸⁸⁹ Bohemond, son of Guiscard, had himself buried in a mausoleum patterned after Fatimid tombs and inscribed with Greek and Kufic text (fig 58). Prestige, then as now a vital component of political legitimacy, was conveyed through visual media.

The circulation of materials on a super-regional level varied according to the same hierarchies of prestige. Demand was strongly centred, and it is unlikely that highly prestigious goods should have reached remote outposts. The Jewish merchant Salāma b. Mūsā b. Isaac had no desire to visit a Christian country, but was obliged by the failure of his goods to sell in Palermo.⁸⁹⁰ By the standards of Cairo, most of what arrived in Italy

⁸⁸⁶ Ralph Glaber, a native of Burgundy, wrote of Italy as a place people went to get rich. In his *Life of William*, for example, a certain Vibo "ibique copiose locupletatus opum gratia feliciter deguit." (vita, i).

⁸⁸⁷ *On the treasure from the Church of Canossa that was sent to Rome and on the Compensation made to the Church of Canossa*, ed. Luigi Simeoni, in *Rerum Italicarum Scriptores 2*, Bologna: 1930, 108-9.

⁸⁸⁸ Damian, *Letters* 91-120, #97.19, 80-81.

⁸⁸⁹ Nāṣer-e Khusraw, 60.

⁸⁹⁰ Goldberg, *Trade and Institutions*, 298; Shlomo Simonsohn (ed.), *The Jews in Sicily: 383-1300*, Leiden: 1997, xxxiv.

was probably unremarkable stuff until late in the eleventh century. The fabulous griffin ended up atop Pisa's cathedral due to military force, but its presence does reflect Pisa's status around 1100 as the most far-reaching and dynamic of the maritime republics.

Eleventh century Genoa or Gaeta, respectively undeveloped or quiescent, can offer little comparable splendour. But Amalfi in the 1020s held robes worthy of the German Emperor. Some survive, such as those at Bamberg. The imperial coronation ordo is quite specific about what the emperor wore: his dalmatic featured golden eagles outlined in pearls, while the "mantle of the emperor should have a golden zodiac, bordered with pearls and precious stones."⁸⁹¹

Although sartorial culture tends to outweigh architecture in our sources - then as now, people cared what they looked like - it has not attracted the same attention from historians, nor been burdened with the same range of iconographic interpretations. No one, for example, has attempted to interpret clothing as a key element in a campaign of classical revival. The impression we get is that dress followed the general Mediterranean koiné. As with architecture, it is splendour which mattered, for our texts frequently assess clothes in money amounts, as Bishop Heribert did.⁸⁹² They were expensive. In c.1010, a merchant in Qayrawān received from Cairo a robe worth sixty dinars, and wrote requesting others worth twenty-five dinars (fig 59).⁸⁹³ *Book of Gifts and Rarities* records a wine-coloured brocade emblazoned with eagles on a white ground that weighed 4000 *mithqāls* and was worth at least 1000 dinars.⁸⁹⁴ Such sums represent great outlays from an Italian perspective.

⁸⁹¹ *Libellus de ceremoniis aule imperatoris* 5, in P. Schramm, *Kaiser, Rom und Renovatio*, ii, 96. The entire description runs: "Dalmatica imperatoris est diarodina ex auro frigio cum aquilis aureis et margaritis compactis ante et retro, habens in CCCLXV tintinabula aurea. Hepyloicum imperatoris oxydeauxitum sit factum cum aquilis et margaritis favrefactis ante et retro. Mantum aureum imperatoris habeat zodiacum aureum, ex margaritis et lapidibus preciosis compactum; in cuius timbria sint CCCLXV tintinabula aurea, ad similitudinem floris mali punici facta, totidemque mala punica. Habeat et zancas aureas cum aquilis III ex margaritis compactis, quarum cinctoria sint de auro et preiosis lapidibus et margaritis, habentes XXIII tintinabula aurea ad similitudinem flores mali punici facta. Calcei imperatoris sint de auro frigio et margaritis ac lapidibus preciosis, de quibus inibi sint facte aquile et leones et dracones."

⁸⁹² *On the treasure from the Church of Canossa that was sent to Rome and on the Compensation made to the Church of Canossa*, ed. Luigi Simeoni, in *Rerum Italicarum Scriptores* 2, Bologna: 1930, 108-9.

⁸⁹³ Goitein, *Letters*, #11 (TS 12.133).

⁸⁹⁴ *Book of Gifts and Rarities*, cap.105. It was sent in the year 1071 to the Byzantine emperor Romanos by the Fatimid general (and *de facto* ruler) Nāṣir al-Dawla.

Little of this sartorial culture survives. Among the extant objects, one, by virtue of its beauty and provenance, stands out so much that its historiography outweighs that of all others of the period. This is the mantle of Roger II (fig 60).⁸⁹⁵ Made in the early 1130s, it slightly postdates our area of interest, but will serve as a useful focus of discussion. The Islamic-looking garment features on its exterior a tree of life flanked by lions savaging camels, and a conspicuous Arabic inscription proving attribution and date. The interpretation of the iconography of the robe, in which Norman lions, everywhere a symbol of royal power, savage the camels of Islam, appears too obvious to be contested.⁸⁹⁶ But it need not be an exclusive explanation. For example, a multivalent reading might be found in the longstanding role of lions as the symbol and helper of Shi'ite Imams (a category including the Fatimid caliphs).⁸⁹⁷ To a viewer familiar with this tradition, it would be possible to interpret Roger's robe as a pro-Fatimid statement deployed against the camel-riding Sunni of North Africa or Arabia. Such a reading would be consistent with the general trend of Norman rule in Sicily, which emulated many aspects of Fatimid administration and ceremonial.⁸⁹⁸ To insist on this interpretation would be as silly as to take every griffin as a symbol of Christ, but it remains within the realm of the possible. Further, we may wonder whether the precise valence of the camels on Roger II's robe signified Islam *per se* or simply Arabs, as per Isidore of Seville. If such Islamicate things as architecture, ceramics or textiles did not acquire an exclusively Islamic veneer, why should camels?

Irrespective of these possibilities, one may doubt whether any precise messages were as important as the aura of familiarity the robe evoked. Although lions and camels could evoke Roger's victory over Africa, he was nonetheless wearing the same sort of

⁸⁹⁵ On which, in general, see Rotraud Bauer, "Il manto di Ruggero II," in *I Normanni: popolo di Europa 1030-1200*, edited by Mario d'Onofrio, 279-287. Venice: 1994; *Ibid.*, "The Mantle of Roger II and the Siculo-Norman Vestments from the Royal Court Workshop of Palermo," in *Nobiles Officinae*, v.2, 403-7; William Tronzo, "The Mantle of Roger II of Sicily," *Robes and Honour: The Medieval World of Investiture*, edited by S. Gordon, 241-253. New York: 2001; *Ibid.*, "King Rogers Mantle, Part and Whole," in *Nobiles Officinae*, v.2, 443-6; Hoffman, "Pathways of Portability."

⁸⁹⁶ See Hoffman, "Pathways of Portability," 29.

⁸⁹⁷ Khalid Sindawi, "The Role of the Lion in Miracles Associated with Shi'ite Imams," *Der Islam* 84 (2008): 356-390.

⁸⁹⁸ Discussed in, *inter alia*, Jeremy Johns and Nadia Jamil, "Signs of the Times: Arabic Signatures as a Measure of Acculturation in Norman Sicily," *Muqarnas* 21 (2004): 181-192. The making of the robe was one of several Fatimid inspired actions on the part of Roger II in the 1030s, including the adoption of an Arabic calligraphic signature, an *'alāma*, based on that of the Fatimid vizier, *ibid.*, 183-4.

garment as an Islamic ruler, a detail his people would not have missed. But the meaning of that detail was to be found in an extra-sectarian space. He was participating in the idiom of authority and wealth of the eastern Mediterranean, and perhaps inviting his subjects to obedience in an eastern style - that is, one in which the ruler's authority is divinely sanctioned. Fatimid and Byzantine authority looked quite similar, just as their pretensions were quite similar. In that sense, Roger wearing the robe, and Roger depicted as a Byzantine ruler in mosaic in Palermo are almost the same thing, notwithstanding the stylistic differences. This is an important point, for a more textual reading of the two objects might cast them as antithetical. It is true that "clothes are machines for communicating."⁸⁹⁹ But we should not make the mistake of reading them in the same way as books.

In many contexts, such as Roger's mantle, familiar symbols might be recast into new messages. Art, in Umberto Eco's terms, is not systematic but additive.⁹⁰⁰ It is clear that this iconotropic phenomenon, in which a known aesthetic vocabulary is available for new users to redeploy in their own interests, mirrors the process discussed by Glick, above, in which incongruent ideas are repackaged into a framework which makes them intelligible and acceptable.⁹⁰¹ It is both the strength and the weakness of symbolic vocabularies that this is easy to do, which is why Grabar observed that Islamic objects in Europe tell us little about Islamic influence.⁹⁰² It is the images and objects themselves, not what they putatively mean, that are constructive of cultural interconnectivity.⁹⁰³

CONCLUSIONS: MATERIAL CULTURE

It may appear that we are dealing in trivialities here, and indeed, the individual importance of any given *bacino*, pot, casket, or cloth could not have been great. But it

⁸⁹⁹ Umberto Eco, "Reading Things," in *Travels in Hyperreality*, 183-217. New York and London: 1986, 195.

⁹⁰⁰ Umberto Eco, "The Return of the Middle Ages," in *Travels in Hyperreality*, 61-85, 83.

⁹⁰¹ See chapter two, p.42.

⁹⁰² Oleg Grabar, "Trade with the East and 'Luxury Arts' in the West," in *Islamic Visual Culture, 1100-1800: Constructing the Study of Islamic Art*, 43-50. Aldershot: 2006, 45.

⁹⁰³ Cecily Hilsdale, "Gift," *Studies in Iconography* 33 (2012): 171-182, 176, has noted that gifts are not simply peripheral evidence for a relationship, but are constitutive of the relationship.

will not do to apply contemporary hierarchies of importance to the media of a millennium ago. When the legendary king Jamshid came to found human civilization in the *Shahnameh* (early eleventh century), he invented arms and resplendent clothing before all else.⁹⁰⁴ For a bishop, utilizing liturgical furniture or incense was as important a part of their duties as reforming their clergy.⁹⁰⁵ Intellectual and material production need not exist on separate planes. Quite the opposite. Engaging with the ideas and practices of a foreign culture has often meant wearing its clothes and admiring its art. The threads of material and mental culture became decoupled only in the nineteenth century, when for the first time high-grade material culture became cheap and widely available - although even today the phenomenon persists. The most famous and best documented example is found in Meiji Japan, where a conscious campaign to modernize the country's technology, industry and military nonetheless required the adoption of tailcoats and oil painting.⁹⁰⁶ It should not surprise us, then, if in their drive to achieve the wealth of Cairo, the Pisans borrowed its tableware.

The theories of emulation and consumption discussed in this chapter do not explain all the complexities of human and material culture on the Mediterranean - nor could they. They elucidate only one dominant avenue of social action, one that must have been particularly important in the commercial contexts of the Mediterranean network. Emulation, as we have seen, is a functional behaviour, although it usually occurs along avenues more informal than those of nineteenth century Japan. It responds to the stimulus of material things. A key effect of power was “to draw its holders into herculean efforts to give their position verisimilitude, almost regardless of whom such efforts did or did not impress.”⁹⁰⁷ Since people make assumptions about prestige and power based on what they can see, the powerful and prestigious guide people's assumptions by controlling

⁹⁰⁴ Firdowsi, *The Shāhnāma of Firdausi*, trs. Arthur and Edmond Warner, 9 vols. London: 1905-25. Available online at <http://etcweb.princeton.edu/shahnama/start.epl> (accessed March 2015), 132-33.

⁹⁰⁵ Hiltrud Westermann-Angerhausen, “Modelling the bishop: Egbert of Trier, Gregory the Great, and the Episcopal Image.” In *The Bishop: Power and Piety at the First Millennium*, edited by Sean Gilsdorf, 113-136. Munich: 2004, 120.

⁹⁰⁶ For an introduction to these themes, see Philip Mansel, *Dressed to Rule. Royal and Court Costume from Louis XIV to Elizabeth II*. New Haven and London: 2005. For Japan, 151-52.

⁹⁰⁷ Mayr-Harding, *Ottonian book Illumination*, 15.

what they see. The luxuries of the east were therefore necessities. To abandon such attempts was to abdicate status, for “rank requires props,” and in their absence may collapse.⁹⁰⁸ Participation in the Mediterranean’s network of shared culture was not optional, in that sense. The luxuries chosen by an elite can therefore tell us a great deal about that elite. Roger II’s mantle let everyone know he was a Mediterranean king, and in Amalfi trading families were making themselves recognizable and respectable to the merchant class of the south. In Muslim Cordoba, it was important for Jewish citizens to conform to Umayyad standards, as Ibn Daud wistfully recalled: “Every day there used to go out of Cordoba to the city of Zahra seven hundred Jews in seven hundred carriages, each of them attired in royal garb and wearing the headdress of Muslim officials, all of them escorting the Rabbi...”⁹⁰⁹ Artistic changes are rarely the causes of changes in social practice, but instead reflect them.⁹¹⁰ If Amalfitans or Pisans integrated themselves into the Mediterranean network and adopted its material culture, that signals the priorities of their elites.

In practical terms, a shared continuum of visual culture meant an extension of the ability of people to recognize other people and things all over the Mediterranean. A powerful man wore the same sort of clothes in Cairo, Constantinople, Mahdia and Pisa. Or he aspired to. And perhaps more important to the Italian merchant, he knew what goods he might find, and probably what they looked like. In our period, the voice of the Christian merchant is unrecorded. But an example of a few centuries later emphasizes the universality of the merchant’s experience: shipwrecked in Morocco, the German Gerhart is perfectly at home when he finds a market.⁹¹¹ The Fatimids went out of their way to help, by maintaining standards of weight, coin, and measure, and so did such smaller states as Amalfi and Salerno, when they were able, by conforming to those standards.

⁹⁰⁸ William T. Vollmann, *Rising Up and Rising Down*, San Francisco: 2003, vol.2, 142.

⁹⁰⁹ Ibn Daud, *Sefer ha-qabbalah. The Book of Tradition*, translated by Gershon Cohen. Philadelphia: 1967, 67.

⁹¹⁰ Annemarie Weyl Carr, “Icons and the Object of Pilgrimage in Middle Byzantine Constantinople,” *DOP* 86 (2002): 75-92, 92, makes this observation in the context of Byzantine icons.

⁹¹¹ Discussed in William Crooke, “*Der guote Gêrhart*: The power of mobility in the medieval Mediterranean,” *postmedieval: a journal of medieval cultural studies* 4 (2013): 163–176, esp. 166-68. The story dates from c.1220.

This was not difficult, for as far as we can tell, style was not an avenue of distinctive or sectarian identity.

We began this chapter with the observation that the Pisans had seemingly chosen to adopt from Islamic regions a vocabulary of ornament that was essentially meaningless. At this point we have elucidated the social mechanisms that would have worked on visiting traders from Italian cities and made the material culture of such places as Cairo or Mahdia appear desirable and worthy. If the observations offered seem simple, that is because they are - such operations govern many human interactions, and are familiar from many contexts. We need not always look to complex solutions, even in complex environments. As we have seen, however, that does not mean it meant nothing. It marked the Pisan participation in a common repertory of forms which, like the mantle of Roger II, could “speak the *lingua franca*” of the wider Mediterranean.⁹¹² The objects they imported were part of a larger continuum of luxury consumption, and their significance was in the propagation of a system that valued certain modes of consumption. An analogy: the import of clothing produced by, say, Prada, into contemporary Asia is part of a larger system of which fashion is only a small component. It signposts a system of values that privileges the material culture of certain regions, but that is only a small part of the system, which is ultimately about economic disparity. The agents of cultural diffusion were not ideological but economic.

⁹¹² Sarah Davis-Secord, *Between Three Worlds: Sicily on the Frontier of Byzantium, Islam, and Latin Christendom, Sixth through Twelfth Centuries*, forthcoming, 89.

INCENSUM & LUMINARIA

In the year 1005, the city of Pisa was seized by a fleet from the Islamic world.⁹¹³ The following year, a document was drawn up for a new baptismal church, dedicated to SS. Andrew and John, adjacent to the mooring on Pisa's seaward side. The document specifies that in return for the tithes of the neighbouring villages, payable in kind, the church must provide "officium dei, luminaria, incensum et missas."⁹¹⁴ A few decades later, but referring to the years after the millennium, a Clunaic monk, in some of the most famous lines of medieval historiography, wrote of the "white mantle of churches" that spread over "almost the whole world."⁹¹⁵ Scholars agree that Glaber's rhetoric reflects an actual increase in church building that accompanied economic growth, which was in turn fuelled by demographic expansion.⁹¹⁶ Among this multitude of new churches, we must number SS. Andrew and John at Porto Pisano. The church dedicated in 1006 does not survive, but it likely resembled a more modest version of S. Piero in Grado, another church possibly built around the same time at Pisa's port (fig 61).⁹¹⁷ There was nothing exceptional about SS. Andrew and John, nor about the provisions made for its maintenance.⁹¹⁸ The holy office and mass are an essential service at any church, and the same is true of the lights and the incense. But while the holy service is, *per se*, an

⁹¹³ Pisa chronicle: "MV Fuit capta Pisa a Saracenis." Note that the date is Pisan style, and could therefore refer to 1004 as well.

⁹¹⁴ Caturegli #80, 44-45.

⁹¹⁵ Raoul Glaber, *Historiarum libri quinque*, bk III, cap. 4.13, in Rodulfus Glaber Opera, ed. and translated John France, Neithard Bulst & Paul Reynolds, Oxford: 2002, 114-117: "Igitur infra supradictum millesimum tercio iam fere imminente anno, contigit in uniuerso pene terrarum orbe, precipue tamen in Italia et in Galliis, innouari ecclesiarum basilicas, licet plerique decenter locate minime indignissent, emulabatur tamen queque gens christicolarum aduersus alteram decentiore frui. Erat enim instar ac si mundus ipse excutiendo semet, reiecta uetustate, passim candidam ecclesiarum uestem indueret."

⁹¹⁶ In Verona, for example, over the tenth century, some 46 new foundations appear in the diocese. The trend gathers steam, with 61 new churches in the eleventh century and 89 in the twelfth, before falling off in the thirteenth: M. Miller, *The Formation of a Medieval Church. Ecclesiastical Change in Verona, 950-1150*. Ithaca: 1993, 24, table 1.

⁹¹⁷ San Piero in Grado is first mentioned in 1046 (Caturegli, #120). It is certainly earlier than that date, however, with some portions apparently tenth century, and other from the first quarter of the eleventh or later. There is discussion of the phases of its construction in Juan Antonio Quirós Castillo, "Técnicas constructivas altomedievales en la ciudad de Pisa y en la Toscana nordoccidental," *Arqueología de la Arquitectura*, 4 (2005): 81-109, 84-89.

⁹¹⁸ Another Pisan example may be found in Caturegli #123, in which a certain Genuardus received a fourth part of the church of S. Maria in Vicopisano, and took on the responsibility for the holy office, lights, incense, and masses (Per eum aut per eius dispositionem officium Dei, luminaria, incensum, missa canere fieri debet.)

intangible good, lights and incense represent physical substances that must be consumed and replenished. They are subject, therefore, to considerations of an economic sort.

From the juxtaposition of these Latin sources – Glaber’s history and the Pisan document – a simple thesis emerges: that the business of luminaria and incensum must have been an expanding market in the eleventh century. The white mantle of churches meant not solely architectural expansion, but an increase in the demand for incense, lamp oil, and all the other appurtenances of church ritual. As many of these materials were imported from the eastern Mediterranean, we need to consider the role of such ports as Pisa as suppliers to the churches of Latin Europe. And not solely to churches, for almost everything used for lighting or incense was also used in medicine, and much of what we know about these materials comes from medical texts. While consumption of these substances goes back to antiquity, it is possible that the rising scale of demand in our period made a significant contribution to the commercial development of Pisa. This chapter, then, will survey the evidence for a market in luminaria and incensum, and consider whether Pisa was well placed to meet its demands.

TERMINOLOGY

First, some words about terminology. We are dealing with groups of substances that to the modern reader may seem well sundered from one another. On the one hand, materials associated with incense or perfume, themselves of both animal and vegetable origin. Second, herbs and spices, some of them mineral. Finally, drugs, of sundry origins, but usually botanical. In the modern world, the first belongs to the world of commercial fashion, the second are culinary, while the third pertains to medicine. This diversity of substances does not correspond to any modern category, leaving us with the problem of what to call them. In early medieval Latin, the common usage was *pigmenta*, a word whose popularity was maintained by that perennial bestseller, the Vulgate: “the

apothecary shall make sweet *pigmenta*.⁹¹⁹ The precise valence of this word was fairly broad.⁹²⁰ In the tenth century, Berner of Homblières spoke of the smoke “ex aromatibus myrrhae et thuris et universi generis pigmentorum.”⁹²¹ For us, the word is too heavily coloured by its association with paints and dyes to sit lightly as a term for drugs and incense. The modern rendering of the Latin “aromata” is likewise problematic, which is a pity, for we find it at Cluny. The monastic sign languages of that abbey had a sign for ginger and another for incense, but both were grouped together under the rubric “aromatics” in the monastic customaries.⁹²²

A third Latin usage was “*medicamen*,” which also was used in our period – the Pisan expatriate Stephen of Antioch used it in his c.1125 translation of the *Royal Book of Al-Majūsī*. It seems to mean the same thing as *pigmenta*, but its modern derivation, *medicaments*, is too redolent of bandages and iodine to satisfy our requirements. Indeed, Burnett translates *medicamen* into the equally Latinate *materia medica* in his text of Stephan of Antioch, and that term remains predominant in modern publications.⁹²³ The adjective, however, provides an emphasis that, although satisfactory for historians of medicine, is less wieldy for a historian interested in demand and markets, many of which were not *medica*. As none of the medieval terms are quite right for the purposes of this study, here we shall use the Latin *materia* when we want to indicate the range of goods encompassing *medica* but also including whatever pertains to *luminaria* and *incensum*, as well as to the overlapping categories of perfume and anointing.

The range of substances under discussion is broad. The *Antidotarium Nicolai*, an early twelfth century pharmacopeia from Salerno, cites some 450 different ingredients. Not all pertain to Mediterranean trade, such as butter, while others were common plants.

⁹¹⁹ Kings 20:13: “et ostendit eis domum aromatum et aurum et argentum et pigmenta varia unguenta,” and Isiah 57:9, “et ornasti te regi unguento et multiplicasti pigmenta tua;” Ecclesiastes 38:7, “In his curans mitigabit dolorem, et unguentarius faciet pigmenta suavitatis, et unctiones conficiet sanitatis, et non consummabuntur opera eius.” Note that “unguentarius” is commonly translated as apothecary.

⁹²⁰ For an early – perhaps the earliest – scholarly discussion of the word *pigmenta*, see Ernst Dümmler, “Gedichte aus Ivrea,” *Zeitschrift für deutsches Altertum* 14 (1869): 245-65.

⁹²¹ Bernerus Abbas Humolariensis, *Vita sanctae Hunegundis virginis*, PL 137, 0051D.

⁹²² PL 150, 0945B-C, *Constitutiones Hirsaugienses* I.xiii: De signis aromatum.

⁹²³ Charles Burnett, “Stephen, the Disciple of Philosophy, and the Exchange of Medical Learning in Antioch,” *Crusades* 5 (2006): 113-129, 122.

There remains, however, the foreign, the exotic, and the expensive. It is of these that sources speak, for humble materials may pass from production to consumption without ever intersecting with the written word. Musk, camphor, or frankincense crop up in accounts of gifts and treasure, and were traded over great distances by the merchants of our era. These materials are by nature ephemeral. Some, like ambergris, are so volatile they can survive unadulterated only a few months. The perfume of aromatic woods is based upon essential oils, and is likewise volatile. Others are subject to the usual range of biotic and abiotic stresses. To grapple with these substances, therefore, the historian of material culture is reduced to oblique strategies. Fortunately, a related body of material evidence is available to us, in the form of vases, censers, basins, lamps and other vessels. This genus of objects has not escaped the clutches of museums or treasure hunters, or the attention of historians. Their study has focused on the objects themselves. There is a possibility, however, that this approach in effect puts one in the unfortunate position of an oenologist studying not the wine but the bottles. Byzantine sources, for example, make it clear that holy oils outweighed icons in importance: we are much more likely to hear of holy springs or lamp oil in pilgrim texts than icons.⁹²⁴ To historians, however, it is the latter that remain.

THE MATTER OF MATERIA

That the business of *materia* must have expanded in the eleventh century is an inference resting on what we know about liturgical practice and population expansion. To substantiate it, the suggestion needs evidence. Fortunately, it is available, in the form of several parallel developments in the culture of the Latin west. First, this era was witness to the growth of a monastic practice that emphasized liturgical luxury to a degree greater than before, at Cluny and many monasteries under its influence. Second, monastic usage was paralleled by the pan-Mediterranean employment of *materia* in pilgrimage shrines.

⁹²⁴ Annemarie Weyl Carr, "Icons and the Object of Pilgrimage in Middle Byzantine Constantinople," *DOP* 86 (2002): 75-92, 86. As she puts it, "The effluvia, in turn, concretize the blessings of that site, and it is they—not replicas of the icons—that are carried away by eager pilgrims as *memoria* and *memorabilia*."

Third, we find both these liturgical developments reflected in the material culture of the era, which demonstrates their importance in the context of treasure and its visual representations. Lastly, we see the development of a medical practice that made heavy use of imported substances. This occurred at Salerno, the part of the Latin west in closest contact with the eastern Mediterranean. That these developments arose simultaneously is no coincidence, but reflects the greater availability of exotic goods that occurred as merchants from Pisa and other cities entered the Mediterranean network.

We have already seen how literature may offer insight into the migration of both objects and the values associated with them. Of interest is a poem of c.1080 from Ivrea in northern Italy:

Plenty of gold suffices for what the Moors send me,
From the best of that material, or from another...

Our book is adorned with purple parchment,
And the Syrian and Tyrian have no better...

Kos and Eos have displayed their goods here,
And likewise Sidon and Tyre their various products.
The Sabeans sell their incense and Jewish brocade,
Spikenard and marvellous balsam.
Here ginger respire, the buyer inspects the pepper to be purchased,
This market offers every kind of aromatic.
In the cross-roads each spice mingles with the wind...

The dealer bore from Crete this marvellous tapestry...

Here is every painter's hand, and every doctor's,

And each prospers in his own vocation...⁹²⁵

The poet, Wido of Ivrea, is describing the market of his hometown, albeit in idealized terms calculated to impress. Ivrea lay on the main trunk route north from Tuscany – the same that Isaac the Jew took with Charlemagne’s elephant – which was by the tenth century known as the Via Francigena. In c.990, Bishop Sigeric of Canturbury traveled along it, stopping at Ivrea, Pavia, Luni, and Lucca.⁹²⁶ As the main route north, we could be sure that it was traversed by Pisan merchants even without the diploma of Henry IV that mentions them in Pavia. The Pisans had longstanding links to Ivrea, since the years around the millennium when the counts of Pisa adhered to Arduin of Ivrea. When Arduin died in 1015, he was buried at the palatial abbey of Fruttuaria, near Ivrea, one of the first and greatest of Cluny’s dependant abbeys in Italy. The Via Francigena was also the road to Cluny, a vital market for aromatics and spices.⁹²⁷ Bishop Daimbert of Pisa may have taken this route north, as he was in Pope Urban’s entourage in 1096 when the latter consecrated Cluny’s new basilica.⁹²⁸

Increases in wealth correlate to increases in consumption; this is an equation that underpins modern civilization, and it applied in the eleventh century as well. It is most obvious at Cluny, which transitioned from a modest reforming abbey into a machine for sustained conspicuous consumption. Cluny is also a good example of what might be achieved by the concentration of wealth extracted from the House of Islam. As noted in chapter one, the general increase in Western Europe’s economy in this era rested on demography and agrarian expansion. The sharpest peaks of that increasing wealth, however, had a lot to do with foreign trade. It can only have been trade that provided

⁹²⁵ The poem is the *Versus Eporedienses*, so-called by Dümmler, and published by him in “Gedichte aus Ivrea,” *Zeitschrift für deutsches Altertum* 14 (1869): 245-65. These are lines 125-6, 139-40, 195-201, 207, 219-20. Note that the Sabeans in line 197 were understood, via Strabo and Isidore on Job 1:15, as Arabs. See Michael Lapidge, *Anglo-Latin Literature, 600-899*, London and Rio Grand, OH: 1986, 222.

⁹²⁶ Bishop Sigeric’s itinerary is well known. I used the map in John Man, *Atlas of the Year 1000*, Cambridge, MA: 2001.

⁹²⁷ It was the route of Peter Damian and his entourage, *inter alia*, when he traveled to the abbey to settle the dispute between its abbot and the bishop of Mâcon in 1063. An account of the journey was written by one of Damian’s monks: *De Gallica Petri Damiani projectione et eius ultramontane itinere*, ed. Gerhard Schwartz & Adolf Hofmeister, MGH SS 30.ii), 2 vols., Leipzig: 1934, 1034-1046, at 1039.

⁹²⁸ Christopher Tyerman, *God’s War: A New History of the Crusades*, Cambridge: 2006, 63.

abbeys with their necessary luxuries. Some of these are described in the sources. William of Hirsau in Bavaria (r. 1069-1091), wrote his *Constitutiones Hirsaugienses* under the influence of Cluny. Wherein we read that “the infirmary has a cabinet, in which things are kept, holding the tapers and spheres and seldom or never are pepper, cinnamon, ginger, and other roots which are healthful absent from it, so that they should always be at the ready to assist the infirm...⁹²⁹ The same requirements are found in the customary of Udalric, likewise produced to promulgate the customs of Cluny.⁹³⁰ The development of gestures in the monastic sign language of the time seems to imply that the armariolum might be as well stocked in reality as William and Udalric envisioned: “To make the sign for ginger, make the common sign for herbs already mentioned, with the right fist, moving in a circular fashion like a mill, held above the other likewise rotating like a mill, then stick out the tongue and lick the index finger; for the sign for frankincense, make the sign already mentioned for a bean, then move the thumb and pointer finger to the nostrils.”⁹³¹

Cluny’s originality, much emulated, lay in its novel approach to the holy office, in which the congregation of monks undertook an unrelenting sequence of prayer and masses day and night. This was their most important task, to which they devoted not only labour, but considerable artistic and theatrical elaboration. The monks must have done a lot of nostril-pointing, for frankincense was a ubiquitous adornment of monastic and church practice. At Cluny, every Sunday and feast day mass, the altar and entire community of monks – over a hundred – were perfumed with a censer, followed by an additional censuring of the deacon and gospel while the Gradual was sung, while later the bread and wine were incensed, and then the ministers, abbot, and entire choir.⁹³²

⁹²⁹ PL 150, 1126A, cap.lvii: Item de infirmario, seu infirmis. Habet armariolum, in quo talia recondit, et candelas et poma raroque aut nunquam defuerit in eo piper, cinamomum, gingibrum, aliaeque radices, quae sunt salubres, ut sit semper in promptu, quod valeat infirmo fortassis, ut aliquando contigerit, subitanea passione percusso dare vel si expedit, ut pigmentum ei conficiatur, camerarius non invitus praebet infirmario hujusmodi facultatem.

⁹³⁰ PL 149, *Antiquiores consuetudines cluniacensis monasterii collectore Udalrico monacho benedictino, liber tertius*. Pro singulis obedientiis, cap. xxv: De infirmario, 0768d.

⁹³¹ PL 150, *Constitutiones Hirsaugienses*, I.xiii, 0945B-C: De signis aromatum: “Pro signo gingibri, generali itidem signo herbarum praemisso, cum pugno dextro in summitate alterius simula circumferentem molam; item simula circumducentem molam; deinde fac apparere linguam, applicatoque indice, lambentem. Pro signo thuris, fabae signum praemitte, et postea pollicem cum sibi proximo naribus admove.”

⁹³² Noreen Hunt, *Cluny under Saint Hugh, 1049-1109*, London: 1967, 208-10.

Luminaris and incensum were luxuries that were necessary. Even if somewhat less was used on regular days, it was nonetheless essential: “Sine lumine et incenso nullo modo feratur coipas domini in aliquam partem.”⁹³³

The indefatigable ritual of Cluny, as well as its physical structures, were an indirect consequence of the calamities that struck the House of Islam in the eleventh century. The collapse of the caliphate of Cordoba exposed the cities of Al-Andalus to large scale racketeering by the northern Spanish rulers. The greatest of these, emperor Fernando of Leon-Castile, dedicated an annual census to Cluny, which was expanded by his successor Alfonso.⁹³⁴ The gift was comprised of gold extracted from the south, and in one stroke made Cluny the wealthiest monastery in the Latin west.⁹³⁵ This situation was dimly reflected in the narrative of Ralph Glaber, who condensed the wars of Al-Andalus to a single battle, the booty of which went to Cluny.⁹³⁶ Some of this gold must have gone towards the always-burning incense. Which means that every time a censer was lit in Cluny’s halls – or in any of its extended monastic empire – money accrued to the port of Pisa, or Amalfi, or Barcelona. Cluny as historians know it, then, could not have existed a century earlier. Its development, from a modest enough abbey to a nucleus of endless ceremonial, progressed in lockstep with Latin Europe’s engagement with the Mediterranean network. Over this century of rising wealth, Cluny monetized most of its income.⁹³⁷ This reflected in part its pre-eminent position – the more wealth that is available, the more it tends to liquidity.⁹³⁸ As the economy expanded and monetization increased, new organizational requirements arose. The chamberlain at Cluny – barely mentioned in tenth century sources – becomes increasingly visible as his responsibilities

⁹³³ *Consuetudines Farfenses*, ed. Bruno Albers, *Consuetudines monasticae*, I, Stuttgart-Wien: 1900, 154. Farfa’s customs were closely moulded on Cluny’s in the eleventh century.

⁹³⁴ But note the recent argument that Alfonso, not Ferdinand, began the census. Lucy K. Pick, “Rethinking Cluny in Spain,” *Journal of Medieval Iberian Studies* 5, 1 (2013): 1-17.

⁹³⁵ The census of Ferdinand eclipsed every other gift due to Cluny. It came to 1000 dinars, which, considering he gave it away, compares well to the wealth of the Ottonian emperors. But Al-Hakim spent 40,000 dinars to complete his eponymous mosque in 1002/3 (at least, according to Al-Maqrizi: Creswell, *Muslim Architecture of Egypt*, v1, 65).

⁹³⁶ IV.vii.22 describes a great battle. “It is the custom of the Saracens to decorate themselves with plaques (faleris) of gold and silver when they go out to battle; in the event this profited the pious devotion of our people.”

⁹³⁷ Georges Duby, *Hommes et structures du Moyen Age* Paris: 1973, chs.2 and 23.

⁹³⁸ Rory Naismith, “Social Significance of Monetization in the Early Middle Ages,” *Past and Present* 223 (2014): 3-39, 32. Of course, the greatest part of Cluny’s income was already delivered in gold, from currency rich Spain.

(i.e. movables and money) grew in importance.⁹³⁹ Hunt notes that as the population of monks expanded, bearing lights and incense provided a task in the liturgy for the large numbers unable to sing.⁹⁴⁰ This in turn led to the employment of full time servants, supervised by the sacrist, responsible solely for candles and lamps.⁹⁴¹

Cluny is worth dwelling on because its influence was vast. Not only in its considerable empire of direct dependents and possessions, but also in its more diffuse role as an object of prestige and emulation. At Farfa, a Clunaic abbey in the hills east of the Via Francigena, the Palm Sunday procession required five thuribles, three of gold.⁹⁴² It likewise shared in the ginger-stocked armariolum. However, odoriferous ritual extended beyond monasteries. Chrism, a mixture of balsam and oil, was required for altar consecration, wherein it was used by the bishop to anoint the centre and four corners of the altar, a symbolic gesture perhaps evoking the corners of the earth arrayed around Jerusalem.⁹⁴³ In the Romano-German Pontifical, the absolution of penitents was symbolized by sprinkling with incense and water.⁹⁴⁴ *Materia* were used for offering to the church as well, when they were available. Their association with sacrality was long-standing, and their high-value and portability made them ideal for a practice which at its heart was a form of conspicuous consumption. Michael Psellus wrote that in addition to “the sacrifice of praise, of thanksgiving, or of penitence,” there was also “the offering of spices and sweet herbs, the products of India and Egypt.”⁹⁴⁵ The practice, maintained since late antiquity, was reiterated in the canonical collections of the tenth and eleventh centuries.⁹⁴⁶ We know it was carried out, too, for in Pisa the women “made vows and

⁹³⁹ Hunt, *Cluny under Saint Hugh*, 58.

⁹⁴⁰ Hunt, *Cluny under Saint Hugh*, 112.

⁹⁴¹ “Quorum omne studium totusque labor est candelas facere in domo sacristaria cereos decenter formare, oleum conficere...” Bernard of Cluny, *Ordo Cluniacensis per Bernardum* cap.li, 245, printed in *Vetus disciplina monastica*, Paris: 1726.

⁹⁴² *Consuetudines Farfenses*, ed. Bruno Albers, *Consuetudines monasticae*, I, Stuttgart-Wien: 1900, 43-44, in *early medieval art 300-1150*, 131.

⁹⁴³ Jan M. F. van Reeth, “The Paradise and the City: Preliminary Remarks on Muslim Sacred Geography,” in *Across the Mediterranean Frontiers: Trade, Politics and Religion, 650-1450*, edited by Dionisius A. Agius and Ian R. Netton, 235-53. Turnhout: 1997, 243.

⁹⁴⁴ Sarah Hamilton, *The Practice of Penance, 900-1050*, Woodbridge: 2001, 121. It was a popular text, but not predominant, making up perhaps 30% of pontificals in use in eleventh century France. *Ibid.*, 216-18.

⁹⁴⁵ Michael Psellus, *Chronographia*, 6.159, 157, Renauld 2.49, 48. edited and translated by E. Renauld, 2 vols., Paris: 1926-28; english translation, Edgar R. A. Sewter, *Michael Psellos. Fourteen Byzantine Rulers*, Harmondsworth: 1966.

⁹⁴⁶ E.g. in Burchard of Worms, *Decretals*, book 20, cap.XCIII. PL 140.

bore the densest incense” to the shrines, in the hopes their men would return safe from the sea.⁹⁴⁷

HEAVENLY PLACES

Peter Damian’s description of Cluny as smelling of “perfumes and spices” appears in a bravura piece of rhetoric that also evokes the Solomonic lilies and roses, but that does not mean his words are inaccurate.⁹⁴⁸ Cluny’s example permeated the intellectual and spiritual climate of the age. The use of incense in blessing is sometimes said to be an innovation of this era.⁹⁴⁹ In a dramatic oration against demons preserved in an eleventh century codex, we are given the image of the Archangel Gabriel combating Satan’s curses with a “gold censor full of incense.”⁹⁵⁰ There is a difficulty here in distinguishing figurative from literal language. Myrrh, for example, is far more likely to appear in formulaic references to bitterness and death than in actual usage, as in the hymn of Fulbert of Chartres, reminding us that “Thus Deo, myrrham tribuunt sepulchro, Auream regi speciem decenti”⁹⁵¹ For Peter Damian, myrrh symbolized the mortification of the eremitical life, as roses did its charity and lilies its chastity, while for Rupert of Deutz, myrrh, cinnamon, cassia and calamus, offered to the Holy Spirit, symbolize justice, prudence, fortitude and temperance in the secular world; faith, hope, charity and perseverance in the spiritual.⁹⁵² Nard is hot by nature, says Philip of Herveng in the twelfth century, parroting the medical literature; nard is the herb of humility, he says, in a mode of scriptural interpretation; nard found by a virgin smells richer and more fruitful, he says, somehow combining both.⁹⁵³ How many writers ever encountered myrrh or nard

⁹⁴⁷ *Liber Maiolichinus*, cap.8, line 72, p.116. “Vota vovent et thura ferunt creberrima sanctis...”

⁹⁴⁸ Peter Damian, *Letters 91-120*, #113, 287.

⁹⁴⁹ C. Atcheley, *A History of the Use of Incense in Divine Worship*, London and New York: 1909, 128.

⁹⁵⁰ PL 138, 1147B: “Agnosce artem tuam maledicte Satana. Ecce Gabrihel Angelus cum turibulo aureo pleno incenso de orationibus sanctorum.”

⁹⁵¹ Probably written in the 1020s. *Hymni et carmina ecclesiastica*. PL 141, 0350D.

⁹⁵² Peter Damian, *Liber dominus vobiscum* XI.xix: Laus eremiticae vitae, PL 145, 246D; Rupert of Deutz, *In Leviticum commentariorum* ii.2, PL 167, 0788D

⁹⁵³ Philip of Herveng, *Commentaria in Cantica Canticorum*, PL 203, Lib. II, cap.ix, 266-7.

is unclear. But the scribe of St. Emmeram, Othlon of Ratisbon, although discussing “mysterii profunditas,” seemed to be writing from experience about how the nose apprehends the scent of frankincense and myrrh.⁹⁵⁴ Likewise Rupert of Deutz, discussing the gifts of the Magi, notes that frankincense and myrrh lose their shape when placed on the charcoal of a censer.⁹⁵⁵

Nor are such examples limited to theological tracts. In the duomo of Andria, a late eleventh century inscription commemorates its Norman founder’s parents “velut nardus” – an allusion that only ten kilometres from the port of Barletta need not have been purely scriptural. Nard or balsam or other aromatics, then, had two functions: one, a symbolic or analogical role, deployed by clerical writers to delineate modes of Christian behaviour, and two, a literal sense, likewise deployed by clerics to ensure the church smelled good. The overlap between the two was indistinct, in part because a church always smells of sanctity, more or less by definition. The monastic life was “a garden of spices,” said Peter, abbot of Moutier-la-Celle at Troyes.⁹⁵⁶

But the gap between the literal and theological place of *materia* was indistinct for a second reason, namely the ambiguous overlap between sacrality and materiality that obtained in this era. This is more or less explicit in some discussions of the origin of aromatic materials.⁹⁵⁷ Paradise is redolent of nard and balsam, sang Alphanus of Salerno in a hymn to Saint Sabina, and he was a man who knew his *materia*.⁹⁵⁸ A similar idea was espoused a generation earlier by al-Tha’labī, who wrote that when Adam was ejected from Eden, he came to India and there his garment of prelapsarian foliage fell and became sandalwood, aloes wood, musk, ambergris and camphor.⁹⁵⁹ Another similar story, of Persian origin, tells us that if “you combine in scent Khusrawānī wine, Syrian apple,

⁹⁵⁴ PL 146, *Libellus manualis de admonitione clericorum et laicorum* iii, 250A.

⁹⁵⁵ *In apocalypsim Joannis apostoli commentariorum* I.1, PL 169, 0833D.

⁹⁵⁶ Cited in Samuel R. Maitland, *The Dark Ages*, London: 1890, 442.

⁹⁵⁷ Some of the following parallels the observations made by Paul Freedman, who notes how the prestige of aromatics was enhanced by the “pairing of the alluring and the perilous exotic found in accounts of the earthly paradise.” *Out of the East: Spices and the Medieval Imagination*, New Haven: 2008, 134.

⁹⁵⁸ PL 147, Col.1222D.

⁹⁵⁹ Al-Tha’labī, T., *Lives of the Prophets*, translated by W. M. Brinner. Leiden: 2002, 61. A trace of the legend of Adam’s earthly abode survives in Marco Polo, III.23, who records his relics in Sri Lanka – where some are still to be found.

Persian rose, the sweet basil of Samarqand, the citron of Ṭabaristan, the narcissus of Maskā, the violet of Isfahān, the saffron of Qumm and Bawan, the waterlily of Shīrāz, tripartite perfume with Indian aloes wood, Tibetan musk, and Shiḥrī ambergris, the scent of the Garden which is promised to the faithful is not lacking.”⁹⁶⁰ Honorius of Autun fluctuated between the symbolic and the literal. In paradise, he wrote “flourishes myrrh and aloes, with all the best unguents. Myrrh is a tree whose sap is oil,” which preserves “the flesh from worms and decay.” But it is also the chaste and eremitical, who mortify themselves for their sins, and “guard their flesh from putrescent lusts.”⁹⁶¹

The supply of *materia* was therefore a testament to the existence of Eden as a real-world location. Presumably it was thence that a quantity of “aromatics up until now unknown on earth” made their way to Germany in the 1130s.⁹⁶² To judge by maps of the eleventh century, Eden was as real a place as Carthage, against which Pisa launched a raid, and whose bishop corresponded with Leo IX.⁹⁶³ Paradise is located in the east, wrote Honorius of Autun (1080-1154), and the maps agreed, usually locating it due east of Jerusalem.⁹⁶⁴ The one in the Facundus Beatus of 1047 shows it just beyond the river Jordan, on whose banks, according to a twelfth century pilgrim’s guide, balsam flourishes.⁹⁶⁵ Eden’s endemic plants were well known: in addition to the unique specimens, there grew pomegranates, cyprus, fistula, cinammon, amomum, libanum, myrrh, aloe, and so on.⁹⁶⁶ It need hardly be said that such taxonomies were in the service of allegory: “The aromatic Cyprus tree, abundant in Egypt, is the spiritual life, which first flourished in Egypt.”⁹⁶⁷ This suggests a refinement to the interpretation of the

⁹⁶⁰ It is also recounted by al-Thaʿālibī (d. 429/1038), in his *Tārīkh Ghurar al-Siyar*, and is attributed to the court of the Sasanian King Khusrow. Translated in A. King, *Musk Trade*, 121-122.

⁹⁶¹ PL 172, 426A.

⁹⁶² *Annales Erphesfurdenses*, anno 1135, MGH SS 6, 540: “...aromata multa nimis et in hac terra hactenus incognita.”

⁹⁶³ The anonymous Pisan author of the *Carmen in victoriam Pisanorum* refers to Mahdia as Carthage. In the 1050s, the bishop of Carthage, i.e. Tunis, wrote to Leo IX requesting his intercession in a dispute about diocesan boundaries: PL 143, 728-730.

⁹⁶⁴ Honorius Augustodunensis, *Expositio in cantica canticorum* ii.4, PL 172, 0424D.

⁹⁶⁵ John the Deacon, *De locis sanctis*, PL 173, Col.1124D.

⁹⁶⁶ *Ibid.*, PL 172, 452-6.

⁹⁶⁷ “Cyprus arbor aromatica, abundans in Aegypto, est spiritualium conversatio, quae primitus florebat in Aegypto.” PL 172, 0425C. It was a common trope in the twelfth century. For another example, in the homilies attributed to Gottfried of Admont (d.1165), “Per cinnamomum, quod cinerei coloris, et balsamum, quod boni odoris, optime significari potest corporis castimonia, et cordis munditia,” *Ven. Godefridi abbatis Asmontensis homiliae in festa totius anni*, Homilia lxi, PL 174, 984C.

iconography of some of the era's artworks. The bronze doors of the duomo of Amalfi, commissioned by Pantaleon Maurus in Constantinople, are decorated with a foliate cross, which stands for the Tree of Life within the Garden.⁹⁶⁸ The same design appears on similar doors, dating to 1081, in nearby Atrani. Such motifs are multivalent, but one can read the iconography of the doors, themselves literally brought from the east, as an evocation of Edenic substances of eastern origin – the same substances which brought Amalfi much wealth.⁹⁶⁹ Similar parallels between ornament and intent may be found on surviving containers, which often bear the Tree of Life or similar vegetative devices. The floriated iconography that suggests the Garden of Eden might be redolent of their contents. Such an equation between boxes and the decor and doors of churches is apt, for the latter, as we have seen, opened into a world of exotic aromas. Ivory boxes would enjoy long afterlives as reliquaries, or as funeral caskets; the remains of the father of Matilda of Tuscany were kept in such a box.⁹⁷⁰ The Farfa Casket was commissioned by Maurus of Amalfi around 1071. Carved on its lid, in the angle between the inscription identifying Maurus as one “who has associated with dark people,” and that introducing his children, we find the Magi, offering their gifts of gold, frankincense and myrrh.⁹⁷¹ Below, we find that the frankincense or myrrh is put to use, as an attendant swings a censer before the dying Virgin. Perhaps we should see the Magi as signifying Maurus' family, who did go to distant lands and return with aromatic offerings to Christ. And inside the box, as we shall see, relics themselves might be preserved with frankincense, myrrh, or other substances. The Tree of Life is a pan-Mediterranean motif, and secular readings are also possible: Ibn Hazm wrote of wealthy lovers storing ambergris-soaked letters in ivory boxes – these likely include the pyxis that survive from Al-Andalus,

⁹⁶⁸ Margaret English Frazer, “Church Doors and the Gates of Paradise: Byzantine Bronze Doors in Italy,” *Dumbarton Oaks Papers* 27 (1973): 145-162, 148. The identification of foliate crosses with Eden is conventional and of long-standing. Frazer cites, *inter alia*, P. A. Underwood, “The Fountain of Life in Manuscripts of the Gospels,” *DOP* 5 (1950), 100ff.

⁹⁶⁹ We have already noted the scarcity of sources for the goods imported the maritime cities. A rare exception occurs in 1120, when Falco of Benevento credits the Amalfitans with supplying the incense and cinnamon for Pope Calixtus's entry into the city. Falco di Benevento, *Chronicon Beneventanum*, ed. E. d'Angelo, Florence: 1986, 56.

⁹⁷⁰ See discussion in Avinoam Shalem, “From Royal Caskets to Relic Containers: Two Ivory Caskets from Burgos and Madrid,” *Muqarnas* 12 (1995): 24–38.

⁹⁷¹ For the casket, see above p.175.

which are suitable for the small strips of paper that were a common format for letters at the time (fig 62).⁹⁷² The motif, on the splendid doors at Amalfi or in the audience hall at the Medina al-Zahra or the wooden beams of Fatimid palaces, served as a signpost of luxurious consumption.

NUMEROUS RITES

The literary association between heaven and fragrance is made flesh (as it were) in the iconography of censers. Many of them are, like ivory boxes, ornamented with vegetative motifs. But here we find a second avenue of iconography, albeit one that overlaps with the Tree of Life. Theophilus is explicit that if a craftsman wishes to make a censer of precious craftsmanship, he should ornament it with the city “which the prophet saw on the mountain.”⁹⁷³ The heavenly Jerusalem is frequently found on extant censers (fig 63).⁹⁷⁴ Such a program makes sense, not only as metaphor, but as a literal encapsulation of the origins of the incense being burned. Such architectonic incense burners are found in various forms, such as the long-handled variety from Al-Andalus, ornamented with rows of arches, as well as traditional dangling thuribles. A particularly well-known example is the large brazier from San Marco that headlined the Royal Academy show of 2008, *Byzantium*, whose architectonic construction conforms to the heavenly city described by Theophilus (fig 64).⁹⁷⁵ Making a general point about architectonic objects, Grabar suggests that their role is to amplify the importance of their contents.⁹⁷⁶ To burn incense in a model of the holy Jerusalem, then, is to underscore the sacral power of the incense.

⁹⁷² Ibn Hazm, *The Ring and the Dove*, cap.22; *Chronicon sancti Huberti Andaginensis*, 583.

⁹⁷³ Theophilus, 112.

⁹⁷⁴ Heidi C. Gearhart, “Work and Prayer in the Fiery Furnace: The Three Hebrews on the Censer of Reiner in Lille and a case for Artistic Labor,” *Studies in Iconography* 34 (2013): 103-132, 121-123; T. Gousset, “Un Aspect du symbolisme des encensoirs Romains: la Jérusalem céleste,” *Cahiers archéologiques* 30 (1982): 81-82 and 92-94.

⁹⁷⁵ It is now in the treasury of San Marco in Venice. There are good reasons for attributing the object to an Italian workshop. The symbolic vocabulary of its lower register, which includes a griffin, lions, centaurs, and characteristically Romanesque sirens, suggests an Italian provenance. See *Byzantium*, 423.

⁹⁷⁶ Oleg Grabar, *Mediation of Ornament*, 191-2.

Paradise, wrote Honorius of Autun, “is irrigated by a fountain, which divides into four rivers.” Cassia, cinnamon, myrrh, aloes, and others grow there.⁹⁷⁷ The verdancy of nature explicit in the tree of life motif complemented a second aspect of most evocations of paradise, that of liquidity. Images of paradise invariably include running water, usually the four rivers. They appear on maps, and censers, such as a twelfth century example at the Met, and are suggested by the lower register of the San Marco brazier, which features such aquatic creatures as sirens. Ideas of liquidity were therefore a natural associate for aromatics, which in practice were often mixed with oil, as in the case of chrism, and which as trees were sustained by water.⁹⁷⁸

It should be noted that while the association in the medieval imagination between aromatics and vegetation was largely symbolic, it was rooted in fact. We find this clearly expressed in a lustre ware *bacino* from eleventh century Egypt – of the same type that were imported into Pisa – at the Victoria and Albert, signed by the artisan Sa’ad, that shows a priest flanked by a large censer on his right hand and a tree on his left (fig 65). The overt symmetry suggests the kinship between tree and thurible, and while the former is usually identified as a cypress, its tendrils support trifoliate leaves that suggest the *Commiphora* genus of myrrh trees. Such a deliberate rendition is possible for an Egyptian artist, who could have known what the myrrh tree looked like.⁹⁷⁹ A similar conflation is suggested by the relief inside a lozenge at Al-Aqmar, which shows a hanging censer (or lamp) out of which sprouts a tree of life, as well as the San Marco brazier, one of whose panels shows trees that parallel the Sa’ad *bacino*.⁹⁸⁰

Censers were, as we have seen, an important part of church ritual, both at the little pieve at Porto Pisano and the vast edifice at Cluny, and Kitzinger has suggested their use

⁹⁷⁷ Honorius of Autun, *Expositio in cantica canticorum* II.IV, PL 172, 0424D-0426D.

⁹⁷⁸ The *Ordo Romanus* calls for balsam in chrism: “et praeparantur ampullae duae cum oleo, quarum melior defertur pontifici, ut accepto balsamo et commiscitato cum oleo manu sua impleat eam.” PL 78, Col.0962A.

⁹⁷⁹ The myrrh tree was not native to Egypt, but could certainly grow there and were probably available, as Cairo was a centre of horticulture, and Nāṣer-e Khusraw claimed that “any tree, fruit bearing or other, can be obtained and planted” in the many gardens of the city. p.62-3.

⁹⁸⁰ Similar simplified tree designs, without the trifolia, appear on the crown of Constantine IX Monomachos (r. 1042-55), now at the Magyar Nemzeti Museum in Budapest.

expanded in this period.⁹⁸¹ As the relief on the Farfa Casket suggests, one aspect of their use was at funerals. The image of the Virgin censured on her deathbed corresponds to the usage of Cluny and Farfa, whose customs record that the deceased was censured at death and subsequently washed, anointed, and shrouded while a censer was swung “sine intermissione.”⁹⁸² Funerals were an optimal occasion for the conspicuous use of *materia*. The sarcophagus of the infanta Dona Sancha, preserved in San Salvador y San Ginés in Jaca, depicts her funeral of 1097, in which a bishop with a crozier is attended by monk with a censer and an ointment jar (fig 66).⁹⁸³ Such depictions certainly reflected practice: in the Latin west, a funeral procession was preceded by incense and lights.⁹⁸⁴ At Cluny the body was censured during the funeral mass after the usual censuring of the altar that occurred every time the host was consecrated (fig 67). The grave too was censured before and after the procession arrived.⁹⁸⁵

More churches meant more rites, including funeral rites.⁹⁸⁶ In addition to thuribles, ointment jars are a regular appurtenance in depictions of funerals, such as that of Dona Sancha. Their necessity was sanctified by Biblical exempla. Washing the body with ointments and the presentation of incense were kept in the forefront of people’s minds by reference to the women at the tomb and the three magi (fig 68). The commercial aspect was not emphasized, but it is implicit in the tradition that makes frankincense and myrrh equivalent to gold. The value of *materia* remained high for a long time; beyond our period, we find mystery plays in which the Magdalene offers “multa pecunia” for the “oderiferae” she needs to anoint Christ’s body.⁹⁸⁷ A lamentation for Odilo of Cluny states that his body was treated with balsam, nard, myrrh, cinnamon,

⁹⁸¹ Ernst Kitzinger, “The Byzantine Contribution to Western Art of the Twelfth and Thirteenth Centuries,” *DOP* 20 (1966): 25-47, 33, n.23.

⁹⁸² Frederick Paxton, with Isabelle Cochelin, *The Death Ritual at Cluny in the Central Middle Ages = Le rituel de la mort à Cluny au moyen âge central*, Turnhout: 2013, 109-111.

⁹⁸³ Printed in Achim Bednorz, Rolf Toman, *Romanesque. Architecture, Sculpture, Painting*, Cologne: 2004, 292.

⁹⁸⁴ G. Rowell, *The Liturgy of Christian Burial*, London: 1977, 60.

⁹⁸⁵ *Ibid.*, 65; Paxton and Cochelin, *The Death Ritual at Cluny*, 145.

⁹⁸⁶ As noted above, the expansion of building was fuelled by demographic expansion.

⁹⁸⁷ Thomas Wright, ed., *Early Mysteries, and Other Latin Poems of the Twelfth and Thirteenth Centuries*, London: 1844, ix. The women at the tomb was a popular occasion to depict funerary ritual, as in two examples from St. Gall, an ivory now at the V & A (380-1871) and in the St. Gall Library, Cod. Sang. 391, p.33. Both in Glyn Davies and Kirstin Kennedy, *Medieval and Renaissance Art. People and Possessions*. London: 2009, 85.

fistula, saffron and cyprus.⁹⁸⁸ We might be tempted to read this as poetic exaggeration, but if these materials were available anywhere, it was at Cluny. Balsam was certainly used for this purpose later; Hugh of Cluny's body was washed first with water, then wine, and finally with balsam, although as the latter was kept only in a "brevi vasculo" it required heavenly blessings to multiply sufficient to anoint the whole corpse.⁹⁸⁹ One place balsam was used for embalming was Pisa, where we hear of Ugo the Viscount, who led the Pisans at Mahdia in 1087 and died there. The Pisan *Carmen* tells us that

Without delay, they split flesh and uproot his guts,
And pour in every aromatic and so much balsam,
and construct from wood a coffin,
that his mother and wife may thus see him.⁹⁹⁰

This is one of few non-ecclesiastic examples from this era. According to Peter of Pisa, Paschal II was likewise treated with balsam - significantly, this is the earliest mention of papal embalming.⁹⁹¹ A number of other examples appear in twelfth century sources.⁹⁹²

Washing the body was also a ritual in the Islamic world, where it was prescribed by religious law. The Pisan poet who wrote the *Liber Maiolichinus* recorded a Saracen corpse conditioned with balsam, but in fact camphor was the material of choice.⁹⁹³

Although we do not hear of it during public funerals, private oblations might require incense. The mausoleums of the Fatimids in Cairo were stocked with incense burners,

⁹⁸⁸ *Planctus De Transitu Odillonis Abbatis*, PL 142, 1045B.

⁹⁸⁹ "Corpus ejus in capitulo a fratribus dealbatus, prius aqua, deinde vino ablutum est. Ad ultimum modico balsamo, quod supererat in brevi vasculo, trinis vicibus totum corpus, licet magnum, affluenter perunctum est; quod vix ad solum lepidum caput sufficeret, nisi benedictione coelesti multiplicatum inter manus obsequentium abundaret.": BHL Number: 4015, *Epitome vitae Ab Ezelone atque Gilone monachis Cluniacensibus proxime ab obitu sancti scriptae, per anonymum excerpta* in PL 159, Col.0916B.

⁹⁹⁰ *Carmen*, 49: Non est mora, corpus findunt et eieciunt viscera, / balsamum infundunt multum et cuncta aromata / et componunt quadam capsula de ligno composito, / ut mater et coniux eum videant quoquo modo.

⁹⁹¹ Petrus Pisanus, *Vita Paschalis ii papae auctore Petro Pisano*, in *Propyleo ad Acta Sanctorum Man*, 27 in PL 163, Col.0027A. That this is the earliest citation of a pope being embalmed is claimed by Paravicini-Bagliani, *The Pope's Body*, translated by David S. Peterson, Chicago and London: 2000, 134.

⁹⁹² For example, king Baldwin of Jerusalem, according to Albert of Aachen, *Historia Hierosolymitanae expeditionis* 12.28, PL 166, Col.0712A; Henry I of England, according to Oderic Vitalis, *Ecclesiastical History* 13.8, PL 188, Col. 0944C.

⁹⁹³ *Liber Maiolichinus*, cap.7, line 502, p.112; King, *Musk Trade*, 168.

until in 1069 fractious Turkish soldiers looted the place.⁹⁹⁴ Oblique eastern influence shows up in the account of Ademar de Chabannes (c.1020-34) that Charlemagne's crypt was filled with aromatic spices, balsam, and musk, as musk was a new material to the west.⁹⁹⁵ A Latin chronicle has Saracens "aromatizing" the severed head of Ermengard, count of Urgel, who had won countless victories against them.⁹⁹⁶ A fictional example from the other end of the Muslim world underlines its plausibility; in the *Shahnama*, Tur, having murdered his brother Iraj, fills his head with ambergris and musk, and sends it to their father.⁹⁹⁷

That embalming depended on balsam is apparent in its etymology. Nonetheless, balsam's role was more prestigious than functional. We have at least two Latin recipes for preserving the human body after death. Found in pharmacists' handbooks, both go by the name *Sal Sacerdotalis*. The first, from the *Antidotarium Nicolai*, calls for sixteen ounces of common salt, four ounces of cinnamon, and half an ounce each of "zinziberis, amomi, piretri, cumini, amei, piperis, sileris, saturegie, ysopi, origani, pulegii," all ground together into powder.⁹⁹⁸ A similar recipe from a manuscript of c.1075-1124 in the British Library contains salt, ysopi, pulegi, ameos, colene, sileris, timu, satureia, cinnamon, and pepper.⁹⁹⁹ We do occasionally hear of bodies preserved with salt, as in the case of corpses to the emperor by his enemy Boleslav III Wrymouth of Poland.¹⁰⁰⁰ Balsam itself, then, was a luxurious accessory to the actual process of preservation.

Usually, however, sources don't specify with which materials a body was treated.

⁹⁹⁴ The Fatimid use of funerary incense is recorded in *The Book of Gifts and Rarities*, cap. 406. It was a truly transcontinental practice; the funerals of the Turkic khagans, recorded deep in Inner Asia in the Orkhon inscriptions, may have included musk. King, *Musk Trade*, 25.

⁹⁹⁵ Ademar, *Chronique* 2.25, ed. Chavanon, 105; MGH SS 4, 118: "pigmentis, balsamo, et musco."

⁹⁹⁶ Ademar *Historiarum Liber III*, MGH SS 4, 133: [1008?] "Per haec tempora Ermengaudus comes Irgeldensis [Urgel] post copiosos triumphos de Mauris et Sarracenis praelio inito ultimo, innumerabilem stragem Sarracenorum perficiens, dum victor regreditur, alium exercitum Maurorum offendit venientem. Quem cum paucis suorum lassus persequens, multos eorum occidit, et ipse cecidit. Caput eius Sarraceni pro magno thesauro secum asportaverunt. Quod aromatizatum rex eorum auro cooperuit et secum in praeliis semper ferebat causa victoriae."

⁹⁹⁷ *The Shahnama of Firdausi*, edited and translated by Arthur and Edmond Warner, 9 vols. London: 1905-1925, 202.

⁹⁹⁸ AN #101. As usual in the *Antidotarium*, the recipe serves several uses; this one is also good for suppressing coughs and headaches.

⁹⁹⁹ Sloane MS 1621 f. 56r.

¹⁰⁰⁰ *Chroniae Polonorum*, lib. III, MGH SS 9, 469. Note there is more recent edition, with English translation: Knoll & Schaer, eds., *Gesta Principum Polonorum: The Deeds of the Princes of the Poles*, Budapest: 2003, which I have not been able to consult.

Of Robert Guiscard, for example, we know only that his wife Sichegaita had his body preserved with “aromate” for its journey to Venosa.¹⁰⁰¹ Likewise, when the empress Chunchild died in Ravenna in the summer of 1038, she was embalmed with aromatics for the trip to her tomb in Lintberg.¹⁰⁰² In 957, Otto’s son Litulf, with guts extracted, was “condiens aromatibus” for the journey home to his father.¹⁰⁰³ Some of this is verified by archaeology: a recent analysis showed that the heart of Richard the Lionheart was embalmed with frankincense, possibly from Somalia, myrtle, mint, daisy, creosote, mercury and possibly lime (calcium), and wrapped in linen.¹⁰⁰⁴ Archaeometric results suggest that emulsions of metallic mercury were used for the embalming of important individuals, and it is not impossible that mercury may then have made up a portion of the “balsams” reported.¹⁰⁰⁵ These substances, save the salt, have little utility in the preservation of organic tissue.¹⁰⁰⁶ Eighteenth century physicians, who made a trial of these methods, reckoned their effects in days. This did not matter too much in our period, as the body was not exposed, although it does emphasize that “the great quantity of aromatics which they consumed was rather for pomp, than for the long preservation of the subject.”¹⁰⁰⁷

Another highly publicized consumption of *materia* lay in anointing ceremonies. Both kings and bishops were anointed, a gesture which contemporaries saw as blurring the lines between rex and sacerdos. It was a recent development: the ordination of priests in Italy did not include anointment until the first half of the tenth century, when elements

¹⁰⁰¹ William of Apulia, *Gesta Roberti Wiscardi*, Book V, line 400, in MGH SS 9, 298

¹⁰⁰² Wipo, *Vita Chuonradi Imp.*, MGH SS 11, 273; trans. in Wipo, *The Deeds of Conrad II*, xxxvii in T. E. Mommsen and K. F. Morrison, *Imperial Lives and Letters of the Eleventh Century*, New York and London: 1962, 96. Ibid, xxxix, 98.

¹⁰⁰³ *Epitome Polironese*, in Luigi Simoni, ed., *Rerum Italicarum Scriptores*, V.ii, Bologna: 1931, 116.

¹⁰⁰⁴ Philippe Charlier *et al.*, “The embalmed heart of the Richard the Lionheart (A.D. 1199): a Biological and Anthropological Analysis,” *Scientific Reports* 3, 1296 (2013): 1-6.

¹⁰⁰⁵ Le Roy, G. A. *Sur un mode d'embaumement mercurial à l'époque médiévale... Note présentée à l'Académie des Sciences de Paris, à la séance du 16 décembre 1918*, Paris: 1919. Native substances were also used; the ancient Celts, according to a passage of Poseidonius preserved by Strabo, *Geographia*, 4.4.5., embalmed the heads of their foes using cedar oil.

¹⁰⁰⁶ Paul Freedman, *Out of the East: Spices and the Medieval Imagination*, New Haven: 2008, 4, 225, has emphasized the purely cosmetic role of spices vis a vis salt in the preservation of food.

¹⁰⁰⁷ Jean-Nicolas Gannal, *History of Embalming: And of Preparations in Anatomy, Pathology, and Natural History; Including an Account of a New Process for Embalming*, translated by R. Harlan, Philadelphia: 1840, 91.

of Gallic liturgy were introduced in Rome under the Senetrix Marozia.¹⁰⁰⁸ This may be reflected in the absence of aromatics in gifts sent to King Hugh's bishops in 935.¹⁰⁰⁹ But from around 950-64, in the Royal Ordo of Mainz, bishops were anointed with holy chrism and kings with sacred oil, a development that may correspond to the increasing availability of both imported *materia* and the greater wealth of the Ottonians.¹⁰¹⁰ Incense came in slightly later. An early eleventh century coronation ordo, intended either for use in the Empire or Francia, has two bishops receive the king while accompanied by clerics bearing the gospels, crosses, and "incenso boni odoris." He is subsequently anointed with "oleo exorcizato."¹⁰¹¹ The Ordo of Saint-Bertin for the coronation of a king has the two bishops accompanied by two clerics bearing crosses and two with "thuribulis boni odoris" as well as anointed with the "oleo sancto."¹⁰¹²

Advent ceremonies were another occasion for aromas; when pope Callixtus visited Benevento in 1120, the Amalfitans "ornamented the streets ahead of his approach with silk robes and palliums and precious ornaments, and below the ornaments were hung golden and silver censers with cinnamon."¹⁰¹³ A hundred years earlier, when Jordan of Laron was elected bishop of Limoges, the monks of St. Martial came out to meet him with the gospels and censers.¹⁰¹⁴ In contrast to the coronations, this practice was of long standing; the famous mosaics at San Vitale in Ravenna show us an imperial attendant swinging a censor in Justinian's train.

¹⁰⁰⁸ G. Ellard, *Ordination Anointing in the Latin Church before 1000 A.D.*, Cambridge: 1933, 31, 75, 88. Until that time papal unction had conferred only the title of Patrician of the Romans, which was the dignity conferred upon Pippin by Stephen II in the eighth century, although he had already been anointed by Boniface as king: Ullman, *The Growth of Papal Government*, 67.

¹⁰⁰⁹ Constantine Porphyrogenitus records the gifts sent to King Hugh of Italy in 935: it includes a lot of incense and fragrant oils, but although the account includes gifts for Hugh's seven counts and six bishops, none of them warrant any fragrances.

¹⁰¹⁰ Giovanni Isabella, "I giorni del carisma. Incoronazioni regie e imperiali dei secoli X, XI e XII" in *Il carisma nel secolo XI. Genesi, forme e dinamiche istituzionali, Atti del XXVII Convegno del Centro Studi Avellaniti (Fonte Avellana, 30-31 agosto 2005)*, Negarine di S. Pietro in Cariano 2006, 83-102, 86; P. Schramm, *Kaiser, Könige und Päpste*, vol. III, 73-74.

¹⁰¹¹ Richard A. Jackson, ed., *Ordines Coronationis Franciae*, vol.1, Philadelphia: 1995, 204, 207. This is the first appearance in French coronation rites of censor bearers. The late tenth century Ratold Ordo, of English origin, has the two bishops but lacks the incense: *ibid*, vol.1, 178.

¹⁰¹² *Ordines Coronationis Franciae*, vol.1, 242, 244. The date of this ordo is uncertain, but may be twelfth century. The previous French coronation ordo, that of Philip I in 1059, unfortunately survives only in an abbreviated memorandum that lacks details of the ceremony.

¹⁰¹³ Falcone of Benevento, *Benevento Chronicle*, anno 1120, PL 173, 1180B.

¹⁰¹⁴ Ademar of Chabannes, *Historiarum libri tres*, PL 141, 0070B.

Finally there were the translations of the saints. When in the mid-eleventh century the body of the child martyr Crescentius of Rome was exhumed, it required “psalms, hymns, and plenty of incense.”¹⁰¹⁵ The monks of Montecassino likewise went out to meet the arm of St. Matthew “clad in solemn vestments and with lamps and censers.”¹⁰¹⁶ Closer to the millennium, the reburial of saints at the new basilica at Dijon was a ceremony embellished with sweet-smelling censers.¹⁰¹⁷ In 1106, when the body of Saint Gimignano was translated to Modena, we read in the anonymous account that “everyone raised their hands to heaven” at the sweetness of the odour and the fragrances that were emitted from the body.¹⁰¹⁸ Of course, these examples raise questions: when newly discovered martyrs were found “aromatizantia” at Trier in 1072, was it due to human action or the saints themselves?¹⁰¹⁹

NUMINOUS BODIES

The themes outlined above, of death, sacrality, liquidity, and physical materiality, came together in a remarkable way in the Mediterranean world. Many holy places were distinctly damp. When in 1087 the Barese sailor Matthew broke open the tomb of St. Nicholas at Myra, he found the body submerged up to the navel in “holy liquid.” Lowering himself into the sarcophagus, “he bathed both hands in the liquid” and “found the holy relics swimming in an envelopment of all perfumes.” At the same time, a “wave of delightful perfume arose” and “everyone thought himself standing in God's paradise.”¹⁰²⁰ From the magical water that emerged from a column in the mosque of

¹⁰¹⁵ *Acta Sanctorum*: Ex Mss. Urbinatis Ecclesiae, Crescentianus, sive Crescentinus, Martyr, Tiferni in Umbria (S.) BHL Number: 1983, Col. 0061D: “ubi S. Crescentini Martyris Corpus jacebat; atque cum psalmis, hymnis, ac plurimo thure, eum de loco in quo jacebat extraxit. O quanta odoris suavitas, quantaque dulcedo, sancto illo Corpore defosso, eos qui ibi aderant replevit!”

¹⁰¹⁶ Montecassino Chronicle IV.73, 539.

¹⁰¹⁷ “Ceteris diversorum ordinum vel sexum, cum odoriferis timiamatibus ac psallentium choris...” Ralph Glaber, *Vita domni Willelmi abbatis* viii.

¹⁰¹⁸ *Rerum Italicarum scriptores* VI.i, ed. Giulio Bertoni, Città di Castello: 1907, 8: “O quanta exultatio, quantus suavitatis odor, quanta fragrantia inde emanavit! Omnes enim manus protendunt ad celum.”

¹⁰¹⁹ *Ex Historia martyrum Treverensium*, MGH SS 8, 221.

¹⁰²⁰ Nicephorus, *Biblioteca Hagiographica Latina Antiquae et Mediae Aetatis*. no. 6179. Also in Francesco Nitti di Vito, “La traslazione delle reliquie di San Nicola,” *Iapigia* 8 (1937): 295–411.

Qayrawān, to the mysterious liquid that dripped in St. Michael's cave at Gargano, supernatural fluids abounded across the Mediterranean.¹⁰²¹ There is an equivalency between the corpses of the saints and the foreign east as sources of exotic substances. Both were expensive exotica from beyond the sea, at least at first. Both might be transported in the same containers, such as the glass phials used at Myra.¹⁰²² Both had a spiritual and physical resonance; both had medical uses; both were expensive. The equation of saint's bodies with wealth was a natural development of the eleventh century, an era in which relic tourism (i.e. pilgrimage) began to generate wealth on a large scale.

Holy oils were popular *materia* for supernatural healing at Greek shrines. Lamp oil was the most common source, as in the case of Theodore of Thessionike. More mysterious oils emerged from the bodies of the saints themselves. These hagio-natural excretions were termed *myron* in Byzantine sources. Such perfumed oil was not rare, although availability might be seasonal; St. Peter of Atroa provided only on his feast day.¹⁰²³ Their fame transcended the Greek world; the eleventh century Arabic *Synopsis of Marvels* describes a church in Constantinople where a healing liquid flowed once a year.¹⁰²⁴ The Byzantines seem to have been aware of the value of this resource. According to Al-Biruni, a Byzantine emperor sought to purchase the liquid-emitting column at Qayrawān, preferring that his foes have his money than the magical stones.¹⁰²⁵ At Myra, the guardians were right to be wary of thieves. Such effluvia were understood in culturally specific ways: the author of the popular epic *Diogenes Akritis* imagined the freshly converted Emir of Syria addressing his mother: "Mother, I have seen corpses

¹⁰²¹ Al-Biruni, *The Chronology of Ancient Nations*, edited and translated by C. Edward Sachau. London: 1879. Repr. Frankfurt: 1969, 256, mentions the two columns in the mosque and the attempt of the Byzantine emperor to acquire them.

¹⁰²² Nicephorus' account is printed in Francesco Nitti di Vito, "La traslazione delle reliquie di San Nicola," *Iapigia* 8 (1937), 295–411.

¹⁰²³ A-M. Talbot, "Pilgrimage to Healing Shrines: The Evidence of Miracle Accounts," *Dumbarton Oaks Papers* 56, (2002): 153-73, 160; V. Laurent, *La Vita Retractata et les Miracles Posthumes de Saint Pierre d'Atroa*, Brussels: 1958, 149, chaps. 97–98.

¹⁰²⁴ *L'Abrégé des Merveilles*, trans. Carra de Vau, 60.

¹⁰²⁵ Al-Biruni, *The Chronology of Ancient Nations*, translated by and ed. C. Edward Sachau, London: 1879. Repr. Frankfurt: 1969.

from which holy myrrh was flowing/The true faith is that of the Christians!”¹⁰²⁶

From an economic perspective, the hydraulic emissions from the tombs of saints were vital to their prosperity. Like a grove of balsam trees, they were a renewable resource, albeit one more susceptible to fashion than other substances.¹⁰²⁷ The *Katholicon* of the monastery at Hosios Loukas, built in the early eleventh century, offered the flowing *myron* of saint Loukas, which the monks provided to pilgrims.¹⁰²⁸ At Myra, the Greek guardians employed a sponge to extract the liquor of Saint Nicolas, which they peddled in glass containers. The mysterious lamp of St. Theodora of Thessaly overflowed with oil but never needed to be refilled.¹⁰²⁹ St. Theodora’s icon also exuded oil from its right palm, to the extent that the paint was washed away. A lead vessel was attached at its base to collect the exudation for distribution.¹⁰³⁰ At Mount Sinai, according to the *First Guide* of c.1099, there is “large jar which produces an inexhaustible supply of oil.”¹⁰³¹ And at the Dome of the Rock itself, there was an urn which poured forth blessed manna.¹⁰³² The holy healing oils were probably purchased by visiting pilgrims, a fact that, as Talbot has observed, the hagiographers of our period are reticent about.¹⁰³³ For the wealthy, payment might be conflated with gift-giving, often of textiles.¹⁰³⁴ In the tenth century, for example, the empress Irene offered eucharistic vessels encrusted with pearls and gems, church furnishings, curtains and a crown to the Pege shrine after recovering

¹⁰²⁶ David Ricks, *Byzantine Heroic Poetry*, Bristol: 1990, 69, lines 51-52. Muslim writers seem to have understood sacred liquids as a Christian practice; the author of the *Diogenes Akritis* was perhaps aware of this. Ibn Rusta (d.912) mentions a body kept in the crypt of a church east of Memphis that produced an endless flow of oil. Okasha El Daly, *Egyptology: The Missing Millennium. Ancient Egypt in Medieval Arabic Writings*, London: 2005, 104. Pilgrims were apparently permitted to touch the corpse: Ibn Rusta adds that if a pregnant woman rests the body on her lap, she will feel her child move within her.

¹⁰²⁷ Evelyne Patlagean, “Theodora de Thessalonique: Une sainte moniale et un culte citadin (IXe–XXe siècle),” in *Culto dei santi, istituzioni e classi sociali in età preindustriale*, ed. S. B. Gajano and L. Sebastiani, Rome: 1984, 45–46.

¹⁰²⁸ Carolyn L. Connor, *Art and Miracles in Medieval Byzantium: The Crypt at Hosios Loukas and its Frescoes*, Princeton: 1991, 92-101. It may have stored in a sort of trough under a baldachino: Alexander Kazhdan and Henry Maguire, “Byzantine hagiographical texts as sources on art,” *DOP* 45 (1991): 1-22, 15, n.132.

¹⁰²⁹ *Vita S.Theodora Thessalonicensis*, ed. Bishop Arsenih, *Zitie i podvigi sv. Feodory Solunskoj*, 52, trans in Mango, *The Art of the Byzantine Empire 312-1453*, Toronto: 1986, 210.

¹⁰³⁰ Talbot, “Pilgrimage to Healing Shrines,” 160; Paschalides, *Bios tes Theodoras*, 174–76, chap. 54.

¹⁰³¹ Wilkinson, *Jerusalem Pilgrimage*, 88

¹⁰³² Wilkinson, *Jerusalem Pilgrimage*, 234.

¹⁰³³ Talbot, “Pilgrimage to Healing Shrines.” 162.

¹⁰³⁴ Valerie Nunn, “The Encheirion as Adjunct to the Icon in the Middle Byzantine Period,” *Byzantine and Modern Greek Studies* 10 (1986): 73–102.

from a hemorrhage, thanks to its sacred waters.¹⁰³⁵ The same shrine received three nomismata from a Chaldean monk when he was likewise healed.¹⁰³⁶

Saints in the west in our period did not seem to produce holy oil, even those who had done so in former resting places in the east. Saint Nicolas, for example, performed many miracles at his new home in Bari, but through the presence of his body. This may not reflect differences in devotional styles between Byzantium and the Latin west, as much as the fact that holy aromatics came from the east. When brought westward, the association of the saintly corpses with fragrant oils no longer made sense. Certainly we know that westerners were interested in the sacred liquids, and did not fail to seek them out or mention them when on journeys to the east. And as soon as the Latins settled in the east, they established their own deliquescent saints, for example the Virgin in Saydnaya promoted by the Templars, which emitted holy liquid from its breasts.¹⁰³⁷

Due to their paradisaical associations, balsam, myrrh and their kin were easily assimilated to more specific notions of sacred material, in the form of relics, not least because they were sometimes physically associated with them: every year at the Exultation of the Holy Cross in Rome, for example, balsam was needed to anoint the umbilical cord of Christ.¹⁰³⁸

I am not suggesting that the maritime republics ran a significant business of exporting sacred fluids from pilgrimage shrines, although no doubt it happened occasionally. But the association between sacred and profane fluids was one that must have encouraged the exploitation of the latter, for it could only have served to amplify the market for them. To a prospective purchaser in Latin Europe, only the oil's reputed provenance distinguished the two. This mattered to such men as bishop Ulric of Orleans,

¹⁰³⁵ Talbot, "Pilgrimage to Healing Shrines." 162.

¹⁰³⁶ Talbot, "Pilgrimage to Healing Shrines." 162.

¹⁰³⁷ Bernard Hamilton, "Our Lady of Saidnaiya: an Orthodox shrine revered by Muslims and Knights Templar at the time of the crusades," in *The Holy Land, Holy Lands, and Christian History*, edited by R.N. Swanson, 207-15. Woodbridge: 2000; Benjamin Z. Kedar, "Convergences of Oriental Christian, Muslim and Frankish worshippers: the case of Saydnaya and the Knights Templar," in *The Crusades and the Military Orders: Expanding the Frontiers of Medieval Latin Christianity*, ed. Zsolt Hunyadi and József Laszlovszky, 89-100. Budapest: 2001. That the shrine was revered by Latins, Greeks, and Muslims does suggest some pragmatic adaptation to local modes of devotion.

¹⁰³⁸ "In media cruce est umbilicus Domini nostri Jesu Christi; et desuper est inuncta balsamo; et singulis annis eadem unctio renovatur, quando dominus papa cum cardinalibus facit processionem in Exaltatione sanctae crucis ab ipsa ecclesia Sancti Laurentii in basilicam Salvatoris, quae appellatur Constantiniana." John, known as canon of the Lateran or deacon of the Lateran, *Liber de Ecclesia Lateranensi*, PL 194, Col.1556A.

who around 1025-28 paid a pound of gold for a lamp and its oil from the Holy Sepulchre.¹⁰³⁹ And here the network of scriptural allusions that surrounds these materials can only have played into the hands of any peddler of exotic liquids. What is “balm of Gilead,” after all? Is all balm from Gilead? That such a question might have a strict answer need not be important, as discussions of these matters were, as we have seen, shrouded in symbolic language and metaphor. Every hagiographic tale about the shrines and miracles of saints could only tighten this complex knot of associations. For example, a *vita* from Hosias Loukas likens the myrrh flowing from the tomb of Luke to the pool of Siloam at Jerusalem.¹⁰⁴⁰ This is precisely the kind of association that must have strengthened the value of *materia* in the imagination. In 1104, Lambert, Bishop of Arras, whom we have already met in Pisa, received from the patriarch Ehremar of Jerusalem two crystal vessels full of balsam.¹⁰⁴¹ A crystal bottle still in Arras, repurposed into a reliquary containing fragments of the instruments of the passion, suggests that while the balsam was consumed, the Jerusalem association was not so easily effaced.¹⁰⁴²

As we have seen, sea travel, sometimes a controversial activity, could be legitimated by the sacred.¹⁰⁴³ From the perspective of the literate, the best reason to go to sea was to visit the saints. The hagiographic landscape of Pisa was a constellation of African, Sardinian and eastern saints. Sanctity came from overseas, as did wealth - a point that contextualizes the Kufic Saint Nicolas coins issued at Bari.¹⁰⁴⁴ This was only natural, for as we have seen, sanctity was wealth. For pilgrims to visit shrines often meant doing business along the way.¹⁰⁴⁵ Or vice versa: the translation of Saint Nicholas - which might serve as an emblem of the entire transformation of the Mediterranean network, as

¹⁰³⁹ Ralph Glaber, *Histories* IV.vi.19.

¹⁰⁴⁰ Carolyn L. and W. Robert Connor, *The Life and Miracles of St. Luke*, Brookline: 1994, 114-15.

¹⁰⁴¹ “Ad haec de benedictione Sancti Sepulcri mittimus vobis annulum unum aureum, ampullulas crystallinas duas balsamo plenas.” in PL 162, Lambertus Atrebatensis: II. *Epistolae Lamperti episcopi Atrebatensis et aliorum ad ipsum*. Euremarus patriarcha: *Epistola LXXVII Euremari patriarchae Hierosolymitani ad Lambertum*, [Col.0677C].

¹⁰⁴² But Shalem, *Islam Christianized*, 30, suggests it was acquired by Bishop Alvis le Vénérable, who participated in the Second Crusade with Louis VII in 1147. The object, *ibid.*, 184-5.

¹⁰⁴³ See above, chapter two, 49-54.

¹⁰⁴⁴ Paul Oldfield, “The Bari charter of privileges of 1132: articulating the culture of a new Norman monarchy,” *Historical Research* 88, 242 (2015): 577-598, 587; P. Grierson and L. Travaini, *Medieval European Coinage with a Catalogue of the Coins in the Fitzwilliam Museum, Cambridge*, xiv: Italy (III). South Italy, Sicily, Sardinia, Cambridge: 1998, 24, 116.

¹⁰⁴⁵ For pilgrims financing their trips with merchandise, see section one, p.18.

command of wealth was shifted from the Levant to Italy - was carried out as a side-trip of a commercial delivery to Antioch, and not as mission in its own right.

The importation of *materia* was probably a significant business for the maritime republics. As key markets were liturgical and funereal, the association with holiness could only have been a boon to their merchants. People travelling the network had a rare opportunity to assess and profit from eastern substances. A pilgrim such as the Abbot Daniel, in Jerusalem around 1100, made note of *materia*, some miraculous, such as the holy dust from the tomb of St. John the Evangelist that might cure “every kind of ailment,” and the “black incense and gomphytis” (i.e. storax) of Makri, and in Cyprus “the incense that falls from the sky and is gathered from shrubs.”¹⁰⁴⁶ His interest appears professional. With the propaganda produced to promote pilgrimage shrines, such as that of Ademar of Chabannes or the *Miracles of St. Giles*, it is only natural that the same was done with their material accessories. A quick survey of twenty-first century incense purveyors demonstrates the continuing attraction of holy or famous sites as a source.¹⁰⁴⁷ It is clear, therefore, that incentives existed to exaggerate the provenance of aromatics - lamp oil from the Holy Sepulchre was better than lamp oil from anywhere else. In this sense, it may be useful to consider texts criticizing the business of relics, for example that of Guibert of Nogent, alongside those that discuss the forgery and substitution of medical materials, such as the *Circa Instans* of the mid-twelfth century.¹⁰⁴⁸ Both types of work were concerned with public safety, with *sanus* and *salus*.

SYNCRETIC ORNAMENTALISM

Muslim authors commented on the use of incense in churches, for example when Ibn Abi Usaiba emphasized the peculiarity of the Christian doctor Abū al-Faraj swinging

¹⁰⁴⁶ Wilkinson, *Jerusalem Pilgrimage*, 120-171, 122, 125-26.

¹⁰⁴⁷ And in the Islamic world, the similar commercialization of water from the well of Zamzam.

¹⁰⁴⁸ The concern with substitutions and forgery in twelfth century Latin texts, such as the *Circa Instans*, was mirrored on the far side of the Mediterranean: Al-Shayzarī (d. c. 1193), in his *Kitāb Nihāyat al-Rutbah fī Ṭalab al-Hisbah*, devotes a long section to various counterfeits carried out by professional perfumers. As one might expect, he deals primarily with the most valuable substances, such as musk, ambergris, camphor, saffron, and aloes wood, as well as compounds like ghāliyah. See A. King, *Musk Trade*, 278.

a censer in a church in Baghdad.¹⁰⁴⁹ In Egypt, the Christian community in the eleventh century introduced a prayer beseeching that the Lord accept incense “offered to thee by thy priest for our sins.”¹⁰⁵⁰ There is apparently evidence for a contemporaneous custom of censuring, accompanied by prayer, in the households of believers.¹⁰⁵¹ Like churches, mosques were perfumed. The Ka’bah was censured daily, and twice on Fridays; the twelfth century Persian poet Khāqāni compares its courtyard with a pod of musk.¹⁰⁵² We know more about the Dome of the Rock in Jerusalem. An eleventh century text tells us the rock itself was anointed every Monday and Thursday with a mixture of musk, ambergris, saffron and rosewater, whereupon attendants circumambulated the rock with gold and silver censers burning a perfume of ambergris, musk and aloe wood.¹⁰⁵³ Although the oft-cited knee-deep blood probably interfered with the perfume on the occasion of the crusader’s arrival, it is possible that these olfactory practices continued under the Latin kingdom: the *Seventh Guide* of c.1160 says of the rock that “the oil is still running with which the kings and prophets were anointed.”¹⁰⁵⁴ It is interesting to conjecture whether European copies of the building, such as San Sepolcro in Pisa, likewise imitated the use of aromatics.¹⁰⁵⁵ The Dome was impressively lit with many silver lamps, “candles 7 cubits long and 3 spans wide, white as camphor and mixed with ambergris,” donated by the Fatimid caliph.¹⁰⁵⁶ Enormous candlesticks were common in churches too, especially in southern Italy. We find them depicted in the Exultet Rolls, and there are several surviving examples.

¹⁰⁴⁹ Ibn Abi Usaiba, *History of the Physicians*, 460.

¹⁰⁵⁰ E. G. C. Atchley, *A History of the Use of Incense in Divine Worship*, London: 1909, 124.

¹⁰⁵¹ *ibid.*, 124-5.

¹⁰⁵² King, *Musk Trade*, 172. According to Ibn Jubayr the black stone is soft and moist, suggesting that it, like the Rock in the Dome, was anointed: Broadhurst, *The Travels of Ibn Jubayr*, London: 1952, 85

¹⁰⁵³ M. Sharon, “The ‘Praises of Jerusalem’ as a Source for the Early History of Islam,” *Bibliotheca Orientalis* 49 1/2 (1992): 56-68, 60; King, 166-7.

¹⁰⁵⁴ Wilkinson, *Jerusalem Pilgrimage*, 234. The *Seventh Guide* is largely based on the *First Guide* of c.1099, but the detail about the oil is new, although several earlier guides do mention “manna” at the Dome in passing; this does not indicate that the practice was new, as the first guide was written so close to the action of the crusade that it is unlikely that any practices were yet established.

¹⁰⁵⁵ According to Fulcher of Chartres, the victorious crusaders paved over the rock and erected an altar upon it, which leaves one to wonder about the fate of the Well of Souls.

¹⁰⁵⁶ Nāṣer-e, 32.

Hanging vessels were ubiquitous in mosques from the early days of Islam, although not common in imagery until our period. Pilgrims would have seen them at Mecca, as Al-Muqaddasī did.¹⁰⁵⁷ Al-Maqrīzī records the four silver chandeliers and many silver lamps commissioned for the mosque of Al-Hakim.¹⁰⁵⁸ An enormous lamp hung before the mihrab in the Great Mosque of Cordoba.¹⁰⁵⁹ In the Maghrib, multi-levelled candelabras were more common than hanging lamps in mosques.¹⁰⁶⁰ Examples survive in Tunisia, including an enormous bronze lamp and a large annular candelabra with an inscription identifying its donor as the Zirid sultan Al-Mu'izz, father of Tamīn (fig 69 & 70).¹⁰⁶¹ So too the gifts of the mighty: the emperor Alexius sent a candelabra to Malik-Shah; the caliph Az-Zāhir sent sandalwood, camphor, and ambergris to Al-Mu'izz.¹⁰⁶² Lamps were appropriate gifts to shrines in Italy as well: the captain and crew of a Pisan ship gave one to the shrine of St. Mathew in Salerno.¹⁰⁶³

The same types of lamps were used in churches and mosques; frescoes of c. 1090-1100 in San Clemente in Rome, for example, show an annular candelabra, similar to the Tunisian examples, that holds stem-bottomed glass lamps (fig 71). Such lamps have been discovered in a Fatimid hoard of c.1000 at Caesarea.¹⁰⁶⁴ It also shows church lamps with the bulbous body and flared mouth that was already standard in mosques (fig 72).¹⁰⁶⁵ The same lamp appears in the seal of the Grand Master of the Hospital of Jerusalem (fig 73). At the Fatimid-era Aqmar mosque in Cairo, a similar hanging lamp is

¹⁰⁵⁷ Al-Muqaddasī, *Best Divisions for Knowledge of the Regions*, trans. Basil Collins. Reading, U.K.: 2001, 152.

¹⁰⁵⁸ Bloom, "The Mosque of al-Hakim," 17.

¹⁰⁵⁹ Lucien Golvin, "L'Éclairage des mosquées en occident musulman," *Quaderni di Studi Arabi*, 5-6 (1987-8): 303-22, 8-9.

¹⁰⁶⁰ *Ibid.*, 309.

¹⁰⁶¹ Eight bronze annular chandeliers survive from the great mosque of Qayrawān, and are thought to date from before the great calamity. One is preserved at the Museum of Islamic Art at Raqqada, Tunisia, and may be viewed online at Mourad Rammah "Circular chandelier" in Discover Islamic Art. Place: Museum With No Frontiers, 2014. http://www.discoverislamicart.org/database_item.php?id=object;ISL;tn;Mus01;14;en. A Byzantine example appeared in the RA *Byzantium* show: Robin Cormack, Maria Vassilaki, et al. *Byzantium: 330-1453*, London: 2008, nos.170 and 171.

¹⁰⁶² Anna Comnena XV.vi, 288; *Book of Gifts and Rarities*, cap.80.

¹⁰⁶³ Amatus of Montecassino, VIII.4.

¹⁰⁶⁴ Ya'el D. Arnon, Ayala Lester, and Rachel Pollak, "The Fatimid hoard of metalwork, glass, and ceramics from TPS: preliminary report," in *Caesarea Reports and Studies: Excavations 1995-2007 within the Old City and Ancient Harbor*, edited by Kenneth G. Holum, Jennifer A. Stabler, and Eduard G. Reinhardt, 105-114. BAR international series, Oxford: 2008, 110.

¹⁰⁶⁵ E.g. an eleventh or twelfth century glass lamp from Nishapur, fig.5, p.20, in Stefano Carboni and David Whitehouse, *Glass of the Sultans*, New Haven: 2001, is almost identical.

depicted in relief on a window, which surmounts a lozenge ornament, derived from the Al-Hakim mosque, which itself contains a relief of a lamp containing a tree of life (fig 74). We cannot rule out the possibility that the lamps were made in the same places as well, especially prior to the rise of a significant glassmaking industry in Italy. Glass is well attested as a trans-marine commodity in our era: the Serçe Limanı wreck of 1025, for example, was carrying glassware and cullet from Egypt, and glass fragments, some from lamps, have been excavated near Pisa whose analysis shows a probable Levantine origin.¹⁰⁶⁶ The earliest representation of a lamp at Pisa, however, does not come until the late twelfth century, on the bronze doors of the Porta Ranieri on the Duomo (fig 75).

At the Holy Sepulchre in Jerusalem, holy fire descended annually to light the lamps at Easter. Our first report of this miracle comes from the pilgrim Bernard.¹⁰⁶⁷ It had become famous by the eleventh century. In the account of Richard of Saint-Vanne's visit to Jerusalem, there is a description of the holy fire rite, and according to Baudri of Bourgeuil, Urban II mentioned it during his call for crusade at Clermont.¹⁰⁶⁸ The rite continued after the Latin conquest, although in 1101 it only manifested at the Sepulchre after Daimbert of Pisa led the congregation to make penitence at the Dome of the Rock.¹⁰⁶⁹

The Holy Fire may have influenced Muslim practice, when sometime in the mid-eleventh century the so-called Prayer of Great Rewards was introduced at Al-Aqsā in Jerusalem and subsequently spread. It was celebrated with the nocturnal illumination of

¹⁰⁶⁶ S. Cagno, *et al.*, "Evidence of early medieval soda ash glass in the archaeological site of San Genesio (Tuscany)," *Journal of Archaeological Science* 39 (2012): 1540-1552, 1550. Such recycled glass has also been found in northern Italy: Alberta Silvestri and Alessandra Marcante, "The glass of Nogara (Verona): a "window" on production technology of mid- Medieval times in Northern Italy," *Journal of Archaeological Science* 38 (2011): 2509-2522, 2509.

¹⁰⁶⁷ *Itinerarium Bernardi monachi Franci*, in *Itinera Hierosolymitana et descriptiones Terrae Sanctae*, edited by T. Tobler and A. Molinier. Geneva: 1879-85, v.1, 314-15. Jotischky draws attention to two Greek letters that also mention this miracle. One of them, addressed to Constantine VII (911-59), recounts how a Baghdadi Emir accused the priests of the tomb of fakery, and how he was duly astonished when the miracle took place (or duly appeased by the "special tax" of 7,000 gold coins he extracted from the patriarch). Andrew Jotischky, "The Holy Sepulchre and the Origins of the first crusade," *Crusades* 7 (2008): 35-57, 43. For the letters, Patricia Karlin-Hayter, "Arethas' letter to the Emir at Damascus," *Byzantion* 29-30 (1959-60): 281-202, and *Archives de l'orient latin* I, ed. Paul Riant, (1881): 375-82.

¹⁰⁶⁸ Hugh of Flavigny, *chronicon* II, 21, 395; Baudri of Bourgeuil, *Historia Hierosolymitana* IV, *Recueil des Historiens des Croisades. Historiens occidentaux*, 4.13.

¹⁰⁶⁹ Fulcher II.8; Guibert of Nogent VII.42; Sylvia Schein, "Between Mount Moriah and the Holy Sepulchre: the Changing Traditions of the Temple Mount in the Central Middle Ages," *Traditio* 40 (1984): 175-195, 184. The obvious inference is that the new Latin clergy at the Sepulchre did not know how to properly kindle the fire, and had to get everyone out of the church so it could be done without witnesses.

mosques, the expense of which was sometimes criticized by religious authorities opposed to the innovation.¹⁰⁷⁰ However, similar rites were already current: Al-Muqaddasī described how in Syria Christian practice overlapped with Muslim, and it was the custom to keep lamps suspended in the mosque always lit.¹⁰⁷¹ In the choir of the canons in Jerusalem, according to the *Second Guide*, there is a lamp which never goes out.¹⁰⁷² It was also the practice, by the twelfth century, for “all Jews, in Spain and in the West, in Babylon and the Holy Land, to light lanterns in synagogues.”¹⁰⁷³ We might compare the many lamps of Montecassino, described in the chronicle: in 1075, the monastery received “duo quoque candelabra argentea eque fusilia pondo librarum XII;” in 1084, “Candelabra de cristallo et honichino atque argento parium unum. . . Alia candelabra argentea cum malis cristallinis parium unum.” These objects were treasure, but they were also used. The chronicle of St. Trond tells us that “the horror of darkness” kept lamps burning all night long.¹⁰⁷⁴

Elaborate lighting and scents had long been a feature of both Christian and Muslim holy sites, but they were apparently magnified in our period. It is likely that both practices spurred the other, in a kind of circular flow of reciprocal influence that reinforced a pan-Mediterranean visual language of sanctity. Nonetheless, the greater wealth of the House of Islam probably made an impression on Christian travellers, who would have witnessed the enormous expenditure put towards *ornatus* in the mosques of Mahdia, Cairo, or Jerusalem. We have already seen how supposedly Muslim or Christian styles of ornament and architecture were interchangeable. We must now add that not only did sacred places look similar everywhere in the Mediterranean, they were lit in the same way, and smelled the same.

¹⁰⁷⁰ See Daniella Talmon-Heller, Raquel Ukeles, “The Lure of a Controversial Prayer: Salāt al-raghā’ib (the Prayer of Great Rewards) in Medieval Arabic Texts and from a Socio-legal Perspective,” *Islam* 89, 2 (2012): 141-166.

¹⁰⁷¹ al-Muqaddasī, *Best Divisions*, 152-53.

¹⁰⁷² Wilkenson, *Jerusalem Pilgrimage*, 238.

¹⁰⁷³ Maimonides, cited in M. Hilton, *The Christian Effect on Jewish Life*, London: 1994, 175.

¹⁰⁷⁴ Cited as “Chron. Abbatie S. Trud. vi. sp. Dacher. Spicileg. vii.” in K. H. Digby, *Mores Catholici, or Ages of Faith*, New York: 1894, 295.

VISUAL DEPICTIONS

A large body of evidence for luminaria et incensum in our period is visual. Since late antiquity, artists used ideograms to represent architecture. Just as a city was usually depicted by a rectangular wall surmounted by domes and towers, so places of power, i.e. palaces, secular or otherwise, were represented by a row of arches.¹⁰⁷⁵ Such arcades formed a common backdrop in many genres of figurative art. From the Ravenna mosaics of the sixth century, to the Exultet rolls of the eleventh, the manuscripts of the Gothic era and the bronze reliefs of the Renaissance, we frequently find figures placed before or between rows of arches. What was less constant were the accoutrements with which the arcades were bedecked. In the early middle ages, the arch were often depicted with suspended draperies, sometimes tied in ornamental knots as at Ravenna.¹⁰⁷⁶ This motif remained popular in the Carolingian and Ottonian eras. It was still current in the year 1000, for example in the Carolingian-looking Reichenau evangeliary, codex 218 in Cologne's cathedral treasury. But sometime around the millennium, hanging censers, vessels and lamps joined textiles as the dominant architectural embellishment. Around 1100, suspended vessels were ubiquitous in the art of the Mediterranean Latin world.¹⁰⁷⁷ This is a development, as significant as any rise in textual citations, that may reflect the undocumented currents of Mediterranean exchange discussed in the previous chapter.

It is likely that this artistic change is not simply a matter of style, but represents a development in attitudes that correspond to changes in practice.¹⁰⁷⁸ This cannot be taken for granted: imagery may become conventionalized through reuse or deliberate archaizing. In the tenth century Byzantine artists depicted warriors dressed like ancient

¹⁰⁷⁵ See Pierre Lavedan, *Représentation des villes dans l'art du Moyen Âge*, Paris: 1954; Chiara Frugoni, *A Distant City. Images of Urban Experience in the Medieval World*. Princeton: 1991.

¹⁰⁷⁶ For a review of the history of curtains and church veils in the Latin west, starting with Josephus, see Alexei Lidov, "'Image-Paradigms' as a Category of Mediterranean Visual Culture" in *Crossing Cultures: Conflict, Migration and Convergence*, edited by Jaynie Anderson, 148-153. Melbourne: 2009.

¹⁰⁷⁷ This is not to say that depictions of drapery faded away. Far from it: a glance at the history of royal portraiture shows plenty of examples even in the twentieth century. But in our period, the textile motif ceased to dominate.

¹⁰⁷⁸ Annemarie Weyl Carr, "Icons and the Object of Pilgrimage in Middle Byzantine Constantinople," *DOP* 86 (2002): 75-92, 92.

Romans, while Ottoman manuscript painters deliberately recreated Carolingian styles.¹⁰⁷⁹ In other cases, however, imagery does reflect contemporary usage. That is likely the case with our images of *materia* consumption. This is in part due to the suspicion that even highly stereotyped figurative imagery bore a normative relationship to practice. Such is the line taken by writers on art of the eleventh and twelfth centuries, who generally agree that pictures were the scripture of the illiterate.¹⁰⁸⁰ But in addition to invoking sacred history, images might indicate, via dress or attributes, the actions proper to their location in a church.¹⁰⁸¹ Images that correspond in some way to liturgical activity, then, are more likely to be contemporary than elements whose relationship to an audience is more passive. For example, angels with thuribles on an enamel reliquary now at the Met are censuring a hand of God outstretched in blessing, just as the subdeacons cense the eucharist at consecration (fig 76). Another panel shows the bell ringer who announces the consecration.¹⁰⁸² In an oration against demons preserved in an eleventh century codex, we are given the image of the Archangel Gabriel combating Satan with a “gold censor full of incense.”¹⁰⁸³ The equation of monks to angels in clerical discourse can only have reinforced this reading, especially in monastic contexts where the monks carried thuribles. The well-known expansion of monasticism in the eleventh century likely contributed to the popularity of the image.¹⁰⁸⁴

The depiction of incensa and luminaria is, when not sanctified by familiarity, artistically superfluous. Light is necessary to view a picture, but putting lamps in a picture does no good at all. The same might be said for incense. Such depictions,

¹⁰⁷⁹ The most famous example is the reliance of the Gero Codex of the 960s on the Lorsch Gospels of c.815. In general, see Mayr-Harting, *Ottoman Book Illumination*.

¹⁰⁸⁰ Honorius of Autun thus articulated it in the twelfth century: “pictura est laicorum litteratura”, but it had been codified in 1025 at the Council of Arras, which stated that “unlettered men may learn from the lines of a picture what they cannot grasp from the written word.” The latter cited by Moshe Barasch, *Theories of Art: 1. From Plato to Winckelmann*. Routledge: 2001; repr. 2013, from G.D. Mansi, *Sacrorum Conciliorum nova et amplissima collectio*, Paris: 1901, v.19, col.454.

¹⁰⁸¹ Safran, *Medieval Salento*, 146.

¹⁰⁸² As Margaret English Frazer suggests, “Medieval Church Treasures,” *The Metropolitan Museum of Art Bulletin*, Winter 1985/86, 49. The reliquary is dated from the late eleventh century to mid twelfth century.

¹⁰⁸³ PL 138, 1147B: “Agnosce artem tuam maledicte Satana. Ecce Gabrihel Angelus cum turibulo aureo pleno incenso de orationibus sanctorum.”

¹⁰⁸⁴ And indeed, the monks as angels trope saw considerable use in our era, although it dates back to the Rule of St. Benedict. For discussion see David Keck, *Angels and Angelology in the Middle Ages*, Oxford: 1998, 117ff.

although they reflect reality, are not solely about naturalistic representation. Among other things, they propagate normative ideas about their subjects. Jan Ziolkowski has pointed out that in our period, the act of creation was intrinsically associated with legitimate power. Or auctor with *auctoritas*, as he puts it. Considerable exegesis might be applied to this concept, and has been, but it comes down to the fact that creation was a public act, and therefore political. “The juridical and political intersect with the rhetorical and literary... *auctoritas* [is] the quality by which the person who guaranteed a truth was deemed worthy of doing so.”¹⁰⁸⁵ The existence of an image, therefore, implies its status as a sign that communicates authority – which is manifestly true for most eleventh century images one cares to cite. The same is true of documents, which communicate the issuing authority’s pre-eminence and legitimacy.¹⁰⁸⁶ All of which is to say, power produced.

Brigitte Bedos-Rezak has applied this line of thinking to depictions of cities in this era, which partook of “a *topos* articulating the essential goals, values, and meanings of a divinely ordered human history... there was, in essence, only one city, and it was... the heavenly city, the Jerusalem of the pilgrims; the eternal city, the Rome of Christianity’s headquarters.”¹⁰⁸⁷ To judge from the images of the era, the heavenly city was increasingly aromatic and deliquescent. Such imagery was taxonomic: it did not represent a place as specific as a pope’s palace, but rather a species of place. It therefore had a normative effect. Indeed, incensum and luminaria likely became a hierotopic imperative. If every church was Jerusalem, as Alexei Lidov has argued, then every church needed to share in the the Holy City’s smells and lights.¹⁰⁸⁸

As Maguire has emphasized, for a pilgrim, familiar church art provided a context for the reality of distant shrines. Visual culture conditioned the expectations of pilgrims: John Phokas described his experience in the Holy Land through the cliches not of

¹⁰⁸⁵ Jan Ziolkowski, “Cultures of Authority in the Long Twelfth Century,” *Journal of English and Germanic Philology* (2009): 421-448, 426.

¹⁰⁸⁶ Michel Brett, “Lingua France in the Mediterranean,” in *The Historiography of Islamic Egypt (c.950-1800)*, edited by Hugh Kennedy, 1-11. Leiden: 2001, 6.

¹⁰⁸⁷ Brigitte Bedos-Rezak, *When Ego Was Imago: Signs of Identity in the Middle Ages*, Leiden: 2010, 238.

¹⁰⁸⁸ Alexei Lidov, “‘Image-Paradigms’ as a Category of Mediterranean Visual Culture” in *Crossing Cultures: Conflict, Migration and Convergence*, edited by Jaynie Anderson, 148-153. Melbourne: 2009, 149.

scripture, but the pictures he had seen in Constantinople.¹⁰⁸⁹ In the medieval west, the hanging vessels that characterized depictions of holy places must have likewise conditioned the expectations of pilgrims - the San Clemente fresco, for example, has six individual lamps, plus the annular chandelier, behind the saint, plus an attendant bearing a censer. Such depictions in the eleventh century suggests something about the experience of shrines in this age of expanding pilgrimage. If patrons and artists were willing to imitate the permanent architecture of high status buildings by following such models as the Holy Sepulchre, how much more so the portable ornaments found within them?

This was due to a reciprocal component in the relationship between visualization and practice. To cite a modern example, fashion plates depict the clothes worn by cultural elites, and cultural elites wear the clothes that fashion plates depict. This is a self-perpetuating cycle that provides a ready-made template for anyone planning to undertake elite activities - like decorate a church. We perhaps get a sense of this from a page in the deluxe *Melisande Psalter* that shows a brazier, metal folding chair and a long-handled incense burner in association with impressive domed buildings – all emblems of power (fig 77).¹⁰⁹⁰ An extant object of splendour equal to the depictions is a gold and enamel temple pendent, probably from Constantinople: such objects are thought to have served as odoriferous jewelry, perhaps suspended from a headdress (fig 78).¹⁰⁹¹

An atmospheric example of this process lies in in grave goods. These had fallen out of use in Latin Europe over the early middle ages, but reappear in the eleventh century, when small ceramic containers begin to show up in graves over a region that seems to correspond to Lotharingia, from Italy to the Netherlands - a north-south strip that also matches the route of the *Via Francigena*.¹⁰⁹² The graves may be clerical, as the majority

¹⁰⁸⁹ Henry Maguire, "Pilgrimage through Pictures in Medieval Byzantine Churches," in *Architecture and pilgrimage, 1000 - 1500: Southern Europe and beyond*, edited by Paul Davies, Deborah Howard and Wendy Pullan, 21-38. Farnham: 2013, 31.

¹⁰⁹⁰ *Melisande Psalter* f.4r.

¹⁰⁹¹ W. Wixam, "170: Temple Pendant and Stick," in *Glory of Byzantium, Art and Culture of the Middle Byzantine Era, A.D. 843–1261*, edited by Helen C. Evans and William D. Wixom, 246-7. New Haven: 2013.

¹⁰⁹² J. Baeten, K. Deforce, S. Challe, D. De Vos, P. Degryse, "Holy Smoke in Medieval Funerary Rites: Chemical Fingerprints of Frankincense in Southern Belgian Incense Burners." *PLoS ONE* 9, 11 (2014).

come from churches.¹⁰⁹³ They are interesting because archeometric investigations show that the containers often contain aromatics: usually imported frankincense, and the charcoal to burn it.¹⁰⁹⁴ As the pots themselves are unremarkable, it was probably the frankincense itself that was significant. A likely explanation is that they represent incense burnt during funerals; the burning censer, with all its hierotopic associations, then entered the grave, bringing to the tomb some of the sacrality of the church itself. Remarkably, there is evidence of similar practices prevailing in Egypt, where glazed vessels “presumably filled with aromatic oils,” have been found in Christian graves of the eleventh century.¹⁰⁹⁵

That *materia* were depicted and used in contexts of power is not surprising. Expensive objects are typical badges of prosperity, as Wido of Ivrea’s rhetoric makes clear. An almost literal case is found in the seal of the grand master of the Hospitalers, which depicted a swinging thurible censuring a prostrate body under an archway in which hung a lamp.¹⁰⁹⁶ Another – richly ambivalent – is in the *Facundus Beatus*, which depicts the Biblical Babylon as a rich city of Al-Andalus, with horseshoe arches and hanging vessels in every window (fig 79). Artists seem to have been taken with the exuberant deployment of censers. An eleventh century relief in the Berlin Museum of the descent from the cross adds a censuring angel (fig 80). At San Clemente, censers accompanying the procession of Cyril and Methodius are swinging violently in the air (fig 81). To return to our theme of consumption, such dramatic usage could only have drawn attention to objects that were enormously precious. It should not be forgotten that the Latin west was bereft of gold; the raw material for every “turibulum de auro” was either imported or recycled.¹⁰⁹⁷

¹⁰⁹³ *Ibid.*; D. Prigent, “Les céramiques funéraires (XIe-XVIIe siècle),” in *Archéologie du cimetière chrétien. Actes du 2e colloque A.R.C.H.E.A.*, edited by H. Galinié and E. Zadora-Rio, 215–224. Tours: 1996.

¹⁰⁹⁴ Gas chromatography-mass spectrometry (GC-MS) and anthracological analysis of the contents of 192 containers showed frankincense, sometimes adulterated with local materials, such as pine or juniper resin. *Ibid.*

¹⁰⁹⁵ W. Godlewski, “Excavating the ancient monastery at Naqlun,” in *Christianity and Monasticism in the Fayum Oasis*, edited by G. Gabra, 171-82. Cairo-New York: 2005, 177.

¹⁰⁹⁶ Laura J. Whatley, “Visual Self-Fashioning and the Seals of the Knights Hospitaller in England,” in *Remembering the Crusades. Myth, Image, and Identity*, edited by N. Paul and S. Yeager, 252-69. Baltimore: 2012, 255.

¹⁰⁹⁷ And most were de argentum, not auro. The *Montecassino Chronicle* makes frequent mention of thuribles, but the first gold one does not appear until the reign of Desiderius (1058-71): III.18, 384.

The inscription on the Farfa Casket begins, “Take this modest container, fit for divine worship...”¹⁰⁹⁸ The visual culture of the age took this to heart: in paintings and manuscripts containers are an essential adornment of churches and places of power. What held true in art was maintained in practice. We find that vessels, together with textiles, dominate treasure lists. A famous example is the San Marco brazier, an object whose opulence matches the expense of foreign incense.¹⁰⁹⁹ The importance of these objects to the monks who wrote our chronicles presumably reflects actual demand. One chronicler recorded offerings made by Matilda of Tuscany in 1106: “gold, silver and embroidered clothes. But lord Dodo the venerable bishop received a high-grade silver chalice marvellously adorned with gold inscriptions inside and out, together with a paten.”¹¹⁰⁰ Among the gifts Henry II bestowed on the cathedral of Basel in 1019 was a golden censer.¹¹⁰¹ Such things struck the imagination: writing much later, it was the “immense quantity of gold and silver vessels” seized from the Dome of the Rock in 1099 that Ibn Khallikan remembered.¹¹⁰² It is probable that many of the vessels of crystal, glass, or metal that now populate the cathedral treasuries of Europe in the guise of reliquaries originated as containers for the transport of equally valuable substances. Another possession of Henry II was a precious glass vessel of “opus Alexandrinum” containing aromatics.¹¹⁰³ In the tenth century, when the Fatimid caliph sent theriac to a convalescent servant, it was contained in a silver phial.¹¹⁰⁴ If, following Sharon Kinoshita, we turn to the period’s fictions in order to understand its values and aspirations, we could extend

¹⁰⁹⁸ S. Guérin’s translation, “Ivory,” 88, except I have rendered “vas” as the more generic “container,” instead of “casket.”

¹⁰⁹⁹ It was headlined in the 2008 Royal Academy show and published in the catalogue, *Byzantium*, 423. Although often attributed to Constantinople, the figurative ornaments of its lower register suggests an Italian provenance: the griffin, lions, centaurs, and sirens are part of the standard Italian Romanesque vocabulary. Moreover, it conforms to the architectonic models suggested in Theophilus’ *De diversis artibus*.

¹¹⁰⁰ *Rerum Italicarum scriptores* VI.i, ed. Giulio Bertoni, Città di Castello: 1907, 8. “Aurum, argentum, pallia insigna. Sed et domnus Dodo venerabilis pontifex calicem argenteum cum pathena ei obtulit optimum aureis signis intus forisque mirabiliter decoratum.”

¹¹⁰¹ *Breviarium Basilense, In festo Henrici imperatoris*, ed. Trouillat, *Monuments de l’histoire de l’ancien évêché de bâte*, I, Porrentruy: 1852, 143, nr.87.

¹¹⁰² Other than the 70,000 slaughtered, of course. *Ibn Khallikan’s Biographical Dictionary*, translated by W. Mac Gucklin de Slane, vol. I, Paris: 1843, 159.

¹¹⁰³ Peter Damian, *Vita Odilonis*, PL 144, 934: “vas holovitream valde pretiosum et Alexandrini operis arte compositum cum tritis est pigmentis allatum” which he sent to Odilo; “beato viro Odiloni odoriferi nectaris xenium destinavit.”

¹¹⁰⁴ al-Jawdhari, *Inside the Immaculate Portal*, 114.

these lists for pages. In the *Roman de Troie*, for example, Hector's post-mortem treatment is described in detail. His feet were placed into "two amphorae made of gold and studded with emeralds and filled with balm and aloe..." an example useful for suggesting the juxtaposition in the popular imaginary of jewels and aromatics, resplendent containers and elite prestige.¹¹⁰⁵

To return to our visual evidence, it is clear that the deployment of aromatics was an attribute of authority, including sacral authority, in the Latin west. Perfume was an attribute of secular royalty in the Islamic world as well; the Pseudo-al-Jāhiz in the ninth century was explicit that even a king's close companions should not share his incense, which marked his superiority.¹¹⁰⁶ A rather literal example may be found in Musky Camphor (Abu'l-Misk Kāfūr), a former slave who ruled Egypt in the tenth century.¹¹⁰⁷ Similar ideas were expressed in fiction, as in a description of the throne of Solomon by Tha'alibi as a mechanical device that sprinkled him with ambergris and musk, which served as a "perpetual renewal of the heaven-mandated authority of the monarch."¹¹⁰⁸ At the Nile canal opening ceremony in the 1040s, which was on a scale beyond anything possible in Italy, the mounted caliph is attended by "thurifers burning ambergris and aloe."¹¹⁰⁹ In the days preceding the official measurement at the Nilometer, its columns were anointed with musk and saffron to encourage a favourable outcome.¹¹¹⁰ We have already seen how coronation rites in the Latin west were likewise accompanied.

The depiction of vessels and *materia* was an idiom that made sense on every Mediterranean coast. The lights depicted at San Clemente may be matched to extant objects from Tunisia as well as Byzantium. The motif of the swinging censer, common in Latin Europe, can be found on the fresco in the church of St. Macarius at Deir Abu Magar in Egypt's western desert. The long-handled incense burner depicted in the Melisande

¹¹⁰⁵ Benoît de Sainte-Maure, *Le Roman de Troie*, ed. Léopold Constans, SATF, 6 vols., Paris: 1904-12, lines 16503-16858; see discussion in Truitt, Elly R. "The Virtues of Balm in Late Medieval Literature." *Early Science and Medicine* 14, 6 (2009): 711-736.

¹¹⁰⁶ King, 156; C. Pellat, *Le Livre de la couronne attribué à Gahiz*, Paris: 1954.

¹¹⁰⁷ B. Lewis, *Race and Slavery in the Middle East. A Historical Inquiry*, Oxford and New York: 1990, 59.

¹¹⁰⁸ King, *Musk Trade*, 153-54.

¹¹⁰⁹ Nāṣer-e Kusraw, 50.

¹¹¹⁰ Doris Behrens-Abouseif, *Islamic Architecture in Cairo: An Introduction*, 51.

Psalter is of a type that survives from Iran as well as Al-Andalus¹¹¹¹ The censer carved in stone on the window at Al-Aqmar would not look out of place in the hands of any angel, or the ivory Marys at the Herzog Anton Ulrich Museum. Outside of the realm of incense, the long-necked bottles that appear in Christian Spanish scenes of conviviality match those that appear on Fatimid painted pottery and the odd surviving fresco. Moreover, such bottles are extant.¹¹¹² It is superfluous to mention the pottery in Pisa at this point; suffice to say that vessels and their contents were a part of the common Mediterranean vocabulary.

SUPPLY SIDE ECONOMICS

The baptismal church at Porto Pisano is just one testament to the demand for luminaria and incensum. As we have seen, by 1006 merchants had already been delivering goods from the Mediterranean network for decades. Incense and other *materia* are usually beyond the reach of archaeology, but when such substances were used in Tuscany or north on the Via Francigena, it is probable they came via Pisa alongside the better documented ceramics and glass. The entry points were limited in number, but the cities of the Tyrrhenian were among them: Amalfi, Naples, Gaeta, Pisa, Genoa. As we have seen, demand was ingrained in both secular and ecclesiastical spheres. It remains, however, to examine how the demand was satisfied. Sources from the maritime cities say little: when an Amalfitan visits Egypt, we are not told what he is buying.¹¹¹³ There is a document from Naples of 1018, which includes port dues of a “quatra de ture,” which usually means frankincense.¹¹¹⁴ We also hear, a century later, that Amalfitano supplied the cinnamon used to welcome Pope Calixtus to Benevento.¹¹¹⁵ Southern sources are more

¹¹¹¹ Iran: Incense Burner with Domed Cover, at the Met (Accession Number: 1976.102), and Spain, also at the Met (Accession Number: 67.178.3a, b).

¹¹¹² An Iranian example is in the Benaki Musuem: Gift of Marina Lappa-Diomidous (TE 710).

¹¹¹³ E.g. the documents in *Codex diplomaticus Cavenensis*, #100, 101.

¹¹¹⁴ RN #378, 235-6. The rest of the due is “triticum modium unum... vinem urceum unam et sale medium modium.”

¹¹¹⁵ Falco di Benevento, *Chronicon Beneventanum*, ed. E. d’Angelo, Florence: 1986, 56: Praeterea Amalphitani omnes, plateas cunctas vestibus sericis, palliisque et ornamentis pretiosis in adventu illius ornaverunt; infra ornamenta vero, thuribula aurea, et argentea cum odoribus, et cinnamomo posuerunt.

yielding: out of the scattering of references to Rūm merchants in the Cairo Geniza, they are usually buying *materia*. In 1035, for instance, we hear that Rūmi merchants bought up all the odouriferous wood in Old Cairo.¹¹¹⁶ Ten years later, a Jewish merchant in Alexandria expected to sell alum, important in textile manufacturing, to visiting Rūm.¹¹¹⁷ A letter of the 1060s, written by Nahray b. Nissīm, mentions Rūmi interest in brazilwood.¹¹¹⁸ In the 1070s, some Rūm ships arrived in Alexandria, and the merchants immediately bought brazilwood “at excessive prices,” and indigo.¹¹¹⁹ In Tunisia a decade or so later, Rūm merchants were mad about pepper, causing the price to rise to an unprecedented 38 dinars for 100 pounds.¹¹²⁰ And in 1085, we hear of a Tunisian merchant who had traveled to Palestine, where again the Rūm paid high prices for brazilwood – the merchant made a profit of 150% on the transaction.¹¹²¹ The preceding are a fair portion of all mentions of Rūm merchants in Geniza sources. Of course, Rūm refers to Byzantium as well as the Latin west, but a trend is apparent. An even more illuminating example is a Jewish merchant who traveled to Amalfi in order to sell incense and pepper.¹¹²² Outside of the Geniza, a surviving *fatwā* of Al-Māzarī mentions a Tunisian merchant who traveled to Norman Sicily intending to sell sumac.¹¹²³ A bit earlier, in the late tenth century, al-

¹¹¹⁶ Goitein, *Mediterranean Society* I, 44.

¹¹¹⁷ Goitein, *Mediterranean Society* I, 45. Alum was primarily a mordant, but was used medicinally for cleaning the teeth (Lev and Amar, “Reconstruction of the inventory of *materia medica*,” 438) and in remedial plasters (AN #46).

¹¹¹⁸ Udovitch, “A Tale of Two Cities,” 152.

¹¹¹⁹ Udovitch, “A Tale of Two Cities,” 156; Goitein, *Mediterranean Society* I, 46: “Of late, Rūm ships have arrived. Immediately after their arrival, their merchants were very active. Then they kept back and did not show much eagerness. They bought indigo at the auction for excessive prices and some brazilwood for 120 [dinars per camel load, also an exorbitant price]. Then they stopped. They do not distinguish between first-class and inferior goods; for every quality they pay the same price.” This episode is discussed by Goldberg, *Trade and Institutions*, 355, who suggests that “although their behaviour has been interpreted as indicative of market naïveté, it appears instead to be quite strategic. Paying prices for different varieties of goods is economically senseless if the market to which one returns will not support such distinctions; setting fixed prices and acting as a group looks like an appropriate way to gain power in an unfamiliar market.” This is an insightful consideration, but it founders on the fact that the “Rūm bought the poor quality at the price of the excellent and won’t pay a thing more for the excellent.” Paying the higher price for lower quality goods is no strategy, even if her suggestion that they were attempting to avoid the complications of negotiation by adopting a one price fits all approach is correct. After all, these Rūm merchants did run out of money, and moreover, the idea that their Latin customers back in Europe could not distinguish between grades is doubtful. The *AN* in fact specifies that “optissimum” quality be used in confections, and in 1064 a Geniza trader found that Rūm in Palermo refused to buy low-grade pepper: Goitein, *Mediterranean Society* I, 45.

¹¹²⁰ Goitein, *Mediterranean Society* I, 44

¹¹²¹ Goitein, *Mediterranean Society* I, 45

¹¹²² Although political disruptions in Campania disrupted his efforts. Goitein, *Letters*, 44-45 (TS 8 Ja 1, f.5); Citarella, “Patterns in Medieval Trade: The Commerce of Amalfi before the Crusades,” 544.

¹¹²³ Sarah Davis-Secord, “Muslims in Norman Sicily: The Evidence of Imām Al-Māzarī’s *Fatwās*,” *Mediterranean Studies* 16 (2007): 46-66, 60.

Ṭar-tūshī visited Mainz, where he saw for sale in the market pepper, ginger, cloves, spikenard, costmary, and galingale, as well as the far-traveling dirhams of Samarqand.¹¹²⁴ Sources confirm demand for *materia* in Latin Europe, then, and sometimes the demand must have outstripped the supply.

The Mediterranean network was the likely avenue for the import of *materia* into Europe. For a Pisan merchant seeking balsam for chrism, or frankincense for incense, or any of the ingredients that might be used at the medical school at Salerno, the cities of the southern littoral met his needs. Ibn Hawqal found at Qayrawān ambergris and mercury.¹¹²⁵ He might also have seen, in the sanctuaries, large and impressive lamps, such the one commissioned by the Zirid al-Mu'izz, father of Tamīn.¹¹²⁶ That same prince wrote a treatise in which he noted the use of five different kinds of musk.¹¹²⁷ Until it was destroyed during the great calamity, Qayrawān and its attendant palace-city Sabra al-Mansuriyya, with its 3-kilometre shopping street lined with colonnades, would have been accessible to Italian merchants via its port at Mahdia.¹¹²⁸ Considerable quantities of ceramics from the region have been found at Pisa, and on the walls of churches in Sardinia.

However, it was the great metropolis of Egypt that offered the most. Al-Mas'udi described it in the mid-tenth century: “All the kingdoms... bring to this commercial centre the most remarkable, rarest, and best of perfumes, drugs, jewels, and slaves, as well as foodstuffs and drinks and cloths of various kinds. The merchandise of the entire universe flows to this market.”¹¹²⁹ In the 990s, al-Muqaddasī stated that it was “most abounding [of all regions] in worshippers, readers of the Qur'an, resources, trade, special

¹¹²⁴ Gene Heck, *Charlemagne*, 269; Paul Lunde and Caroline Stone, *Ibn Fadlān and the Land of Darkness. Arab Travellers in the Far North*, London: 2012, 163.

¹¹²⁵ Goitein, “Main Industries of the Mediterranean Area as Reflected in the Records of the Cairo Geniza,” *JESHO* 4, 2 (1961): 168-97, 173-4.

¹¹²⁶ R. Ward, *Islamic Metalwork*, Milan: 1993, 11, 68; *Ifriqiya: Thirteen Centuries of Art and Architecture in Tunisia*, 159–62. For an example of the glassware, Mourad Rammah “Carafe” in Discover Islamic Art. Place: Museum With No Frontiers, 2014. http://www.discoverislamicart.org/database_item.php?id=object;ISL;tn;Mus01;42;en Similar glassware was distributed around the Mediterranean, and appears in the Serce Limani wreck.

¹¹²⁷ A. King, *Musk Trade*, 265; M. Levey, “Medieval Arabic Bookmaking and its Relation to Early Chemistry and Pharmacology,” *Transactions of the American Philosophical Society*, New Series 52, 4 (1962): 1-79, 47.

¹¹²⁸ An extensive discussion of Sabra may be found in Faouzi Mahfoudh, *Architecture et urbanisme en Ifriqiya médiévale*, Tunis: 2003, 71-76.

¹¹²⁹ Cited in Gene Heck, *Charlemagne*, 131.

products, grain,” and also drunkards. “Fustat of Misr is today as Baghdad was of old; and I do not know in Islam a town more splendid.”¹¹³⁰ He listed dozens of market specialties, including balsam. More than fifty years later, on the eve of the great calamity, Nāṣer-e Khusrow visited Cairo: “On the north side of the mosque is the bazaar called Suq al-Qanādil [Lamp Market], and no one ever saw such a bazaar anywhere else. Every sort of rare goods from all over the world can be had there: I saw tortoise-shell implements such as small boxes, combs, knife-handles, and so on. I also saw extremely fine crystal, which master craftsmen etch most beautifully. [This] had been imported from the Maghrib, although they say that near the Red Sea, crystal even finer and more translucent than the Maghrebi variety had been found. I saw elephant tusks from Zanzibar... There was a type of skin from Abyssinia that resembled leopard, from which they make sandals. Also from Abyssinia was a domesticated bird, large with white spots and a crown like a peacocks.”¹¹³¹ On one day in Old Cairo, Khusrow saw “red roses, lilies, narcissi, oranges, citrons, apples, jasmine, basil, quince, pomegranates, pears, melons, bananas, olives, myrobalans, fresh dates, grapes, sugarcane, eggplants, squash, turnips, radishes, cabbage, fresh beans, cucumbers, green onions, fresh garlic, carrots, and beets. No one would think all these fruits and vegetables could be had at one time.”¹¹³² Such lists are mirrored in Geniza texts, which show more than 150 different medical ingredients in use by the Jewish doctors of Cairo.¹¹³³

These emporia served as nodes of redistribution for *materia* that moved on to Italy. They also provided for the sundry hinterlands of the Fatimid empire. When the fabulously wealthy noblewoman Jamīla bint Nāṣir ad-Daula Abī Muḥammad al-Ḥasan b. ʿAbdallāh b. Ḥamdān went on pilgrimage to Mecca, she gave the shrine 10,000 dinars

¹¹³⁰ Al-Muqaddasī, *Best Divisions for Knowledge of the Regions*, trans. Basil Collins. Reading, U.K.: 2001, 30-32.

¹¹³¹ Nāṣer-e Khusrow, 53.

¹¹³² Nāṣer-e Khusrow, 54.

¹¹³³ Efraim Lev, “Drugs held and sold by pharmacists of the Jewish community of medieval (11th–14th centuries) Cairo according to lists of *materia medica* found at the Taylor–Schechter Genizah collection, Cambridge,” *Journal of Ethnopharmacology* 110 (2007): 275–293.

and candles made from ambergris.¹¹³⁴ And Nāṣer-e Khusrow saw ambergris candles 7 cubits long and 3 spans wide that the Fatimid caliph sent to the Dome of the Rock.¹¹³⁵

Broadly speaking, two forces motored the movement of *materia*: commerce and diplomacy. These two currents often intermixed. When in 1070 Alī ibn Mujāhid - whose mother had resided in Pisa - dispatched a gift of coral to the Fatimids, he probably did so in the same ship in which he rented space to merchants. Diplomatic gift giving has left some of the most detailed traces of material culture. Most is textual, but sometimes, as in the case of a turquoise bowl now in Venice, we have the objects to back up the texts.¹¹³⁶

Until after the great calamity, the main areas of high demand, in the sense of purchasing power, lay in the Levant. This applied both to commerce and gift-giving: the 935 diplomatic package dispatched to Hugh of Italy pales in comparison to the goods exchanged between the potentates of the eastern Mediterranean.¹¹³⁷ But such was the velocity of the business that it sometimes spun off in the direction of Latin Italy, as when Salāma b. Mūsā could find no buyers in Palermo and moved on to Campania, or when Christian merchants themselves participated in the network, and were able to direct exotic goods towards their homelands. Even without the crisis of the Islamic polities, Latin Europe's economy was growing, and the increased appearance of *materia* within its borders reflects that. The Jewish merchant who brought olibanum to Amalfi in 1063 knew what he was doing - the substance appears frequently in pharmaceutical texts in the region.¹¹³⁸

With respect to gifts, we may return to Charlemagne and his elephant. The pachyderm was accompanied, according to Einhard by “vestes et aromata et ceteras orientium terrarum opes.”¹¹³⁹ Later writers, such as Notker and Ekkehard, amplify this to “balsam, nard, unguents of various sorts, spices, scents and a wide variety of

¹¹³⁴ Laṭā'if al-ma'ārif of Tha'ālibī, C.E. Bosworth, trans. and ed., Edinburgh: 1968, 82.

¹¹³⁵ Nāṣer-e Khusrow, 32.

¹¹³⁶ Avinoam Shalem, “New Evidence for the History of the Turquoise Glass Bowl in the Treasury of San Marco,” *Persica* 15 (1993-95): 91-94.

¹¹³⁷ Anthony Cutler, “The Enduring Present” Gifts in Medieval Islam and Byzantium,” in *Gifts of the Sultan. The Arts of Giving at the Islamic Courts*, edited by Linda Komaroff, 79-90. New Haven and London: 2011, 88.

¹¹³⁸ In the *AN*, for example, it appears fourteen times.

¹¹³⁹ I used the version available online at www.thelatinlibrary.com/ein.html.

medicaments.”¹¹⁴⁰ Such things were due to emperors; in 955, a like train came to Otto from “Greeks and Saracens, bearing gifts; vessels of gold and silver and bronze, curiously engraved in differing patterns; vessels of glass and ivory; rugs of every shape and sort; balsam, pigments and paints in endless kind; animals never before seen by Saxon eyes, lions and camels, apes and ostriches.”¹¹⁴¹ Byzantine diplomacy was an important source of eastern gifts in the Latin west. In 935, the emperor sent Hugh of Italy thirty sacks of incense and 500 measures of fragrant oil, among other things. In 1135, the Greeks and the Venetians tempted the German emperor into aiding them against Roger II with “gold, precious stones, and aromatics previously unknown in these lands.”¹¹⁴²

It is the nature of diplomatic gifts that only the most valuable goods are offered. The *Book of Gifts and Rarities*, for example, records some 26 transactions of *materia*, either as a gift or treasure (fig 82 map). The actual substances however, included only nine specific mentions of ambergris, eight of camphor, eight of aloes wood, two of musk, two of sandalwood, two of saffron. Coral, sugar, naphtha and containers for violets and narcissus were each mentioned once.¹¹⁴³ Other gifts were less specific, but no doubt included the same substances: the blended perfume known as *nadd*, of which 500 units were noted in Baghdad in 969, was made of ambergris, musk, and aloes wood.¹¹⁴⁴ Gift giving, then, encompassed only a fraction of the hundreds of substances that might be deployed for reasons of medicine or sensibility. But these materials have a claim to our attention. As we saw in chapter one, the relative poverty of Italy prior to the great calamity meant a small amount of wealth could have a disproportionate effect.

As for the monetary value of these materials to our merchants, we have no Latin sources for this period. But we may base some inferences on the comments of Jewish and Arab writers. A tenth century source speaks of the sultan of Oman taking 600,000 dinars

¹¹⁴⁰ Notker, II.8; Ekkehard’s *Chronicon Universale*, MGH SS 6, 169-70.

¹¹⁴¹ Widukind, iii, ch.56.

¹¹⁴² *Annales Erphesfurdenses*, anno 1135, MGH SS 6, 540.

¹¹⁴³ Some gift transactions included more than one substance; the violet and narcissus pots, for example, were found together in the Fatimid treasury in Cairo. *Book of Gifts and Rarities*, Cap.392.

¹¹⁴⁴ King, *Musk Trade*, 48.

in dues on frankincense transactions at al-Shihr.¹¹⁴⁵ Musk, which came all the way from Tibet and was labelled the “lord of aromatics” by the Andalusian physician Ibn Juljal, was quoted in a letter to Ibn ‘Awkal at 4.5 dinars a flask in Fustat in 1030.¹¹⁴⁶ But in Qawayran in ~1010, a flask of musk went for 22 dinars.¹¹⁴⁷ We may imagine a few flasks handed over in exchange for a human being. From Palermo, in the mid-eleventh century, Geniza letters mention a range of *materia*, such as cinnamon and pepper, both at 27.5 dinars per qintar (~100 pounds), and musk, which went for 13.5 dinars per ounce - almost half its weight in gold! As imported products, we may assume all these were more expensive if they changed hands in Italy than in Egypt - in contrast to local raw materials, such as slaves, which were cheaper.

FRAGRANCE AND FASHION

Thus far, we have focused on liturgical materials. Incense, however, is simply the ecclesiastical name for perfume. We have no Latin recipes specifically for perfumes from our era, although as Damian used the same words, “thymiamatum aromatumque” for a woman’s perfume as for incense, it may be that the two categories were more or less identical. Damian was insistent that to offer incense except to God was fatal to the soul.¹¹⁴⁸ The note of monastic depreciation resounds through the sources: “What profits immoderate apparel and perfume, when we will all end up a fetid abode of worms?” asks Odo of Cluny.¹¹⁴⁹ By the twelfth century the devout sometimes rejected aromatics even in church: for Saint Bernard, “suave olentia... ut stercora.”¹¹⁵⁰ One might suspect a degree of professional anxiety. The odour of sanctity did not smell different from that of luxury.

¹¹⁴⁵ *Livre des Merveilles de l’Inde par le capitaine Bozorg fils de Chahriyâr de Râmhormoz*, edited and translated by L. M. Devic. Francfort: Institute for the History of Arabic-Islamic Science (repr. of the edition of 1883–86). 1993, 129-130.

¹¹⁴⁶ Stillman, “Merchant House,” 50; Ibn Juljal, *Die Ergänzung Ibn Ğulġul’s zur Materia medica des Dioskurides*, ed. and translated by A. Dietrich, Göttingen: 1993, #33: 51.

¹¹⁴⁷ Goitein, *Letters*, #11 (TS 12.133).

¹¹⁴⁸ Peter Damian, *De felicitate et sapientia* IV, PL 145, 834.

¹¹⁴⁹ Odo of Cluny, *Sancti Odonis Abbatis Cluniacensis Collationum Libri Tres*, PL 133, 0614B. Likewise Damian, *Letters*, v3, 63: “as they have enjoyed the scented pleasures of perfume and sought the tartness of spices here, they will be tortured in a sulphurous stench and enveloped in the gloom of pitch black smoke.”

¹¹⁵⁰ Bernard, *Apologia*, cap.12, 914-15.

Maria Argyropoulaina, wife of the son of Doge Peter II Orseolo of Venice, kept her bedroom redolent with “incense and other aromatics,” and dared to eat with a fork. Peter Damian roundly condemned her and crowed triumphantly at her lingering and repulsive death from plague in 1007. It was the just desserts of an “artificiosa” woman.¹¹⁵¹ But Peter Damian condemned almost everybody, and there is no reason to think that Maria’s tastes were unusual, or that they failed to attract imitators and admiration. Certainly there are enough incidental mentions to suggest that the secular use of aromatics expanded over the eleventh century, not least Damian’s nagging ire that incense was wasted “upon temporal and fallen things.”¹¹⁵² These temporalities included the wedding of Boniface of Tuscany in 1037, where aromatics were expended in such quantities that they flowed like water.¹¹⁵³ Conspicuous wealth invariably finds ways to consume conspicuously. In the *Arabian Nights* we read regularly of wine flavoured with musk; a usage as ostentatious as Cleopatra’s diet of pearls.¹¹⁵⁴ Back in Italy, the husband of Boniface’s successor Matilda, Godfrey, enjoyed wine flavoured with spices.¹¹⁵⁵ Generations later, Saint Bernard complained of the same practice.¹¹⁵⁶ We also hear of a wedding in Milan around mid-century, during which the aromatics ran out, and the groom was so enraged at the deficit that he slapped his mother in public.¹¹⁵⁷ These accounts do not tell us what substances were used, although Theophilus, in his *De diversis artibus*, cites myrrh, frankincense, balsam, nard, and calamus as “precious things” acquired on “voyages over lands and seas.”¹¹⁵⁸ We have seen others in the poem of Wido of Ivrea.

Whether or not Theophilus’ and Wido’s aromatics were delivered by Pisan merchants, the place to get them was on the further coasts of the Mediterranean. The wealthy in the east had long made use of perfume: an anecdote in the *The Maqámát*

¹¹⁵¹ Peter Damian, *Institutio moniales* XI, PL 145: 744; trans. in *Letters*, v3, 63.

¹¹⁵² Peter Damian, *De felicitate et sapientia* IV, PL 145, 834.

¹¹⁵³ Donizone, *Vita Mathildis* 1.1 v. 822, Scr. XII 368, “...non ibi pigmenta tritantur, sed quasi spelta ad cursum limphae molendinantur ibidem.”

¹¹⁵⁴ But it should be noted that musk is potent; a single drop will scent a pint or a quart of wine, according to a 1675 experiment of Robert Boyle: “Experiments and Observations about the Mechanical Production of Odours,” in *The Works of Robert Boyle*, edited by M. Hunter and E. B. Davis, London: 2000, Vol. 8, 387.

¹¹⁵⁵ Letter 67, or Blum, #3, p.70.

¹¹⁵⁶ He mentioned wine “sprinkled with powdered spices”: *Apologia* 21, PL 182, 910.

¹¹⁵⁷ Peter Damian, *Ep.* iii. Ad Albertum virum clarissimum, PL 144 0466A.

¹¹⁵⁸ Theophilus, 3.

describes a soiree in Baghdad, in which the host fumigated guests with *nadd*, aloes, and ambergris.¹¹⁵⁹ Secular perfumery was common in the House of Islam, whose greater wealth in this period equated to a greater diversity of consumption. According to Ibn Hazm, Cordoba had a Gate of the Perfumers.¹¹⁶⁰ Baghdad had a perfume market near the exit of the Caliph's palace.¹¹⁶¹ We know the name of one professional perfumer, Abu Sa'id al-'Afsi of Fustat, who in the first decade of the twelfth century received ambergris from Morocco.¹¹⁶² There survive manuals, such as a *Book of the Chemistry of Perfume and its Preparation* attributed to al-Kindī, and a treatise by the Egyptian Christian doctor Sahlān b. Kaysān (died 380/ 990).¹¹⁶³ More are lost.¹¹⁶⁴ There is no equivalent supply of Latin texts for this period. We may reiterate, then, that our era is one in which the practices of conspicuous consumption of the wealthier south and east were transferred to the Latin west by way of the maritime cities and by the agency of Mediterranean merchants. We have a concrete example of these latter in an anonymous Jewish trader who annotated the ingredients of an Arabic perfume recipe with Latin equivalents sometime in the mid-eleventh century.¹¹⁶⁵

The tenth century writer al-Washshā' described women's perfumes in Baghdad. In addition to the perfumes also worn by men, including musk and ambergris, they wore scents based on cloves, camphor, *Lakhlakhah*, violets and jasmine.¹¹⁶⁶ Intriguingly, "they wear short necklaces censed with cloves, and long necklaces with camphor and

¹¹⁵⁹ *The Maqāmāt* of Badī' al-Zamān al-Hamadhānī, translated by W.J. Prendergast, London: 1915, 161-62. The story is tenth century but attributed to Abū'l-'Anbas of Ṣaimara, who died in 897.

¹¹⁶⁰ Ibn Hazm, *Ring and the Dove*, cap.4.

¹¹⁶¹ Ibn Abi Usaiba, *History of the Physicians*, 495.

¹¹⁶² Geniza letter (Bodleian lib. MS Heb. d 66 (Cat.2878), f. 52) translated by Goitein in *Letters*, #6.

¹¹⁶³ A translation of the latter is under preparation by Anya H. King. I am grateful to Dr. King for sharing some of her preliminary work with me.

¹¹⁶⁴ For a discussion, see King, *Musk Trade*, 34-40.

¹¹⁶⁵ Gottheil, "A fragment on Pharmacy from the Cairo Genizah," *JRASGBI* 1 (1935): 123-144. Gottheil, 123, states that the fragment gives the names not in Latin but early Spanish. This is too punctilious a distinction; the words given are certainly Romance, and may also be found in such Latin treatises as the *Antidotarium Nicolai*.

¹¹⁶⁶ *Lakhlakhah* was a compound perfume intended to be used as a lotion, or in the bath. Surviving formulas indicate that it was made from aromatics that had first been processed for oils: King, *Musk Trade*, 63. Such reprocessing is typical of high value components, and likely produced outcomes available to a wider (i.e less wealthy) range of customers. And indeed, trade in *Lakhlakh* is attested in the Geniza: Goitein *Mediterranean Society* 1.241-2 and note 64 on 460.

ambergris...”¹¹⁶⁷ We don’t know much about these practices, but gold earrings with receptacles survive from Fatimid Egypt, and the atheist poet Al-Ma’arrī commented on women of Aleppo wearing earrings whose fragrance reached the nose.¹¹⁶⁸ The surviving Byzantine pendant likewise held perfume. There is also a grave-find from the Fayyum, of a woman wearing a bracelet made of dried cloves and nutmeg.¹¹⁶⁹ A document of 1105 preserves a list of bridal gifts that include silver jars for ointment and silver spoons for labdanum, and for ghāliyah perfume.¹¹⁷⁰ Such a spoon, ornamented with a griffin and identified as “liturgical,” was excavated from a Byzantine church at Quattro Macine (Lecce) in Apulia.¹¹⁷¹ Another Jewish bride recorded in the Geniza had an ointment box and a vase for musk and perfumes.¹¹⁷² The *Book of Gifts and Rarities* preserves a list of possessions left by Fatimid royal women, including an incense pomade container allegedly made of ruby and weighing either 27 or 37.5 mithqals, which had belonged to the Lady ‘Abdah (d.1051), daughter of the Fatimid al-Mu’izz (932-975).¹¹⁷³ Making perfume was sometimes seen as woman’s work: it was common for dowries to contain mortars for grinding ingredients, sometimes ostentatiously ornamented.¹¹⁷⁴ A beautiful ivory example survives at the Met, and there is a bronze one at Cleveland (fig 83). In the west, we usually hear of mortars in association with physicians: an early twelfth century recipe contained in a pharmaceutical text mentions grinding perfume in a bronze mortar.¹¹⁷⁵

The same substances were used for incense in church and perfume in the secular world, and our sources use the same terminology irrespective of contexts. Aromatics were

¹¹⁶⁷ Trans. King, in *Musk Trade*, 195, citing al-Washshā’, Muḥammad b. Aḥmad, *Kitāb al-Muwaṣṣā*. Ed. R. E. Brünnow. Leiden: Brill, 1886, 186-7.

¹¹⁶⁸ Pieter Smoor, *Kings and Bedouins in the Palace of Aleppo as reflected in Ma’arrī’s Works*, Louvain: 1985, 121.

¹¹⁶⁹ Dorota Dzierżyc-Dzierzbicka, “Jewelry from Cemetery A at Naqlun,” *Polish Archaeology in the Mediterranean* 17 (2007): 225-233, 232.

¹¹⁷⁰ Goitein, *Mediterranean Society*, 4, 226.

¹¹⁷¹ Safran, *Salento*, 303; Arthur, “Masseria Quattro Macine -- a deserted medieval village and its territory in southern Apulia: an interim report on field survey, excavation and document analysis,” *Papers of the British School at Rome* 64 (1996): 181-237, 198-99, 211.

¹¹⁷² Goitein, *Mediterranean Society* 4, 315-6.

¹¹⁷³ After her death, it was stolen by the vizier al-Yāzūrī, but after his disgrace in 1058 it was recovered for the treasury, only to be lost in the great dispersal of 1069. *Book of Gifts and Rarities*, cap. 358; 411.

¹¹⁷⁴ The daughter of the Tulunid sultan of Egypt, Khumarawaih, had 1000 golden mortars as part of her wedding portion. *Ibn Khallikan’s Biographical Dictionary*, translated by W. Mac Gucklin de Slane, vol.1, Paris: 1843, 499.

¹¹⁷⁵ AN #10.

a component of the good life. In the 950s, the Fatimid caliph al-Mu'izz spoke of “wine, musk, making merry,” and a half-century later al-Naysābūrī said that whoever sets out in search of sanctity must eschew “sex and perfume.”¹¹⁷⁶ One thirteenth century writer observed of aloes wood that “a woman, when she smells it, will think of sexual intercourse.”¹¹⁷⁷ Our Latin writers are less explicit, but hints do emerge, as in a incense recipe from Salerno, whose contents include aloes wood, the scent of which was “enough to arouse concupiscence.”¹¹⁷⁸ In Italy, “women of the nobility were accustomed to chew aromatics in order to more sweetly and burningly receive their lovers.”¹¹⁷⁹ This brings to mind the locks of hair daubed with ambergris and the mastic used as chewing gum that, according to Ibn Hazm, were exchanged between lovers in Al-Andalus.¹¹⁸⁰ A twelfth century lyric describes a beauty’s breasts: *pectus erat gracile/cunctis innuebat./quod super aromata/cuncta redolebat.*¹¹⁸¹ In another - sometimes attributed to Peter Abelard! - the same aromatics that for Rupert of Deutz represented cardinal virtues serve to describe the mouth of a desirable woman: “kisses of the mouth,/ from which drip cinnamon,/ and sweet cassia/ search the cavity of the heart.”¹¹⁸² In *Diogenes Akrites*, the maidens with whom the emir’s mother tempts the hero all smell of musk.¹¹⁸³ This sort of thing is a dime a dozen in Arabic poetry, and the poetic linkages well studied.¹¹⁸⁴ Here I only want to reiterate that everybody was deploying the same vocabulary to describe the same things. The association of sex with perfume was maintained by clerical writers, who associated aromatics with the luxuria of women. The harlot in Proverbs 7 provided a recurrent example, used for example by Werner, abbot of St. Blaise in *Silva Nigra*, who warned

¹¹⁷⁶ Ahmad b. Ibrāhīm al-Naysābūrī, *Degrees of Excellence. A Fatimid Treatise on Leadership in Islam*, translated by Arzina R. Lalani, London and New York: 2010, 68.

¹¹⁷⁷ Ibn al-Tiqtaqa, Muhammad ibn ‘Ali, *al Fakri*, trans. C.E.J. Whitting, London: 1981, 71.

¹¹⁷⁸ AN#12.

¹¹⁷⁹ Peter Damian, I. viii ep. 14, 135: “...enimvero non ignoratis quasdam carnaliter conversantes diversas inter dentes aromatum ac pigmentorum species terere, ut viris suis iucundias valeant redolentis fragrantiae nitore placere.”

¹¹⁸⁰ Ibn Haxm, *Ring and the Dove*, cap.24.

¹¹⁸¹ George F. Whicher, *The Goliard poets: Mediaeval Latin Songs and Satires*, New York: 1949, 57.

¹¹⁸² *ibid.*, 72. “oris basia./ a quo stillat cinnamomum/et rimatur cordis domum/dulcis cassia.” Note that the trope of sweet like cinnamon is still with us, most recently in Lana del Rey’s 2012 hit, *Radio*.

¹¹⁸³ David Ricks, *Byzantine Heroic Poetry*, Bristol: 1990, 47, line 237.

¹¹⁸⁴ In the *Shahnama*, for example, women are consistently associated with musk and ambergris: A. King, *Musk Trade*, 123; F. Vahman, “A Beautiful Girl,” in *Papers in Honour of Professor Mary Boyce*, vol. 2, Leiden: 1985 = *Acta Iranica* 25 (1985): 665-73, 668. Freedman, *Out of the East*, 76, moreover, has emphasized the importance of sexual allure in the appreciation of imported spices.

against “the scents and touches which follow the embraces of whores, smeared with sundry perfumes, sprinkling their bed with cinnamon.”¹¹⁸⁵ According to some writers, the fascination of the empress Zoe Porphyrogenita (d.1050) with perfumes and unguents was fuelled by her desire to maintain her sexual attractiveness. This is the sort of thing that is regularly said about empresses, however, and her wish to make offerings of “spices and sweet herbs” to an icon of Christ Antiphonetes, to which she was devoted, may be a better explanation.¹¹⁸⁶ Or perhaps she simply needed a hobby in her old age. Michael Psello’s description is evocative:

[Zoe’s] one and only concern at this time, the thing on which she spent all her energy, was the development of new species of perfumes, or the preparation of unguents. Some she would invent, others she improved. Her own private bedroom was no more impressive than the workshops in the market where the artisans and the blacksmiths toil, for all round the room were burning braziers, a host of them. Each of her servants had a particular task to perform: one was allotted the duty of bottling the perfumes, another of mixing them, while a third had some other task of the same kind. In winter, of course, these operations were demonstrably of some benefit, as the great heat from the fires served to warm the cold air, but in the summer-time the others found the temperature near the braziers almost unbearable. Zoe herself, however, surrounded by a whole bodyguard of these fires, was apparently unaffected by the scorching heat.¹¹⁸⁷

This description, which refers to the 1030-40s, is our only description of the perfumer’s art from a Christian writer. Presumably in Constantinople there existed professionals, just as in the Islamic world. Maria Argyropoulaina had a cosmetician in Venice, but he or she, with the eunuchs and tableware, probably accompanied her from Byzantium.¹¹⁸⁸ In the

¹¹⁸⁵ *Libri deflorationum*, PL 157, Book i, 0799C: “Incircumcisi sunt olfactu et tactu qui variis odoribus delibuti sequuntur amplexus meretricis, cinnamomo cubile suum aspergentis.”

¹¹⁸⁶ Psellus, *Chronographia*, 6.159.

¹¹⁸⁷ Michael Psellus, *Chronographia* 6.64, 137-38.

¹¹⁸⁸ Peter Damian delighted in describing how “non cosmeta, non servulus” would attend the princess in her last extremity.

Latin west, the perfumer is an invisible species in the eleventh century. This is of course due to the relative poverty of the west. The incidence of cosmeticians and perfumers is a function of elite demand and wealth. That does not mean, however, that their tasks were not performed.

AROMAS OF SANCTITY

The Clunaic customaries assume that monks will wash the dead. It is likely that they also did the embalming. But by the mid-twelfth century, the task might fall on doctors. In 1152, the *medicus* Philip the Lombard used “myrrh, aloe, and aromatics” to embalm the body of Archbishop Adalbert of Trier.¹¹⁸⁹ The doctor was “peritissimo” and had predicted the archbishop’s death by examining his urine; perhaps a prestigious corpse required a prestigious embalmer. We noted above that the Latin west lacks specialized treatises on perfumery.¹¹⁹⁰ It appears that this niche was filled by medical texts, in particular pharmacopeia. The justification for this was practical: pharmacists and doctors were already handling these materials for the sake of medicine, so why stop there? And although Cairo or Cordoba had professional perfumers, the same overlap between professions occurred in the Muslim world: in the twelfth century we hear of Ibn al-Budhūkh, a Maghribi who opened a perfumery in Damascus, where he made “compound drugs, using different kinds of unguents, globules of perfume, powders, and the like,” and also studied the medical books of Galen and Ibn Sīnā.¹¹⁹¹

The pharmacopeia in Italy was an innovation of the medical school of Salerno, and was likely inspired by the success of the genre in the Arab world, although its roots stretch back to antiquity. In our period, the deep connections at Salerno with Islamic regions manifest themselves particularly clearly with respect to perfumes and incense. If we look again to the *Antidotarium Nicolai*, we find three recipes for compound incense.

¹¹⁸⁹ Balderic of Florennes, *Gesta Adalberonis*, MGH SS 8, 258.

¹¹⁹⁰ Or on cosmetics; when Constantine the African translated his medical texts from Arabic on behalf of the monks of Montecassino, he omitted the sections on cosmetics: C. Burnett, “Stephen, the Disciple of Philosophy, and the Exchange of Medical Learning in Antioch,” *Crusades* 5 (2006): 113-129, 125.

¹¹⁹¹ Ibn Abi Usaiba, *History of the Physicians*, 796-7.

They are outliers in content and complexity: they have no serious medical value, and are simple in comparison to the other recipes in the book. The three recipes are the *Confectio Alipte Muscate*, *Confectio Gallie Muscate*, and *Confectio Nere*.

Confectio Alipte Muscate:¹¹⁹²

Is useful for boys suffering from asthma or tightness of the chest, even those not strong enough to take milk. It is used as the best fumigant and perfume, which apostles and emperors employ in their chapels. It is used in the most precious medicines and electuaries.

Take three ounces purest labdanum, one ounce and a half best storax calamitum, one ounce red storax, two ounces best aloes wood, one dram ambergris, and a scruple and a half camphor, and musk, and as much rose water as needed.

Mix it during the dog days [i.e. midsummer]. Place storax calamitum and red storax and labdanum in a deep vessel, exposed to the sun, covered with fine fabric to keep it uncontaminated. When soft put it in a bronze mortar warmed by the sun with an iron pestle likewise warmed, and grind strongly until it turns black in colour. Afterwards add the powder of aloes wood and grind strongly and the camphor likewise. Then grind the musk in three ounces of rose water and soak a bit [of the ground mixture] with the water on a marble [slab] previously well washed and warmed in the sun.

Confectio Gallie Muscate:¹¹⁹³

Take 2 ounces mastic, 1 ounce gum, 1 scruple camphor. Grind these very smoothly and sieve them, and make tablets with rose water and dry them in the shade. Once dry the [tablets] should be reduced very subtly and mixed with four ounces of jasmine oil boiled and half-cooked. Then mix the reduced preparation with an old half-ounce of cinnamon, cloves, and nutmeg and with all these mixed and well softened with the hands make tablets in the middle of a cavity and sealed with a mark to the weight of one and a half drachma. Afterwards it should be anointed with musk of the rose water.

¹¹⁹² AN #10

¹¹⁹³ AN #11

Confectio Nere:¹¹⁹⁴

Take one ounce ambergris eastern or western, three drachma best aloes wood, half a scruple musk, and five grains camphor. Blend it thus: take a dish of the sort used to strain syrup or honey but not perforated: and place the ambergris in it and melt it upon a live coal. Once liquified by the fire lay it aside, and after that mix it with the finely pulverized aloes wood. Then add musk, diligently softening it by hand, and lastly powdered camphor. Then with the hands softening it, work it upon a concave copper vessel and seal it. When it is cool, remove it and break it into pieces. It is strong against pains of the womb if the smoke is taken via the lower regions. It is more valuable than any other incense.

Of the ingredients, aloes wood, ambergris, camphor, musk, mastic, cinnamon, cloves, and nutmeg were imports from the Indian Ocean or Inner Asia. Storax, calamitum, and mastic might be found in the Mediterranean basin, but not in Italy. Ambergris might be found on oceanic beaches, but erratically. In this area of material culture, as in every other, there are more and less prestigious options, and these, as the text makes clear, were the best.

The Confectio Alipte Muscate was suitable for apostles and emperors, a point emphasized by its name, a hybrid of the Byzantine Greek *aleipta*, fragrant oil, and the Arabic *muskatah*, i.e. containing musk.¹¹⁹⁵ The Gallie Muscate can be traced back across the Mediterranean. Its name is a Latinization of the Arabic *Ghāliyah muskatah*, which appears in conjunction with the Latin in a Geniza fragment.¹¹⁹⁶ The name is slightly redundant, as *Ghāliyah* alone usually signifies a scent composed of musk, ambergris, and oil.¹¹⁹⁷ Its ingredients varied: al-Tabarī, writing c.850, has “three mithqāls of good musk, a mithqāl of ambergris, two mithqāls of good sukk, two mithqāls of Indian aloeswood,

¹¹⁹⁴ AN #12

¹¹⁹⁵ The Greek appears, for example, in the list of gifts sent to King Hugh of Italy from Constantinople. Constantine Porphyrogenitus, *De cerimoniis* II.44, Vol. 1, 661-2 of the Bonn edition.

¹¹⁹⁶ Gottheil, “A fragment on Pharmacy from the Cairo Genizah,” *JRASGBI* 1 (1935): 123-144.

¹¹⁹⁷ King, *Musk Trade*, 51.

and three *uqiyyahs* of pure ben oil. The musk is crushed delicately upon the perfumer's stone lest it scorch, and it is sieved with silk."¹¹⁹⁸

A formula for Ghāliyah survives from Fatimid Egypt, in a treatise of Sahlān b. Kaysān.¹¹⁹⁹ It was composed of ambergris, musk, oil, and camphor. Another perfume, *nadd*, was composed of ambergris, musk, and aloes wood, which corresponds closely to the *Confectio Nere*.¹²⁰⁰ The recipes in the *AN* do not exactly match those in the Geniza fragment, but two of them are clearly Ghāliyah, i.e. containing ambergris, musk and oil. The one which is labeled with the word, however, is missing ambergris. What chain of transmission led to this outcome is not clear.

Ghāliyah was a perfume for the elite. Its components demand as much, and its history confirms it: Tabari's recipe is identified as the Ghāliyah of kings, and speaks of a version presented to Hārūn al-Rashīd, which corresponds nicely enough to the *AN*'s attribution to emperors.¹²⁰¹ What is interesting, for our purposes, is the presence in the *Antidotarium* of secular perfumes from the Islamic world. Their appearance is justified by a purported therapeutic use, but while the text indicates that they were used in "medicines and electuaries," the three recipes admit the former only slightly and the latter not at all.¹²⁰²

The statement that *Confectio Alipte* should be employed in the chapels of apostles may be taken seriously: it is the sort of "spices and sweet herbs, the products of India and Egypt" that Psellus suggested as altar offerings.¹²⁰³ The prestigious perfume used to anoint the Rock in the Dome of the Rock is found in the *AN* as *Confectio Nere*. The value of these confections was considerable. If we accept some chronological

¹¹⁹⁸ King, *Musk Trade*, 53, translating al-Ṭabarī, *Firdaws* 612-3. Sukk is another perfume, whose contents sometimes duplicate the balance of the Ghāliyah, but might also include myrobalan, or oak gallnuts or other ingredients: King, *Musk Trade*, 60-61. Note that Stillman, "Merchant House," 51, thought *sukk* an "intestinal astringent."

¹¹⁹⁹ King's translation, *Musk Trade*, 56-7.

¹²⁰⁰ King, *Musk Trade*, 48, citing Al-Sarī al-Raffā' 3.146; Ibn Hashshā', 89 leaves out the musk, saying "it is a compound incense (bakhūr) made from ambergris and aloeswood."

¹²⁰¹ King, *Musk Trade*, 53.

¹²⁰² The Gallie Muscate has no health benefits, while the fumes of the Alipte confection are good for asthmatic boys, and those of the *Confectio Nere* ease pains of the womb "taken via the lower parts." None are taken internally, and it need hardly be said that a particulate and resinous smoke or perfume will hardly benefit asthmatics, least of all those "not strong enough to take milk."

¹²⁰³ Psellus, *Chronographia*, 6.159 (Renauld 2.49).

inconsistency, we may estimate that the cost of the materials in the *Confectio Nere*, which makes less than 1.5 ounces of perfume, may have been around twelve to thirteen dinars in Egypt.¹²⁰⁴ In that country, such a sum was six months wages; in Italy, even more. These recipes reflect the usages of the rich, of caliphs and kings, on every side of the Mediterranean. If we have dwelt on these recipes, it is because Latin recipes for Arab perfumes with Arabic and Greek names in an Italian pharmacopeia excellently exemplify our themes: of emulation, of the value of exotica, of transcultural material culture, and the repurposing in Italy of the wealth of the House of Islam. That the pharmaceutical handbooks of the medical profession were a means to transfer the olfactory experience of holy sites is entirely typical of the syncretic Mediterranean experience.

MEDICINE AND CONSUMPTION

The fragrances in the *AN* are expensive compounds, and most incense was less complex. Because of the value of such products as myrrh and frankincense, they were frequently adulterated.¹²⁰⁵ Archeometric results, however, show that adulteration likely took place when the *materia* were consumed; in embalmed remains and grave goods, the diluting substances were endemic to the regions of burial, and some Latin texts mention mixing balsam with cypress oil or honey, for example.¹²⁰⁶ The substances carried north to Ivrea and over the Alps by merchants, then, were likely unadulterated. This is to be expected, as purer substances have a greater weight to value ratio, always useful for long distance traders. It conforms, too, to the impression given by Geniza merchants, who frequently

¹²⁰⁴ This estimate relies on the prices given in the Geniza fragment TS 20.76, of the mid-eleventh century, for the camphor and musk, and those of Al-Mas'udi, in the mid-tenth century. Goitein, *Letters*, 118-9; *Meadows of Gold*, 375, 384.

¹²⁰⁵ Albert Dietrich, "Lubân," in *Encyclopédie de l'Islam* II/5, Leiden: 1985, 792-993.

¹²⁰⁶ See above, *AN* #10, 11, 12. Book four of the text entitled *De bestiis et aliis rebus*, once attributed to Hugh of Foligny, mentions the adulteration of balsam. *PL* 177, 0138C.

show themselves concerned about the quality of *materia*, and by the *AN*, whose compiler noted that incense with the most “-nissimus” ingredients was suitable for monarchs.¹²⁰⁷

The recipes in the *AN* cite well over 400 different ingredients. Stocking such a range would be nigh impossible for a pharmacist, and even a fraction would represent a significant effort. It is possible, in fact, that supplying incense to the church outweighed providing drugs to the sick. As such, investigating medical professionals as actors in the mobility of material culture appears to be a viable line of research. Geniza sources tell us that Jewish physicians in Cairo used some 168 different medical ingredients, but neither musk nor ambergris make the list.¹²⁰⁸ They were too expensive for the quotidian business of pharmacy. For the same reason, neither camphor nor musk appear in Ibn ‘Awkal’s trading accounts.¹²⁰⁹ In contrast, the *AN* is a testament to conspicuous consumption. Its prestigious remedies, the Esdra, Theriac, or Mithridatum, would have cost a fortune and been swallowed down in an instant.¹²¹⁰ Even the less majestic recipes show a baroque tendency that must have put them out of the reach - but not the aspirations - of many patients. The average number of ingredients in the book is 16-17 per recipe, and such is their diversity that for a pharmacist to make even 10% of the remedies, he or she would need at least 50 ingredients. We may suspect these facts girded its popularity.

It may be that medicine and its practitioners bore the same stamp of luxury as the *materia* itself and imported objects and textiles. At Wido’s idealized market at Ivrea may be found “every painter’s hand, and every doctor’s / And each prospers in his own vocation...”¹²¹¹ There seemed to be ideas circulating that doctors came from the south - a reasonable notion, since there were more doctors in the south, for the same reason there

¹²⁰⁷ Geniza merchants also appreciated the easy burden of aromatics. In 1048, Abū Ishāq Barhūn b. Ishāq b. Barhūn Tāherī wrote to Nahray b. Nissīm in Fustat that “Buying in a hurry has no blessing. Except if you see goods that can be carried as light baggage, such as musk or lapis lazuli, which sells well here because only a little of it is on the market.” Goitein, *Letters*, 151. Superlatives are not common in the *AN*; “preciosissimis” for example appears only in the three incense recipes; “purissimus” appears only in the Alipte Muscate and in *AN* 59: Mel Rosaceum.

¹²⁰⁸ Efraim Lev, “Drugs held and sold by pharmacists of the Jewish community of medieval (11th–14th centuries) Cairo according to lists of *materia medica* found at the Taylor–Schechter Genizah collection, Cambridge,” *Journal of Ethnopharmacology* 110 (2007): 275–293.

¹²⁰⁹ Stillman, “Merchant House,” 49–50. *Sukk* does appear, however, and it - unknown to Stillman - could contain these ingredients.

¹²¹⁰ Esdra in the *AN* had over 100 ingredients. Another version, in Sloane MS 1621, f.5v has a mere fifty or so.

¹²¹¹ *Versus Eporedienses*, in Dümmler, “Gedichte aus Ivrea,” lines 219–20.

were more artisans: physick, like painting, is dependant on elite demand.¹²¹² From the perspective of Rather of Verona, Italy was the source of medical knowledge.¹²¹³ Inside Italy, they looked south and across the sea. In the *Passio Hermachorae et Fortunati*, of the ninth century, the apostle Mark of Alexandria was a physician, while at Montecassino the famous doctors were in fact Saracens from Tunisia.¹²¹⁴ Among them, Constantine was promoted by Guiscard on the advice of a visiting Fatimid notable.¹²¹⁵ We have earlier alluded to how the diplomatic exchange of prestige goods between Egypt, Constantinople, Pisa, or Amalfi must have contributed to the homogeneity of Mediterranean taste in this era. The same might be said of medical knowledge, its practitioners, and materials. Indeed, medical personnel were themselves “things that travelled.” Like crystal or gold, they adorned the courts of the mighty, and like merchants, they might carry splendid goods, like a planeta belonging to a certain John the Physician in a Montecassino list of treasure, or the cut glass bloodletting basin made under Harun al-Rashid and preserved in Sicily under Abū al-Futūh Yūsuf (r.989-98), or all the exotic *materia* we have been discussing¹²¹⁶

INCENSUM & LUMINARIA CONCLUSION

A market for medical components does not arise out of nothing, as Julia Bray reminds us.¹²¹⁷ She discusses the Abbasid example, wherein demand for *materia* developed in the context of the intellectual tumult of the ninth century translation movement. But intellectual fervour does not often make a market on its own, and it is likely that contact

¹²¹² Doctors are also more common in the documents and the hagiography of southern Italy than the north, although neither of these alone, as Clare Pilsworth reminds us, would be sufficient to establish their prevalence without an understanding of the larger economic context. “Medicine and Hagiography in Italy c. 800—c. 1000,” *Social History of Medicine* 13, 2 (2000): 253-64, 259.

¹²¹³ In the 950s, he wrote from the Netherlands to Italy: “I beseech your lordship that... you have what is written about medicine in your scroll transcribed into this book; you know that in this country there is a great poverty of it. In return I will have ten masses sung for you.” Rather of Verona, *Complete Works*, 234.

¹²¹⁴ Mark was a “medicus.” Cited in Clare Pilsworth, “Medicine and Hagiography in Italy c. 800—c. 1000,” 254.

¹²¹⁵ Peter the Deacon, *De viris illustribus casinensibus opusculum*, cap.xxiii.

¹²¹⁶ Montecassino Chronicle III.74, 457 (1086-87): “planete Iohannis medicis;” *Book of Gifts and Rarities* cap. 261: the basin was marked with measures from 20-200 dirhams of blood.

¹²¹⁷ Julia Bray, “The physical world and the writer’s eye. Al-Tanūkhī and medicine,” in *Writing and Representation in Medieval Islam. Muslim horizons*, edited by Julia Bray. London and New York: 2006.

with Byzantium and Persia, both with older traditions of *materia medica*, provided some of the impetus. A market for *materia* already existed, and the burgeoning Abbasids entered and amplified its existing trade structures.¹²¹⁸ Centuries later, the situation in Europe was similar. In the eleventh and twelfth centuries, new avenues of trade and wealth underwrote an expanding market for *materia*. This appeared in the context of the Salernitan translation movement, but as with the Abbasids, it is likely that it was initially spurred less by intellectual curiosity than contacts with other cultural centres - in this case Byzantine and Levantine.

In other words, objects may precede text in our models of how cultural exchange happens. In general, any authority needs to deal with the physical and structural apparatus - e.g. administration, symbols, buildings - which were inherited from their predecessors. This often needs to be done, however, without permitting too strong an ideological connection with those predecessors. It is sometimes possible for the newly rich and powerful to simply hire foreign expertise. The Umayyads called upon Byzantine craftsmen to build the mosque of Damascus and Dome of the Rock, and the Benedictines of Italy did the same thing at Montecassino, when they found their previous domiciles insufficiently reflected their increasing wealth. But such approaches run up against limits of practicality or local feeling, and it becomes necessary to assimilate foreign expertise to local production. Abbot Desiderius ensured his monks paid attention to what the craftsmen from Constantinople and Alexandria were doing. but he probably did not want them discussing theology with the foreign craftsmen. Praxis, then, precedes theory, but it also establishes the need for theory that properly assimilates new knowledge in a non-threatening way. So a translation movement might invest in “intellectual tools which could be given general application, such as logic, and in practical ones such as mathematics and medicine..., and not in the recovery of a past in which they did not share and whose literature and beliefs had no relevance to their political concerns.”¹²¹⁹

¹²¹⁸ It is of interest that this pre-Islamic Persian network was responsible for introducing to the Mediterranean world aromatics unknown to antiquity, such as musk and camphor: King, *Musk Trade*, 117. The memory of this innovation appears to have survived until the eleventh century, when Ferdowsi attributed to it to king Jamshid: *The Shahnama of Firdausi*, 133.

¹²¹⁹ Julia Bray, “The physical world and the writer’s eye. Al-Tanūkhī and medicine.”

Theophilus is explicit in disseminating the skills of Greeks and Arabs, but tells us nothing of them but that they were good at making pretty objects. And others are more coy, as when Constantine the African obfuscated the origins of his translations.¹²²⁰

The upshot of the preceding is that if expanding demographics and trade did lead to greater imports of *materia* into Italy, we should expect a time lag between the arrival of the *materia* and any new texts that respond to it. And it was in the second half of the eleventh century that Bishop Alfanus commissioned translations of medical texts, and by that time Salerno had already stood as a key import centre for more than a century.¹²²¹ Pisa imported *incensa et luminaria* in 1006, but did not engage with Islamic textual culture until the end of the century.

It is possible that Latin demand for *materia* was stimulated by plentiful supply, and that if Cluny, for example, developed a liturgical practice that made heavy use of such substances, they did so precisely because they were there to be exploited. Medical research in southern Italy was perhaps a consequence of Italy's place on the periphery of the Islamic and Byzantine worlds. If, as seems likely, medical professionals were frequent handlers of *materia*, it may be that ecclesiastic demand for such substances played a role in the development of their profession. Pharmacists, by this logic, were a natural commensal to the import of their materials. The importance of incense and related substances would have justified the prestige of medical experts. If so, we may see the rise of a specialized institution - the School of Salerno - at the chief point of contact with the House of Islam as a response to the need to mediate the knowledge of the Islamic world. That Islamic (and Byzantine) culture valourized the medicine of antiquity would promote a similar assessment in Italy, but initially the role of Salerno was simply to import the prestigious goods of the east.

¹²²⁰ Stephen of Antioch took Constantine to task for this when in the 1120s he undertook his own translation, perhaps because by then the threat of the Arab world appeared reduced: C. Burnett, "*Verba yprocratis preponderanda omnium generum metallis*," 64, 90.

¹²²¹ The first translation of an Arabic medical text at Salerno was likely the *Isagoge*, an adaptation of the *Masa'il fi t-tibb* of Hunayn ibn Ishaq. Later a part of the Latin medical canon, it appeared during the lifetime of Constantine the African, and may have been translated by him, as Jacquart and Micheau, 1990, 102, suggest. See Francis Newton, "Constantine the African and Monte Cassino: New Elements and The Text of the *Isagoge*" in *Constantine the African and 'Alī Ibn Al-'Abbās Al-Mağūsī: The Pantegni and Related Texts*, edited by C. Burnett, 16-47. Leiden: 1994.

To sum up, although the uses of *materia* were not new, demographic expansion fuelled a matching rise in liturgical requirements, which encompassed obsequies, coronations and other rites, while rising secular wealth mobilized new luxury. All this might have been expected. Fashion is contingent on many factors, not all economic, but nonetheless it happened that the monastic practice that rose to pre-eminence happened to develop a high rate of consumption of *materia*. At the same time, the visual culture flowering in the wake of new wealth emphasized such consumption as an inevitable companion to wealth and prestige. These developments, it need hardly be said, betoken a considerable rise in demand for *materia* - demand which the maritime cities were aptly placed to meet.

CONCLUSION

The assertion of chapter one, that the Italian traders of the eleventh century were part of the pre-existing trade network described in Geniza sources, has driven the subsequent chapters of this study. We've seen that Pisa's local histories, while characterized by violence, are compatible with the structure of trade that prevailed to the south. In chapters four to six, we looked at evidence that shows clearly, for the *bacini*, or indirectly, for *materia*, how such cities as Pisa traded in the Mediterranean network for the material culture of the Islamic world. Open trade was a condition of participation in the early days of the Italian presence in the network, which led to the transfer of objects and provided a conduit for social change. This was not deliberate policy on the part of the Italian cities. Once begun, however, it was self-reinforcing, for the flow of goods perpetuated its own demand among the elites of the Latin West. Increasingly, they discovered that frankincense, musk, ivory caskets and golden vessels were indispensable. At the same time, the neutral medium provided by the ships of the network encouraged the spread of the commensals of material culture.

Competitive mercantile policies were not easily compatible with the open nature of the network, in which one region's merchants might sail upon the ships of another. We have here a structural reason for the apparently liberal trade policies of the Fatimids so often noted by Goitein: they could not pursue policies of exclusion in an open access network without undermining the structure upon which elites depended.¹²²² In Italy, competition for local resources could be intense, but in the eleventh century, the disparity of wealth was such that competition over access to Egypt was probably superfluous. In any case, sea-raiding, under the flag of crusade or otherwise, is not sufficient to explain the rise of Pisa to the richest city of Italy between Rome and the Apennines. Wickham has suggested c.1050 for when Pisa eclipsed Lucca as Tuscany's premier city; Skinner

¹²²² Although attempts were certainly made, as when in 1101 the authorities arrested all the Genovese in Cairo. Consistent economic or rational policy is no more characteristic of the eleventh century than the twenty-first. Lev, *State and Society*, has emphasized the inconsistencies in Fatimid approaches to market governance. It must reiterated that the Mediterranean network was open by medieval standards, not those of the nineteenth or twentieth century.

has argued for the priority of Gaeta until around the same time.¹²²³ Urban II's celebration of Pisa as chief among the cities of Tuscany in 1092 explicitly cites its triumph over the Saracens.¹²²⁴ I think the necessary context of this timing is the unraveling of the House of Islam, which decoupled Pisa from the course it had been steering and, over the next decades, set it on a new one.

Busch has argued that in contrast to Amalfi, "which had positioned itself... in the existing Mediterranean commercial network," Pisa favoured a policy of aggression.¹²²⁵ This is a narrative consistent with the Pisan sources. But this story is difficult to sustain in the face of archaeological evidence which shows commercial contacts prior to the earliest written sources, and plenty thereafter. In fact Pisa and Amalfi maintained the same strategy of entering the network and increasing profits by engagement with the House of Islam. Whether that engagement was military or not is a subordinate question, and in many ways irrelevant. To embark upon the sea was to be ready for violence; whether it actually occurred was incidental. Even private passengers and pilgrims had to be ready to fight.¹²²⁶ That the outcome looks different for the two cities is the result of changing conditions in the Mediterranean. The Amalfitans in the tenth century encountered the incommensurate strength of the Fatimid state, which generated an excess of surplus wealth great enough to buoy up several maritime republics. For any Italian city to take up arms against either the Fatimid or Andalusian caliphates would have been absurd. But the Pisans embarked on their voyage in the eleventh century, and towards its end made the happy discovery that the House of Islam was fractured and vulnerable.

Both Amalfi and Gaeta saw a realignment of their merchant sector in the late eleventh century towards local carrying trade, a change which may reflect increasingly adverse conditions troubling their long-distance trading partners.¹²²⁷ Both had founded

¹²²³ Wickham, *Community and Clientele in Twelfth century Tuscany: The Origins of the Rural Commune in the Plain of Lucca*, Oxford: 1998, 3; Skinner, "Politics and piracy: the duchy of Gaeta in the twelfth century," *Journal of Medieval History* 21 (1995): 307-319.

¹²²⁴ Urban II, in Ep. 63, in Migne, *PL*, CLI, 295, 333-35.

¹²²⁵ Busch, *Medieval Mediterranean Ports*, 167.

¹²²⁶ Moshe Gil, "Shipping in the Mediterranean in the Eleventh Century A.D.," 251.

¹²²⁷ Although Skinner attributes it to the Norman takeover, an intermediate cause. Skinner, "The Tyrrhenian Coastal Cities under the Normans," in *The Society of Norman Italy*, edited by G. A. Loud and A. Metcalfe, 75-96. Leiden: 2002, 90. See also del Treppo and Alfonso Leone, *Amalfi medioeval*.

their prosperity in an era of relative harmony in the southern Mediterranean, and the stresses of adapting to a less inviting security regime must have diminished the attractions of long-range commerce.¹²²⁸ Amalfi's star was hitched too tightly to the House of Islam. When the latter became rickety, it was unwilling or unable to make the reorientation, successfully carried out by Pisa, towards exploiting its former nursemaid.¹²²⁹ These factors ensured it would never regain its status as "most noble city in Lombardy."¹²³⁰ A like transition occurred at Gaeta. From international traders, they transformed themselves into transit merchants on the Tyrrhenian coast.¹²³¹

Trade served to entrench urban elites. At the same time openness prevailed on the seas, incentives were created in the opposite direction in the mainland hinterlands of the maritime cities. For the flow of foreign wealth might as easily destabilize an elite as reinforce it, as the Gaetans discovered in the ninth century, and the Venetians in the tenth, if it was permitted to fund competing factions in the city.¹²³² Political necessity, therefore, encouraged the development of local monopolies on the *terra firma*, even as they depended on open trading at sea. It is possible that the political disruptions that vexed Amalfi in the eleventh century sprang from a failure to control this process, although Norman intervention interrupted the outcome. Both Pisa and Amalfi engaged with the House of Islam, but only Pisa developed a culture of self-aggrandizement that reinforced the legitimacy of its ruling elites. That Pisa was able to do so, however, depended on the circumstance of the great calamity. Later Pisan historians overlooked their city's commercial expansion under the aegis of Islamic prosperity. This distortion was not

¹²²⁸ Skinner cautions us against seeing Amalfi's transition as a decline, although it is hard, after over a century of success, not to see their exclusion from the east as a sort of *diminuendo*. And it cannot be coincidence that in this period we see the adjacent towns of the eponymous coast begin to exert their own identities. Skinner, "The Tyrrhenian Coastal Cities under the Normans," 86, 90.

¹²²⁹ And perhaps because of their connections to the Muslim world, or more likely because they simply lacked the coercive strength of Venice or Pisa, the Amalfitans increasingly lost their privileges in Byzantium. David Abulafia, "Southern Italy, Sicily and Sardinia in the medieval Mediterranean economy," in David Abulafia, *Commerce and Conquest in the Mediterranean, 1100-1500*, I: 1-32, Aldershot: 1993, 16.

¹²³⁰ Ibn Hawqal, "Book of the Routes and the Kingdoms," in R.Lopez and I.Raymond, eds., *Medieval Trade in the Mediterranean World*, London: 1955, 54.

¹²³¹ Gaetans were present in Constantinople in the tenth century, eg. Liudprand, *Antapodosis*, 5.21; *Cod.Dip.Caiet* ii. 51-2, #219, but we hear no more of this by the twelfth. Despite Skinner's optimism, this looks like a decline: Skinner, "Politics and piracy: the duchy of Gaeta," 282-4. Nonetheless, their commercial reorientation was a success, and the town remained prosperous

¹²³² Skinner, "Noble Families," 357, and "Family Power in Southern Italy: The Duchy of Gaeta and Its Neighbours, 850-1139," 32.

necessarily an act of propaganda, but due to the “awareness on the part of any historian of the presence of ready-made guides and patterns which structure his perception of history and, to a certain extent, govern his selection of data.”¹²³³ Conditions had changed with respect to the House of Islam. Unsurprisingly, Pisans viewed the past through the lens of current events and revised their histories. And as Rajagopalan has emphasized, if objects look like booty they are likely to be thus interpreted irrespective of their true origin.¹²³⁴ The mundane reality of Pisa’s trade with the Muslim world in the eleventh century hardly suited the post-first crusade milieu of Latin Christendom, and so it was selectively deemphasized in favour of battle scenes. Quotidian trade never stopped, of course, but the frame changed.¹²³⁵ By the later twelfth century, the economics of a century ago were unimportant.

Mechanisms of emulation and consumption harnessed southern Italy and the Tyrrhenian zone to the House of Islam. This was reflected above all in material and economic culture, and also infiltrated the Latin intellectual world. But this process was interrupted. Within a few decades, the intellectual movement in Pisa that began in Arabic had shifted to Greek.¹²³⁶ Something similar happened, on a different time-scale, in Campania.¹²³⁷ The waning of the Arabic learning in Pisa, and the rise of Greek, reflects (with a suitable lag-time) the reorientation of the city that occurred with the first crusade.¹²³⁸ So too the transformation of motifs acquired from the Muslim world into symbols of local identity.

This cultural change reflects the economic transition. Pisa shifted from subaltern

¹²³³ Thomas F. Glick and Oriol Pi-Sunyer, “Acculturation as an Explanatory Concept in Spanish History,” *Comparative Studies in Society and History* 11, 2 (1969): 136-154, 136.

¹²³⁴ Mrinalini Rajagopalan, “A Medieval Monument and its Modern Myths of Iconoclasm: The Enduring Contestations over the Qutb Complex in Dehli, India,” in *Reuse Value. Spolia and Appropriation in Art and Architecture from Constantine to Sherrie Lavine*, edited by Richard Brilliant and Dale Kinney, 199-222. Farnham, U.K., and Burlington, VT: 2011.

¹²³⁵ For a classic discussion of these issues, see Eric Hobsbawm and Terence Ragner, eds., *The Invention of Tradition*, Cambridge: 1983.

¹²³⁶ Arabic translation at Pisa continued until the 1150s, as in the case of the so-called *Tables of Pisa* of 1149, a astronomical chart based on lost works by al-Sufi (d.986). Subsequently translation efforts in twelfth century Pisa turned to Greek. See C. Burnett, “Stephen, the Disciple of Philosophy,” 114; Walter Berschin, *Greek Letters and the Latin Middle Ages: from Jerome to Nicolas of Cusa*, Washington: 1988, 226.

¹²³⁷ With the caveat that Greek learning had always been a major component of the region’s culture, so that the eclipse of the Islamic influence was more a realignment than transformation.

¹²³⁸ On the engagement with the antique in Pisa, see Fisher, “The Pisan clergy and an awakening of historical interest in a medieval commune.” *Studies in medieval and renaissance history* 3 (1966): 143-219.

outpost to military ascendance over the eleventh century. It was at that point that the incentives favouring local monopolization of trade, which had already fuelled wars with Lucca and Genoa, began to metastasize. The Pisans in the twelfth century began increasingly to develop a more monopolistic approach to trade.¹²³⁹ As with the Normans in Sicily, such an outcome implies a like change in the politics of culture. Pisa accepted considerable quantities of Islamic goods, and imported aesthetics, knowledge, books, and *materia* from the east, but remained in the cultural orbit of the north. This was not a necessary outcome, but simply a result of timing. Had Pisa engaged with the wider Mediterranean a hundred years earlier, it would have looked more like Amalfi, or Palermo. But as it was, the House of Islam tottered, and what first appeared as an exotic vista descended to an object of contempt. Conant long ago compared the use of Islamic styles in Italy to the fashion for chinoiserie in the eighteenth century.¹²⁴⁰ He may have thus meant to denote the superficial taste of a clique of wealthy aristocrats, but the parallel is not a bad one. For chinoiserie was, far from being a passing fad, a century long engagement with a realm which, while distant, resounded in European imaginations. In the eighteenth century the wealth and sophistication of China was talked up by economists and embraced by artists; in the nineteenth the situation was reversed, and a country that in the 1770s had sent ambassadors with cap in hand, sent warships in the 1830s to impose the unequal treaties and force open the market for opium.¹²⁴¹ The evidence for this analogy, such as it is, is simple. Until the late eleventh century, the cultures of the maritime republics, exiguous as they might be, furnish us with material evidence for their attitudes towards the Saracens. Saracens are among the few things mentioned in the sparse lines of the Pisan annals, and they are no more repugnant than the Genoese. After the great calamity attitudes changed. The Fatimids in particular were

¹²³⁹ Thus wars with Genoa, Amalfi, and Sicily, and the exclusion of Jews noted in Benjamin of Tudela, *The Itinerary of Benjamin of Tudela*, edited and translated by M.N. Adler. For Pisan highhandedness: Enrica Salvatori, "Corsairs' Crews and Cross-Cultural Interactions: The Case of the Pisan Trapelcinus in the Twelfth Century," *Medieval Encounters* 13 (2007): 32-55.

¹²⁴⁰ Kenneth John Conant, with Henry Willard, "Arch and Vault in Romanesque Architecture," *Viator* 2 (1971): 203-210, 205.

¹²⁴¹ For a recent discussion, see Ashley Eva Millar, "Your beggarly commerce! Enlightenment European views of the China trade", in *Encountering Otherness. Diversities and Transcultural Experiences in Early Modern European Culture*, edited by Guido Abbattista, 205-222. Trieste: 2011.

held in contempt by the writers of the first crusade. There is a time lag of some decades here, but human attitudes do not change that quickly - in the twenty-first century, the British Empire remains a point of reference in some quarters. In any case, what was obvious in Cairo need not have been to a merchant in Amalfi. Not until the raid on Mahdia in 1087 was the weakness of the south tested, and even then the result was equivocal.

Wealth can motor material culture, so we may start with the premise that the energy to circulate stuff around the sea came more from richer than poorer countries. To be specific, the fashions from a richer region were likely to displace those of the poorer region. From the richer parts of the Mediterranean, strong pressures to conform to the idioms of superior power was exerted, not through deliberate action or enforcement, but via the mutating effects of the background radiation of the era. In a particularly striking example, in 1812 the British transformed the appearance of their military to more closely reflect the fashions of Napoleonic France - while they were still at war with Napoleon! These trends have been particularly manifest in the twentieth century, a period in which indigenous clothing worldwide has been replaced or supplemented with American fashions. There can be little doubt that other periods of “globalization” resulted in similar outcomes. This may strike some readers as unpleasantly materialistic. It should be remembered, however, that these processes are dynamic - in the contemporary world, the high-water point of American cultural influence has already receded since the mid-twentieth century, when the elites of Islamic countries bedecked themselves in western fashions in a way now unthinkable.¹²⁴²

Hoffman has argued that it is futile to attempt to pin down the origin of art objects to one region or another, and that even the attempt is largely a product of later, nationalistic, agendas.¹²⁴³ An ivory carving might be equally at home in Spain, Venice, Constantinople, or Cairo. I have here argued a parallel understanding of the entire

¹²⁴² We have already mentioned the case of 1920s Afghanistan. Such behaviours are not, it should be emphasized, ideological in nature, but rather an acknowledgement paid to power. The mid-twentieth century adoption of the western business jacket in the Arabian peninsula, incongruously layered over the jalibeya, is a more recent example of the same phenomenon, one that has already passed into history.

¹²⁴³ Hoffman, “Pathways of Portability,” 18-19.

Mediterranean network, in which we consider practices and cultural processes as the essential building blocks of the network. Cities, like individuals, entered and departed the network, and we should recognize that they are but nodes in an ever-changing map of the ebb and flow of information. The image of Amalfitan trade since Citarella, of bilateral trade relations between the city and the House of Islam, is too simple a picture of what must have an open-access multi-lateral system. A more dynamic and more complex picture of the trade network emerges if we consider the Mediterranean network as a whole, and cities and individuals as mobile components within it.

The realities on the ground enforced an open system on the maritime republics in the early days, just as in the modern period the hegemony of the West obliged the rest of the world to conform not only to its trade patterns but also its practices, technologies, language, and currencies. Pisa engaged in considerable violence with the Muslim world and with neighbouring Christians, but it cannot be said that much of the cultural exchange or trade that came to it was a result of war. In the case of Amalfi or Gaeta, calmer relations predominated, just as they did within much of the network. Close integration into the network brought prosperity to the maritime cities, but not predominance: that was due to the great calamity.

The effects of Pisa's engagement with the south persisted. Its wealth and power survived, until usurped by another maritime republic. The knowledge and practices that suffused the network were maintained, and some are with us to this day. Perhaps the most startling import from the southern Mediterranean, one that embraces every Italian city we have mentioned, was the idea that landed families should establish themselves as a commercial class. When the Fatimid Caliph Al-Mu'izz entered Cairo in 973, he was faced with local notables, who mockingly inquired who his ancestors were. In response, he threw a handful of gold coins on the ground.¹²⁴⁴ The rulers of Pisa, or Genoa, or Venice could have done the same. This was a departure from norms embedded back to

¹²⁴⁴ They also inquired about his right to rule, and he responded by drawing his sword. H. Halm, *The Empire of the Mahdi. The Rise of the Fatimids*, trans. Michael Bonner. Leiden: 1996, 159. As Halm remarks, *se non è vero è ben trovato*. See also Brett, *The Rise of the Fatimids*, 325-26, for a fuller discussion. The story is in Ibn Kallikān, V.III, under Abū Muhammad 'Abd Allah al-Ṭabāṭabā.

Roman times, as Jones points out, and yet it is so implicit in our understanding of the history of the Italian *communes* that it appears less surprising than it should.¹²⁴⁵ We look in vain for it elsewhere in Latin Europe before the eleventh century, but we find it without difficulty from Al-Andalus to Acre. Other reasons have been adduced for this change in cultural values: geography, which impelled Venice or Amalfi towards trade, or the inability of noble estates to keep up with broadening population bases.¹²⁴⁶ These factors must matter, yet Venice could have been Arles, Pisa might have turned out like Ravenna. They did not, and surely it is not coincidence that they more than any others were open to the south. Yet it marks a sea change from previous conditions, and one that must, despite the blankness of the sources, be deeply intertwined with the influence of the House of Islam.

¹²⁴⁵ Philip Jones, *The Italian City State. From Commune to Signoria*, Oxford: 1997, 106.

¹²⁴⁶ *ibid.*, 106.

BIBLIOGRAPHY

PRIMARY SOURCES

- ‘Abd Allāh B. Buluggīn. *The Tibyān: Memoirs of ‘Abd Allāh B. Buluggīn, Last Zirid Amīr of Granada*. Translated by Amin Tawfiq Tibi. Leiden: 1986.
- L’Abrégé des Merveilles*. Translated by Bernard Carra de Vaux. Paris: 1898 (reprint, 1984).
- Acardus de Arroasia. *Tractatus super Templo Salomonis* = Karl Lehmann, ed. “Die mittellateinischen Dichtungen der Prioren des Tempels von Jerusalem Acardus und Gaufridus dans Corona querneā.” In *Corona Querneā. Festgabe Karl Strecker zum 80. Geburtstag dargebracht*. 307-330. Leipzig: 1941.
- Ademar of Chabannes. *Historiarum*. = *Adémar de Chabannes. Chronique*. Edited by Jules Chavanon. Paris: 1897. ——. *Historiarum libri tres*. PL 141.
- Ahimaaz ben Paltiel. *Chronicle of Ahimaaz*. Translated by Marcus Salzman. New York: 1966.
- Albert of Aachen. *Historia Hierosolymitana expeditionis*. PL 166.
- Alphanus Salernitanus. *XXXV: Ad Guidonem fratrem principis Salernitani*. PL 147.
- Amari, Michele, ed. *I diplomi arabi del Regio archivio fiorentino*. Florence: 1863.
- Amatus of Montecassino. *The History of the Normans*. Translated by Prescott N. Dunbar; intro & notes by Graham A. Loud. Woodbridge: 2004. ——. *Storia de’ Normanni volgarizzata in antico francese*. Edited by Vincenzo de Bartholomaeis. *Fonti per la Storia d’Italia pubblicate dall’Istituto Storico Italiano* 76. Rome: 1935.
- al-Andalusī, Sā’id. *Science in the Medieval World. “Book of the Categories of Nations.”* Translated and edited by Sima’an I. Salem and Alok Kumar. Austin: 1991.
- Anna Comnena, *Alexiad* = *The Alexiad of Anna Comnena*. Translated by Edgar R. A. Sewter. New York: 1969.
- Annales Erphesfurdenses Lothariani*. Edited by Georg Pertz. MGH SS 6, 536-41. Hannover: 1844.
- Annales Pisani*. Edited by Georg Pertz. MGH SS 19, 236-66. Stuttgart: 1866.
- Annales regni Francorum* = *Annales regni Francorum inde ab a. 741 usque ad a. 829, qui dicuntur Annales Laurissenses Miores et Einhardi*, MGH, SS rer. Ger. VI. Edited by Friedrich Kurze and Georg Pertz. Hannover: 1895.
- Anonymi chronicon Amalphitarum*. Edited by Ferdinando Ughelli. *Italia Sacra*, 2nd ed., 7. Venice: 1721.
- Antidotarium Nicolae*. Edited by W. S. van den Berg, Leiden: 1917.
- Al-Bakrī, *Description de l’Afrique septentrionale*. Translated by M. G. de Slane, Paris: 1859; reprint, Tangiers: 1913.
- Baldelli, Ignazio. “La carta pisana di Filadelfia. Conto navale in volgare pisano dei primi decenni del secolo XII,” *Studi di Filologia italiana* 31 (1973): 5-33.
- Balderic of Florennes, *Gesta Adalberonis archiepiscopi Treverensis*. Edited by Georg Waitz. MGH SS 8. Hanover: 1848.
- Baudri of Bourgeuil. *Historia Hierosolymitana*. *Recueil des historiens des croisades: historiens occidentaux* 4. Paris: 1879.
- Baldrici Dolensis. *Historia Jerusalem*. *Recueil des historiens des croisades: historiens occidentaux* 4. Paris: 1879.
- Benedict of Monte Soracte, *Chronicon*. Edited by Georg Pertz. MGH SS 3, 708-710. Stuttgart: 1839.
- Benoît de Sainte-Maure, *Le Roman de Troie*. Edited by Léopold Constans. SATF, 6 vols., Paris: 1904-12.
- Berger, Elie, ed. *Les Registres d’Innocent IV*. Paris: 1884-1919.

- Bernard of Cluny. *Ordo Cluniacensis per Bernardus*. Vetus disciplina monastica. Paris: 1726.
- Bernerus Abbas Humolariensis. *Vita sanctae Hunegundis virginis*. PL 137.
- Bernard of Clairveaux. *Saint Bernard Abbot of Clairvaux Selections from His Letters, Meditations, Sermons, Hymns and Other Writings*. Translated by Horatio Grimley. Cambridge: 1910.
- . *Apologia ad Guillelmum*, in *Opera*. Edited by Jean Leclercq and Henri Rochais, vol.3. Rome: 1963.
- Al-Bīrūnī, *Al-Beruni's Book on Mineralogy. The Book Most Comprehensive in Knowledge on Precious Stones*. Translated by Hakim Mohammad Said. Islamabad: 1989.
- . *The Chronology of Ancient Nations*. Translated and edited by C. Edward Sachau. London: 1879. Repr. Frankfurt: 1969.
- Benjamin of Tudela. *The Itinerary of Benjamin of Tudela*. Edited and translated by Marcus Nathan Adler. New York: 1907.
- Bono of Pisa. *Breve recordationis*. In Guido Grandi, *Epistula de Pandectis ad clarum virum Jos. Averanium*. Florence: 1727.
- in Muratori, *Antiquitates Italicae medii aevi*. Vol.4, col.786-89.
- Book of Gifts and Rareties*. Translated by Ghādah al-Hijjāwi al-Qaddumi. Cambridge, MA: 1996.
- Breviarium Basilense, In festo Henrici imperatoris*. Edited by Joseph Trouillat. Monuments de l'histoire de l'ancien évêché de bâle 1. Porrentruy: 1852.
- Breviarium Pisanae Historiae. Chronica varia Pisana*. Edited by Ferdinando Ughelli. Rerum Italicarum Scriptores 6. Milan: 1725.
- Burchard of Worms. *Decretals*. PL 140.
- Capasso, Bartolommeo, ed. *Regesta Neapolitana. Monumenta ad Neapolitani Ducatus historiam pertinentia*. Naples: 1881.
- Carta pisana = Baldelli, Ignazio. "La carta pisana di Filadelfia. Conto navale in volgare pisano dei primi decenni del secolo XII." *Studi di Filologia italiana* 31 (1973): 5-33.
- Chronica monesterii Casinensis*. Edited by Hartmut Hoffman. MGH SS 34. Hanover: 1980.
- Chronicon Novaliciense*. Edited by Ludwig C. Bethmann. MGH SS 7, 73-133. Hannover: 1846.
- Chronicon Sancti Huberti Andaginensis*. Edited by Ludwig C. Bethmann and Wilhelm Wattenbach. MGH, SS 8, 565-630. Hanover: 1848.
- Chronicon Salernitanum*. Edited by Uta Westerbergh. Stockholm: 1956.
- Chronica Polonorum*. Edited by Ludwig Wilhelm Wattenbach. MGH SS 9. Hannover: 1851.
- Codex diplomaticus Cajetanus*. 3 vols. Montecassino: 1958-67.
- Constantine Porphyrogenitus, *De cerimoniis*. Edited by Johann Jakob Reiske. Bonn: 1829.
- Consuetudines Farfenses*, Edited by Bruno Albers, *Consuetudines monasticae*, I, Stuttgart-Wien: 1900.
- D'Alessandro Nannipieri, M., ed. *Carte dell'Archivio di Stato di Pisa I*. Rome: 1978.
- De Gallica Petri Damiani profectio et eius ultramontane itinere*. Edited by Gerhard Schwartz and Adolf Hofmeister. MGH SS 30, vol. 2. Leipzig: 1934.
- De vita S. Nicolai in Græcia. Ex relatu Bartholomæi, Sanctum comitati*, cap.iii.18, [Col. 0241B], BHL 6223.
- Die Urkunden Konrad I., Heinrich I. und Otto I.* Edited by Theodor Sickel. MGH Diplomata Regum et Imperatorum Germaniae. Hannover: 1879-84.
- Donizone di Canossa. *Vita di Matilde di Canossa*, Edited and translated by Paulo Golinelli. Milan: 2008.
- Al-Edrisi. *L'Italia descritta nel 'Libro di re Ruggiero*. Edited and translated by Michele Amari and Carlo Schiaparelli. Rome: 1883.
- Erchempert, *Historia Langobardorum Beneventanorum*. Edited by George Waitz. MGH Scriptores rerum Langobardicarum et Italicarum saec. VI-IX, Hanover: 1978, 231-64.

- Ekkehard Abbatis Uraugiensis. *Hierosolymita*. Recueil des Historiens des Croisades. Historiens occidentaux 5. Paris: 1895.
- Epitome Polironese*. Edited by Luigi Simoni. *Rerum Italicarum Scriptores* 5.2. Bologna: 1931.
- Ex Historia martyrum Treverensium*. Edited by Georg Waitz. MGH SS 8. Hannover: 1848.
- Ezelone and Gilone monachis Cluniacensibus. *Epitome vitae Ab Ezelone atque Gilone monachis Cluniacensibus proxime ab obitu sancti scriptae, per anonymum excerpta*. PL 159
- Falaschi, Emma, ed., *Carte dell'archivio capitolare di Pisa I-II*, Rome: 1971.
- Falco di Benevento. *Chronicon Beneventanum*. Edited by E. d'Angelo, Florence: 1986.
- Filangieri di Candida, Riccardo, ed. *Codice Diplomatico Amalfitano*. Naples: 1917.
- Firdowsi. *The Shāhnāma of Firdausī*. Translated by Arthur and Edmond Warner. 9 vols. London: 1905-25. Available online at <http://etcweb.princeton.edu/shahnama/start.epl> (accessed March 2015).
- Flodoard of Reims. *Historiae Remensis ecclesiae*. Edited by Martina Stratmann. MGH SS 36. Hannover: 1998.
- Fulbert of Chartres. *Hymni et carmina ecclesiastica*. PL 141.
- Gentile, Michel Lupo. *Gli annales Pisani di Bernardo Maragone*. Rerum Italicarum Scriptores 6, Bologna: 1930.
- Gerbert of Aurillac. *Correspondences*. Edited by Pierre Riché and Jean P. Callu. Paris: 1993.
- Gesta Francorum Expugnantium Iherusalem*. In *Receuil des Histoires des Croisades, Historiens Occidentaux III*, 509-512. Paris: 1866.
- Gesta Lamberti Atrebatensis episcopi*, in J.P. Migne, *Patrologiae cursus completus. Series latina* 162. Paris: 1889.
- Gesta triumphalia*. In Michele Lupo Gentile, ed. *Rerum Italicarum Scriptores* 2nd ed., 6. Bologna: 1930-36.
- Gesta Triumphalia per Pisanos facta*, Edited by Giuseppe Scalia. Florence: 2010.
- Giles of Cluny. *Epitome vitae sancti Hugonis ab Ezelone atque Gilone monachis Cluniacensibus*. PL 159.
- Gottfried of Admont. *Ven. Godefridi abbatis Asmontensis homiliae in festa totius anni*. PL 174.
- Gregory VII. *Das Register Gregors VIII*. Edited by Erich Caspar. MGH ES 2. Berlin: 1920.
- Guibert of Nogent. *The Deeds of God through the Franks by Guibert of Nogent*. Translated by Robert Levine. Online at <http://www.gutenberg.org/cache/epub/4370/pg4370.html>. (Accessed January 2015).
- Gunther of Paris. *Ligurius: Guntheri Poetae Ligurinus*. Edited by Erwin Assmann. MGH SS Rerum Germanicarum 63. Hanover: 1987.
- Al-Hamadhani. *The Maqāmāt of Badi' al-Zamān al-Hamadhānī*. Translated by William J. Prendergast. Madras: 1915.
- Hugh of Flavigny. *Chronicon*. Edited by Gerog Pertz. MGH 8. Hanover: 1848.
- Ibn Abi Usaibia. *History of Physicians*. Translated by Lothar Kopf. Unpublished ms. 1971.
- Ibn Abī Zayd al-Qayrawānī. *La Risāla*, edited and translated by Leon Bercher. Algiers: 1945.
- Ibn Daud. *Sefer ha-qabbalah. The Book of Tradition*. Edited and translated by Gershon D. Cohen. Philadelphia: 1967.
- Ibn Hawqal. 'Book of the Routes and the Kingdoms.' In Robert Lopez and Irving Raymond, eds. *Medieval Trade in the Mediterranean World*. London: 1955.
- . *Configuration de la terre*. Translated by Johannes Hendrik Kramers and Gaston Wiet. Paris: 1964.
- Ibn Hazm. *Ring of the Dove*. Translated by Arthur J. Arberry. London: 1953.
- Ibn Jubayr. *The Travels of Ibn Jubayr: being the chronicle of a mediaeval Spanish Moor concerning his journey to the Egypt of Saladin, the holy cities of Arabia, Baghdad the city of the Caliphs, the Latin kingdom of Jerusalem, and the Norman kingdom of Sicily*. Edited and translated by Ronald Joseph Callender Broadhurst. London: 1952.
- Ibn Juljul. *Die Ergänzung Ibn Ğulġul's zur Materia medica des Dioskurides*. Edited and translated by Albert Dietrich. Göttingen: 1993.

- Ibn Khaldun. *The Muqaddimah. An Introduction to History*. Translated by Franz Rosenthal. Princeton: 1969.
- Ibn Khallikun. *Biographical Dictionary*. Translated by William Mac Gucklin de Slane. 4 vols. Paris and London: 1843.
- Ibn al-Tiqtaqa, Muhammad ibn ‘Ali. *Al-Fakri*. Translated by Charles E. J. Whitting. London: 1981.
- Hofmeister, Adolf. “Aus Capri und Amalfi. Der Sermo de virtute und der Sermo de transito s. Constantii und der Sarazenzug von 991.” *Münchener Museum für Philologie des Mittelalters und der Renaissance* 4 (1924): 233-272.
 ——. “Der Sermo de inventione sancti Kataldi.” *Münchener Museum für Philologie des Mittelalters und der Renaissance* 4 (1924): 101-114.
- Honorantie Civitatis Papie*. Edited by Adolf Hofmeister. *MGH SS* 30, 1450–57. Hanover: 1934.
- Honorius of Autun. *De gemma animae*. PL 172.
- Honorius Augustodunensis. *Expositio in cantica canticorum*. PL 172.
- Al-Istakhri = Sir William Ouseley. *The oriental geography of Ebn Haukal, an Arabian traveller of the tenth century, translated from a manuscript in his own possession*. London: 1800. (n.b. the attribution to “Ebn Haukal” is mistaken).
- Itinerarium Bernardi monachi Franci*. In *Itinera Hierosolymitana et descriptiones terrae sanctae bellis sacris anteriora et Latina lingua exarata*, edited by Titus Tobler and Auguste Emile Louis Marie Molinier. Vol.1, 309-320. Geneva: 1879.
- al-Istibsar = L’Afrique septentrionale au XII^e siècle de notre ère*. Translated by Edmond Fagnan. Constantine: 1900
- Al-Jawdhari. *Inside the Immaculate Portal. A History from Early Fatimid Archives*. Edited and translated by Hamid Haji. London: 2012.
- John the Deacon, *Gesta episcoporum Neapolitanorum*. Edited by George Waitz. *MGH Scriptores rerum Langobardicarum et Italicarum* 1. Hanover: 1878.
 ——. *Vita Athanasii episcopi Neapolitani*. Edited by George Waitz. *MGH Scriptores rerum Langobardicarum et Italicarum* 1. Hanover: 1878.
- John the Deacon. *De locis sanctis*. PL 173.
- John, known as canon of the Lateran or deacon of the Lateran. *Liber de Ecclesia Lateranensi*. PL 194.
- Lambertus Atrebatensis, *Epistolae Lamperti episcopi Atrebatensis et aliorum ad ipsum*, PL 162.
- Libellus de ceremoniis aule imperatoris* 5, in P. Schramm, *Kaiser, Rom und Renovatio: Studien und Texte zur Geschichte des römischen Erneuerungsgedankens vom Ende des karolingischen Reiches bis zum Investiturstreit*, 2. vols, Leipsig: 1929.
- Liber maiolichinus de gestis pisanorum illustribus*. Edited by Carlo Calisse. Rome: 1904.
- Liber Miraculorum Sancte Fidis*. Edited by Luca Robertini. Spoleto: 1994.
- Liudprand of Cremona. *The Complete Works of Liudprand of Cremona*. Translated by Paolo Squatriti. Washington, D.C.: 2007.
- Livre des Merveilles de l’Inde par le capitaine Bozorg fils de Chahriyâr de Râmhormoz*. Edited and translated by L. Marcel Devic, Frankfurt: 1993 (repr. of the edition of 1883–86).
- Lunde, Paul, and Caroline Stone. *Ibn Fadlân and the Land of Darkness. Arab Travellers in the Far North*. London: 2012.
- Malaterra, Goffredo. *De rebus gestis Rogerii Calabriae et Siciliae comitis et Roberti Guiscardi ducis fratris eius*. Edited by Ernesto Pontieri. *Rerum Italicarum scriptores*. Bologna: 1928.
- Maragone, Bernardo = Gentile, Michele Lupo. *Gli annales Pisani di Bernardo Maragone*, *Rerum Italicarum Scriptores* 6, Bologna: 1930.
- Mansi, Giovanni Domenico, ed. *Sacrorum Conciliorum nova et amplissima collectio*. Vol.19. Paris: 1901.
- Al-Mas’udi. *Historical encyclopaedia: entitled ‘Meadows of gold and mines of gems.’* Translated by Aloys Sprenger, London: 1841.
- Matilda of Tuscany. *Die Urkunden und Briefe der Markgräfin Mathilde von Tuszien*. Edited by Elke Goetz and Werner Goetz. *MGH Laienfürsten und Dynasten Urkunden der Kaiserzeit*. Hanover: 1998.

- al-Maqqarī, Ahmed ibn Mohammed. *The History of the Mohammedan Dynasties in Spain*. Translated by Pascual de Gayangos. 2 vols. London: 1834.
- al-Maqrīzī. *Towards a Shi'i Mediterranean Empire: Fatimid Egypt and the Founding of Cairo*. Translated by Shainool Jiwa. London and New York: 2009.
- Mazzoleni, Jole, and Renata Orefici, eds. *Il Codice Perris. Cartulario Amalfitano, sec. X–XV*. Amalfi: 1985.
- Michael Psellus. *Chronographia*. Edited and translated by Emile Renaud, 2 vols., Paris: 1926–28.
—-. *Michael Psellos. Fourteen Byzantine Rulers*. Translated by Edgar R. A. Sewter. Harmondsworth: 1966.
- Montecassino Chronicle = *Chronica monesterii Casinensis*. Edited by Hartmut Hoffman, MGH SS 34. Hanover: 1980.
- Morcaldi, Michele, ed. *Codex diplomaticus Cavenensis*. Naples: 1873.
- Morozza della Rocca, Raimondo. *Documenti del Commercio Veneziano nei Secoli XI–XIII*. Rome: 1940.
- Müller, Giuseppe. *Documenti sulle relazioni delle città Toscane coll'Oriente Cristiano e coi Turchi fino all'anno MDXXXI*. Rome: 1966 (rept.: 1st prnt: Florence: 1879).
- Al-Muqaddasī. *Best Divisions for Knowledge of the Regions*. Translated by Basil Collins, Reading, UK: 2001.
- Al-Nadīm. *The Fihrist of al-Nadīm: a tenth century survey of Muslim culture*. Translated by Bayard Dodge. New York: 1970.
- Nāser-e Khosraw. *Nāser-e Khosraw's Book of Travels (Safarnāma)*. Translated by Wheeler M. Thackston, Jr.. New York: 1985.
- al-Naysābūrī, Ahmad b. Ibrāhīm. *Degrees of Excellence. A Fatimid Treatise on Leadership in Islam*. Translated by Arzina R. Lalani, London and New York: 2010.
- Nicephorus. *Tranlation of the Relics of Saint Nicolas. Bibliotheca Hagiographica Latina Antiquae et Mediae Aetatis*. no. 6179.
—-. *Tranlation of the Relics of Saint Nicolas* = Francesco Nitti di Vito, “La traslazione delle reliquie di San Nicola.” *Iapigia* 8 (1937): 295–411.
- Notker the Stammerer. *De Carolo Magno*. In *Two Lives of Charlemagne*. Translated by Lewis Thorpe. Harmondsworth: 1969.
- Oderic Vitalis. *Ecclesiastical History*. PL 188.
- Odo of Cluny. *Sancti Odonis Abbatis Cluniacensis Collationum Libri Tres*. PL 133.
- On the treasure from the Church of Canossa that was sent to Rome and on the Compensation made to the Church of Canossa*. Edited by Luigi Simeoni. *Rerum Italicarum Scriptores* 2. Bologna: 1930.
- Passio Sancti Ephysii*. AS January, vol.1, BHL 2567.
- Peter Damian. *Letters 91–120*. Translated and edited by Owen Blum. Cambridge: 1998.
—-. *Die Briefe des Petrus Damiani*. Edited by Kurt Reindel. 4 vols., Munich: 1983–93.
—-. *Vita beati Romualdi*. Edited by Giovanni Tobacco, *Fonti per la storia d'Italia* 94. Rome: 1957.
—-. *Vita Odilonis*, PL 144.
—-. *Liber dominus vobiscum*. PL 145.
—-. *De felicitate et sapientia*. PL 145.
- Peter the Deacon of Montecassino. *De viris illustribus casinensibus opusculum* = Muratori, *Script. Ital.*, 5, 1. (BHL Number: 8951)
—-. *De viris illustribus*. Edited by Herbert Bloch, in Bloch, *Montecassino in the Middle Ages*, vol. 1. Cambridge, Mass.: 1986.
- Petrus Pisanus. *Vita Paschalis ii papae auctore Petro Pisano*, in *Propyleo ad Acta Sanctorum Man*, PL 163.
- von Pflugk-Harttung, Julius. *Acta Pontificum romanorum inedita*. Graz: 1958. (reprt. from 1888).
- Philip of Herveng. *Commentaria in Cantica Canticorum*. PL 203.
- Planctus De Transitu Odillonis Abbatis*, PL 142.
- Pozza, Marco, and Giorgio Ravegnani, eds. *Pacta Veneta 4: I trattati con Bisanzio 992–1198*. Venice: 1993.

- Ralph Glaber. *Rodulfus Glaber Opera*. Edited and translated by John France, Neithard Bulst and Paul Reynolds. Oxford: 2002.
- Rather of Verona. *The Complete Works of Rather of Verona*. Edited and translated by Peter L. D. Reid. Binghampton: 1991.
- Robertus de Torinneio. *Roberti de Monte chronica*. PL 160.
- Röhricht, Reinhold, ed. *Regesta regni Hierosolymitani*. Oeniponti: 1893.
- Royal Frankish Annals = *Annales regni Francorum*.
- Rupert of Deutz. *In Leviticum commentariorum*. PL 167.
- Sardo, Ranieri. *Cronaca pisana di Raniero Sardo*. Archivio Storico Italiano I. Florence: 1844.
—-. *Cronaca di Pisa di Ranieri Sardo*. Edited by O. Banti, Rome: 1963.
- Scalfati, Silio P. P., ed. *Carte della Certosa di Calci*. Pisa: 1977.
- Schwarz, Ulrich. *Regesta amalfitana: Di älten Urkunden Amalfis in ihrer Überlieferung*. Tübingen: 1978.
- Sirolla, Maria Luisa, ed. *Le carte dell'archivio di stato di Pisa 2 (1070-1100)*. Pisa: 1990.
- Tha'ālibī. *The Book of Curious and Entertaining Information. The Latā'if al-ma'ārif of Tha'ālibī*. Translated by C. E. Bosworth, Edinburgh: 1968.
- Al-Tha'labī, T. *Lives of the Prophet*. Translated by William M. Brinner. Leiden: 2002.
- Theophilus, *De diversis artibus*. Edited and translated by Charles Reginald Dodwell. London: 1961.
- Thietmar of Merseburg, *Chronicon*. Edited by Robert Holtzmann. *MGH SS, Nova Series IX*. Munich: 1935.
—-. *Ottoman Germany: The Chronicon of Thietmar of Merseburg*. Edited and translated by David Warner. Manchester: 2001.
- Tirelli, Matilde Carli, ed. *Carte dell'Archivio Capitolare di Pisa. Vol. 4: 1101-1120*. Rome: 1969.
- Tola, Pasquale. *Codice diplomatico della Sardegna*. Turin: 1861.
- Translatio Sanguines Domini*. Edited by Georg Waitz. *MGH SS 4*, 445-49. Hannover: 1891.
- Translatio S. Gimignano*. Edited by Giulio Bertoni. *Rerum Italicarum scriptores 6.1*. Città di Castello: 1907.
- Udalric of Cluny. *Antiquiores consuetudines cluniacensis monasterii collectore Udalrico monacho benedictino*. PL 149.
- Vita s. Symeonis*. AA.SS., Iulii, 6. OSB, vol. 8, 319–337. Paris and Rome: 1868.
- Vita S. Theodora Thessalonicensis*. Edited by Bishop Arsenih, *Zitie i podvigi sv. Feodory Solunskoj*, 52. Translated in Cyril Mango. *The Art of the Byzantine Empire 312-1453*. Toronto: 1986.
- Walter Map. *De nugis curialium. Courtiers' Trifles*. Edited and translated by Montague Rhodes James, revised Christopher N. L. Brooke and Roger A. B. Mynors, Oxford: 1983.
- Werner of St. Blaise. *Libri deflorationum*. PL 157.
- Wido of Ivrea. *Versus Eporedienses* = Dümmler, Ernst. "Gedichte aus Ivrea." *Zeitschrift für deutsches Altertum 14* (1869): 245-65.
- William of Apulia. *Gesta Roberti Wiscardoi*. Edited by Marguerite Mathieu. *MGH SS 9*, 239-298. Hannover: 1851.
- William of Hirsau. *Constitutiones Hirsaugienses*, PL 150.
- Wipo. *The Deeds of Conrad II*. Translated by Theodor E. Mommsen and Karl F. Morrison. *Imperial Lives and Letters of the Eleventh Century*. New York and London: 1962.

SECONDARY LITERATURE

- Abbot, Nadia. "A Ninth-Century Fragment of the 'Thousand Nights.' New Light on the Early History of the Arabian Nights." *Journal of Near Eastern Studies* 8, 3 (1949): 126-64.
- Abulafia, David. *Commerce and Conquest in the Mediterranean, 1100-1500*. Aldershot: 1993.
- . "The Impact of the Orient: Economic Interactions between East and West in the Medieval Mediterranean." In *Across the Mediterranean Frontiers: Trade, Politics and Religion, 650-1450*, edited by Dionisius A. Agius and Ian R. Netton, 1-40. Turnhout: 1997.
- . "The Pisan Bacini and the Medieval Mediterranean Economy: a Historian's Viewpoint" In *Papers in Italian Archaeology IV: Classical and Medieval Archaeology*, edited by Caroline Malone and Simon Stoddart, 287-302. Oxford: 1985.
- . "Sugar in Spain." *European Review* 16, 2 (2008): 191-210.
- . "Crocuses and crusaders: San Gimignano, Pisa and the Kingdom of Jerusalem," in *Outremer - Studies in the History of the Crusading Kingdom of Jerusalem, Presented to Joshua Prawer*, edited by Benjamin Z. Kedar, Hans Eberhard Mayer and Raimond C. Smail, 227-243, Jerusalem: 1982.
- . *Two Italies: Economic Relations between the Norman Kingdom of Sicily and the Northern Communes*. New York: 1977.
- . "The crown and economy under Roger II and his successors," *Dumbarton Oaks Papers* 37 (1983): 1-14.
- . "Southern Italy, Sicily and Sardinia in the medieval Mediterranean economy," in David Abulafia, *Commerce and Conquest in the Mediterranean, 1100-1500*, vol.1, 1-32. Aldershot: 1993.
- Abun-Nasr, A. N., *A History of the Maghrib in the Islamic Period*, Cambridge: 1987.
- Aceto, Francesco. "L'Abruzzo e il Molise." In *La scultura d'età normanna tra Inghilterra e Terrasanta*, edited by Mario d'Onofrio, 49-70. Rome and Bari: 2001.
- Akbari, Suzanne Conklin and Karla Mallette, eds. *A Sea of Languages: Rethinking the Arabic Role in Medieval Literary History*, Toronto: 2013.
- Alesina and Robert J. Barro, "Dollarization," *The American Economic Review* 91, 2 (2001): 381-385.
- Alfonso, Esperanza. *Islamic Culture through Jewish Eyes. Al-Andalus from the Tenth to Twelfth Century*. London and New York: 2008.
- Algazi, Gadi. "Diversity Rules: Peregrine Horden and Nicholas Purcell's *The Corrupting Sea*," *Mediterranean Historical Review* 20, 2 (2005): 227-45.
- Allen, H. R., "The Original Appearance of the Dome of the Rock," in *Bayt Al-Maqdis. Jerusalem and Early Islam*. Edited by Jeremy Johns, 197-213. Oxford: 1999.
- Alston, Isabella. *Coco Chanel*, Charlotte, NC: 2014.
- Alvarez-Millan, Cristina. "Practice versus Theory: Tenth century Case Histories from the Islamic Middle East." *Social History of Medicine* 13, 2 (2000): 293-306.
- Amari, Michale. *Storia dei Musulmani di Sicilia*, 3 vols. Florence: 1858.
- Ambrose, Kirk. "Influence," *Studies in Iconography* 33 (2012): 197-206.
- Antrim, Zayde. *Routes and Realms: The Power of Place in the Early Islamic World*, Oxford: 2012.
- Apellániz, Francisco. "Venetian Trading Networks in the Medieval Mediterranean." *Journal of Interdisciplinary History* 44, 2 (2013): 157-179.
- Arnold, Christopher J., *Roman Britain to Anglo-Saxon England: An Archeological Study*. London: 1984.
- Aron, Ya'el D., Ayala Lester, and Rachel Pollak, "The Fatimid hoard of metalwork, glass, and ceramics from TPS: preliminary report." In *Caesarea Reports and Studies: Excavations 1995-2007 within the Old City and Ancient Harbor*, edited by Kenneth G. Holum, Jennifer A. Stabler, and Eduard G. Reinhardt, 105-114. BAR international series, Oxford: 2008.
- Arthur, Paul. *Naples: from Roman Town to City-State: An Archaeological Perspective*, Rome and London: 2002.
- . "Economic expansion in Byzantine Apulia." In *Histoire et Culture dans l'Italie Byzantine. Acquis et nouvelles recherches*, edited by Andre Jacob, Jean-Marie Martin and Ghislaine Noyè, 389-405. Rome: 2006.

- . "Islam and the Terra d'Otranto: some archaeological evidence." In *Papers from the EAA Third Annual Meeting at Ravenna 1997, Vol. II, Classical and Medieval*, edited by Mark Pearce and Maurizio Tosi, 166-172. Oxford: 1998.
- . "Masseria Quattro Macine -- a deserted medieval village and its territory in southern Apulia: an interim report on field survey, excavation and document analysis," *Papers of the British School at Rome* 64 (1996): 181-237.
- Ashtor, Edmond. "Gli inizi della Comunità ebraica a Venezia" *Rassegna mensile di Israel* 44. Rome: 1978, 683-703; repr. in *The Jews and the Mediterranean Economy, 10-fifteenth centuries*. London: 1983, IV.
- Assaad, Sadik A. *The Reign of al-Hakim Bi Amr Allah (386/996-411/1021): A Political Study*. Beirut: 1974.
- Astren, Fred. "Goitein, Medieval Jews, and the 'New Mediterranean Studies.'" *Jewish Quarterly Review* 102, 4 (2012): 513-31.
- Atchley, E. G. Cuthbert. *A History of the Use of Incense in Divine Worship*, London and New York: 1909.
- Atil, Esin, William T. Chase, Paul Jett, *Islamic Metalwork in the Freer Gallery of Art*, Washington, D.C.: 1985.
- Avery, Myrtila. *The Exultet Rolls of South Italy*, Princeton & London: 1936.
- Bacci, Giovanna Maria, and Maria Amalia Mastelloni, eds. *I Normanni nel Sud. Nuovi segmenti di storia europea*. Rome: 2003.
- Bacci, Michele. "Veneto-Byzantine "Hybrids": Towards a Reassessment." *Studies in Iconography* 35 (2014): 73-106.
- Bachrach, David. "Towards an Appraisal of the Wealth of the Ottonian Kings of Germany, 919-1024," *Viator* 44, 2 (2013):1-28.
- Baer, Eva. "The Mihrab in the Cave of the Dome of the Rock," *Muqarnas* 3 (1985): 8-19.
- . "An Islamic Inkwell in the Metropolitan Museum of Art." In *Islamic Art in the Metropolitan Museum of Art*, edited by Richard Ettinghausen, 199-212. New York: 1972.
- Baeten, Jan, Koen Deforce, Sophie Challe, Dirk De Vos, Patrick Degryse, "Holy Smoke in Medieval Funerary Rites: Chemical Fingerprints of Frankincense in Southern Belgian Incense Burners." *PLoS ONE* 9, 11 (2014).
- Balafrej, Lamia. "Saracen or Pisan?: The Use and Meaning of the Pisa Griffin on the Duomo," *Ars Orientalis* 42 (2012): 31-40.
- Baldelli, Ignazio. "La carta pisana di Filadelfia. Conto navale in volgare pisano dei primi decenni del secolo XII," *Studi di Filologia italiana* 31 (1973): 5-33.
- Banaji, Jainus. "Islam, the Mediterranean, and the Rise of Capitalism," *Historical Materialism* 15, 1 (2007): 47-74.
- Banti, Ottavia, ed., *Cronaca di Pisa di Ranieri Sardo*, Rome: 1963.
- Bagwell, Laurie Simon, and B. Douglas Bernheim, "Veblen Effects in a Theory of Conspicuous Consumption," *American Economic Review*, 86 (1996): 349-373.
- Barbour, Nevill. "The significance of the word *Maurus*, with its derivatives *Moro* and *Moor*, and of other terms used by medieval writers in Latin to describe the inhabitants of Muslim Spain," in *Actas do IV congresso de estudos Arabes e Islâmicos*, 253-266. Leiden: 1971.
- Barasch, Mosche. *Theories of Art: 1. From Plato to Winckelmann*. New York: 2001.
- Barrucand, Marianne. "Remarques sur le décor des manuscrits religieuse hispano-maghrébins du moyen-âge," in *Afrique du nord antique et médiéval. Spectacles, vie portuaire, religions. Actes de Ve Colloque International sur l'histoire et l'archéologie de l'Afrique du nord. Avignon, 1990*, 235-248. Paris: 1992, 236.
- Barrucand, Marianne, and Rammah Mourad. "Sabra al-Mansuriyya and her neighbours during the first half of the eleventh century: Investigations into stucco decoration," *Muqarnas* 26 (2009): 349-76.
- Bass, George F., Robert H. Brill, Berta Lledó, and Sheila D. Matthews, *Serçe Limani. Vol. 2, The Glass of an Eleventh century Shipwreck*, College Station: 2009.
- Basso, Rosa. "I capitelli romani di San Miniato al Monte." *Archeologia classica* 44, 1 (1992): 147-84.
- Bates, Michael and David M. Metcalf, "Crusader Coinage with Arabic Inscriptions." In *A History of the Crusades*, v.6, edited by H. W. Hazard and N.P. Zacour, 439-57. Madison and London: 1989.
- Bauer, Rotraud. "Il manto di Ruggero II," in *I Normanni: popolo di Europa 1030-1200*, edited by Mario d'Onofrio, 279-287. Venice: 1994.

- . “The Mantle of Roger II and the Siculo-Norman Vestments from the Royal Court Workshop of Palermo.” In *Nobiles Officinae. Die königlichen Hofwerkstätten zu Palermo zur Zeit der Normannen und Staufer im 12. und 13. Jahrhundert*, edited by Wilfried Seipel, vol. 2, 403-7. [exhibition catalogue] Vienna and Milan: 2004.
- Becker, Oliver. “Der Dom von Salerno und die Abteikirche von Montecassino: Anspruch und Wirkung zweier Bauprojekte in Unteritalien im 11. Jahrhundert.” *Frühmittelalterliche Studien* 41 (2007): 105-140.
- Beckingham, Charles F., “Ibn Hauqal’s Map of Italy.” In *Iran and Islam*, edited by Clifford E. Bosworth, 73–78. Edinburgh: 1971.
- Bednorz, Achim, and Rolf Toman. *Romanesque. Architecture, Sculpture, Painting*. Cologne: 2004.
- Bedos-Rezak, Brigitte Miriam. *When Ego Was Imago: Signs of Identity in the Middle Ages*. Leiden: 2010.
- Behrens-Abouseif, Dorothy. *Islamic Architecture in Cairo: An Introduction*. Leiden: 1992.
- Beltrame, Carlo, and Mauro Bondioli, “A Hypothesis on the Development of Mediterranean Ship Construction.” In *Connected by the Sea: Proceedings of the 10th International Symposium on Boat and Ship Archaeology, Roskilde, 2003*, edited by Anton Englert, Fred M. Hocker, and Lucy Blue, 89-94. Oxford: 2006.
- Ben Abdelouahed, H., et al., “PIXE analysis of medieval silver coins,” *Materials Characterization* 61 (2010): 59–64.
- Berg, Knut. *Studies in Tuscan Twelfth Century Illumination*. Oslo: 1968.
- Bergman, Robert P. “A School of Romanesque Ivory Carving in Amalfi,” *Metropolitan Museum Journal* 9 (1974): 163-186.
- . *Salerno Ivories. Ars Sacra from Medieval Amalfi*. Cambridge: 1980.
- Berschin, Walter. *Greek Letters and the Latin Middle Ages: from Jerome to Nicolas of Cusa*, Washington: 1988.
- Berti, Graziella., “Pisa and the Islamic World. Import of ceramic wares and transfer of technical know-how,” in Graziella Berti, Catia Renzo Rizzo and Marco Tangheroni, *Il mare, la terra, il ferro. Ricerche su Pisa medievale (secoli VII-XIII)*, 73-92, Pisa: 2004.
- . “Pisa - A Seafaring Republic. Trading Relations with Islamic Countries in the Light of Ceramic Testimonies.” In *Colloque international d’archéologie islamique*, edited by Roland-Pierre Gayraud, 3-1-318. Cairo: 1998.
- . “Pisa: ceramiche e commerci (2nd metà X-1a metà XIV s.)” In *Atti I Congresso Nazionale di Archeologia Medievale*, edited by Sauro Gelichi, 346-351. Firenze: 1997.
- . “Pisa: dalle importazioni islamiche alle produzioni locali di ceramiche con rivestimenti vetrificati (2^m X-1^o m XVII s.)” in *Pisa, Piazza Dante: uno spaccato della storia pisana. La campagna di scavo 1991*, edited by Silvia Bruni, 119-143. Pontedera: 1993.
- and A. García Porras, “A propósito de ‘Una necesaria revisión de las cerámicas andalusíes halladas en Italia’.” *Arqueología y territorio medieval* 13, 1 (2006): 155–95.
- . and Sauro Gelichi, “Trasmissioni di tecnologie nel Medioevo: tendenze e linee di ricerca attuali,” in *Circolazione di tecnologie, maestranze e materie prime nelle produzioni ceramiche del mediterraneo dal medioevo all’età moderna*, 23-41. Albisola: 2001.
- . and Marcella Giorgio, *Ceramiche con coperture vetrificate usate come “bacini”: importazioni a Pisa e in altri centri della Toscana tra fine X e XIII secolo*. Florence: 2011.
- and S. Menchelli, “Pisa. Ceramiche da cucina, da dispensa, da trasporto, dei secoli X-XV,” *Archeologia medievale* 25 (1998): 330-3.
- and Liana Tongiorgi, *I ‘bacini’ ceramici medievali delle chiese di Pisa*. Rome: 1981.
- Besterman, T., *Voltaire on Shakespeare*, Genève: 1967.
- Blair, S. S., “Floriated Kufic and the Fatimids,” in *L’Égypte Fatimide. Son art et son histoire*, edited by M. Barrucand, 107-116. Paris: 1999.
- Blanchard, Ian. *Mawara’an-nahr: Central Asia Triumphant*, 1994.
- . *Mining, Metallurgy and Minting in the Middle Ages*, 4 vols., Stuttgart: 2005.
- Bliese, J. R. E., “The Courage of the Normans. A Comparative Study of Battle Rhetoric,” *Nottingham Medieval Studies* 35 (1991): 1-35.
- Bloch, F., V. Rao and S. Desai, “Wedding Celebrations as Conspicuous Consumption: Signaling Social Status in Rural India,” *The Journal of Human Resources* 39, 3 (2004): 675-695.
- Bloch, H., *Montecassino in the Middle Ages*, 3 vols. Cambridge, MA: 1986.
- . “The New Fascination with Ancient Rome,” in *Renaissance and Renewal in the Twelfth Century*, edited by R. L. Benson, G. Constable, and C. D. Lanham, 615-637. Toronto: 1982.
- Bloom, Jonathan M., “Paper in Fatimid Egypt,” in *L’Égypte Fatimide. Son art et son histoire*, edited by M. Barrucand, 395-401. Paris: 1999.

- . *Arts of the City Victorious: Islamic Art and Architecture in Fatimid North Africa and Egypt*, New Haven: 2007.
- Boeck, U., “Das Baptisterium zu Pisa und die Jerusalemer Anastasis,” *Bonner Jahrbuch*, 1964.
- Bongianino, U., “Al-Hadra ar-Ruġġāriyya. Arabismo e propaganda politica alia corte di Ruggero II di Sicilia,” *Arte Medievale* 2 (2012): 95-120.
- Boyle, Robert. “Experiments and Observations about the Mechanical Production of Odours,” in *The Works of Robert Boyle*, Vol. 8, Edited by M. Hunter and E. B. Davis, London: 2000.
- Boynton, S., *Shaping a Monastic Identity: Liturgy & History at the Imperial Abbey of Farfa, 1000-1125*, Ithaca, NY: 2006.
- Bray, J., “The physical world and the writer’s eye. Al-Tanūkhī and medicine,” in *Writing and Representation in Medieval Islam. Muslim horizons*, edited by Julia Bray. London and New York: 2006.
- Breckenridge, J. D., “The Two Sicilies,” in *Islam and the Medieval West, Volume 2*, edited by S. Ferber, 39-60. Binghamton: 1075.
- Brett, Michael. *The Rise of the Fatimids*, Leiden: 2001.
- . “The Way of the Nomad,” *Bulletin of the School of Oriental and African Studies* 58 (1995): 251–269.
- . “The Zughba at Tripoli, 429 AH (1037–8 AD),” in Society for Libyan Studies, *Sixth Annual Report, 1974–5*, 41–7.
- . “Ifriqiya as a Market for Saharan Trade from the Tenth to the Twelfth Century A.D.,” *The Journal of African History* 10, 3 (1969): 347–364.
- . “Fatimid Historiography: A Case Study - the Quarrel with the Zirids, 1048-58,” in *Medieval Historical Writing in the Christian and Islamic Worlds*, edited by D.O. Morgan, 47- 59. London: 1982.
- . “Islam and Trade in the Bilād al-Sūdān, Tenth-Eleventh Century AD,” *Journal of African History* 24 (1983): 431-440.
- . “Lingua France in the Mediterranean,” in *The Historiography of Islamic Egypt (c.950-1800)*, edited by H. Kennedy, 1-11. Leiden: 2001.
- Brévar, F. B., “Between Medicine, Magic, and Religion: Wonder Drugs in German Medico-Pharmaceutical Treatises of the Thirteenth to the Sixteenth Centuries,” *Speculum* 83 (2008): 1-57.
- Brilliant, Richard, and Dale Kinney, eds. *Reuse Value. Spolia and Appropriation in Art and Architecture from Constantine to Sherrie Lavine*. Farnham, U.K., and Burlington, VT: 2011.
- Brown, T. S., “Ethnic Independence and Cultural Deference: the Attitude of the Lombard Principalities to Byzantium, c.876-1077,” *Byzantinoslavica* 54 (1993): 5-12.
- Brubaker, Leslie. “The Elephant and the Ark: Cultural and Material Interchange Across the Mediterranean in the Eighth and Ninth Centuries,” *Dumbarton Oaks Paper* 58 (2004): 161-174.
- Bruce, Travis. “The politics of violence and trade: Denia and Pisa in the eleventh century,” *Journal of Medieval History* 32 (2006): 127-142.
- . “Piracy as Statecraft: The Mediterranean Policies of the Fifth/Eleventh–Century Taifa of Denia,” *Al-Masaq*, xxii, iii (2010), 235–248.
- Buettner, B., “Towards a Historiography of the Sumptuous Arts,” in *A Companion to Medieval Art: Romanesque and Gothic*, edited by C. Rudolph, 466-87. Oxford: 2006.
- Burnett, Charles S. F. , ed., *Constantine the African and ‘Alī Ibn Al-‘Abbās Al-Magūsī: The Pantegni and Related Texts*. Leiden: 1994.
- . “Stephen, the Disciple of Philosophy, and the Exchange of Medical Learning in Antioch,” *Crusades* 5 (2006): 113-129.
- . “Antioch as a link between Arabic and Latin culture in the Twelfth and Thirteenth Centuries,” in *Occident et Proche-Orient: Contacts scientifiques au temps des croisades*, edited by I. Draelants, A. Tihon, and B. van den Abeele, 1-78. Turnhout: 2000.
- . “*Verba ypocratis preponderanda omnium generum metallis*. Hippocrates *On the Nature of Man* in Salerno and Montecassino with an edition of the chapter on the elements in the *Pantegni*,” in *La scuola medica Salernitana. Gli autori e i testi*, edited by D. Jacquart and A. Paravicini-Bagliani, 59-92. Florence: Sismel, 2007.
- Busch, Silvia O. *Medieval Mediterranean Ports: The Catalan and Tuscan Coasts, 1100 to 1235*. Leiden: 2001.
- . “Luni in the Middle Ages: The Agony and the Disappearance of a City,” *Journal of Medieval History* 17 (1991): 283-296.
- Byrne, E. H., *Genoese Shipping in the Twelfth and Thirteenth Centuries*, Cambridge, MA: 1930.
- Cagno, S., et al., “Evidence of early medieval soda ash glass in the archaeological site of San Genesio (Tuscany),” *Journal of Archaeological Science* 39 (2012): 1540-1552.

- Cahen, Claude. 'Un texte peu connu relatif au commerce oriental d'Amalfi au Xe siècle', *Archivio storico per le province Napoletane* 34 (1955): 61–67. Reprinted in *Turcobyzantina et Oriens Christianus*. London: 1978.
- Canby, S., et al., *Spirit and Life. Masterpieces of Islamic Art from the Aga Khan Museum Collection*, Geneva: 2007.
- Cantini, F., "Ritmi e forme della grande espansione economica dei secoli XI–XIII letti attraverso i contesti ceramici della Toscana settentrionale," in *Mondi rurali d'Italia: insediamenti, struttura sociale, economia. Secoli X–XIII*, = *Archeologia Medievale* 37 (2010): 113–127.
- Carboni, S., and David Whitehouse, *Glass of the Sultans*. New Haven: 2001.
- Caskey, Jill. *Art and Patronage in the Medieval Mediterranean: Merchant Culture in the Region of Amalfi*, Cambridge: 2004.
- . "Steam and "Sanitas" in the Domestic Realm: Baths and Bathing in Southern Italy in the Middle Ages," *Journal of the Society of Architectural Historians*, 58, 2 (1999): 170-195.
- . "Stuccoes from the Early Norman Period in Sicily: Fabrication, Figuration, and Integration" *Medieval Encounters* 17 (2011): 80-119.
- Cavallo, Guglielmo. "Between Byzantium and Rome: Manuscripts from Southern Italy," in *Perceptions of Byzantium and its Neighbours (843-1261)*, edited by Olenka Z. Pevny, 136-153. New Haven: 2000.
- Ceccarelli Lemut, Maria Luisa. "Il sistema portuale pisano e le sue infrastrutture: riflessioni su una problematica aperta," in "*Un filo rosso*" studi antichi e nuove ricerche sulle orme di Gabriella Rossetti in occasione dei suoi settanta anni, edited by Gabriella Garzella and Enrica Salvatori, 115-126. Pisa: 2007.
- . "Mare nostrum Mediterraneum. Pisa e il mare nel Medioevo," *Pisa crocevia di uomini, lingue e culture. L'età medievale*, Atti del Convegno di studio (Pisa, 25-27 ottobre 2007), edited by Lucia Battaglia Ricci and Roberta Cella, 11-24. Rome: 2009.
- . "L'incastellamento nel territorio pisano (secoli X-XIV)," in *Castelli e fortificazioni della Repubblica Pisana*, edited by Maria Luisa Ceccarelli Lemut and Massimo Dringoli, 3-31. Pisa: 2009.
- . "Ruggero, vescovo di Volterra e arcivescovo di Pisa," in *Studi di storia offerti a Michele Luzzati*, edited by Silio P. P. Scalfati and Alessandra Maria Veronese, 53-71. Pisa: 2009.
- . "Terre pubbliche e giurisdizione signorile nel comitatus di Pisa (secoli XI-XIII), in *La signoria rurale nel medioevo italiano*, edited by Amleto Spicciani and Cinzio Violante, 87-137. Pisa: 1998.
- . and Stefano Sodi, "Per una riconsiderazione dell'evangelizzazione della Tuscia: la chiesa pisana dalle origini all'età carolingia," *Rivista di Storia della Chiesa* 1, 1 (1996).
- . "Santi nei Mediterraneo dalla Sardegna a Pisa," *Bullettino Storico Pisano* 74 (2005): 206-207.
- Charles, K. K., E. Hurst, and N. Roussanov, "Conspicuous Consumption and Race," *The Quarterly Journal of Economics* 124, 2 (2009): 425-467.
- Charlier, P., et al., "The embalmed heart of the Richard the Lionheart (A.D. 1199): a Biological and Anthropological Analysis," *Scientific Reports* 3, 1296 (2013): 1-6.
- Cheyette, Frederick. *Ermengard of Narbonne and the World of the Troubadours*, Ithaca and London: 2001.
- Chevedden, Paul. E. "A Crusade from the First: The Norman Conquest of Islamic Sicily, 1060-91." *Al-Masāq* 22, 2 (2010): 191-225.
- Chiarelli, Luca. *A History of Muslim Sicily*. Malta: 2011.
- Christys, Anne. "The queen of the Franks offers gifts to the caliph al-Muktafi," in *The Languages of Gift in the Early Middle Ages*, edited by Wendy Davies and Paul Fouracre, 149–170. Cambridge: 2010.
- Ciccone, Gaetano. "Famiglie di titolo comitale nel territorio di Livorno e Porto Pisano." *Bollettino Storico Pisano* 57 (1988): 117-156.
- Citarella, A. "The relations of Amalfi with the Arab World before the crusades," *Speculum* 42, 2 (1967): 299-312.
- . "Scambi commerciali fra l'Egitto e Amalfi in un documento inedito della Geniza di Cairo," *Archivio Storico per le Province Napoletane* 10 (1970), 3–11.
- . "Patterns in Medieval Trade: The Commerce of Amalfi before the Crusades," *The Journal of Economic History* 28, 4 (1968): 531–555.
- Clark, A. E., Paul Frijters and Michael A. Shields, "Relative Income, Happiness, and Utility: An Explanation for the Easterlin Paradox and Other Puzzles," *Journal of Economic Literature*, 46, 1 (2008): 95-144.
- Cohen, H. J., "The Economic Background and the Secular Occupations of Muslim Jurisprudents and Traditionalists in the Classical Period of Islam," *JESHO* 13 (1970): 299-312.
- Cole, P. J., "Religious Pollution in Crusade Documents," in *Crusaders and Muslims in Twelfth century Syria*, edited by Maya Shatzmiller, 84-111. Leiden: 1993.

- Collins, Roger. *Caliphs and Kings: Spain, 796-1031*, Oxford: 2012.
- Conant, Kenneth J., *The Early Architectural History of the Cathedral of Santiago de Compostela*. Cambridge, MA: 1936.
- . with Henry Willard, “Arch and Vault in Romanesque Architecture.” *Viator* 2 (1971): 203-210.
- Connor, Carolyn L. *Art and Miracles in Medieval Byzantium: The Crypt at Hosios Loukas and its Frescoes*. Princeton: 1991.
- Connor, Carolyn L., and W. Robert. *The Life and Miracles of St. Luke*. Brookline: 1994.
- Constable, Olivia Rennie. *Housing the Stranger in the Mediterranean World*, Cambridge: 2003.
- Contadini, Anna. “Translocation and Transformation: Some Middle Eastern Objects in Europe,” in *The Power of Things and the Flow of Cultural Transformations. Art and Culture between Europe and Asia*, edited by Lieselotte E. Saurma-Jeltsch and Anja Eisenbeiß, 42–64. Berlin: 2010.
- . “Beasts that roared: the Pisa Griffin and the New York Lion,” in *From Cairo to Kabul: Afghan and Islamic Studies presented to Ralph Pinder-Wilson*, edited by W. Ball and L. Harrow, 65-83, London: 2002.
- Cormack, R., and M. Vassilaki, et al. *Byzantium: 330-1453* [exhibition catalogue, Royal Academy 2008], London: 2008.
- Cowdrey, Herbert E. J., “The Mahdia Campaign of 1087,” *English Historical Review* 92, 362 (1977): 1-29.
- Creswell, Keppel Archibald C. *Muslim Architecture of Egypt. I. Ikhshids and Fatimids (A.D. 959-1171)*. Oxford: 1952.
- Creutz, Rudolf. “Die Ehrenrettung Konstantins von Afrika,” *Studien und Mitteilungen zur Geschichte des Benediktiner-Ordens und seiner Zweige* 49 (1931): 25-44.
- Crill, Rosemary. “Visual Responses: Depicting Europeans in South Asia.” In *Encounters: The Meeting of Asia and Europe 1500-1800*, edited by Anna Jackson and Amin Jaffer. London: 2004.
- Cristiani, Emilio. *Nobilta e popolo nel comune di Pisa dalle origini del podestariato alla signoria dei Donoratico*. Naples: 1962.
- Crooke, William. “Der guote Gêrhart: The power of mobility in the medieval Mediterranean.” *postmedieval: a journal of medieval cultural studies* 4 (2013): 163–176.
- Crossley, Paul. “Medieval Architecture and Meaning: The Limits of Iconography.” *The Burlington Magazine* 130, 1019 (1988): 116-121.
- Cutler, Anthony. “Parallel Universes of Arab and Byzantine Art,” in *L'Égypte Fatimide, son art et son histoire. Actes du colloque organisé à Paris les 28, 29 et 30 mai 1998*, edited by M. Barrucand, 635-648, Paris: 1999.
- . “The Enduring Present” Gifts in Medieval Islam and Byzantium,” in *Gifts of the Sultan. The Arts of Giving at the Islamic Courts*, edited by L. Komaroff, 79-90. New Haven and London: 2011.
- . “Byzantine Art and the North: Meditations on the Notion of Influence.” In *Byzantium: Identity, Image, Influence. Major Papers, XIXth International Conference of Byzantine Studies, University of Copenhagen, 18-14 August, 1996*, 169-182.
- Czaja-Szewczak, Barbara. “Textiles from Naqlun, 2004,” *Polish Archaeology in the Mediterranean* 16 (2004): 203-210.
- Dahmani, Saïd. “Le port de Bûna au moyen âge.” In *Afrique du nord antique et médiéval. Spectacles, vie portuaire, religions. Actes de Ve Colloque International sur l'histoire et l'archéologie de l'Afrique du nord. Avignon, 1990*. Paris: 1992.
- Dajani-Shakeel, Hadia. “Diplomatic Relations between Muslim and Frankish Rulers, 1097-1153,” in *Crusaders and Muslims in Twelfth century Syria*, edited by Maya Shatzmiller, 190-215. Leiden: 1993.
- Davies, Glyn, and Kirstin Kennedy. *Medieval and Renaissance Art. People and Possessions*. London: 2009.
- Davis-Secord, Sarah. *Between Three Worlds: Sicily on the Frontier of Byzantium, Islam, and Latin Christendom, Sixth through Twelfth Centuries*, forthcoming.
- . “Muslims in Norman Sicily: The Evidence of Imām Al-Māzarī’s Fatwās,” *Mediterranean Studies* 16 (2007): 46-66.
- Déléry, Claire. “Using *Cuerda Seca* Ceramics as a Historical Source to Evaluate Trade and Cultural Relations between Christian Ruled Lands and Al-Andalus, from the Tenth to Thirteenth Centuries,” *Al-Masaq* 21, 1 (2009): 31–58.

- De Carthage à Kairouan* (exhibition catalogue), Paris: 1982.
- Dietrich, Albert. "Lubân." in *Encyclopédie de l'Islam* II/5. Leiden: 1985.
- Digby, Kenelm H. *Mores Catholici, or Ages of Faith*. New York: 1894.
- Dimand, Maurice S. "An Egypto-Arabic Panel with Mosaic Decoration." *The Metropolitan Museum of Art Bulletin* 33, 3 (Mar., 1938): 78-79.
- Dionisotti Carlo, and Cecil Grayson. *Early Italian Texts*. Oxford: 1965.
- Dodds, Jerrilyn. *Architecture and Ideology in Early Islamic Spain*. University Park: 1990.
- . "Remembering the Crusades in the Fabric of Buildings," in *Remembering the Crusades. Myth, Image, and Identity*, edited by N. Paul and S. Yeager, 99-124. Baltimore: 2012.
- . "Mudejar Tradition and the Synagogues of Medieval Spain: Cultural Identity and Cultural Hegemony," in *Convivencia. Jews, Muslims, and Christians in Medieval Spain*, edited by V. B. Mann, T. F. Glick, and J. D. Dodds, 113-131. New York: 1992.
- Donkin, Robin A. *Dragon's Brain Perfume: A Historical Geography of Camphor*. Leiden: 1999.
- Drory, Joseph. "Some Observations during a Visit to Palestine by Ibn al-'Arabi of Seville in 1092-1095." *Crusades* 3 (2004): 101-124.
- Duby, George. *Hommes et structures du Moyen Age* Paris: 1973.
- Dümmler, Ernst. "Gedichte aus Ivrea," *Zeitschrift für deutsches Altertum* 14 (1869): 245-65.
- Edwards, R. R., "Cosmopolitan Imaginaries," in *Cosmopolitanism and the Middle Ages*, edited by John M. Ganim, 163-180. Palgrave: 2013.
- Dziedzic-Dzierzbicka, D., "Jewelry from Cemetery A at Naqlun," *Polish Archaeology in the Mediterranean* 17, (2007): 225-233.
- Anthony Eastmond. *Art and Identity in Thirteenth-Century Byzantium. Hagia Sophia and the Empire of Trebizond*, Aldershot: 2004.
- Ebitz, David. "Fatimid Style and Byzantine Model in a Venetian Ivory Carving Workshop." In *The Meeting of Two Worlds: Cultural Exchange between East and West during the Period of the Crusades*, edited by Vladimir P. Goss, 309-29. Ann Arbor: 1986.
- Eco, Umberto. "Reading Things." In *Travels in Hyperreality*, 183-217. New York and London: 1986.
- . "The Return of the Middle Ages." In *Travels in Hyperreality*, 61-85. New York and London: 1986.
- . "Function and Sign: the Semiotics of Architecture." In *Signs, Symbols and Architecture*, edited by Geoffrey Broadbent, Richard Bunt, and Charles Jencks, 11-69. Chichester: 1980.
- Edwards, Jeremy, and Sheilagh Ogilvie. "Contract enforcement, institutions, and social capital: the Maghribi traders reappraised," *The Economic History Review* 65, 2 (2012): 421-444.
- El Daly, Okasha. *Egyptology: The Missing Millennium. Ancient Egypt in Medieval Arabic Writings*. London: 2005.
- Elinson, Alexander E., "Loss written in stone: Ibn Shuhayd's *Ritha'* for Cordoba and its place in the Arabic elegiac tradition." In *Transforming Loss Into Beauty: Essays on Arabic Literature and Culture in Honor of Magda Al-Nowaihi*, edited by Marle Hammond and Dana Sajdi, 79-114. Cairo: 2008.
- Ellard, Gerald. *Ordination Anointing in the Latin Church before 1000 A.D.*, Cambridge: 1933.
- Ellenblum, Ronnie. *The Collapse of the Eastern Mediterranean: Climate Change and the Decline of the East, 950-1072*. Cambridge: 2012.
- Epstein, Stephen. *Genoa and the Genoese, 958-1528*, Chapel Hill: 1996.
- Ettinghausen, Richard. "Decorative Arts and Painting: their Character and Scope." In *The Legacy of Islam*, edited by Joseph Schacht and Clifford E. Bosworth, 274-82. Oxford: 1974.
- . "Early Realism in Islamic Art," in *Studi Orientalistiche in onore di Giorgio Levi della Vida*, vol.1, 25-73. 1956, 267-8. Reprinted in *ibid.*, *Islamic Art and Archaeology. Collected Papers*, ed. Myriam Rosen-Ayalon, Berlin: 1984.
- . and Oleg Grabar, *The Art and Architecture of Islam: 650-1250*. New York: 1987.
- Everett, Nick. "The Hagiography of Lombard Italy." *Hagiographica* vii (2000): 49-126.

- Fabiani, Paolo Antonello Mennucci and Cinzia Nenci, "Indagini Sui Paramenti Murari Esterni Del Duomo di Pisa: Rapporto Preliminare." In *Atti del I Congresso Nazionale di Archeologia Medievale (Pisa, 29-31 maggio 1997)*, edited by Sauro Gelichi, 449-455. Firenze: 1997.
- von Falkenhausen, Vera. "La circolazione monetaria nell'Italia meridione e nella Sicilia in epoca normanna secondo la documentazione di archivio." *Bollettino di Numismatica del Ministero per i Beni Culturali e Ambientali* 6-7 (1986): 55-79.
- . "Il commercio di Amalfi con Constantinopoli e il Levante nel secolo XII." In *Amalfi, Genova, Pisa e Venezia: Il commercio con Constantinopoli e il vicino oriente nel secolo XII*, edited by Onofrio Banti, 19-38. Pisa: 1998.
- Feldman, Marian H. *Diplomacy by Design. Luxury Arts and an 'International Style' in the Ancient Near East, 1400-1200 BCE*. Chicago: 2006.
- Fisher, Christopher B. "The Pisan Clergy and an Awakening of Historical Interest in a Medieval Commune." *Studies in Medieval and Renaissance History* 3 (1966): 143-219.
- Flood, Finbarr. *Objects of Translation: Material Culture and Medieval "Hindu-Muslim" Encounter*. Princeton: 2009.
- . "The Medieval Trophy as an Art Historical Trope: Coptic and Byzantine "Altars" in Islamic Contexts." *Muqarnas* 18 (2001): 41-72.
- . "Light in Stone. Commemoration of the Prophet in Umayyad Architecture." In *Bayt Al-Maqdis. Jerusalem and Early Islam*, edited by Jeremy Johns, 311-359. Oxford: 1999.
- . *The Great Mosque of Damascus: Studies on the Makings of an Umayyad Visual Culture*. Leiden: 2001.
- Folda, Jaroslav. "Crusader Art in the Twelfth Century: Reflections on Christian Multiculturalism in the Levant." In *Intercultural Contacts in the Medieval Mediterranean*, edited by Benjamin Arbel, 80-91. London: 1996.
- Foucault, Michael. *The Order of Things: An Archaeology of the Human Sciences*. London: 2002.
- Frantz-Murphy, Gladys. "A new interpretation of the economic history of medieval Egypt." *JESHO* 24, 3 (1981): 274-297.
- Frazer, Margaret E. "Church Doors and the Gates of Paradise: Byzantine Bronze Doors in Italy." *Dumbarton Oaks Papers* 27 (1973): 145-162.
- Freedman, Paul. *Out of the East: Spice and the Medieval Imagination*, New Haven: 2008.
- Frugoni, Chiara. *A Distant City: Images of Urban Experience in the Medieval World*. Translated by William McCuaig, Princeton: 1991.
- Gabrieli, Francesco, ed. *Arab Historians of the Crusades*. Berkeley and Los Angeles: 1969.
- . and Umberto Scerrato, *Gli Arabi in Italia: Cultura, Contatti E Tradizioni*, Milan: 1979
- Gajewski, Alexandra. "Stone Construction and Monastic Ideals: From Jotsald of Cluny to Peter the Chanter." In *Ex Quadris Lapidibus. La pierre et sa mise en oeuvre dans l'art médiéval. Mélanges d'histoire de l'art offerts à Eliane Vergnolle*, edited by Yves Gallet, 35-49. Turnhout, 2011.
- Gannal, Jean-Nicolas. *History of Embalming: And of Preparations in Anatomy, Pathology, and Natural History; Including an Account of a New Process for Embalming*. Translated by R. Harlan, Philadelphia: 1840.
- García Gómez, Emilio. "Algunas precisiones sobre la ruina de la Córdoba Umayyad." *Al-Andalus* 12 (1947): 267-293.
- Garton, Tessa. *Early Romanesque Sculpture in Apulia*. New York and London: 1984.
- . "Islamic Elements in Early Romanesque Sculpture in Apulia." *Art and Archaeology Research Papers* 4 (1973): 100-116.
- Garzella, Gabriella. "Tra città e territorio: monasteri pisani medievali. Materiali per la ricerca." In *Monasteri e castelli fra X e XII secolo. Il caso di San Michele alla Verruca e le altre ricerche storico-archeologiche nella Toscana occidentale. Atti del Convegno di studi (Uliveto Terme, Parco delle Terme-Vicopisano, 17-18 novembre 2000)*, edited by Riccardo Francovich, and Sauro Gelichi, 69-78. Firenze: 2003.
- . *Pisa com'era. Topografia e insediamento dall'impianto tardoromano alla città murata dell secolo XII*. Naples: 1990.
- Gattiglia, Gabriele. *Pisa nel Medioevo. Produzione, società, urbanistica: una lettura archeologica*. Ghezzano (PI): 2011.
- Gaultier-Dalche, Patrick, ed. *Carte marine et portulan au XIIIe siècle. Le Liber de existencia riveriarum et forma maris nostri Mediterranei (Pise, circa 1200)*. Rome: 1995.
- Gearhart, Heidi C. "Work and Prayer in the Fiery Furnace: The Three Hebrews on the Censer of Reiner in Lille and a case for Artistic Labor." *Studies in Iconography* 34 (2013): 103-132.

- Geary, Paul J. *Phantoms of Remembrance*. Princeton: 1994.
- Gerstel, Sharon E. J. "Ceramic icons from Medieval Constantinople." In *A Lost Art Rediscovered: The Architectural Ceramics of Byzantium*, edited by Sharon E. J. Gerstel, and Julie A. Lauffenburger, 43-65. University Park: 2001.
- Gil, Mosche. "The Jewish Merchants in the Light of Eleventh century Geniza Documents." *JESHO* 46, 3 (2003): 273-319.
- . *Jews in Islamic Countries in the Middle Ages*. Leiden: 2004.
- . "Shipping in the Mediterranean in the Eleventh Century A.D. as Reflected in Documents from the Cairo Geniza." *Journal of Near Eastern Studies* 67, 4 (2008): 247-292.
- . "The Babylonian Yeshivot and the Maghrib in the Early Middle Ages." *Proceedings of the American Academy for Jewish Research* 57 (1990-91): 69-120.
- Gilsdorf, Sean. "Bishops in the Middle: Mediatorial Politics and the Episcopacy." In *The Bishop: Power and Piety at the First Millennium*, edited by S. Gilsdorf, 51-73. Munich: 2004.
- Giuliani, Gabriella. "Il monastero di San Michele alla Verruca: profilo delle vicende storiche." In *L'aratro e il calamo. Benedettini e Cistercensi sul Monte Pisano*, edited by Sauro Gelichi and Antonio Alberti, 11-34. S. Giuliano Terme: 2005.
- Glass, Dorothy F. *The Sculpture of Reform in Northern Italy, c.1095-1130. History and Patronage of Romanesque Facades*. Farnham, U.K.: 2010.
- Glazer, Amihai, and Kai Konrad, "A Signaling Explanation for Private Charity." *American Economic Review*, 86 (1996): 1019-1028.
- Gledhill, Michael. "Peter Damian and 'the World': Asceticism, Reform and Society in Eleventh century Italy," PhD diss, Department of History, King's College London, 2012.
- Glick, Thomas. *Islamic & Christian Spain in the Early Middle Ages*, Princeton: 1979.
- . and Oriol Pi-Sunyer, "Acculturation as an Explanatory Concept in Spanish History," *Comparative Studies in Society and History* 11, 2 (1969): 136-154.
- Godlewski, Włodzimierz. "Excavating the ancient monastery at Naqlun." In *Christianity and Monasticism in the Fayum Oasis*, edited by Gawdat Gabra, 171-82. Cairo-New York: 2005.
- Goitein, Shelomo Dov. *Letters of Medieval Jewish Traders. Translated from the Arabic with Introductions and Notes*, Princeton: 1973.
- . "The Unity of the Mediterranean World in the 'Middle' Middle Ages." In S. D. Goitein, *Studies in Islamic History and Institutions*. Leiden: 1968, 296-307. [repr. of *Studia Islamica* 12 (1960): 29-42].
- . *A Mediterranean Society. The Jewish Communities of the Arab World in the Documents of the Cairo Geniza. Volume 1: Economic Foundations*. Berkeley: 1967.
- . "Mediterranean Trade preceding the Crusades: Some Facts and Problems," *Diogenes* 15, 59 (1967): 47-62.
- . "The Exchange Rate of Gold and Silver Money in Fatimid and Ayyubid Times: A Preliminary Study of the Relevant Geniza Material," *Journal of the Economic and Social History of the Orient* 8, 1 (1965): 1-46.
- . "Main Industries of the Mediterranean Area as Reflected in the Records of the Cairo Geniza," *JESHO* 4, 2 (1961): 168-97.
- Goldberg, Jessica. *Trade and Institutions in the Medieval Mediterranean: The Geniza Merchants and Their Business World*. Cambridge: 2012.
- . "On Reading Goitein's *A Mediterranean Society*: A View from Economic History." *Mediterranean Historical Review* 26, 2 (2011): 179-180.
- Golnella, Giacomo. *The History of Early Medieval Towns of North and Central Italy: The Contribution of Archaeological Evidence*, Oxford: 2008.
- Golvin, Lucien. "L'Éclairage des mosquées en occident musulman," *Quaderni di Studi Arabi*, 5-6 (1987-8): 303-22.
- . "La palais de Ziri à Achir [dixième siècle J.C.]," *Ars Orientalis* 6 (1966): 47-76.
- . "Note sur les couples de la Grande Mosquée al-Zaytuna de Tunis." *Revue de l'Occident musulman et de la Méditerranée* 2, 2 (1966): 95-109.
- Gondonneau, Alexandra, and Maria Filomena Guerra. "The Circulation of Precious Metals in the Arab Empire: The Case of the Near and Middle East." *Archaeometry* 44 (2002): 586-88.
- Gottheil, Richard James Horatio. "A fragment on Pharmacy from the Cairo Genizah," *Journal of the Royal Asiatic Society of Great Britain and Ireland* 1 (1935): 123-144.
- Gousset, Marie-Thérèse. "Un Aspect du symbolisme des encensoirs Romains: la Jérusalem céleste." *Cahiers archéologiques* 30 (1982): 81-82 and 92-94.

- Grabar, Andre. "Le Succes des arts orientaux a la cour byzantine sous les macedoniens." *Munchner Jahrbuch der bildenden Kunst* 3 (1951): 32-60.
- Grabar, Oleg. "Trade with the East and 'Luxury Arts' in the West." In *Islamic Visual Culture, 1100-1800: Constructing the Study of Islamic Art*, 43-50. Aldershot: 2006.
- . "The Shared Culture of Objects." In *Byzantine Court Culture from 829 to 1204*, edited by Henry Maguire, 115-129. Washington, D.C.: 1997.
- . "The Iconography of Islamic Architecture." In *Early Islamic Art, 650-1100, volume I, Constructing the Study of Islamic Art*. Hampshire: 2005. First published in Priscilla P. Soucek, ed., *Content and Context of Visual Arts in the Islamic World*. University Park and London, 1988, 51-65.
- . *The Mediation of Ornament*, Princeton: 1989.
- Green, Monica. "The Recreation of the *Pantegni Practica* VIII." In *Constantine the African and 'Alī Ibn Al-'Abbās Al-Mağūsī: The Pantegni and Related Texts*, edited by Charles S. F. Burnett, 121-160. Leiden: 1994.
- . "Constantinus Africanus and the Conflict between Religion and Science." In *The Human Embryo: Aristotle and the Arabic and European Traditions*, edited by Gordon Reginald Dunstan, 47-69. Exeter: 1990.
- Green, Rosalie, Michael Evans, Christine Bischoff, and Michael Curschmann, ed. *The Hortus Deliciarum of Herrad of Hohenbourg (Landsberg, 1176-96): A Reconstruction*. London: 1979.
- Greenhalgh, Michael. *Constantinople to Córdoba: dismantling ancient architecture in the East, North Africa and Islamic Spain*. Leiden and Boston: 2012.
- . *Marble Past, Monumental Present: Building With Antiquities in the Mediaeval Mediterranean*. Leiden: 2009.
- Grégoire, Réginald. "Aspetti culturali della letteratura agiografica pisana." In *Lucca e la Tuscia nell'alto medio evo, Atti del V Congresso internazionale di studi sull'alto medioevo (Lucca, 3-7 ottobre 1971)*, 569-625. Spoleto: 1973.
- Greif, Avner. "The Maghribi Traders: A Reappraisal?" *The Economic History Review* 65, 2 (2012): 445-469.
- Grierson, Philip. "The Salernitan coinage of Gisulf II (1057-1077 and Robert Guiscard (1077-1085)." In Philip Grierson, *Later Medieval Numismatics (11th to 16th Centuries)*, London: 1979.
- . "The debasement of the bezant in the eleventh century." *Byzantinische Zeitschrift* 47 (1954): 379-394.
- . *Byzantine Coins*. Berkeley and Los Angeles: 1982.
- Grierson, Philip, and Lucia Travaini. *Medieval European Coinage: Volume 14, South Italy, Sicily, Sardinia: With a Catalogue of the Coins in the Fitzwilliam Museum, Cambridge*. Cambridge: 1998.
- Guenée, Bernard. *Histoire et culture historique dans l'Occident médiéval*. Paris: 1980.
- Guérin, Sarah M., "Forgotten Routes? Italy, Ifrīqiya and the trans-Saharan Ivory Trade." *Al-Masaq* 25, 1 (2013): 70-91.
- Guichard, Pierre. *L'Espagne et la Sicile musulmanes aux XIe et XIIe siècle*. Lyon: 1991
- , and Dennis Menjot. *Pays d'Islam et monde latin, Xe-XIIe siècle. Textes et documents*. Lyon: 2000.
- Halevi, Leor. "Bernard, Explorer of the Muslim Lake: a Pilgrimage From Rome To Jerusalem, 867." *Medieval Encounters* 4, 1 (1998): 24-50.
- Halm, Heinz. *The Empire of the Mahdi. The Rise of the Fatimids*. Translated by Michael Bonner. Leiden: 1996.
- Hamilton, Bernard. "Our Lady of Saidnaiya: an Orthodox shrine revered by Muslims and Knights Templar at the time of the crusades." In *The Holy Land, Holy Lands, and Christian History*, edited by Robert N. Swanson, 207-15. Woodbridge: 2000.
- Hamilton, Sarah. *The Practice of Penance, 900-1050*. Woodbridge: 2001.
- Handler, Andrew. *The Zirids of Granada*. Coral Gables, FL: 1974.
- Hassan, Fekri A. "Extreme Nile floods and famines in Medieval Egypt (AD 930-1500) and their climatic implications." *Quaternary International* (2007): 173-174.
- Hay, David J. *The Military Leadership of Matilda of Canossa, 1046-1115*. Manchester: 2008.
- Hazard, Harry W. *The Numismatic History of North Africa*. New York: 1952.
- Heck, Gene W., *Charlemagne, Muhammad, and the Arab Roots of Capitalism*. Berlin: 2006.
- . *Medieval Muslim Money*. Riyadh: 2004.
- Herlihy, David. "Pisan coinage and the monetary history of Tuscany, 1150-1250." In *Le zecche minori Toscane fino al XIV secolo. Atti del III Convegno Internazionale di Studi, Pistoia 16-19 Settembre 1967*, 169-192. Pistoia: 1967.
- . "Treasure hoards in the Italian economy." *Economic History Review*, 2nd series, 10 (1957-8): 1-14.

- . “The History of the Rural Seigneurie in Italy, 751–1200.” *Agricultural History* 33, 2 (1959): 58–71.
- . *Pisa in the Early Renaissance*. New Haven: 1958.
- Heyd, William. *Historire du commerce du Levant au Moyen Age*. Translated by Maxime Furcy-Raynaud. London: 1978.
- Heywood, William. *History of Pisa*. Pisa: 1921.
- Hilsdale, Cecily. “Gift.” *Studies in Iconography* 33 (2012): 171-182.
- Hilton, Michael. *The Christian Effect on Jewish Life*. London: 1994.
- Hobart, Michelle. *Sardinian Medieval Churches and their Bacini: Architecture embedded with Archaeology*. New York Univ. Ph.D. thesis, 2006.
- . “Merchants, Monks, and medieval Sardinian architecture.” In *Studies in the Archaeology of the Medieval Mediterranean*, edited by James G. Schryver, 93-114. Leiden: 2010.
- Hobsbawm, Eric, and Terence Ranger, eds. *The Invention of Tradition*. Cambridge: 1983.
- Hodgson, Marshall. *The Venture of Islam. Conscience and History in a World Civilization*. 3 vols. Chicago: 1974.
- Hoffman, Eva R. “Pathways of Portability: Islamic and Christian Interchange from the Tenth to the Twelfth Century.” *Art History* 24, 1 (2001): 17-50.
- . “Christian-Islamic Encounters on Thirteenth-Century Ayyubid Metalwork: Local Culture, Authenticity, and Memory.” *Gesta* 43 (2004): 129-42.
- Hoffman, Hartmut. *Buchkunst und Königtum im ottonischen und frühsalischen Reich, Textband & Tafelband*. Stuttgart, 1986.
- Hofmeister, Adolf. “Der Sermo de inventione sancti Kataldi.” *Münchener Museum für Philologie des Mittelalters und der Renaissance* 4 (1924): 101-114.
- Hopley, Russell. “Aspects of Trade in the Western Mediterranean During the Eleventh and Twelfth Centuries: Perspectives from Islamic Fatwā’s and State Correspondence.” *Mediaevalia* 32 (2010): 5–42.
- Horden, Peregrine, and Nicolas Purcell. *The Corrupting Sea. A Study of Mediterranean History*. Oxford: 2000.
- Horden, Peregrine. “What’s Wrong with Early Medieval Medicine?” *Social History of Medicine* 24, 1 (2009): 5 – 25.
- Housley, Norman. “The Crusades and Islam.” *Medieval Encounters* 13 (2007): 189-208.
- Howard, Deborah. *Venice & the East: The Impact of the Islamic World on Venetian Architecture 1100–1500*. New Haven: 2000.
- . “Venice as Gateway to the Holy Land: Pilgrims as Agents of Transmission.” In *Architecture and Pilgrimage, 1000-1500. Southern Europe and Beyond*, edited by Paul Davies, Deborah Howard, and Wendy Pullan, 87-113. Farnham, UK: 2013.
- Hunt, Lucy-Anne. “Art and Colonialism: The Mosaics of the Church of the Nativity in Bethlehem (1169) and the Problem of ‘Crusader’ Art.” *Dumbarton Oaks Papers* 45 (1991): 69-85.
- Hunt, Noreen. *Cluny under Saint Hugh, 1049-1109*. London: 1967.
- Hysell, Jesse. “Pacem portantes advenerint: Ambivalent images of Muslims in the chronicles of Norman Italy.” *Al-Masaq* 24, 2 (2012): 139-156.
- Ibn Idhari al-Marrakushi, Muhammad. *Histoire de l’Afrique et de l’Espagne*. 2 vols. Leiden: 1848-51.
- Idris, Hady Roger. *La Berbérie orientale sous les Zirides*. Paris: 1962.
- Immonen, Teemu. “A Saint As A Mediator Between A Bishop And His Flock: The Cult Of Saint Bononius In The Diocese Of Vercelli Under Bishop Arderic (1026/7–1044).” *Viator* 39, 2 (2008): 65–92.
- Ireland, Norman J. “On Limiting the Market for Status Signals.” *Journal of Public Economics*, 53 (1994): 91-110.
- Isabella, Giovanni. “I giorni del carisma. Incoronazioni regie e imperiali dei secoli X, XI e XII.” In *Il carisma nel secolo XI. Genesi, forme e dinamiche istituzionali, Atti del XXVII Convegno del Centro Studi Avellaniti (Fonte Avellana, 30-31 agosto 2005)*. Negarine di S. Pietro in Cariano: 2006.
- Jackson, Julian. *What to Observe, or, The Traveller’s Remembrancer*. London: 1841.
- Jackson, Richard A., ed. *Ordines Coronationis Franciae*. Philadelphia: 1995.

- Jacquart, Danielle. "Le sens donne par Constantin l'Africain a son oeuvre: les chapitres introductifs en arabe et en latin," in *Constantine the African and 'Alī Ibn Al-'Abbās Al-Mağūsī: The Pantegni and Related Texts*, edited by Charles S. F. Burnett, 71-78. Leiden: 1994.
- . and Françoise Micheau, *La Médecine arabe et l'occident médiéval*. Paris: 1990.
- . and Agostino Paravicini Bagliani, eds. *La scuola medica Salernitana. Gli autori e i testi*. Florence: 2007.
- Jacoby, David. "Venice and the Venetian Jews in the Eastern Mediterranean." In *Gli Ebrei a Venezia, secoli XIV–XVIII, Atti del Convegno Internazionale organizzato dall'Istituto di Storia della Società e dello Stato Veneziano della Fondazione Giorgio Cini, Venezia, 5–10 giugno 1983*, edited by Gaetano Cozzi, 29-58. Venice: 1987.
- Jaeger, Stephan C., ed. *Magnificence and the Sublime in Medieval Aesthetics: Art, Architecture, Literature, Music*, New York: 2010.
- James, Clive. *Cultural Amnesia*, New York: 2007.
- Jamieson, Alan G. *Faith and Sword. A Short History of Christian-Muslim Conflict*. London: 2006.
- Jamison, Evelyn. "Pisan Churches' on the Via Traiana." *The Journal of the British Archaeological Association* (1930): 163-188.
- Jansen, Katherine L., Joanna Drell, and Francis Andrews, eds. *Medieval Italy. Texts in Translation*. Philadelphia: 2009.
- Jenkins, Marilyn. "Islamic Spain. Al-Andalus: Crucible of the Mediterranean." In *The Art of Medieval Spain A.D. 500-1200*, 73-112. New York: 1993.
- Jean-Paul II, Pope of Rome, *Message to the faithful of Islam at the end of the month of Ramadan*, April 3, 1991 (<http://www.usccb.org/beliefs-and-teachings/ecumenical-and-interreligious/interreligious/islam/vatican-council-and-papal-statements-on-islam.cfm>). (Accessed July 19, 2014).
- Johns, Jeremy. "The Boys from Messoiuso: Muslim *jizya*-payers in Christian Sicily." In *Islamic Reflections, Arabic Musings: Studies in Honor of Professor Alan Jones*, edited by Robert G. Hoyland and Paul F. Kennedy, 243–55. Oxford: 2004.
- . "Arabic Sources for Sicily." In *Byzantines and Crusaders in Non-Greek Sources 1025-1204*, edited by Mary Whitby, 341-360. Oxford: 2007.
- . "Norman Kings of Sicily and the Fatimid Caliphate." *Anglo Norman Studies* 15 (1992): 133-59.
- and Nadia Jamil, "Signs of the Times: Arabic Signatures as a Measure of Acculturation in Norman Sicily." *Muqarnas* 21 (2004): 181-192.
- . "I titoli arabi dei sovrani normanni di Sicilia." *Bollettino di Numismatica* 6/7 (1986): 11-54.
- Joncheray, Jean-Pierre. "L'épave Sarrasine Agay A. Campagne 1996." *Cahiers d'archéologie subaquatique* 16 (2007): 223–48.
- . "L'épave Sarrasine (Haut Moyen-Âge) de Bataiguiet, ou Batéguier, opérations archéologiques de 1973 et 1974." *Cahiers d'archéologie subaquatique* 16 (2007): 131–222.
- Jones, Philip. *The Italian City State. From Commune to Signoria*. Oxford: 1997.
- Jordan, William C. *Europe in the High Middle Ages*. New York: 2001.
- Jotischky, Andrew. "The Holy Sepulchre and the Origins of the first crusade." *Crusades* 7 (2008): 35-57.
- Karlin-Hayter, Patricia. "Arethas' letter to the Emir at Damascus." *Byzantion* 29-30 (1959-60): 281-202.
- Kazhdan, Alexander. "The Image of the Medical Doctor in Byzantine Literature of the Tenth to Twelfth Centuries." *Dumbarton Oaks Papers*, 38 (1984): 43-51.
- Keck, David. *Angels and Angelology in the Middle Ages*. Oxford: 1998.
- King, Anya. "Tibetan Musk and Medieval Arab Perfumery," in *Islam and Tibet. Interactions along the Musk Routes*, edited by Anna Akasoy, Charles Burnett, and Ronit Yoeli-Tlalim. Aldershot: 2010.
- . *The Musk Trade and the Near East in the Early Medieval Period*, Unpublished PhD diss. Indiana University: 2007
- Kingsley, Sean. "Mapping trade by shipwrecks." In *Byzantine trade, 4th–twelfth centuries: the archaeology of local, regional and international exchange; papers of the thirty-eighth Spring Symposium of Byzantine Studies, St John's College, University of Oxford, March 2004*, edited by Marlia Mundell Mango, 31–36. Aldershot: 2009.
- Kedar, Benjamin Z. "The Jerusalem Massacre of 1099 in the Western Historiography of the Crusades." *Crusade* 3 (2004): 15-75.
- . "Convergences of Oriental Christian, Muslim and Frankish worshippers: the case of Saydnaya and the Knights Templar." In *The Crusades and the Military Orders: Expanding the Frontiers of Medieval Latin Christianity*, ed. Zsolt Hunyadi and József Laszlovszky, 89-100. Budapest: 2001.
- and Reuven Amitai. "Franks in the Eastern Mediterranean, 1047." In *Quel mar che la terra inghirlanda. In ricordo*

- di Marco Tangheroni, edited by Franco Cardini and Maria Luisa Ceccarelli Lemut, v.2, 465-468. Rome: 2007.
- Khalifa, Nouha. *Hardship and Deliverance in the Islamic Traditions. Theology and Spirituality in the Works of Al-Tanūkhī*. London and New York: 2010.
- Khan, Geoffrey. *Arabic Legal and Administrative Documents in the Cambridge Genizah Collections*. Oxford: 2006.
- Kieckhefer, Richard. *Magic in the Middle Ages*. Cambridge: 1989.
- Kinney, Dale. "Ancient Gems in the Middle Ages." In *Reuse Value. Spolia and Appropriation in Art and Architecture from Constantine to Sherrie Lavine*. Edited by Richard Brilliant and Dale Kinney, 97-120. Farnham, U.K., and Burlington, VT: 2011.
- . "The Concept of Spolia." In *A Companion to Medieval Art*, edited by Conrad Rudolph, 247-49. Oxford: 2006.
- Kinoshita, Sharon. "Animals and the Medieval Culture of Empire." In *Animal, Vegetable, Mineral: Ethics and Objects*, edited by J. J. Cohen, 37-65. Washington, DC: 2012.
- Kitzinger, Ernst. "The Byzantine Contribution to Western Art of the Twelfth and Thirteenth Centuries." *Dumbarton Oaks Papers* 20 (1966): 25-47.
- Kocabas, Ufuk. "The Yenikapı Byzantine-Era Shipwrecks, Istanbul, Turkey: a preliminary report and inventory of the 27 wrecks studied by Istanbul University." *The International Journal of Nautical Archaeology* 44, 1 (2015): 5-38.
- Kosto, Adam. J. *Making Agreements in Medieval Catalonia*. Cambridge: 2001.
- Krautheimer, Richard. "Introduction to an 'Iconography of Medieval Architecture.'" *Journal of the Warburg and Courtauld Institute* 5 (1942): 1-33.
- Krueger, Hilmar C. "The Routine of Commerce between Genoa and North-West Africa during the late Twelfth Century." *Mariner's Mirror* 19 (1933): 417-438.
- Kreutz, Barbara M. *Before the Normans*. Philadelphia: 1991.
- . "Ships, Shipping and the Implications of Change in the Early Medieval Mediterranean." *Viator* 7 (1976): 79-109.
- . "Ghost Ships and Phantom Cargoes: Reconstructing Early Amalfitan Trade." *Journal of Medieval History* 20 (1994): 347-57.
- Kuhn, Thomas. *The Structure of Scientific Revolutions*. Chicago: 1962.
- Kühnel, Ernst. *Die islamischen Elfenbeinskulpturen VIII-XIII Jahrhundert*. Berlin: 1971.
- . *Catalogue of Dated Tiraz Fabrics*. Washington, D.C.: 1952.
- . "Die sarazenischen Olifanthörner." *Jahrbuch der Berliner Museen* 1 (1959): 33-50.
- Laiou, Angeliki E. "Exchange and trade, seventh-twelfth centuries." In *The economic history of Byzantium from the seventh through the fifteenth century* II, edited by Angeliki E. Laiou, 697-770. Washington: 2002.
- Lane, Frederic C. "Venetian Seamen in the Nautical Revolution." In *Venezia e il Levante fino al sec. XV*, edited by Agostino Pertusi, vol.1, 403-429. Florence: 1973.
- Lapidge, Michael. *Anglo-Latin Literature, 600-899*. London and Rio Grando, OH: 1986.
- Larsson, Göran. *Ibn García's Shu'ūbiyya Letter: Ethnic and Theological Tensions in Medieval Al-Andalus*. Leiden: 2003.
- Laurent, Vitalien. *La Vita Retractata et les Miracles Posthumes de Saint Pierre d'Atroa*. Brussels: 1958.
- Lavedan, Pierre. *Représentation des villes dans l'art du Moyen Âge*. Paris: 1954.
- Leibenstein, Harvey. "Bandwagon, Snob, and Veblen Effects in the Theory of Consumers' Demand." *The Quarterly Journal of Economics*, 64, 2 (May, 1950): 183-207.
- Leirfall, Jon. *West over Sea*. Sandwick, U.K.: 1979.
- Lemonnier, Pierre, ed. *Technological Choices: Transformation in Material Cultures Since the Neolithic*. London and New York: 1993.
- Le Roy, G. A. *Sur un mode d'embaumement mercurial à l'époque médiévale... Note présentée à l'Académie des Sciences de Paris, à la séance du 16 décembre 1918*. Paris: 1919.

- Lev, Efraim. "Drugs held and sold by pharmacists of the Jewish community of medieval (11th–14th centuries) Cairo according to lists of *materia medica* found at the Taylor–Schechter Genizah collection, Cambridge." *Journal of Ethnopharmacology* 110 (2007): 275–293.
- Lev, Yaacov. "Tinnīs: An Industrial Medieval Town." In *L'Égypte Fatimide. Son art et son histoire*, edited by Marianne Barrucand, 83–96. Paris: 1999.
- . *State and Society in Fatimid Egypt*. New York and Leiden: 1991.
- . "A Mediterranean Encounter: the Fatimids and Europe, Tenth to Twelfth Centuries." In *Shipping, Trade, and Crusade in the Medieval Mediterranean. Studies in Honour of John Pryor*, edited by Ruthy Gertwagen and Elizabeth Jefferys, 131–156. Farnham, U.K., and Burlington, VT: 2012.
- Levey, Martin. "Medieval Arabic Bookmaking and its Relation to Early Chemistry and Pharmacology." *Transactions of the American Philosophical Society, New Series* 52, 4 (1962): 1-79.
- Levtzion, Nehemia. "Ibn Hawqal, the Cheque, and Awdaghost." *The Journal of African History* 9, 2, (1968): 223–33.
- Lewicki, Tadeusz. "Une langue romane oubliée de l'Afrique du Nord: observations d'un arabisant." *Rocznik orientalistyczny* 17 (1951-52): 415-80.
- Lewis, Bernard. *Race and Slavery in the Middle East. A Historical Inquiry*. Oxford and New York: 1990.
- . *The Muslim Discovery of Europe*. New York: 1982.
- Leyser, Karl. "The Ottonians and Wessex," In Karl Leyser, *Communications and Power in Medieval Europe: The Carolingian and Ottonian Centuries*, edited by Timothy Reuter, 73-104. London and Rio Grande: 1994.
- Lidov, Alexis. "'Image-Paradigms' as a Category of Mediterranean Visual Culture." In *Crossing Cultures: Conflict, Migration and Convergence*, edited by J. Anderson, 148-153. Melbourne: 2009.
- Lombard, Maurice. *The Golden Age of Islam*. New York and Oxford: 1975.
- Lopez, Robert S. and Irving Raymond, *Medieval Trade in the Mediterranean World*. London: 1955.
- Loré, Vito. "L'aristocrazia salernitana nell'XI secolo." In *Salerno nel XII secolo. Istituzioni, società, cultura, Atti del congresso Internazionale, Raito di Vietri sul Mare (Salerno), 16-20 giugno 1999*, edited by Paulo Delogu and Paulo Peduto, 61-102. Salerno: 2004.
- Loud, Graham. *Church and Society in the Norman Principality of Capua, 1058–1197*. Oxford: 1985.
- Louhichi, Adnan. "La mosaïque de Mahdia: contexte et interprétation." *Africa* 20 (2004): 143–66.
- Lowick, Nick. "Seljūq coins." *Numismatic Chronicle*, 7th series, 10 (1970): 241–251.
- . *Siraf XV: The Coins and Monumental Inscriptions*. London: 1985.
- Lucherini, Vinni. "Rome, Naples et le rôle du Mont-Cassin: des politiques architecturales entre la papauté et des puissants évêques locaux." In *La cathédrale romane. Architecture, espaces, circulation = Les cahiers de Saint-Michel-de-Cuxa* 44 (2013):123-139.
- Mack, Rosamond E. *Bazaar to Piazza. Islamic Trade and Italian Art, 1300-1600*. Berkeley: 2002.
- Maffei, Raffaello. *Storia Volterrana*. Volterra: 1887.
- Maslow, Abraham H., "A Theory of Human Motivation." *Psychological Review* 50, 4 (1943): 370–96.
- Maguire, Henry. "Pilgrimage through Pictures in Medieval Byzantine Churches." In *Architecture and pilgrimage, 1000-1500: Southern Europe and beyond*, edited by Paul Davies, Deborah Howard and Wendy Pullan, 21-38. Farnham: 2013.
- Mahfoudh, Faouzi. *Architecture et urbanisme en Ifriqiya médiévale*. Tunis: 2003.
- Mansel, Philip. *Dressed to Rule. Royal and Court Costume from Louis XIV to Elizabeth II*. New Haven and London: 2005.
- Manzi, Saverio. "Amalfitani funzionari del Regno di Napoli dal periodo normanno alla fine dell XIII secolo." *Rassegna del Centro di cultura e storia amalfitana* 7 (1984): 87-114.
- Mason, Robert B. "New looks at old pots: results of recent multidisciplinary studies of glazed ceramics from the Islamic world." *Muqarnas* 12 (1995): 1-10.
- Maitland, Samuel Roffey. *The Dark Ages*, London: 1890.
- al-Mallah, Majd Yaser. *In the Shadows of the Master*. Highclere, UK: 2012.

- Man, John. *Atlas of the Year 1000*. Cambridge, MA: 2001.
- Mango, Cyril. *The Art of the Byzantine Empire 312-1453*. Toronto: 1986.
- Marshall, Christopher J. "The Crusading Motivation of the Italian City Republics in the Latin East, c. 1096–1104." *Rivista di Bizantinistica* 1 (1991).
- Mathews, Karen Rose. "Other Peoples' Dishes: Islamic Bacini on Eleventh century Churches in Pisa." *Gesta* 53, 1 (2014): 5-23.
- . "Plunder of war or objects of trade? The reuse and reception of Andalusí objects in medieval Pisa." *Journal of Medieval Iberian Studies* 4, 2 (2012): 233–258.
- Mayr-Harting, H. *Church and Cosmos in Early Ottonian Germany*. Oxford: 2007.
- . *Ottonian Book Illumination: An Historical Study*. London: 1991.
- McCormick, Michael. *Origins of the European Economy. Communications and Culture A.D. 300-900*. Cambridge: 2001.
- Menache, Sophie. "Papal Attempts at a Commercial Boycott of the Muslims in the Crusader Period." *Journal of Ecclesiastical History* 63, 2, (2012): 236-259.
- Menocal, Marie Rosa. *The Arabic role in Medieval Literary History: a Forgotten Heritage*. Philadelphia: 1987.
- Metcalfe, Alex. *Muslims and Christians in Norman Sicily. Arabic-Speakers and the End of Islam*. London and New York: 2003.
- Metcalf, David M. *Coinage of the Crusades and the Latin East*. London: 1983.
- Miller, K. A. "Doctors without Borders. Medicine in the Medieval Mediterranean World." In *History as Prelude*, edited by Joseph V. Montville, 109-130. Plymouth: 2011.
- Miller, Maureen. *The Bishop's Palace: Architecture and Authority in Medieval Italy*. Ithaca and London: 2000.
- . *Clothing the Clergy. Virtue and Power in Medieval Europe, c.800-1200*. Ithaca and London: 2014.
- . *The Formation of a Medieval Church. Ecclesiastical Change in Verona, 950-1150*. Ithaca: 1993.
- Millar, Ashley Eva. "Your beggarly commerce! Enlightenment European views of the China trade." In *Encountering Otherness. Diversities and Transcultural Experiences in Early Modern European Culture*, edited by Guido Abbattista, 205-222. Trieste: 2011.
- Miquel, André. "L'Europe occidentale dans la relation arabe d'Ibrahim b. Ya'qub (Xe siècle)." *Annales Économies, Sociétés, Civilisations* 21 (1966): 1048-1064.
- Monneret de Villard, Ugo. *Introduzione allo studio dall-archeologia islamica*. Venice: 1966.
- Morpugo, Piero. "The Salernitan School between Hippocrates, Aristotle and Magic." *Quaderni Catensi di Studi Classici e Medievali* 6, 11 (1984): 197-218.
- Mundell, Robert A. "A Theory of Optimum Currency Areas." *American Economic Review* 51, 4 (1961): 657–65.
- Munro, John. H. "Medieval Woollens: Textiles, Technology and Organization." In *The Cambridge History of Western Textiles*, edited by David Jenkins, vol.1, 181-227. Cambridge: 2003.
- Muthesius, Anna. "Silk in the Medieval World." In *The Cambridge History of Western Textiles*, edited by David Jenkins, vol.1, 325-354. Cambridge: 2003.
- Naismith, Rory. "Social Significance of Monetization in the Early Middle Ages." *Past and Present* 223 (2014): 3-39.
- Nelson, Robert S. "Appropriation." In *Critical Terms for Art History*, edited by Robert S. Nelson and Richard Shiff, 160-173. Chicago and London: 2003.
- Nepoti, Sergio. "Ceramiche tardo medievali spagnole e islamiche orientali dell'Italia centro- settentrionale adriatica." in *Acta del segundo coloquio internacional de ceramica medieva en el Mediterraneo occidental, Toledo: 1981*, Madrid: 1986.
- Newton, Francis. "Constantine the African and Monte Cassino: New Elements and The Text of the *Isagoge*." In *Constantine the African and 'Alī Ibn Al-'Abbās Al-Mağūsī: The Pantegni and Related Texts*, edited by Charles S. F. Burnett, 16-47. Leiden: 1994.
- Nibley, Hugh. "Christian Envy of the Temple." *Jewish Quarterly Review* 50 (1959-60): 119-20.

- Nicolle, David. *Italian Medieval Armies 1000-1300*. Oxford, 2002.
- . “Shipping in Islamic Art: Seventh through Sixteenth Century AD.” *American Neptune* 49 (1989): 168-197.
- van Nieuwenhuysse, Stijn. “The uprising of Abū Rakwa and the Bedouins against the Fātimids.” *Acta Orientalia Belgica* 17 (2003): 245–264.
- Nicklies, Charles E. “The Church of the Cuba near Castiglione di Sicilia and Its Cultural Context.” *Muqarnas* 11 (1994): 12-30.
- Nickson, Tom. “Copying Córdoba? Toledo and Beyond.” *The Medieval History Journal* 15 (2012): 319-354.
- Nitti di Vito, Francesco. “La traslazione delle reliquie di San Nicola.” *Iapigia* 8 (1937): 295–411.
- Nixon, Sam. “Excavating Essouk-Tadmakka (Mali): new archaeological investigations of early Islamic trans-Saharan trade.” *Azania: Archaeological Research in Africa* 44, 2, (2009): 217-255.
- Nordenfalk, Carl. “A Travelling Milanese Artist in France at the Beginning of the XI Century.” In Carl Nordenfalk, *Studies in the History of Book Illumination, 193-198*. London: 1992.
- North, William, and Anthony Cutler. “The Bishop as Cultural Medium: Berthold of Toul, Byzantium, and the Episcopal Self-Consciousness.” In *The Bishop: Power and Piety at the First Millennium*, edited by Sean Gilsdorf, 75-111. Munich: 2004.
- Nunn, Valerie. “The Encheirion as Adjunct to the Icon in the Middle Byzantine Period.” *Byzantine and Modern Greek Studies* 10 (1986): 73–102.
- O’Kane, Bernard. “Review of Jonathan Bloom, *Minaret: Symbol of Islam*, Oxford: 1990.” *Oriental Art* 38, 1 (1992): 106-113.
- Oldfield, Paul. *Sanctity and Pilgrimage in Medieval Southern Italy, 1000-1200*. Cambridge: 2014.
- Olson, Lois, and Helen L. Eddy. “Ibn-Al-Awam: A Soil Scientist of Moorish Spain.” *Geographical Review*, 33, 1 (1943): 100-109.
- Osheim, D. Jeffrey. *The Temporalities of the Episcopate of Lucca, 1050-1350*. Unpublished PhD diss. UC Davis: 1973.
- Ostrogosky, George. *History of the Byzantine State*. Translated by John Hussey, New Brunswick: 1957.
- Ousterhout, Robert. “The Church of Santo Stefano: a ‘Jerusalem’ in Bologna.” *Gesta* 20, 2 (1981): 311-321.
- Panofsky, Ernst. *Abbot Suger on the Abbey Church of St-Denis and Its Art Treasures*. New Jersey: 1946.
- Paravicini-Bagliani, Agostino. *The Pope’s Body*. Translated by David S. Peterson, Chicago and London: 2000.
- Paroli, Lidia. “La ceramica invetriata tardo-antica e medievale nell’ Italia centromeridionale.” In *La ceramica invetriata tardoantica e altomedievale in Italia*, edited by Lidia Paroli, 33-61. Florence: 1992.
- Patlagean, Evelyne. “Theodora de Thessalonique: Une sainte moniale et un culte citadin (IXe–XXe siècle).” In *Culto dei santi, istituzioni e classi sociali in età preindustriale*, edited by Sophia Boesch Gajano and Lucia Sebastiani, 39-67. Rome: 1984.
- Paxton, Frederick, with Isabelle Cochelin. *The Death Ritual at Cluny in the Central Middle Ages = Le rituel de la mort à Cluny au moyen âge central*. Turnhout: 2013.
- Peduto, Paolo. “Materiali Arabo-Islamici nella Ravello del secolo XIII.” In *Presenze araba e islamici in Campania, Atti del convegno sul tema, 1989*, edited by Agostino Cilardo, 467-72. Naples: 1992.
- Perlman, Mosche. “Notes on the Position of Jewish Physicians in Medieval Muslim Countries.” *Israel Oriental Series* II (1972): 316-19.
- Pellat, Charles. *Le Livre de la couronne attribué à Gahiz*. Paris: 1954.
- Pew Research Center. *Luxury or Necessity? Things We Can’t Live Without: The List Has Grown in the Past Decade, 2006* Online at <http://pewresearch.org/files/old-assets/social/pdf/Luxury.pdf> (Accessed January 2015).
- Pick, Lucy K. “Rethinking Cluny in Spain.” *Journal of Medieval Iberian Studies* 5, 1 (2013): 1-17.
- Pilsworth, Claire. “Medicine and Hagiography in Italy c. 800—c. 1000.” *Social History of Medicine* 13, 2 (2000): 253-64.

- Plant, Richard. "Architectural Developments in the Empire North of the Alps: The Patronage of the Imperial Court." In *The White Mantle of Churches: Architecture, Liturgy, and Art around the Millennium*, edited by Nigel Hiscock, 29-56. Turnhout: 2003.
- Pollard, Sidney. "British and World Shipbuilding, 1890-1914: A Study in Comparative Costs." *The Journal of Economic History* 27, 3 (1957): 426-444.
- Pomey, Patrice, Yaacov Kahanov, and Eric Rieth, "Transition from Shell to Skeleton in Ancient Mediterranean Ship-Construction: analysis, problems, and future research," *The International Journal of Nautical Archaeology* 41, 2 (2012): 235-314.
- Prado-Vilar, Francisco. "Circular Visions of Fertility and Punishment: Caliphal Ivory Caskets from al-Andalus." *Muqarnas* 14 (1997): 19-41.
- Priester, Ann. "The Italian Campanile: Where did it come from?" In *Pratum Romanum: Richard Krautheimer zum 100. Geburtstag*, edited by Renata L. Colella, et al., 259-275. Wiesbaden: 1997.
- Prigent, Daniel. "Les céramiques funéraires (XIe-XVIIe siècle)." In *Archéologie du cimetière chrétien. Actes du 2e colloque A.R.C.H.E.A.*, edited by Henri Galinié and Elizabeth Zadora-Rio, 215-224. Tours: 1996.
- Pringle, David. *The Churches of the Crusader Kingdom of Jerusalem: Volume 3, The City of Jerusalem*, Cambridge: 2007.
- Pryor, John. H. "A View from a Masthead: The first crusade from the Sea." *Crusades* 7 (2008): 87-151.
 —. "The origins of the *commenda* contract," *Speculum* 52 (1977): 5-37, 13.
 —. and Sergio Bellabarba, "The Medieval Muslim Ships of the Pisan *Bacini*." *Mariner's Mirror* 76, 2 (1990): 99-113.
- Purtle, Jenny. "Objects without Borders. Cultural Economy and the World of Artefacts." In *Crossing Cultures: Conflict, Migration and Convergence*, edited by Jaynie Anderson, 127-132. Melbourne: 2009.
- Quiros Castillo, Juan Antonio, *Modi di costruire a Lucca nell'alto medioevo: una lettura attraverso l'archeologia dell'architettura*. Siena: 2002.
 —. "Técnicas constructivas altomedievales en la ciudad de Pisa y en la Toscana nordoccidental," *Arqueología De La Arquitectura*, 4 (2005): 81-109.
- Raby, Julian. "In Vitro Veritas. Glass Pilgrim Vessels from 7th-Century Jerusalem." In *Bayt Al-Maqdis. Jerusalem and Early Islam*. Edited by Jeremy Johns, 113-190. Oxford: 1999.
- Rajagopalan, Mrinalini. "A Medieval Monument and its Modern Myths of Iconoclasm: The Enduring Contestations over the Qutb Complex in Dehli, India." In *Reuse Value. Spolia and Appropriation in Art and Architecture from Constantine to Sherrie Lavine*, edited by Richard Brilliant and Dale Kinney, 199-222. Farnham, U.K., and Burlington, VT: 2011.
- Rammah, M. "Carafe" in Discover Islamic Art. Place: Museum With No Frontiers, 2014. http://www.discoverislamicart.org/database_item.php?id=object;ISL;tn;Mus01;42;en
 —. "Circular chandelier" in Discover Islamic Art. Place: Museum With No Frontiers, 2014. http://www.discoverislamicart.org/database_item.php?id=object;ISL;tn;Mus01;14;en.
- Rapoport, Semen. "On the Early Slavs: the narrative of Ibrahim ibn Yakub." *The Slavonic and East European Review* 8 (1929): 331-341.
- Riccardi, Eduardo. "Medieval Boats from the port of Libia, Sardinia, Italy." In *Connected by the Sea: Proceedings of the 10th International Symposium on Boat and Ship Archaeology, Roskilde, 2003*, edited by Anton Englert, Fred M. Hocker, and Lucy Blue, 313-315. Oxford: 2006.
- Ricks, David. *Byzantine Heroic Poetry*. Bristol: 1990.
- Riddle, John. M. "Pomum ambrae: Amber and Ambergris in Plague Remedies." *Sudhoffs Archiv* 48 (1964): 111-22.
- Riley-Smith, Jonathan. "Aspects of Hospitaller and Templar Memory." In *Remembering the Crusades. Myth, Image, and Identity*, edited by Nicholas Paul and Suzanne Yeager, 233-251. Baltimore: 2012.
- Robinson, Ian S. *Henry IV of Germany, 1056-1106*. Cambridge: 2003.
- Rodríguez Estévez, Juan Clemente. "Alminares almohades," In *Al-Andalus y el norte de África: relaciones y influencias*, edited by Pablo Beneito and Fátima Roldán, 189-222. Seville: 2004.

- Rodziewicz, Mieczysław. "Transformation of Ancient Alexandria into a Medieval City." In *Colloque international d'archéologie islamique*, edited by Roland-Pierre Gayraud, 369-386. Cairo: 1998.
- Rohault de Fleury, M. George. *Les monuments de Pise au Moyen Age*. Paris: 1866.
- Romanin, Samuel. *Storia documentata di Venezia*. 10 vols. Venice: 1853.
- Ronzani, Mauro. *Chiesa e «civitas» di Pisa nella seconda metà del secolo XI. Dall'avvento del vescovo Guido all'elevazione di Daiberto a metropolita di Corsica (1060-1092)*, Pisa: 1996.
- Rose, Andrew K. "One Money, One Market: Estimating the Effect of Common Currency on Trade." *Economic Policy: A European Forum* 30 (2000): 7-33.
- Rossetti, Gabriella. "Il lodo del vescovo Daiberto sull'altezza delle torri." In *Pisa e la Toscana occidentale nel medioevo: A Cinzio Violante nei suoi 70 anni*, 2 vols. Pisa: 1991.
- Rossi-Sabatini, Giuseppe. *L'espansione di Pisa nel Mediterraneo fino alla Meloria*. Firenze: 1935.
- Roth, Cecil, ed. *A World History of the Jews XI. The Dark Ages*. New Brunswick: 1967.
- Rotman, Youval. *Byzantine Slavery and the Mediterranean World*. Cambridge and London: 2009.
- Rovelli, Alessia. "Coins and Trade in Early Medieval Italy." *Early Medieval Europe* xvii, i (2009), 45-76.
 —. "La moneta nella documentazione altomedievale di Rome e del Lazio." In *La Storia economica di Roma nell'alto Medioevo alla luce dei recenti scavi archeologici*, edited by Lidia Paroli & Paolo Delogu, 333-52. Florence: 1993.
- Rowell, Geoffrey. *The Liturgy of Christian Burial*. London: 1977.
- Rudolph, Conrad, ed. *A Companion to Medieval Art*. Oxford: 2006.
- Safran, Linda. *The Medieval Salento*. Philadelphia: 2014.
- Salvatori, Enrica. "Corsairs' Crews and Cross-Cultural Interactions: The Case of the Pisan Trapelcinus in the Twelfth Century." *Medieval Encounters* 13 (2007): 32-55.
- Sanders, Paula A. "The Fatimid State, 969-1171." In *The Cambridge History of Egypt. Vol.1: Islamic Egypt, 640-1517*, edited by Carl F. Petry, 151-174. Cambridge: 1998.
- Sanpaolesi, Piero. *Il Duomo di Pisa*. Pisa: 1975.
- Sayous, André-E. "Le Rôle du capital dans la vie locale et le commerce extérieur de Venise entre 1050 et 1150." *Revue belge de philologie et d'histoire* 13 (1934): 657-96. (Reprinted in Sayous, A-E., *Commerce et finance en Méditerranée au Moyen Age*, London: 1988, vii.)
- Scales, Peter C. *The Fall of the Caliphate of Córdoba: Berbers and Andalus in Conflict*. Leiden: 1994.
- Scalia, Giuseppe. "Epigrafica Pisana. Testi latini sulla spedizione contro le Baleari del 1113-15 e su altre imprese anti-saracene del sec. XI." In *Miscellanea di studi ispanici*, 234-286. Pisa: 1963.
 —. "Romanitas pisana tra XI e XII secolo. Le iscrizioni romane del duomo e la statua del console Rodolfo." *Studi Medievali* 13 (1972): 791-843.
- Scerrato, Umberto. *Arte Islamica a Napoli*. Naples: 1967.
- Schein, Sylvia. "Between Mount Moriah and the Holy Sepulchre: the Changing Traditions of the Temple Mount in the Central Middle Ages." *Traditio* 40 (1984): 175-195.
- Scheller, Robert W. *Exemplum. Model-Book Drawings and Practice of Artistic Transmission in the Middle Ages (ca. 900—ca. 1470)*. Translated by Michael Hoyle. Amsterdam: 1995.
- Schmitz, Rudolf. "The Pomander." *Pharmacy in History* 31, 2 (1989): 86-90.
- Schramm, Percy. *Kaiser, Rom und Renovatio: Studien und Texte zur Geschichte des römischen Erneuerungsgedankens vom Ende des karolingischen Reiches bis zum Investiturstreit*. 2 vols. Leipzig: 1929.
- Shafi, Muhammad. "A Description of the Two Sanctuaries of Islam by Ibn 'Abd Rabbihi (d.940)." In *A Volume of Oriental Studies Presented to Professor Edward G. Browne*, edited by Thomas Walker Arnold and Reynold Alleyne Nicholson, 416-38. Amsterdam: 1922.
- Shalem, Avinoam. *The Oliphant. Islamic Objects in Historical Context*. Leiden: 2004.
 —. *Islam Christianized: Islamic Portable Objects in the Medieval Church Treasuries of the Latin West*. Frankfurt: 1996.

- . “From Royal Caskets to Relic Containers: Two Ivory Caskets from Burgos and Madrid.” *Muqarnas* 12 (1995): 24–38.
- . “New Evidence for the History of the Turquoise Glass Bowl in the Treasury of San Marco.” *Persica* 15 (1993-95): 91-94.
- Sharf, Andrew. *The Universe of Shabbetai Donnolo*, Warminster: 1976.
- Sharon, Mosche. “The ‘Praises of Jerusalem’ as a Source for the Early History of Islam.” *Bibliotheca Orientalis* 49 1/2 (1992): 56-68.
- Shepherd, Dorothy G. “Banquet and Hunt in Medieval Islamic Iconography.” In *Gatherings in Honor of Dorothy E. Miner*, edited by Ursula E. McCracken, Lillian M.C. Randall, and Richard H. Randall, Jr., 79-92. Baltimore: 1974.
- Silvestri, Alberta, and Alessandra Marcante. “The glass of Nogara (Verona): a “window” on production technology of mid- Medieval times in Northern Italy.” *Journal of Archaeological Science* 38 (2011): 2509-2522.
- Simonsohn, Šelomō, ed. *The Jews in Sicily: 383–1300*. Leiden: 1997.
- Sindawi, Khalid. “The Role of the Lion in Miracles Associated with Shī’ite Imams.” *Der Islam* 84 (2008): 356-390.
- Skinner, Patricia. “Amalfitans in the Caliphate of Cordoba – Or Not?” *Al-Masaq* 24:2 (2012): 125-138.
- . “Politics and piracy: the duchy of Gaeta in the twelfth century.” *Journal of Medieval History* 21 (1995): 307-319.
- . “From Pisa to the Patriarchate: Chapters in the Life of (Arch)bishop Daibert.” In *Challenging the Boundaries of Medieval History: The Legacy of Timothy Reuter*, edited by Patricia Skinner, 157-162. Turnhout: 2009.
- . “The Tyrrhenian Coastal Cities under the Normans.” In *The Society of Norman Italy*, edited by Graham A. Loud and Alex Metcalfe, 75-96. Leiden: 2002.
- . “Noble families in the Duchy of Gaeta in the tenth century.” *PBSR* 60 (1992): 353-377.
- . “Urban communities in Naples, 900-1050.” *PBSR* 62 (1994): 279-300.
- . *Family Power in Southern Italy. The Duchy of Gaeta and its neighbours, 850–1139*. Cambridge: 1995.
- . *Medieval Amalfi and its Diaspora, 800-1250*. Oxford: 2013.
- . *Health and Medicine in Early Medieval Southern Italy*. Leiden: 1997.
- . “A Cure for a Sinner: Sickness and Healthcare in Medieval Southern Italy.” In *The Community, the Family and the Saint: Patterns of Power in Early Medieval Europe*, edited by Joyce Hill and Mary Swan. Turnhout: 1998.
- Smith, Adam, *Theory of Moral Sentiments*, London: 1790, 6th ed.
- Smith, Christine. *Baptistry of Pisa*. New York: 1978.
- . “East or West in eleventh century Pisan Culture: The Dome of the Cathedral and Its Western Counterparts.” *The Journal of the Society of Architectural Historians* 43, 3 (1984): 195-208.
- Smith Maguire, Jennifer, and Julian Matthews. “Are we all cultural intermediaries now? An introduction to cultural intermediaries in context.” *European Journal of Cultural Studies* 15 (2012): 551-563.
- Smoor, Pieter. *Kings and Bedouins in the Palace of Aleppo as reflected in Ma’arrī’s Works*. Louvain: 1985.
- Southern, Robert. *The Making of the Middle Ages* (first pub. 1953). London: 1990.
- Spufford, Peter. “Chapter XII: Coinage and Currency.” In *The Cambridge Economic History of Europe: Trade and industry in the Middle Ages*, edited by Edward Miller, Michael Moïsssey Postan, and Cynthia Postan, 788-860, Cambridge: 1987.
- Squatriti, Paolo. *Landscape and Change in Early Medieval Italy: Chestnuts, Economy, and Culture*. New York: 2013.
- Staaacke, Ursula. *Un palazzo normanno a Palermo: la Zisa, la cultura musulmana negli edifici del Re*. Palermo: 1991.
- Stern, Samuel M. “An original document from the Fatimid chancery concerning Italian merchants.” In *Studi Orientalistici in onore di Giorgio Levi della Vida*, vol. 2, 529-38. Rome: 1956.
- . “Tari. The quarter Dinar,” *Studi Medievali*, 3rd series, 11 (1970): 177–207.
- Stierlin, Henri. *Islam. Early Architecture from Baghdad to Cordoba*. Cologne: 1996.
- Stillman, Norman A. “The eleventh century merchant house of Ibn 'Awkal (a Geniza study).” *JESHO* 16, 1 (1973): 15-88.
- . “A Case of Labor Problems in Medieval Egypt.” *International Journal of Middle East Studies* 5, 2 (1974): 194–201.
- . “The non-Muslim communities: the Jewish Community.” In *The Cambridge History of Egypt. Vol.1: Islamic Egypt, 640–1517*, edited by Carl F. Petry, 198–210. Cambridge: 1998.
- Strzygowski, Josef. “Mschatta,” *Jahrbuch der Preussischen Kunstsammlung* 25 (1918): 205-373.
- Taha, Hamdan. “Some Aspects of Sugar Production in Jericho, Jordan Valley.” In *A Timeless Vale, Archeological and*

Related Assays on the Jordan Valley in honor of Gerrit van der Kooij on the occasion of his sixty-fifth birthday, edited by Eva Kaptijn and Lucas Petit, 181-191. Leiden: 2009.

Talbot, Alice-Mary. "Pilgrimage to Healing Shrines: The Evidence of Miracle Accounts." *Dumbarton Oaks Papers* 56, (2002): 153-73.

Talmon-Heller, Danielle, and Raquel Ukeles. "The Lure of a Controversial Prayer: Salāt al-raghā'ib (the Prayer of Great Rewards) in Medieval Arabic Texts and from a Socio-legal Perspective." *Islam* 89, 2 (2012): 141-166.

Tobacco, Giovanni. *The Struggle for Power in Medieval Italy*. Translated by Rosalind Brown Jenson, Cambridge: Cambridge University Press, 1989.

Tangheroni, Marco, ed. *Pisa e il Mediterraneo: uomini, merci, idee dagli Etruschi ai Medici*. Pisa: 2003.

—. "La prima espansione di Pisa nel Mediterraneo. Riflessioni su un modello possibile." In *Il mare, la terra, il ferro. Ricerche su Pisa medievale (secoli VII-XIII)*, edited by Graziella Berti, Catia Renzi Rizzo, and Marco Tangheroni, 205-230. Pisa: 2004.

—. *Commercio e navigazione nel Medioevo*. Bari: 1996.

Tangheroni, Marco, Catia Renzi Rizzo, and Graziella Berti. "Pisa e il Mediterraneo occidentale nei secoli VII-XIII: l'apporto congiunto delle fonti scritte e di quelle archeologiche." In *Il mare, la terra, il ferro*, edited by Graziella Berti, Catia Renzi Rizzo, and Marco Tangheroni, 109-142. Pisa: 2004.

del Treppo, Mario, and Alfonso Leone. *Amalfi Medioevale*. Naples: 1977.

Trésors fatimides du Caire. [Exhibition Catalogue, Paris, Institut du monde arabe] Paris: 1998.

Tronci, Paolo. *Annali pisani*. Pisa: 1828.

Tronzo, William. "Review of Maguire, Henry and Robert S. Nelson. *San Marco, Byzantium, and the Myths of Venice*. *Dumbarton Oaks Byzantine Symposia and Colloquia*. Washington D.C.: Dumbarton Oaks Research Library and Collection, 2010." *The Medieval Review* 11.10.26.

—. *Cultures of His Kingdom. Roger II and the Cappella Palatina in Palermo*. Princeton: 1997.

—. "King Rogers Mantle, Part and Whole." In *Nobiles Officinae. Die königlichen Hofwerkstätten zu Palermo zur Zeit der Normannen und Staufer im 12. und 13. Jahrhundert*, edited by Wilfried Seipel, vol.2, 433-6. [exhibition catalogue] Vienna and Milan: 2004.

—. "The Mantle of Roger II of Sicily." In *Robes and Honour. The Medieval World of Investiture*, edited by Stewart Gordon, 241-253. New York: 2001.

—. "The Prestige of Saint Peter's: Observations on the Function of Monumental Narrative Cycles in Italy." In *Pictorial Narrative*, edited by Herbert Kessler and Mariana S. Simpson, 93-115. Washington, D.C.: 1985.

Turtas, Raimondo. *Storia della chiesa in Sardegna*, Rome: 1999.

Tyerman, Christopher. *God's War: A New History of the Crusades*, Cambridge: 2006.

Udovitch, Abraham L., "At the origins of the Western Commenda: Islam, Israel, Byzantium?" *Speculum* 37, 2 (1970): 198-207.

Vahman, Fareydu. "A Beautiful Girl." In *Papers in Honour of Professor Mary Boyce*, edited by Jacques Duchesne-Guillemin and Pierre Lecoq, vol. 2. Leiden: 1985 = *Acta Iranica* 25 (1985): 665-73.

van der Lugt, Maaïke. "The learned physician as a charismatic healer: Urso of Salerno (flourished end of twelfth century) on incantations in medicine, magic, and religion." *Bulletin of the History of Medicine* 87, 3 (2013): 307-346.

van der Vliet, Jacques. "The Naqlun John: A Preliminary Report." *Polish Archaeology in the Mediterranean* 14 (2002): 172-176.

van Reeth, Jan M. F. "The Paradise and the City: Preliminary Remarks on Muslim Sacred Geography." In *Across the Mediterranean Frontiers: Trade, Politics and Religion, 650-1450*, edited by Dionisius A. Agius and Ian R. Netton, 235-53. Turnhout: 1997.

Veblen, Thorstein. *The Theory of the Leisure Class; An Economic Study of Institutions*, 1899, online at <http://www.gutenberg.org/files/833/833-h/833-h.htm> (accessed March 2015).

—. *The Theory of the Leisure Class: An economic study of institutions*, London: 1899. Sixth edition, 1915.

Veit, Raphaela. "Quellenkundliches zu Leben und Werk von Constantinus Africanus." *Deutsches Archiv für Erforschung des Mittelalters* 59 (2003): 121-52.

Venturi, Adolfo. *Storia dell'arte italiana*. Vol. 3. Milan: 1903.

Verlinden, Charles. "Medieval 'Slavers.'" In *Economy, Society, and Government in Medieval Italy. Essays in Memory of Robert L. Reynolds*, edited by David Herlihy, Robert S. Lopez, and Vsevolod Slessarev, 1-14. Kent, OH: 1969.

- Violante, Cinzio. *Economia, società, istituzioni a Pisa nel Medioevo: saggi e ricerche*. Bari: 1980.
- Volbach, Wolfgang F. "Oriental Influences on the Animal Sculpture of Campania." *Art Bulletin* 24 (1942): 172-180.
- Vollmann, William T. *Rising Up and Rising Down*. 7 vols. San Francisco: 2003.
- Wack, Mary F. "'Alī ibn al-'Abbās and Constantine on Love.'" In *Constantine the African and 'Alī Ibn Al-'Abbās Al-Mağūsī: The Pantegni and Related Texts*, edited by Charles S. F. Burnett, 161-202. Leiden: 1994.
- Wainwright, Julian. "Technological Continuity and Change: The Lateen Sail of the Medieval Mediterranean." *Al-Masaq* 24, 1 (2012): 1-19.
- Walker, Alicia. "Globalism." *Studies in Iconography* 33 (2012): 183-196.
 ——. "Meaningful Mingling: Classicizing Imagery and Pseudo-Arabic Script in a Byzantine Bowl." *Art Bulletin* 90 (2008): 32-53.
- Walker, Paul E. *Exploring an Islamic Empire: Fatimid History and its Sources*. London and New York: 2002.
- Ward, Rachel. *Islamic Metalwork*. Milan: 1993.
- Wasserstein, David J. "Toledan Rule in Cordoba." *Israel Oriental Studies* 13 (1993): 247-72.
- Weilandt, Gerhard. *Geistliche und Kunst. Ein Beitrag zur Kultur der ottonisch-salischen Reichskirche und zur Veränderung künstlerischer Traditionen im späten 11. Jahrhundert*. Böhlau: 1992.
- Werthmulle, Kurt J. *Coptic Identity and Ayyubid Politics in Egypt, 1218-1250*. Cairo and New York: 2010.
- Westermann-Angerhausen, H. "Modelling the bishop: Egbert of Trier, Gregory the Great, and the Episcopal Image." In *The Bishop: Power and Piety at the First Millennium*, edited by Sean Gilsdorf, 113-136. Munich: 2004.
- Weyl Carr, Annemarie. "Icons and the Object of Pilgrimage in Middle Byzantine Constantinople." *Dumbarton Oaks Papers* 86 (2002): 75-92.
- Whatley, Laura J. "Visual Self-Fashioning and the Seals of the Knights Hospitaller in England." In *Remembering the Crusades. Myth, Image, and Identity*, edited by Nicholas Paul and Suzanne Yeager, 252-69. Baltimore: 2012.
- Whicher, George F. *The Goliard poets: Mediaeval Latin Songs and Satires*. New York: 1949.
- White, Richard. *The Middle Ground: Indians, Empires, and Republics in the Great Lakes Region, 1650-1815*. Cambridge: 1991.
- Wickham, Chris. *Early Medieval Italy: Central Power and Local Society 400-1000*. London: 1981.
 ——. "Productive forces and the economic logic of the feudal mode of production." *Historical Materialism* 16 (2008): 3-22.
 ——. *Community and Clientele in Twelfth century Tuscany: The Origins of the Rural Commune in the Plain of Lucca*. Oxford: 1998
 ——. *Framing the Early Middle Ages*. Oxford: 2006.
 ——. *The Inheritance of Rome*. London: 2009.
 ——. "Introduction." In *Topographies of Power in the Early Middle Ages*, edited by Mayke de Jong and Frans Theuvs, with Carine van Rhijn, 1-8. Leiden: 2001.
 ——. "Lawyers' Time: History and Memory in Tenth- and Eleventh century Italy." In *Studies in Medieval History Presented to R. H. C. Davis*, edited by Henry Mayr-Harting and Robert I. Moore, 53-71. London: 1985.
 ——. "The sense of the past in Italian communal narratives," in Chris Wickham, *Land and Power*, 295-313. Rome: 1994.
 ——. *Sleepwalking into a New World: The Emergence of Italian City Communes in the Twelfth Century*. Princeton: 2015.
- Wilkinson, John, with Joyce Hill and William F. Ryan. *Jerusalem Pilgrimage 1099-1185*. London: 1988.
- Wixam, William D. "170: Temple Pendant and Stick." In *Glory of Byzantium, Art and Culture of the Middle Byzantine Era, A.D. 843-1261*, edited by Helen C. Evans and William D. Wixam, 246-7. New Haven: 2013.
- Wolf, Gerhard. "Fluid Borders, Hybrid Objects. Mediterranean Art Histories 500-1500, Questions of Method and Terminology." In *Crossing Cultures: Conflict, Migration and Convergence*, edited by Jaynie Anderson, 134-137. Melbourne: 2009.
- Wolf, Kenneth B. *Making History: The Normans and their Historians in eleventh Century Italy*. Philadelphia: 1995.
- Woody, Kennerly M. "'Sagena piscatoris': Peter Damiani and the Papal Election Decree of 1059." *Viator* 1 (1970): 39-41.

Wright, Thomas. ed. *Early Mysteries, and Other Latin Poems of the Twelfth and Thirteenth Centuries*. London: 1844.

Zbiss, Slimane Mostafa. "Mahdiya et Sabra-Mansouriya: Nouveaux documents d'art fatimide d'Occident." *Journal Asiatique* 244 (1956): 79–93.

Zadeh, Travis. *Mapping Frontiers across Medieval Islam*. London: 2011.

Zchomelidse, Nino. *Art, Ritual, and Civic Identity in Medieval Southern Italy*. University Park: 2104.

Ziolkowski, Jan. "Cultures of Authority in the Long Twelfth Century." *Journal of English and Germanic Philology* (2009): 421-448.

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