“Sing to the Lord a new song”: Memory, Music, Epistemology, and the Emergence of Gregorian Chant as Corporate Knowledge

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The only wisdom we can hope to acquire
Is the wisdom of humility: humility is endless.
~ T.S. Eliot, “East Coker,” *Four Quartets*, line 98.[1]

This thesis is dedicated to my beautiful wife, Shelby, my parents, Tim and Sharron, and my brother, Ethan. Without their loving support I never would have reached this point.

[1] T. S. Eliot, "East Coker," in *Four Quartets* (New York: Harcourt, 1943), 27.

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Abstract

Following the Christianization of the crumbling Roman Empire, a wide array of disparate Christian traditions arose. A confusion of liturgical rites and musical styles expressed the diversity of this nascent Christendom; however, it also exemplified a sometimes threatening disunity. Into this frame, the Carolingian Empire made a decisive choice. Charlemagne, with a desire to consolidate power, forged stronger bonds with Rome by transporting the liturgy of Rome to the Frankish North. The outcome of this transmission was the birth of a composite form of music exhibiting the liturgical properties of Rome but also shaped by the musical sensibilities of the Franks—Gregorian chant.

This Frankish project of liturgical adoption and the appearance of Gregorian chant raises two important questions: How did the Carolingians transmit and incorporate Roman chant, and why did they feel drawn to this tradition in the first place? This thesis utilizes musicological studies by scholars like Leo Treitler and Anna Maria Busse Burger, epistemological arguments by analytic philosopher Richard Fumerton, and memorial scholarship by Mary Carruthers and Maurice Halbwachs to provide an analysis of Gregorian chant's emergence. My investigation into the medieval art of *memoria* reveals that chant was transmitted through the use of the principles of music theory as mnemonic devices. Modal theory itself becomes a mnemonic by creating an abstract musical location in which the singer and listener can meet.

Further, the impulse that drove this project was the desire for a collective memory that would resolve underlying tensions of group identity within 8th- and 9th-century early Christendom. This desire finds its resolution in modal theory itself because the musical location of chant is also a public location where corporate identity is articulated. Finally, I interpret both

musical and memorial functions of chant via epistemic scholarship, showing that they both exhibit a remarkable structural similarity to the principles of acquaintance epistemology, thus unifying the questions of "how" and "why" in chant into a single answer. The quest for self-knowledge becomes *part of* the particular object used to make it—a material testament to a way of knowing.

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Chapter 1
Introduction: Chant and the Problem of Christian Identity

> Their sound, because it is something perceived by the senses, vanishes as the moment passes and is imprinted in the memory . . . for unless sounds are held by the memory of man, they perish, because they cannot be written down.[2] ~ Isidore of Seville

This famous quote from the 5th-century scholar-bishop Isidore of Seville has often been used as a proof text for the lack of reliable and widespread musical notation in the early Christian Middle Ages. However, this statement may be interpreted to point to another fact that is equally true regardless of the state of notation: for the medieval subject, the ontological integrity of sound *depends* on memory. According to Isidore, the sensory experience that is music must be impressed into the mind of the listener if it is going to continue to exist at all. More importantly, it is only through memory that the music can affect the subject, ideally lifting, as Augustine suggests in his *Confessions*, the soul to God.[3] This relationship between memory and music is vital to understanding music in the early Middle Ages. Furthermore, during the crucible of the 4th through the 10th centuries, memory became an all important factor tied to the articulation of a newly emerging Christian identity.

The dramatic legalization of Christianity by Emperor Constantine the Great in 313 was the first step in a larger cultural shift.[4] This newfound freedom encouraged a flowering of ecclesiastical writings, architecture, and liturgical development.[5] These developments coincided with the violent disintegration of the Roman Empire's power. Scholars often mark this period of

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[2] Stephen A. Barney, ed., et al., *The Etymologies of Isidore of Seville* (New York: Cambridge University Press, 2006), 95.
[3] James W. McKinnon, *Music in Early Christian Literature* (New York: Cambridge University Press, 1987), 154-55.
[4] James W. McKinnon, *The Advent Project: The Later-Seventh-Century Creation of the Roman Mass Proper* (Berkeley: University of California Press, 2000), 27-28.
[5] Ibid., 28.

unmitigated decline by the Visigoth sacking of Rome in 410; however, the progression of events is complicated and any exact date is merely a placeholder for what was a gradual shift in power.[6] After the assassination of Emperor Valentinian III, the Western Roman Empire was essentially ruled by Germanic warlords who placed various puppet emperors on the throne in attempts to assert legitimacy. Meanwhile, without Roman troops to constrain the movements of barbarian groups, they began several major migrations and internal conflicts. At the end of this century, there emerged two strong Western powers: the Ostrogoths in Italy and the Franks in the North. In the context of these political struggles, the Christian religion continued to spread. Christianity flourished through its promise of spiritual hope as well as particularly shrewd political moves on the part of Christian leaders who, as James McKinnon notes, "were increasingly moving to fill the vacuum in political leadership created by the breakdown of Roman government."[7] One example of this was the conversion of Clovis, the powerful and ruthless ruler of the Franks, a historical turn that would have profound consequences for the future of church music.

Following this Christianization of the now crumbling Roman Empire, a wide array of disparate Christian traditions arose. A confusion of liturgical rites and musical styles expressed the diversity of this nascent Christendom; however, it also exemplified a sometimes threatening disunity. The specters of heresy and schism haunted this growing community and despite the moderately successful attempts of the Bishop of Rome to consolidate power, there persisted a disjunction between the proclamations of a unified "body of Christ" and the reality of disparate rites and practices.[8] For example, through the 6th and 7th centuries there were held several

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[6] James W. McKinnon, *Antiquity and the Middle Ages: From Ancient Greece to the 15th Century* (Englewood Cliffs: Prentice Hall, 1990), 13-14. This source informs the rest of this paragraph.
[7] Ibid., 15.
[8] Giles Brown, "Introduction: The Carolingian Renaissance," in *Carolingian Culture: Emulation and Innovation*, ed. Rosamond McKitterick (Cambridge: Cambridge University Press, 1994), 7-8.

councils addressed the state of the church in Frankish lands under the Merovingian dynasty.[9] A primary concern of these councils was the persistence of pagan or pagan-like practices even after Christianization, such as worshiping on Thursday, or "Jove's Day," instead of Sunday.[10] Besides these obvious pagan challenges to Christian unity, there were also important differences within the Christian rite itself as expressed in regional variation. Musicologist David Hiley summarizes the use of five non-Gregorian chant repertoires in the West, and most likely more whose sources are no longer extant.[11] These five include the three "Old Italian" repertories: Old Roman, Milanese, and Old Beneventan, as well as two other repertories: Frankish Gallican chant and its sister repertory Old Spanish or Mozarabic chant.[12] Into this frame, the Carolingian Empire made a decisive choice. The Frankish kingdom ruled by the Carolingian dynasty of Pippin III began a systematic reform of education and church governance to more closely fit with the practices of Rome.[13] These educational reforms continued under the reign of Pippin's son Charlemagne who, with a desire to consolidate power, forged stronger bonds with Rome by transporting the liturgy of Rome to the Frankish North. This difficult undertaking has traditionally been understood as politically motivated; however, letters and other contemporary accounts also point to Charlemagne's deep religious and personal motivation.[14]

Ultimately, the outcome of this transmission was the birth of a composite form of music exhibiting the liturgical properties of Rome but also shaped by the musical sensibilities of the Franks—Gregorian chant. This new style both suited the liturgical needs of the growing Carolingian Empire and satisfied their desire to be closer to Rome. As musicologist Susan

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[9] Ibid., 6.
[10] Ibid., 7.
[11] David Hiley, *Western Plainchant: A Handbook* (New York: Oxford University Press, 1993), 524-60.
[12] Ibid., 524.
[13] Ibid., 515-17. The following discussion benefitted from these pages.
[14] Susan Rankin, "Carolingian Music," in *Carolingian Culture: Emulation and Innovation*, ed. Rosamond McKitterick (New York: Cambridge University Press, 1994), 275-76.

Rankin points out, this move was a decisive social development as well. She states, "In focusing on liturgical singing as a symbol of social unity, the early Carolingians set an entirely new value on uniformity and standardization of musical practice."[15] This resounding success firmly established Gregorian chant as both the center of Carolingian musical practice, and eventually cemented it as the foremost form of chant across Western Europe.

This Frankish project of liturgical adoption and the subsequent appearance of Gregorian chant raises two important and interrelated questions: how did the Carolingians transmit and incorporate Roman chant, thus creating the distinct style called Gregorian chant; and why did they feel drawn to this tradition in the first place? A deeper understanding of the medieval art of *memoria* and its significance to medieval culture reveals that chant was transmitted through an ingenious use of the principles of music theory as mnemonic devices. The impulse that drove this project was, in part, the desire for a collective memory that would resolve underlying tensions of group identity within 8th- and 9th-century early Christendom. Furthermore, the foundation of such cultural identity construction lies in fundamental epistemic questions concerning the role of acquaintance knowledge in how cultural groups acquire, embody, and express identity. This expression is simultaneously realized through the specific material by which it is constructed. Employing interdisciplinary scholarship on medieval memory, I find that early- 8th- through 10th- century tonaries and theory treatises instantiate these memorial properties. This instantiation can then be interpreted via epistemic scholarship, which shows that the emergence of Gregorian chant in 8th- and 9th- century Western Europe is a specific expression of the broader Frankish quest for Christian identity. Identity thus becomes *part of* the particular object used to make it—a material testament to a way of knowing.

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[15] Ibid., 278.

THEORY AND METHODOLOGY

This thesis incorporates musicological, epistemological, and memorial studies to provide a holistic analysis of Gregorian chant's emergence. By incorporating each of these fields, a composite picture appears that reveals more than just descriptive facts about the music, but also insights into why and how it was formed. Methodologically these fields complement each other: musicological analysis offers a polyvalent assessment of the musical material; rhetorical studies reveal the mechanics of transmission; and epistemic thought experiments offer insight into the question of significance—the question of why.

Of these three fields, memorial study is the most foundational for this thesis, for it suggests how chant was transmitted and provides a mental landscape of the Middle Ages. In particular, I use Mary Carruthers's rhetorical study of the cultural significance of *ars memoria* as a starting point for further investigation.[16] Similar rhetorical methods provide insight into how non-musical literature and theory treatises served as mnemonic devices for the early transmission of chant.

Carruthers also sketches the implications of what she refers to as "public memory," that is, the "common memory locus" that allows for meaningful communication within a given community.[17] I expand this particular point by utilizing Maurice Halbwachs's seminal work on collective memory as a foil to Carruthers's more individually focused study.[18] By working with both methodologies, I refine a concept that I refer to as corporate memory, which encompasses the public nature of Halbwachs's collective memory while still emphasizing Carruthers's insight into the embodied nature of memory in medieval culture. After defining this concept of

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[16] Mary J. Carruthers, *The Book of Memory: A Study Of Memory in Medieval Culture*, 2nd ed. (New York: Cambridge University Press, 2008).
[17] Ibid., 225.
[18] Maurice Halbwachs and Lewis A. Coser, *On Collective Memory* (Chicago: University of Chicago Press, 1992).

corporate memory, I then utilize it as a lens through which I read and interpret musical documents such as theory treatises and tonaries, thus revealing their own mnemonic foundation. By this process, I implicate the larger *memorial* considerations of medieval culture as the foundational cause for many of the *musical* decisions made during the formation of the Gregorian chant repertory.

Through this comparative method, I show that in the Middle Ages the processes of memorial formation and knowledge acquisition are one and the same. By becoming acquainted with public memories, a medieval individual came to *know* his identity. Furthermore, I suggest that this knowledge engendered the Gregorian project by causing an implicit cultural desire to identify Christianness. I utilize current epistemological theories proposed by philosopher Richard Fumerton to draw connections between philosophic descriptions of acquaintance knowledge and similar descriptions of memory formation in the Middle Ages, demonstrating that corporate memory is also a kind of knowing.[19]

The connection of memory to knowledge within philosophy has a long history, but as philosophy more clearly divided its fields, epistemology turned its attention to more specific concerns, like the definition of knowledge.[20] However, a particular subfield of current analytical epistemology has important connections to memory. Epistemology commonly distinguishes among three types of knowledge. The first and most prominent is propositional knowledge. Propositional knowledge is defined as knowledge that can be expressed with "knows that." So, the sentence "I *know that* there is a computer in front of me" is an example of propositional

[19] Richard A. Fumerton, *Metaepistemology and Skepticism* (Lanham: Rowman & Littlefield, 1995).
[20] Peter D. Klein, "Epistemology," *Routledge Encyclopedia of Philosophy*, ed. E. Craig, Routledge Press, accessed April 15, 2012, http://www.rep.routledge.com/article/P059.

knowledge.[21] Second, there is procedural knowledge, often explained as knowledge expressed with the phrase "knows how." So, if I'm a very talented pianist I might know how to play very well, yet I might not be able to explain or access the relevant propositions concerning that ability. In other words, "knowing how" is not at first glance (or *prima facie*) reducible to propositional knowledge or "knowing that." Finally, there is acquaintance knowledge, sometimes referred to as familiarity. Consider that I know my dog; surely what I mean by this is not just that I know many facts about my dog; rather I have a kind of particular knowledge about my dog that can only be attained through meeting him. Thus acquaintance knowledge is also not reducible to propositional knowledge.[22]

These theories implicitly suggest a particular approach to the musical material. They posit a deep and inexorable connection between each of the respective fields of study. For the medieval subject, chant was the locus of complex experiences of memory, identity, and knowledge. These complex experiences are not limited to the reception or conceptualization of the medieval subject, because, insofar as chant's creation and transmission are concerned, these theoretical underpinnings are dramatically instantiated within chant. To phrase it another way, the memorial-epistemic framework I utilize is not just what chant means: it is *how* chant was created and performed. As such, a close analysis of the musical artifacts will support these theoretical methodologies because this medieval framework was not merely interpretive, but also productive, and thus present in the musical artifact.

This productive model allows for the consideration of a wide scope of musical material; therefore, some guidelines for selecting pertinent material are required. The chants of the Mass, as represented in tonaries, are the focal point of my investigation. This is because my argument

[21] Richard Feldman, *Epistemology* (Upper Saddle River: Prentice Hall, 2003), 9. This source informs the rest of this paragraph.
[22] Ibid., 11-12.

concerning music theory as a mnemonic aid finds wider application through the Mass repertoire, which contains a broad variety of chants, including complex genres such as Graduals and Offertories.[23] Also, my primary consideration is how questions of identity worked within the memorial-epistemic framework of early medieval culture as a whole. As such, focusing on the chant repertory of the Mass seems most helpful since, compared to the Office, it held more universal impact.[24] Another limitation that narrows the material subject matter of this thesis is an implicit impossibility. Namely, the actual object of my study, the Gregorian music as crafted and transmitted in early 8th- and 9th- century Western Europe, is unavailable and will always remain so. However, this absence in and of itself suggests a certain approach to the materials that I do have. For example, the absence of my object requires the use of diverse materials, since considering a greater number of inferential sources provides more reliable conclusions about how and why chant developed in the manner it did.

Given these constraints, I primarily utilize source materials that can be divided into two categories: treatises and tonaries. My treatises category consists primarily of theory treatises and works about *ars memoria*, though other prose works discussing music fall in this category as well. These include the well-known works of Isidore of Seville (*Etymologiae*, early 7th century), the anonymous *Musica Enchiriadis* (9th century), Aurelian of Réôme (*Musica disciplina*, mid 9th century), and Hucbald of Saint-Amand (*De harmonica institutione*). In my research methodology, I place special emphasis on sources that focus on theoretical concerns of sounding musical practice rather than abstract concerns of the "music of the spheres," though I do provide an extended historical examination of the interrelation of these two traditions. I draw on selected passages from these works that point to the complexity and creative skill of Frankish scholars

[23] Hiley, *Western Plainchant*, 22-25, 76-81, 121-30.
[24] Richard L. Crocker, *An Introduction to Gregorian Chant* (New Haven: Yale University Press, 2000), 12.

who synthesized them into a coherent chant tradition, and how this reveals that memorial techniques were used both to transmit and compose the Gregorian chant repertoire.

Tonaries stand as the intermediaries between the theory treaties and chant music. Part treatise and part notated manuscript, tonaries presented brief chant texts (and notated incipits in later versions) organized according to modal music theory. They have a long history, utilized since the early arrival of liturgical books in the Frankish North through the 13th century.[25] As in the case of the theory treatises, I emphasize early manuscripts such as the Saint-Riquier tonary [Paris, Bibliothèque nationale, lat. 13159] (late 8th century) and compare it to the later Dijon tonary [Montpellier, Codex H 159] to reveal underlying mnemonic functionality. This in turn substantiates my arguments concerning the function of music theory in transmitting chant.

These two types of sources, theory treatises and tonaries, provide an outline of my subject. For example, the systematic layout of medieval tonaries suggests that they were used to map the structure of musical memorial functionality; they are the most explicit testimony to the use of *ars memoria* techniques in music. However, they only helped construct the memorial framework that the subject would then fill; strictly speaking they are not the *content* of the memorial system. The actual content consists of chants that the subject must have already known. As such, the tonaries provide us with vital information about what that content was and how it was formed and remembered. In like manner, careful consideration of the theory treatises reveals the shape of Gregorian chant during the early period of chant transmission in the Frankish North and answers questions concerning how and why this chant was created.

[25] Anna Maria Busse Berger, *Medieval Music and the Art of Memory* (Berkeley: University of California Press, 2005), 57.

LITERATURE REVIEW

Scholarship concerning Gregorian chant has a long history. Chant scholarship was founded in the 19th century among French scholars who, in conjunction with new manuscript discoveries, provided a firm foundation for later developments.[26] This was motivated by a broad cultural reaction against liberalism, as well as a specifically Christian desire to reclaim an idyllic "Age of Faith" against the perceived destructiveness of the "Age of Reason."[27] The groundbreaking work of scholars like Louis Lambillotte during the 1850s was extended through the tireless efforts of the monks of the Benedictine abbey of Solesmes, under the leadership of Dom Prosper Guéranger, who became the central compilers of chant manuscripts.[28] The work of Solesmes was very influential for both singing and scholarship, as Katherine Bergeron notes:

> The historical results of the Solesmes revival were indeed twofold: not only did the monks manage to reconstruct an ancient melodic corpus they had found in ruins, but in time they also developed a set of methods through which this very Gregorian reconstruction could again be broken down and analyzed in its smallest constituent parts.[29]

Similar research also took hold in Germany during the second half of the 19th century, with Peter Wagner emerging as a primary figure in chant scholarship.[30]

This explosion of research brought into question some assumptions concerning Gregorian chant, most notably the tradition of Pope Gregory I as its principal creator; however, the style of this scholarship was still one of religious reclamation. In his very influential study *Introduction to the Gregorian Chant Melodies*, Peter Wagner best expresses this concern with his discussion

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[26] Hiley, *Western Plainchant*, 622.
[27] Ibid.
[28] Ibid., 623.
[29] Katherine Bergeron, *Decadent Enchantments: The Revival of Gregorian Chant at Solesmes* (Berkeley: University of California Press, 1998), xiii.
[30] Hiley, *Western Plainchant*, 623-24. For a detailed study of the history of chant scholarship around the turn of the century from the perspective of the Benedictines of Solesmes, see Pierre Combe, *The Restoration of Gregorian Chant: Solesmes and the Vatican Edition* (Washington, DC: Catholic University of America Press, 2003). For a historical account that also looks in detail at the Solesmes' research methodology, see Bergeron, *Decadent Enchantments*.

of the "authentic" historical continuity between current liturgical practice and the church music *par excellence* of the distant past. Here he comments on Pope Leo XIII's 1901 recommendation for further chant study:

> Science and art alike owe lasting thanks to our present renowned Ruler, the Pope; by a providential decision he has so utilized the results of learned investigations and the skill of practiced exponents of Church music as to make a true reform of the liturgical chant possible . . . It is to be hoped that many workers will now devote their powers to the service of the Gregorian restoration, and not least, that the enthusiasm of the movement may encourage the scientific study of the liturgical chant.[31]

This concern with "reclaiming" the past carried with it an implicit assumption. As Richard Crocker points out, Wagner presumes continuity without change between the earliest notated examples of chant and its original creation before notation.[32] This presupposition was required to posit the kind of authenticity that Wagner, and many other 19th-century scholars, desired. Fully integrated into the foundation of chant scholarship, this "no change" model still appears as late as 1958 in Willi Apel's seminal English-language monograph *Gregorian Chant*; after describing the general outline of chant history, Apel posits that there was no change between the song of the earliest church and reconstructions today.[33]

This belief began to shift in the middle of the 20th century with Dom Cardine's International Congress of Sacred Music at Rome in 1950. There the question of aural transmission of chant was seriously considered; as such, the concern with just how chant might have developed during the period without notation became paramount. James McKinnon refers to this issue, and surrounding questions, as the "central question of Gregorian chant,"[34] and Kenneth Levy summarizes, "The nature and substance of the music during its aural transmission,

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[31] Peter Wagner, *Introduction to the Gregorian Melodies: A Handbook of Plainsong, Part 1: Origin and Development of the Forms of the Liturgical Chant up to the End of the Middle Ages*, trans. Agnes Orme and E.G.P. Wyatt, 2nd ed. (New York: Da Capo, 1986), iii.
[32] Ibid.
[33] Willi Apel, *Gregorian Chant* (Bloomington: Indiana University Press, 1958), 3-4.
[34] McKinnon, *Advent Project*, 14-15.

and the circumstances of its writing down, have ever since been high on Gregorianists' agenda."[35] However, despite this focus, there remains no clear consensus among chant scholars concerning this key aspect of chant studies.

This thesis operates within a field defined by three primary theories concerning oral transmission. Levy refers to them as "the late independent, reimprovisation, and early archetype scenarios," respectively.[36] The "late independent" scenario was the most widely held shortly after the 1950s. This view proposes that neumatic notation came relatively late in the development of Gregorian chant and that actual composition, codification, and transmission of chant occurred in a purely oral environment, attaining some level of fixity nonetheless. The "reimprovisation scenario" was developed in the 1970s by scholars like Leo Treitler.[37] Under this scenario, until the notation of chants in the mid to late 9th century, chant melodies were "reconstructed" or "reimprovised" each time they were sung, according to broad constraints and rules that regulated the kinds of melodies produced. Albert Lord's theories concerning the transmission of epic poetry greatly inform Treitler's view.[38] Finally, the "early archetype scenario" posits that there were early examples of neumatic notation that have not survived, but were instrumental in stabilizing chant, and directly led to the neumatic notation of the late-9th and early-10th centuries. This view, first articulated by Levy, is the most recent addition to chant emergence theories.[39] However, it remains quite controversial.

Many current theories of chant emergence are revisions or elaborations of these three positions. For example, Treitler makes special reference to McKinnon's view concerning the 7th-

[35] Kenneth Levy, *Gregorian Chant and the Carolingians* (Princeton: Princeton University Press, 1998), 4.
[36] Ibid., 10.
[37] Leo Treitler, *With Voice and Pen: Coming to Know Medieval Song and How It Was Made* (New York: Oxford University Press, 2003), see chapters 6, 10, 13.
[38] Albert Bates Lord, *The Singer of Tales* (Cambridge, MA: Harvard University Press, 1960).
[39] Levy, *Chant and the Carolingians*, 12-13.

century development of the Mass Proper chants as a particular approach to the fixity of chant. However, if we use Levy's tripartite rubric of chant theories, McKinnon's theory is perhaps best understood as a modified version of the first approach ("late independent").[40] This classification supports a larger assertion concerning the comprehensiveness of these theories. As such, current responses to this central question, like Emma Hornby's critique of Levy's early archetype theory, usually focus on supporting one of these views over another. Or, like Theodore Karp's scientific study of formulaity in Gregorian chant, they deal with a limited aspect of chant emergence in an attempt to shed more light on the overall issue.[41]

My thesis builds on these three emergence theories and elaborates certain elements, like Treitler's consideration of the role of memory, using current scholarship on the art of memory. More uniquely, I also shed light on the important, yet oft neglected, question of *why* the creation of Gregorian chant became such an important focal point of Frankish intellectual life. Certainly there are stock answers such as political power, regional unification, or imposition by Rome, but these underplay the role that music itself had in engendering its own creation and transmission, in particular how musical structure functions through the art of memory.

Among the elements of chant emergence, the question of memory's role has exerted the most impact. The extent and type of memory used in chant's creation and transmission has been central ever since the 1950s' emphasis on orality's role in chant transmission. The studies of memory that are most influential in chant scholarship came from two streams. The first stream includes theories of oral transmission that originally developed in the field of literature.[42] These were extremely influential to Treitler's "reconstruction" model of chant, and indeed, shape much

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[40] Treitler, *With Voice and Pen*, 144.
[41] Emma Hornby, "The Transmission of Western Chant in the 8th and 9th Centuries: Evaluating Kenneth Levy's Reading of the Evidence," *The Journal of Musicology* 21, no. 3 (Summer 2004), 418-57; Theodore Karp, *Aspects of Orality and Formularity in Gregorian Chant* (Evanston: Northwestern University Press, 1998).
[42] Lord, *Singer of Tales*.

of his scholarship. This approach has been criticized at the conceptual level by Peter Jeffery, who suggests that such literary theories are inadequate for understanding musical types of oral transmission since there are fundamental and irreconcilable differences between musical and literary forms of orality.[43] However, even granting this broad formal criticism, without a clear alternative, literary exemplars remain an important starting place for specifically musical studies of orality. These oral transmission theories concerning chant continue to develop and are usually defined by their emphasis on identifying objective constraints with technical or scientific methods of analysis.[44] Often this kind of research draws from parallel cases of oral transmission from widely differing sources (literary, contemporary, psychological) because it is presumed that oral transmission, and the function of memory within it, would work in a similar manner regardless of context, time, or place.[45]

The second stream of memory studies contrasts with the first. Instead of focusing on the objective process of memory, this scholarship attempts to identify the place of memory within medieval culture, that is to say, to identify the culture's own conception of how, why, and to what degree memory acted. This stream originated within medieval studies and is closely connected to rhetoric. Frances Yates's monograph *The Art of Memory* (1966) was the first English-language work on the art of memory and remains a seminal study in this relatively young field; however, the scope of this pioneering work centers on the Renaissance, and as such

[43] Peter Jeffery, *Re-Envisioning Past Musical Cultures: Ethnomusicology in the Study of Gregorian Chant* (Chicago: University of Chicago Press, 1992), 23-28.
[44] Karp, *Orality and Formularity*.
[45] David C. Rubin, *Memory in Oral Traditions: The Cognitive Psychology of Epic, Ballads, and Counting-out Rhymes* (New York: Oxford University Press, 1995).

it does not fully explicate important aspects of the medieval conception of memory.[46] More recent scholarship by Mary Carruthers greatly expands the scope of this field.[47]

Carruthers's scholarship argues that western European pre-modern life, extending back to the classical Greeks, was organized around the use of memory. Furthermore, this use was consciously regulated as both mental conceptualization and practical technique. In addressing the fundamental nature of memory, Carruthers states, "*Memoria*, in the rich complex of practices and values . . . began in one's earliest education and was basic to both reading and composition." She continues, "If my study achieves nothing else, I hope it will prevent students from ever again dismissing mnemonics and mnemotechnique with the adjective 'mere.'"[48] This reassessment of the concept of memory as understood within the Middle Ages has not gone unheeded by musicologists. Anna Marie Busse Berger's recent study serves as an important point of connection between these two fields.[49]

My conceptual orientation and argumentation rely on the paths opened by this newer stream of memorial scholarship begun by Carruthers. Further, I reinforce the points made by Busse Berger concerning the use of *ars memoria* in chant composition and transmission, though with more focus on the early period of chant emergence than she provides.[50]

Scholarship on *memoria* and oral transmission scholarship have clear connections to musicological concerns of chant emergence; however, another field that informs this thesis provides a more abstract foundation. Memory's abstract function in society has become an

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[46] Frances Amelia Yates, *The Art of Memory* (Chicago: University of Chicago Press, 1966).
[47] Carruthers, *Book of Memory*. See also, Mary J. Carruthers, *The Craft of Thought: Meditation, Rhetoric, and the Making of Images, 400-1200* (Cambridge: Cambridge University Press, 1998); Mary J. Carruthers, *Rhetoric Beyond Words: Delight and Persuasion in the Arts of the Middle Ages* (New York: Cambridge University Press, 2010); and Mary J. Carruthers and Jan M. Ziolkowski, eds., *The Medieval Craft of Memory: An Anthology of Texts and Pictures* (Philadelphia: University of Pennsylvania Press, 2002).
[48] Carruthers, *Book of Memory*, 15-16.
[49] Busse Berger, *Music and the Art of Memory*.
[50] Ibid.

important theoretical topic. In particular, the concept of "collective memory," first posited by French theorist Maurice Halbwachs, began an entire school of thought sometimes referred to as "cultural memory studies."[51] Jan Assmann, a predominant scholar in this field, published a collection of case studies and analyses that provides a plethora of intriguing connections among memorial uses within medieval culture.[52]

In this thesis, I take some of the insights primarily developed by Halbwachs in a new direction, one informed by the type of memorial scholarship pursued by Carruthers. In particular, I show that the kind of group memory found in the Middle Ages is best understood by the term *corporate*, with its embodied connotations, rather than what Halbwachs calls *collective*, with its separated and disembodied implications. Overall, my work demonstrates close connections between the concept of memory as a physiological, rhetorical, and social phenomenon, and memory as a philosophical and epistemic concept.

Epistemologists for the most part ignore acquaintance and procedural knowledge. As Richard Feldman notes, "even though we cannot explain all knowledge in terms of propositional knowledge, propositional knowledge does have a special status."[53] Part of epistemologists' reticence to engage with these other varieties of knowledge stems from their entanglements with other related but "non-epistemic" issues like action-theory and philosophy of time. However, recent questions concerning foundationalism and metaepistemology have resulted in new theoretical interests in acquaintance knowledge. This particular type of knowledge supports my argument directly because it stands in a unique relationship to memory. That is to say, if one knows something by acquaintance (in the general sense) then by definition one remembers it,

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[51] Halbwachs and Coser, *Collective Memory*.
[52] Jan Assmann, *Religion and Cultural Memory: Ten Studies*, trans. Rodney Livingstone (Stanford: Stanford University Press, 2006).
[53] Feldman, *Epistemology*, 12.

because in order to know it, one must have met with the thing itself and thus one would have memories of that experience.

The first modern analytic philosopher credited with explicitly noting the distinction between acquaintance knowledge and propositional knowledge is Bertrand Russell in his influential publication *Problems of Philosophy,* which deals with several of these issues.[54] Though mentioned in subsequent epistemological works, for example in A. J. Ayer's important monograph *The Problem of Knowledge*, acquaintance knowledge was relegated to the background in favor of propositional studies.[55] More recently, Richard Fumerton has vigorously resurrected studies of acquaintance knowledge, especially in regard to how it could serve as the epistemic grounding that foundationalists often seek.[56]

It should be noted that philosophers' interest with acquaintance knowledge is highly specific, and in the case of Fumerton often revolves around how acquaintance knowledge might be the grounding for other kinds of knowing. More importantly, philosophers often focus on what this relation of acquaintance might mean. This close analytical reading of acquaintance rejects the idea that our commonplace understanding of acquaintance is accurate, often suggesting that we cannot even really be acquainted with things at all. My work here departs from these stringent conclusions of current acquaintance theory, engaging with a broader use of the term, as well as the more technical epistemological version. However, the strict insights that analytical epistemology has concerning the nature and extent of acquaintance, and the relation of knowledge to memory, serve as guideposts and springboards for a more culturally relevant definition.

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[54] Bertrand Russell, *The Problems of Philosophy* (New York: Oxford University Press, 1959). See in particular chapter 5, "Knowledge by Acquaintance and Knowledge by Description," 46-59.
[55] A. J. Ayer, *The Problem of Knowledge* (New York: Macmillan, 1956).
[56] Fumerton, *Metaepistemology*.

I build upon the various streams of thought from these three fields—musicology, memorial studies, and philosophy—in order to show how the use of memory as a governing technique and intellectual concept in the Middle Ages directly affected the production and transmission of chant in perceptible ways. These memorial influences on music are revealed through the overarching importance of modal theory, which helps create a musical "place to be" in Gregorian chant. Thus modality produces a mnemonic locus within the music itself, and provides a conceptual space in which larger questions of cultural self-knowledge are resolved.

OVERVIEW OF REMAINING CHAPTERS

The remaining chapters of this thesis deal closely with how these diverse theoretical backgrounds can be synthesized into a cohesive argument for the use of *ars memoria* in the production, interpretation, and motivation of Gregorian chant.

Chapter 2 focuses on the medieval understanding of memory by underlining the powerful and ubiquitous influence of practices like *ars memoria* in the Middle Ages, as well as its personal and collective manifestations. In particular, I argue that the interrelation between personal and collective memory points to the vital configuration of memory as the grounds for individual and group identity. Further, I reveal that this identity was created through the memorial process, which I configure as imaginative and active, not passive and reified.

Chapter 3 brings the memorial theories to bear on the central question of chant transmission in order to offer a new analysis of how Gregorian chant developed. I first discuss the development of medieval modal theory by examining its complex historical incorporation of multiple theoretical traditions, such as ancient Greek theory and Byzantine modal organization. The complexity of this process raises questions concerning the motivation of Frankish theorists to take this difficult route. I argue that the need for a mnemonic functionality motivated

Frankish theorists to craft their modal theoretical system along these lines. I substantiate these claims by focusing on tonaries as paradigmatic texts for revealing the connection between musical practice and memorial art. After situating these tonaries within the larger context of medieval textuality, I discuss recent scholarship on tonaries' relation to the art of memory. I posit that a deeper level of memorial functionality presents itself in these medieval documents, particularly by focusing on those examples that do not neatly fit in the current scholarly paradigms of tonary production. I then sketch out the shape of this deeper memorial functionality via the medieval incorporation of modal music theory. I reveal that there are implicit memorial functions within the musical attributes of chant itself, which are codified in tonaries.

Chapter 4 concludes that one important underlying motivation for the Frankish appropriation of chant was the need to articulate a Christian group identity that would cohere with Rome; however, this project faced the inherent difficulty of music's memorial instability. By synthesizing the arguments of chapters 2 and 3, I show that the Carolingian solution to this quest for identity was to create a kind of music that could both be memorized, via implicit mnemonic techniques, and become the locus for group identity. This unifies both subjective and collective memory to create what I term "corporate memory," which I define as a subjectively embodied yet publicly expressed memorial identity. I utilize this concept, and its embodied connotation, to emphasize how memory is configured as unifying to the group while it is simultaneously expressed and experienced through individual bodies.

This kind of self-knowledge links memory with epistemic concerns, and suggests that the most fundamental aspect of the Frankish project was coming to *know* one's own identity through acquaintance. I briefly investigate the structural similarities between modern acquaintance

epistemology and medieval conceptions of memory, ultimately showing that memory functioned as the epistemic system *par excellence* for a medieval person of the Christian West. Finally, I suggest how the underlying epistemic structure of this corporate process has broader implications for cultural production in our own time, and how the aesthetic experience can be reconsidered as an epistemic experience.

Chapter 2
Creative Memory and Memorial Knowledge: *Ars memoria*, Collective Memory, and the Desire for Knowledge of Self

Imagination and memory are but one thing, which having diverse considerations hath diverse names.[57] ~ Thomas Hobbes

Since the 1950s, scholarship concerning Gregorian chant has been increasingly mindful of the oral origins of chant. Tied to this development was a heightened awareness of the function of orality in chant transmission, where orality includes the methods, techniques, and cultural preconceptions that influence creativity and memorialization in the complex literate and oral environment of the Middle Ages. Often this scholarship narrows to focus on the physiological constraints of orality and how various techniques existed to overcome these constraints. Though these narrow accounts of orality are certainly true, recent scholarship regarding the use of memory in the Middle Ages has added a broader description to this emergence narrative. This scholarship reveals that memory was not just another technique, nor a matter-of-fact situation of medieval life, but rather a complex and active conceptual underpinning for much of medieval thought and culture. As such, any understanding of the historical conditions for the development of chant must take into consideration the importance of this memorial milieu.

In this chapter, I utilize various strands of medieval memorial scholarship, focusing on the work of Mary Carruthers, to paint a fuller picture of the function of memory in medieval society during the 9th century. In particular, I emphasize how memory was more than just a static retrieval system, but instead, as the Hobbes quote above suggests, active and most importantly creative. I then contrast the personalized and embodied memory described by Carruthers with the broader concept of collective memory articulated by Maurice Halbwachs.

[57] Thomas Hobbes, *The Leviathan* (Amherst, NY: Prometheus Books, 1988), 5.

Through this comparison, I reveal that an underlying configuration of memory as the foundation of self-knowledge exists in both Carruthers and Halbwachs's conceptions of memory. In light of this link, memory becomes the foundation for both personal and collective identity; further, it is from this memorial foundation that creative acts develop as extended articulations *of* that identity. In this way, as I explicitly argue in chapter 4, medieval memorial culture unites the context, method, and purpose of Gregorian chant.

THE ART OF MEMORY

Medieval and rhetorical studies have informed late-20th-century scholarship's attempts to identify medieval culture's own conception of how, why, and to what degree memory functioned. Specifically, these efforts seek to reassess how the technical art of memory, or *ars memoria*, influenced the rest of medieval thought. As discussed in chapter 1, Frances Yates's *The Art of Memory* and recent scholarship by Mary Carruthers define this field.[58]

Carruthers argues that western European pre-modern life, extending back to the classical Greeks, was organized around the use of memory. This assertion may seem overly broad. Indeed, when one suggests that all aspects of medieval thought are influenced by anything, a natural, and helpful, reaction is to ask "who exactly?" Though these memorial practices are most fully realized among medieval individuals who were educated and privileged, such as clergy, nobles, and scholars, two considerations must be kept in mind. First, as Carruthers states in her introduction to *Book of Memory*, "illiteracy" in the Middle Ages meant inability to read and understand Latin; as such, we should not construe medieval accounts of "illiteracy" to mean the same kind of illiteracy that we conceive of today.[59] Instead, many people could read in their own language and would encounter concepts found in Latin texts as they were, interpreted, translated,

[58] Yates, *Art of Memory*; Carruthers, *Book of Memory*.
[59] Ibid., 11-12.

or distilled into vernacular sources. Second, an overemphasis on societal stratification can only obscure the true complexities of social interactions. As medieval scholars Donald Weinstein and Rudolph Bell note, "it is important not to exaggerate the differences between medieval clerical and lay religious experience. Much of late medieval and Renaissance lay piety called upon clerical models of belief and practice, and to a considerable extent it was conceived and carried on under the guidance of the clergy."[60] Further, as Weinstein and Bell argue, social class boundaries were far less ridged than sometimes supposed, especially since the clergy themselves could be drawn from any social strata.[61] This illustrates a greater point; no part of society is truly separate, there are always interrelations and influences. As such, *memoria* can reasonably be said to influence all aspects of medieval thought, though perhaps to differing degrees.

At *ars memoria*'s greatest points of influence, its use was consciously regulated as both mental conceptualization and practical technique. In addressing the fundamental nature of memory, Carruthers states, "*memoria*, in the rich complex of practices and values . . . began in one's earliest education and was basic to both reading and composition."[62] She continues:

> It is my contention that medieval culture was fundamentally memorial, to the same profound degree that modern culture in the West is documentary. This distinction certainly involves technologies—mnemotechnique and printing—but it is not confined to them. For the valuing of *memoria* persisted long after book technology itself had changed.[63]

The History of *Ars memoria*: Ancient Techniques and Monastic Practice

Memory in the Middle Ages developed along two interrelated historical lines. The first, which I call classical *ars memoria*, can be traced to antiquity and indeed much of the

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[60] Donald Weinstein and Rudolph M. Bell, *Saints and Society: The Two Worlds of Western Christendom, 1000-1700* (Chicago: University of Chicago Press, 1982), 11.
[61] Ibid., 10-11.
[62] Carruthers, *Book of Memory*, 9.
[63] Ibid.

terminology and standard practices for memorial development in the Middle Ages stems from these ancient sources. In ancient texts, the prototypical origin story of classical *ars memoria* is the pre-Socratic Greek poet named Simonides.[64] As Cicero relates in the first century B.C., Simonides was attending a dinner party when an earthquake caused the roof to collapse. As the only remaining survivor, Simonides was able to identify the bodies of the dead by reconstructing a complete picture of both the event and the location of everyone at it.[65] From this story, Cicero infers that in order to cultivate an effective memory one must develop a set, organized, and ordered structure for memory, much like the orderly arrangement of guests at the table, which allowed Simonides to recall their names.[66]

From this mythic beginning, several important memory arts were developed that suited the academic rhetoric of oral speech making. The most important accounts of these arts for the Latin West include Cicero's *De oratore* (55 B.C.) and Quintilian's *Institutio oratoria* (ca. 50 A.D.), which were further interpreted by intermediaries like Consultus Fortunatianus, a rhetorician from the fourth century.[67] Finally, and perhaps most influential in the early Middle Ages, was the *De nuptiis Philologiae et Mercurii* by Martianus Capella, the famous allegorical study of the liberal arts in which memory is presented as part of rhetoric. These accounts of memory already establish the basic technical terminology and metaphors that would come to define classical *ars memoria*. Thus, these ancient texts engendered key techniques further developed in the Middle Ages, such as: the recommendation for dividing large texts into sections; the distinction between "memory for things" and "memory for words;" and the importance placed on memory by means of images. However, many of the ancient texts now

[64] Ibid., 25-26.
[65] Yates, *Art of Memory*, 1-2, 27-29.
[66] Carruthers and Ziolkowski, eds., *Medieval Craft of Memory*, 17-18.
[67] Ibid., 18-19. The rest of this historical overview draws from these pages.

considered vital to understanding *ars memoria*, such as Aristotle's *De anima* or the famous *Rhetorica ad Herennium,* were relatively unknown in the early Middle Ages, with some of them untranslated or uncirculated until after the 12th century.[68]

This loss of text during the transition from late antiquity to the Middle Ages has led some scholars to posit a sharp chronological divide in which the practice of classical *ars memoria* faltered completely. As Janet Coleman notes, during the 5th through 7th centuries there was a distinct and intentional forgetting of earlier mnemonic methodologies.[69] Coleman ascribes this move in part to the difficult historical circumstances of these centuries; this includes factors such as political instability, disease, and wars. As musicologist James McKinnon says, it is "justly referred to as the Dark Ages."[70] Coleman also notes that the medieval belief in a transient wicked world influenced the desire to jettison previous methodologies. As she summarizes, "the turmoil of the present [was] seen as caused directly by those bad old days and their values . . . If all the things of the world are doomed to perish, why recall them?"[71] This loss can be overstated though, for as Carruthers suggests, "Classical traditions of memory and memorization were diminished but by no means lost in the transitional period know as late antiquity. As a result formal mnemotechnics survived in the Middle Ages in both theory and practice."[72] Indeed, many of the works of patristic fathers, for example St. Augustine and St. Jerome, are both directly and indirectly influenced by the antique conceptions of memory, as well as their accompanying technique of classical *ars memoria*. For example, the *Ad Herennium* was more widely known in North Africa and even experienced a revival of sorts. Some of the early Church

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[68] Ibid., 19.
[69] Janet Coleman, *Ancient and Medieval Memories: Studies in the Reconstruction of the Past* (New York: Cambridge University Press, 1992), 115-16.
[70] McKinnon, *Antiquity and the Middle Ages*, 88.
[71] Coleman, *Ancient and Medieval Memories*, 115.
[72] Carruthers and Ziolkowski, eds., *Medieval Craft of Memory*, 17.

fathers, such as Jerome, were directly familiar with the text and thus also familiar with the broader art of memory, possibly due to their rhetorical education. As such, *Ars memoria* was at least implicitly transmitted through their writings.[73] Thus, these techniques were embedded in some of the seminal works of even the early Middle Ages.[74] However, there was still a reduced influence of ancient memorial texts; this reduction opened up space for the development of a second stream of memorial thought. This new stream was unique from, although related to, the practice of classical *memoria* and developed out of the monastic practice of meditation.

This second historical line of thought had its genesis in the early monastic traditions that developed from the so-called Desert Fathers. During the 4th through 6th centuries, a period of increasing Christianization, rhetoricians became objects of suspicion due to their association with pagan culture. Thus, the techniques of classical *ars memoria* became increasingly suppressed.[75] At the same time, Western monasticism came to the forefront of Western Christian thought, following the popularization of the accounts of the lives of the Desert Fathers, such as the *Vita* of St. Anthony.[76] The fortunes of the Roman Empire deteriorated and the interest in monasticism grew, culminating in the election of St. Gregory the Great as pope (ca. 590); Pope Gregory exemplifies the complex conjunction of interests of that time since he was at once a Roman, a Christian, and an important early monastic figure.[77] As such, it is unsurprising that from the monastic tradition a new method of memorial techniques developed called *mnēmē theou*—the Memory of God.[78]

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[73] Yates, *Art of Memory*, 50-52.
[74] Carruthers and Ziolkowski, eds., *Medieval Craft of Memory*, 17-19. For a comprehensive discussion of how St. Augustine synthesized the ancient philosophical underpinnings concerning memory, as well as his own memorial innovations, see Coleman, *Ancient and Medieval Memories*, 80-111.
[75] Coleman, *Ancient and Medieval Memories*, 118-19.
[76] Ibid., 120.
[77] Ibid.
[78] Carruthers and Ziolkowski, eds., *Medieval Craft of Memory*, 20.

This monastic practice, though incorporating the mnemonic techniques of antiquity, was a complex and new phenomenon. As Carruthers glosses, "it is important to understand that *memoria* in monastic meditational practice is not simply a variant of ancient mnemonic teachings applied to the situation of meditation . . . [it] has a more complex cultural matrix."[79] This method stems from a particular practice of reading sacred texts, often referred to as rumination (*ruminatio*); as such, the common metaphors of ancient mnemonic technique became infused with the biblical imagery. Thus, rather than an emphasis on the structures of memorial thought, one finds the *content* of mnemonic thought and its implicit memorial characteristics to be of prime importance. It is in this context that the rote memorization of texts became an important part of greater memorial projects; furthermore, this kind of memorization was configured as ethically important—to forget was considered an affront to God.[80] This kind of monastic memory united two seemingly contrary elements—*oblivio* and *semper memor*—where the first is a kind of systematized forgetfulness of self, and the second is the remembering of eternal promises, judgments, and spiritual realities.[81]

The emphasis on memorial content provided by the tradition of rumination also inspired the development of unique reading practices. These techniques would go on to shape dramatically the medieval method of study and they illustrate some important general principles of *mnēmē theou*. This method was referred to as *lectio divina*, and in medieval monastic communities it was the central step in the soul's ascent to God, as well as a precondition for

[79] Ibid.
[80] Ibid., 20-22.
[81] Coleman, *Ancient and Medieval Memories*, 127, 131.

effective preaching.[82] Perhaps the most important aspect of this approach to textual meditation is its extremely active nature. As medieval scholar Jean Leclercq notes:

> In the Middle Ages the reader usually pronounced the words with his lips, at least in a low tone, and consequently he hears the sentence seen by the eyes . . . This results in more than a visual memory of the written words. What results is a muscular memory of the words pronounced and an aural memory of the words heard. The *meditation* consists in applying oneself with attention to this exercise in total memorization; it is, therefore, inseparable from the *lectio*. It is what inscribes, so to speak, the sacred text in the body and in the soul.[83]

This striking quote highlights several of the most important aspects of monastic memorial practices. The most obvious is the intensely multisensory configuration of the memorial/meditative process. Indeed, as Leclercq goes on to emphasize, along with the senses mentioned above of sight, sound, and the physical "feeling" of the words in one's mouth, there is also the conceptualization of reading as literally eating or tasting God's word.[84] This is expressed in vivid imagery by St. Augustine and others, as Leclercq notes, that one must essentially, "[assimilate] the content of a text by means of a kind of mastication which releases its full flavor."[85] In this way, all five senses become intimately involved with the process of memorization.

Carruthers notes this multisensory process as well, arguing that such techniques impress the memory even more deeply into the subject by providing more mental "hooks" or "links" to attach to the specific memory.[86] Further, this act relates to the medieval concept of "copiousness." As Carruthers glosses, "pre-modern writers thought of knowledge as a collection of truths awaiting expression in human languages . . . these truths are general but can never, with

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[82] Duncan Robertson, *Lectio Divina: The Medieval Experience of Reading*, Cistercian Studies (Collegeville, MN: Liturgical Press, 2011), 88-103.
[83] Jean Leclercq, *The Love of Learning and the Desire for God: A Study of Monastic Culture*, trans. Catharine Misrahi (New York: Fordham University Press, 1982), 72-73.
[84] Ibid., 73.
[85] Ibid.
[86] Carruthers, *Book of Memory*, 97.

the exception of a limited set of mathematical axioms, be universally or singly expressed . . . truths especially are expressed not singly but 'copiously.'"[87] Thus, a given concept may have many different definitions that all express the inexhaustible complexity of that single concept, with none of them more objectively accurate than the others. In like manner, *lectio divina*, with its multisensory nature, can *copiously* inscribe a memory, since memorial concepts themselves are configured as inexhaustible.

These two streams of thought—classical *ars memoria* and monastic *mnēmē theou*—informed the development of the general practice of *ars memoria* in the Middle Ages; indeed, one should recognize medieval memory as a mixture of both lines into an integrated whole that informed all aspects of medieval thought. According to Carruthers, part of the ubiquity of memorial techniques within medieval culture, and thus their wide influence, stems from their establishment at the beginnings of education. As she states, "From antiquity, *memoria* was fully institutionalized in education, and like all vital practices it was adapted continuously to circumstances of history."[88] By being ensconced in the writings of such important figures as Quintilian, St. Augustine, and Martianus Capella, as well as obliquely in the works of Plato, *ars memoria* extended its influence across the admittedly fuzzy temporal divide between Late Antiquity and the Middle Ages.[89]

A Creative and Somatic Memory

Having investigated the historical foundations of memory in the Middle Ages, I turn to just how memory was configured by a medieval subject, how this differs from modern conceptions of memory, and what this implies in a general sense for the time period of the Carolingian renaissance. There are two telling differences between medieval theories of memory

[87] Ibid., 30.
[88] Ibid., 153.
[89] Ibid., 24-25.

and memory as we conceive of it now. First, in the Middle Ages, memory was conceived as primarily constructive, imaginative, and productive. Second, memory was conceived as intrinsically somatic.

The first function can be understood as an extension of a greater medieval mindset concerning composition. As musicologist Nancy van Deusen has suggested, the persistent metaphor of a forest (or *silva*) captures this inclination. She summarizes:

> The concept of forest provides us with a key to understanding construction and composition within areas such as literature, art and music . . . united at the crux of the matter by the notion of *silva*, a forest full of material potentiality . . . it is preexistent substance.[90]

This "preexistent" substance was the material out of which new compositions could be formed. During the Middle Ages, memory was configured as the preexistent substance of the mind. Thus, memory was intimately linked with the creative processes of composition and imagination. This connection can be further shown by examining the underlying metaphors that inform medieval thought concerning memory, and how they implicitly suggest a particularly creative approach to memory usage.

Metaphors for memory frequently take several reoccurring forms: the heart, a wax tablet, a treasure box, or an inventory.[91] These metaphors are quite ancient and one finds them in common use in even the earliest texts. The heart metaphor in particular goes back at least to Aristotle, who thought that the heart functioned physically in the act of memory making.[92] However, even after Galen's discoveries in 220 A.D., which showed that this physiological function of the heart was no longer medically accurate, the metaphor persisted. As Carruthers notes, "Memory as a function of the heart was encoded in the common Latin verb *recordari*,

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[90] Nancy van Deusen, *The Cultural Context of Medieval Music* (Santa Barbara: Praeger, 2011), 23.
[91] Carruthers, *Book of Memory*, 16.
[92] Ibid., 59.

meaning 'to recollect.' Varro, the second-century BC grammarian, says that the etymology of the verb is from *revocare* 'to call back' and *cor* 'heart.'"[93] She goes on to reveal that this transformed into the common English phrase of knowing something "by heart."[94] Further, by considering related phrases like "speaking from the heart," one can see the implicit connection to creativity contained within the metaphor, since the heart becomes a wellspring for creative action.

This connection to creativity is even more apparent in the metaphor of the strongbox or treasury mentioned above. For example, in his *Confessions*, St. Augustine states, "I enter the fields and spacious halls of memory, where are stored as treasures the countless images that have been brought into them from all manner of things by the senses."[95] We find similar language concerning this "treasury of images" repeated in the 12th century by Hugh of St. Victor, who states in the opening paragraphs of his work on *memoria* that:

> Child, knowledge is a treasury and your heart is its strongbox. As you study all of knowledge, you store up for yourselves good treasures . . . In the treasure house of wisdom are various sorts of wealth, and many filing-places in the storehouse of your heart. Confusion is the mother of ignorance and forgetfulness, but orderly arrangement illuminates the intelligence and secures memory.[96]

This quote also highlights the fluid interplay between various metaphors; in this case the "treasury" and "strongbox" images are linked explicitly with the heart. This metaphor clearly implies that a certain amount of ordering or structure to memory was necessary as well. It is this ordering that reveals the underlying creative function of memory implicit in the metaphor.

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[93] Ibid.
[94] Ibid., 59-60.
[95] Augustine, *The Confessions of St. Augustine* (Westwood, NJ: Christian Library, 1984), 194.
[96] Hugh of St. Victor, "The Three Best Memory Aids for Learning History," in *The Medieval Craft of Memory: An Anthology of Texts and Pictures*, ed. Mary Carruthers and Jan M. Ziolkowski (Philadelphia: University of Pennsylvania Press, 2002), 33.

Memory was not just a box where everything is thrown; at least a good (in both the qualitative *and* moral sense) memory would not be like that. Instead, memory—like a box of one's treasures, or a money changer's purse—is well ordered. Why? Again, Hugh states:

> a classifying-system for material makes it manifest to the mind . . . and when for safekeeping you place something in them, dispose it in such an order that when your reason asks for it you are easily able to find it by means of your memory and understand it by means of your intellect, and bring it forth by means of your eloquence.[97]

Thus, *memoria* is vital not just, or even primarily, for storage but for recall. As Carruthers has forcefully argued, memory in the Middle Ages was very foreign to the modernist psychology of "memory as a filing cabinet." In the medieval metaphors for memory, "its contents were imagined as alive (animals and birds) or as materials to be used richly in the commerce of creative thought (coins, jewels, foods)."[98] An unorganized memory is a "useless heap, what is sometimes called *silva*, a pathless forest of chaotic material."[99] From this raw experience, pieces of material—van Deusen's "chunks"—must be created and organized. Thus, memory is configured as a way to store up these "chunks" of material for later use.[100] Indeed, there is a distinction between mere verbatim recall and recollection, where recollection (as the English word literally implies) *re*-collects the pieces of memory to be assembled into some intelligible order.[101]

In this way, memory can be said to be creative, and thus *ars memoria* becomes the foundation of innovation. A specifically musical example of this is found in the theory treatise

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[97] Ibid., 36.
[98] Carruthers, *Book of Memory*, 38. The metaphor of memorial content as a kind of food (usually something sweet like honey) is discussed in detail by Carruthers later on pp. 40-42. Though outside the scope of this thesis, there is an underlying tripartite connection between the configuration of memory as food, aesthetic descriptors of music as "sweet" sound, and the act of listening as a kind of consumption. This subtle connection may point to how music was often configured as the supreme memorial art due to its transient nature, and thus how music and memory were configured as "food" because they both must be taken into and preserved through bodily incorporation.
[99] Ibid., 39.
[100] Ibid., 234.
[101] Carruthers and Ziolkowski, eds., *Medieval Craft of Memory*, 1-10.

Musica disciplina by Aurelian of Réôme (ca. 840). In this work, Aurelian discusses the origin of some specific Antiphons and Responsories. When discussing the Responsory *Gaude Maria Gabrielum archangelum*, Aurelian relates the following story:

> The author of this response was a certain Roman, Victor by name, blind from birth, who, when he had learned the melodies of the chants by memory from the singers, sitting one day before the altar of Saint Mary, an edifice that is called the Rotunda, the divine will favoring, composed this response and immediately merited to be illumined with sight, of which he had already been deprived for a long time, and to receive genuine brightness.[102]

It is not incidental that an act of memory preceded the act of musical creation; rather, the structure of the story implies that memory is the wellspring of Victor's creativity, providing the necessary musical material for him to reorganize into a new chant.

Musicologist Leo Treitler gives more examples of how this creative function of memory worked in performance practice. Treitler contends that musical performance in oral cultures belongs under the rubric of "improvisation," but with improvisation carefully qualified so we "do not conceive a boundary between improvisation and composition so sharp as to make them categorical opposites."[103] As he states:

> "improvisation," considered as word, concept, and practice—presents a particularly vexing case. The word (along with its verb, adjective and adverb forms) is modern . . . and in its wide usage as of the nineteenth and twentieth centuries it can have negative and even pejorative connotations.[104]

This negative view of improvisation exists because in modern language, improvisation tends to connote the completely unplanned, even random, performance of some art. Instead of this modern conception, Treitler emphasizes that medieval singers performed "according to

[102] Joseph Perry Ponte, "Aureliani Reomensis *Musica disciplina*: A Revised Text, Translation, and Commentary" (Ph.D. Diss., Brandeis University, 1961), 126.
[103] Treitler, "Medieval Improvisation" in *With Voice and Pen*, 2-3.
[104] Ibid.

traditional principles that they had assimilated."[105] This means that chant was produced via a kind of "generative system" where knowledge of general principles is sufficient for the creation of a particular chant melody.[106] Thus, music was created in performance by rearticulating musical principles, or models, that had already been incorporated into the singer's memory. Treitler summarizes, "from the very beginning of a written [chant] tradition reading, remembering, and extemporizing were continuous acts; they were mutually supportive and interdependent."[107] As such, memory is the precondition of creativity in musical performance.

This creative impulse within memorialization extends to every level of medieval psychology. As Carruthers has shown, linguistic idioms and medieval philosophy configure even the act of thinking itself as a microscopic creative act founded on memory: "one should therefore think of a single *cogitation* or 'thought' as a small-scale composition, a bringing-together (*con* + *pono*) of various pieces (as phantasmata) from one's inventory."[108] This is very different from our modern conception of memory as a reliable index of past events. The accurate representation of the past, during the Middle Ages, was placed as merely one, relatively insignificant, element of memory's multifaceted functionality.

The second element of memory—its somatic nature—relates to the manner in which a subject's memorial archive is grown. As Carruthers glosses, "A work is not truly read until one has made it part of oneself—that process constitutes a necessary stage of its textualization."[109] This incorporation, making part of oneself, was described with several different metaphors, governed by what was believed to be the physical process of memory formation. The most

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[105] Leo Treitler, "Oral, Written, and Literate Process in the Transmission of Medieval Music," *Speculum* 56, no. 3 (July 1981), 475.
[106] Ibid., 480.
[107] Leo Treitler, "The 'Unwritten' and 'Written Transmission' of Medieval Chant and the Start-up of Musical Notation," *The Journal of Musicology* 10, no. 2 (1992), 135.
[108] Carruthers, *Book of Memory*, 39.
[109] Ibid., 11.

widely used image was that of wax tablets on which the memory was inscribed or impressed. This metaphor goes back at least as far as Plato's *Theaetetus*, though there are indications that it is even older.[110] These mental impressions were considered images, "imprinted upon the memory as if with signet-rings;" as such, they were figurative images though not necessarily pictorial.[111]

These metaphors for memorial production underscore the medieval description of memory as a distinctly visual process; in light of this, mnemonic techniques often consisted of dramatic visual images—sometimes graphic and even violent.[112] As Jody Enders summarizes, "the memory image was persuasive and dramatic because it was violent . . . violence often lay (literally and metaphorically) at the architectural and epistemological foundations of classical and Christian mnemotechnics."[113] This emphasis on memory as a visual process stimulated by dramatic images was taken as a commonplace in the Middle Ages, and recent quantitative studies have confirmed it as a substantive insight. David Rubin's monograph on the use of memory in oral traditions from the perspective of psychology comes to the conclusion that "imagery is one of our most powerful mnemonic aids. It is especially useful where the rapid retrieval of information is important."[114] However, one must remember that "visual" does not mean the same thing as "pictorial." To be sure, pictorial methods of memorization existed in *ars memoria*, but the primary function of visual memory was "representational," much like language.[115] To phrase it another way, memory was not conceived as primarily mimetic, but

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[110] Yates, *Art of Memory*, 35.
[111] Carruthers, *Book of Memory*, 19.
[112] Yates, *Art of Memory*, 3-6.
[113] Jody Enders, *The Medieval Theater of Cruelty: Rhetoric, Memory, Violence* (Ithaca: Cornell University Press, 1999), 66.
[114] Rubin, *Oral Traditions*, 62. Rubin's entire chapter on the function and quantification of image process in the context of memory is a useful reference here.
[115] Carruthers, *Book of Memory*, 21, 26-27.

rather as symbolic, where, like language, there is a disjunction between the subject (person), the sign (*verba*), and the thing signified (*res*).

This disjunction was seen as a positive element because it allowed a fluid reconfiguration of the *res*, the Latin concept encompassing ideas, notions, and feelings. These were to be richly stored in the memory instead of being strictly confined in *verba* (words, conceptualizations). Carruthers shows that the implicit assumption in the Middle Ages was that the *res* itself could never be fully explicated in *verba* but that the *res* is an entity "for which words are to be discovered from one's memorial store as one transforms it into present speaking. These words mediate the public appearance of the *res* . . . [and] serve as a route or guide . . . [to this *res*] which is in a continual process of being understood, its plenitude of meaning being perfected and completed."[116] Thus we have an important configuration: the relationship between the *res* and the memorial expression of that *res* need not be veridical in the strictest sense. Rather, as noted above in the section on *lectio divina*, a valuable memory was one that most *copiously* expressed the idea, not most *accurately* expressed the idea. If one considers strict accuracy to be impossible, then explication, or "copiousness," becomes a sensible location of value.

To summarize, these inscription and impression metaphors show that, as Carruthers's explains, "[in] the processes of memory and perception . . . the *imagines* were thought in some way to occupy space. They are 'incised' or 'stamped' into matter."[117] This physical stamping colors memory with a stark physicality; at some level the object literally becomes part of the subject. As such, memory was considered intrinsically somatic in nature in the Middle Ages. Furthermore, the disjunction between the fullness of an idea and its actual representation, both in memory and through words, was a necessary implication of this embodiedness. However, rather

[116] Ibid., 235.
[117] Ibid., 31.

than a problematic mediation, it became the foundation for what medieval subjects would consider creative thought—the ever growing explication of a copious idea through building one's memory and then *re*collecting it either internally or externally. This embodied aspect of memory took on special emphasis in the monastic *mnēmē theou* tradition and colors chant as ethically vital via memory.

For the monastic tradition, memory was primarily valued for the process of "rumination" rather than its usefulness in rhetoric, the kind of "creative memory" discussed above, though that was certainly involved. This meditative technique, the primary technique of *mnēmē theou*, utilized memory's embodiedness to show that the truths of God could be "impressed" into the person's character—memory was configured as ethical.[118] The importance of embodying for *mnēmē theou* develops from the very meaning of the words used to describe its techniques. As noted earlier, the Latin words for rumination are directly related to the concept of re-chewing one's food, like a cow. As Carruthers writes, "*Ruminatio* is an image of regurgitation, quite literally intended; the memory is a stomach, the stored texts are the sweet-smelling cud originally drawn from the gardens of books (or lecture), they are chewed on the palate."[119] By incorporating text as we incorporate food, we find ourselves changed, and one makes these ethical gains by means of this memorial incorporation. As Gregory the Great writes, "We ought to transform what we read within our very selves, so that when our mind is stirred by what it hears, our life may concur by practicing what has been heard."[120] This sentiment also appears in Hugh of St. Victor, who discusses walking through the "forest" of scripture "whose ideas [*sententias*] like so many sweetest fruits, we pick as we read and chew [*ruminamus*] as we

[118] Coleman, *Ancient and Medieval Memories*, 138-40.
[119] Carruthers, *Book of Memory*, 206.
[120] As cited in ibid., 205.

consider them."[121] As such, the value of a text, song, or object, was directly indexed to whether or not it was worth placing in memory. For example, the music theorist Aurelian of Réôme relates to his benefactor Bernard, "I have . . . submitted this chain of words to the criticism of your reverence and have dedicated it to your name, so that, if things seem worthy in your sight, they may be committed to *memory*; if, however, otherwise, they may be consigned to oblivion."[122]

Chant and psalmody also became closely associated with the ethical function of memory. This is prefigured by St. Augustine's famous contention that "all the affections of our soul, by their own diversity, have their proper measures (*modos*) in voice and song, which are stimulated by I know not what secret correspondence . . . I vacillate between the peril of pleasure and the value of the experience."[123] This "secret correspondence" is revealed when one examines other medieval writers who emphasize music's important interrelationship with memory, as well as how it is embodied through performance. Isidore of Seville's comments concerning music being "held in the memory of man," which were mentioned in chapter 1, are a good example of this relationship between music, memorial incorporation, and tacitly ethical gain.[124] This sentiment is perhaps expressed most explicitly by the early Carolingian writers, Abbot Smaragdus of Mihiel, who states:

> Sing the Psalms with wisdom, that is, we should not seek the sound heard by the ear but the light of the heart; and what we sing with our tongue we must complete with our deeds. The one who sings wisely understands what he sings . . . It is good always to pray from the heart. It is also good to glorify God with the sound of the voice in spiritual hymns. To sing with only the voice without the intention of the heart is nothing . . . for however hard the heart of physical persons, as soon as the sweetness of the Psalm begins to sound out, it brings the mind to pious emotion . . . In a way, I know not how, the melodic modulation of the singer brings forth a deeper compunction of the heart . . . for

[121] As cited in ibid.
[122] Ponte, "*Musica disciplina*," 4. My italics
[123] McKinnon, *Early Christian Literature*, 154-55.
[124] Barney et al., *Etymologies*, 95.

> when the voice singing the Psalm is driven by the intention of the heart, a way is opened through this to almighty God, so that he fills the opened soul with the mysteries of prophecy and the grace of compunction.[125]

This remarkable quote ties the ethical nature of music directly to memory by juxtaposing a subtle allusion to St. Augustine's earlier comments about music ("In a way, I know not how, the melodic modulation of the singer brings forth a deeper compunction of the heart") with the commonplace medieval metaphor of the heart being a seat memory, and thus memorial incorporation as something "written on the heart." In this way, memory, in both musical and non-musical situations, becomes the mediating lens through which the subject interprets his present situation and plans his future; it is vital precisely because it shapes the subject.[126]

MEMORY AND IDENTITY: PUBLIC, PRIVATE, AND COLLECTIVE

Both of these characteristics—memory as creative and memory as embodied— as expressed within both classical *ars memoria* and monastic *mnēmē theou*—created a kind of underlying medieval cultural matrix. Furthermore, unlike a vague notion of a medieval philosophical milieu with supposed influence on the given period, these memorial concepts were explicitly instituted in education, rhetoric, and meditative practices. As I have shown, these practices were instantiated at the individual, subjective level through memorial incorporation.

As such, memory becomes explicitly connected to identity formation; however, this formation is not merely a private matter for the medieval subject. Peter Abelard, the 12th-century French philosopher and logician, is most famous for his long and complex love affair with his very gifted pupil Heloise. In one of his letters, Abelard relates a pertinent moment concerning

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[125] As cited in Gunilla Iversen, "*Psallite regi nostro, psallite*: Singing *Alleluia* in Ninth-Century Poetry," in *Sapientia et eloquentia: Meaning and Function in Liturgical Poetry, Music, Drama, and Biblical Commentary in the Middle Ages*, ed. Gunilla Iversen and Nicolas Bell (Turnhout: Brepols, 2009), 13-14.

[126] Concerning memory's place in the medieval mindset for "planning the future," Coleman's discussion of *mnēmē theou* and the discipline of "remembering heaven" is very enlightening. See especially, Coleman, *Ancient and Medieval Memories*, 139, 146-54.

Heloise's dramatic taking of the convent veil, which demonstrates the public nature of memory formation and its relationship to identity. An eventual consequence of their relationship was that both were driven to monastic life, both internally as reparation of their sins, and due to external social pressures. In Abelard's account, Heloise breaks into a memorial fragment at her moment of greatest duress, quoting one of Lucan's poems. Abelard relates:

> There were many people, I remember, who in pity for her youth tried to dissuade her from submitting to the yoke of monastic rule as a penance too hard to bear, but all in vain; she broke out as best she could through her tears and sobs into Cornelia's famous lament:
>
> > O noble husband,
> > Too great for me to wed, was it my fate
> > To bend that lofty head? What prompted me
> > To marry you and bring about your fall?
> > Now claim your due, and see me gladly pay . . .
>
> So saying she hurried to the altar, quickly took up the veil blessed by the bishop and publicly bound herself to the religious life.[127]

Pointing to this example, Carruthers notes that, "A modern woman would be very uncomfortable to think that she was facing the world with a self constructed out of bits and pieces of great authors of the past, yet I think in large part that is exactly what a medieval self or *character* was."[128]

Though certainly shaped by each individual person's own experiences (*re*collected, as it were), this memorial material was basic and, interestingly, public. The public nature of Heloise's declaration foregrounds how its value derived from the interplay among the common textual memory of the audience with Heloise herself and her personalized rendition of this text.

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[127] Peter Abelard and Heloise, *The Letters of Abelard and Heloise*, trans. Betty Radice (New York: Penguin Classics, 2003), 18.
[128] Carruthers, *Book of Memory*, 222-23.

As Carruthers states, "this supreme ethical moment is narrated not as a private, but a public, one—designed to enrich the public memory."[129]

More generally, theorizing about the nature and possibilities of public memory has been spearheaded by the Durkheim school of sociology, and is particularly associated with Maurice Halbwachs. His basic formulation has an interesting resonance with the medieval example. To quote from the introduction of his seminal work *On Collective Memory*, "It is, of course individuals who remember, not groups or institutions, but these individuals, being located in a specific group context, draw on that context to remember or recreate the past."[130] However, closer inspection of Halbwachs's conception reveals some important differences as well. Perhaps the most startling is his conclusion that in fact *all* memory is implicitly public. There is no such thing as a private memory; indeed, as Halbwachs strongly states:

> There is no point in seeking where they [memories] are preserved in my brain or in some nook of my mind to which I alone have access: for they are recalled to me externally, and the groups of which I am a part of at any time give me the means to reconstruct them, upon condition, to be sure, that I turn toward them and adopt, at least for the moment, their way of thinking. But why should this not be so in all cases? . . . it is in this sense that there exists a collective memory and social frameworks for memory; it is to the degree that our individual thought places itself in these frameworks and participates in this memory that it is capable of the act of recollection.[131]

This broad statement underlines his larger conception of the un-persistence of memory, in which all considerations of the past are configured as reconstructions *from* the present. In this way, all memory is a present phenomenon as well as a collective effort. Though he certainly does not deny that we may have persistent "impressions," Halbwachs argues that these only resemble the

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[129] Ibid., 431.
[130] Halbwachs and Coser, *Collective Memory*, 22.
[131] Ibid., 38.

incoherent state of dreams until they are brought under the order of collective structures, and thus cannot be considered memories as such.[132]

Though superficially similar, there are two very important differences between memory as configured in Carruthers's medieval analysis and memory as understood by Halbwachs. First, Halbwachs posits that the past is mediated, perhaps even created, by the present. In contrast, Carruthers suggest that for the medieval subject the present is always mediated by the past. Both of these conceptualizations recognize the past as somehow imminent (as opposed to the distant object of 19th-century historical contemplation); however, they are radically different in their orientation. Second, Halbwachs believed that no particular or private memory existed without the influence of the public. Society's collective memory is the precondition for having any memory at all. Carruthers's account, though certainly utilizing public memory, emphasizes the *personalization* of memorial fragments. Indeed, if one turns to medieval monastic practice, one finds the exact opposite of Halbwachs's position, a radical inward bent with isolated forms of memorial practice, as Janet Coleman has convincingly articulated.[133] These discrepancies point to the need for further revision of Halbwachs's theories of subjective memory before applying them to memorial techniques in the Middle Ages. However, even if one disregards Halbwachs's configurations of subjective memory, I contend that his insights into the function of memory at the social level can be utilized in understanding the Middle Ages. In particular, his research into religion's collective memorialization through ritual, and thus ritual's role in group identity formation, is helpful in understanding the foundational value of memory in medieval culture as a whole.

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[132] Ibid., 40-42.
[133] Coleman, *Ancient and Medieval Memories*, 132-53.

After formulating the broader theoretical foundation of memory, Halbwachs turns to collective memory's application in society, particularly societies in transition. In the case of religion, he makes an important point:

> Above all when a society transforms its religion, it advances somewhat into unknown territory. At the beginning it does not foresee the consequences of the new principles that it asserts. Social forces, among others, prevail and displace the group's center of gravity. But in order for this center to remain in equilibrium, readaptation is required so that the various tendencies of all the institutions constituting the common way of life are adjusted to each other . . . Even at the moment that it is evolving, society returns to its past. It enframes the new elements that it pushes to the forefront in a totality of remembrances, traditions, and familiar ideas.[134]

Thus, religion exhibits a great *intentional* need for collective memory.

As Halbwachs goes on to point out, the codification of the memorial past is collectively remembered in ritual. He suggests that "the rite may be the most stable element of religion, since it is largely based on material operations which are constantly reproduced and which are assured uniformity in time and in space by rituals and the priestly body."[135] It is this establishment of a collective memory through ritual, and through those who perform the ritual, that allows a religion like Christianity to persist in a state of seeming continuity. However, the religion must simultaneously obscure, according to Halbwachs, the aforementioned impossibility of actually reenacting a past apart from present concerns. According to Halbwachs, this memorial sleight-of-hand is vitally important for the Christian religion in particular, since it has the dual task of establishing its identity as eternal and historical.[136] Chant, as a vital element of this ritual performance, is directly related to the memorialized identity of the group. Indeed, as shown in the above discussion of embodied memory, chant has dramatic consequences when it becomes "written on the heart" of either listener or performer. Thus, when read in light of

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[134] Halbwachs and Coser, *Collective Memory*, 86.
[135] Ibid., 116.
[136] Ibid., 88-91.

Halbwachs's insights, chant's ability to shape individual character ultimately serves the collective memory of the group.

CONCLUSION

In summary, memory during the Middle Ages served as the conceptual foundation for much of medieval thought, creativity, ethics, and identity. This holistic permeation of culture by memory was expressed explicitly in mnemonic and memorial techniques, and implicitly in language and metaphor. However, the medieval memory, at least as configured by theorists like Carruthers, was decidedly personalized; even when common *res* were used, the emphasis was on the subjective incorporation and expression of these *res*. This challenges the larger cultural need for a collective memory, especially if, as Halbwachs argues, religion implicitly requires a dramatic and totalizing collective memory in order to survive. I argue in chapter 4 that the solution to this tension is realized in the unique properties of chant, when understood from a mnemonic perspective, which synthesizes both personal and collective memory into a new configuration. But, for now, perhaps the most salient point of connection that we can see in both Halbwachs and Carruthers's accounts is that memory is configured as the precondition for both identity and self-knowledge.

I use the term self-knowledge to mean something distinct from, though certainly related to, identity. Self-knowledge is the state of being aware of and articulating—verbally, conceptually, and *publicly*—one's own identity; in medieval terminology, I would call identity a *res* while self-knowledge is the *verbum* of that *res*. This would hold true for group self-knowledge as well, which can be similarly thought of as the collective articulation of a group identity. As such, both Halbwachs and Carruthers's accounts implicitly relate memory to

identity. Further, this is vital for understanding the chant project from a musical perspective since Christian identity is sustained and memorialized by the liturgical rite itself.

Chapter 3
Finding "A Place To Be":
Theory Treatises, Tonaries, and the Development of Musical Space

Composition begins with clearly and deliberately locating oneself in a place, which may be an actual location but is most importantly conceived as a mental position, both a habitation for the mind and a direction.[137] ~ Mary Carruthers

The composition of Gregorian chant in the 8th and 9th centuries was a composite process that involved both the transmission of existing Old Roman chant and its synthesis with Frankish musical sensibilities. As discussed in chapter 1, the mechanics of this process remain a hotly debated topic. The primary theories of chant emergence, those presented by Leo Treitler and Kenneth Levy, agree on many points. However, their varied responses to the central questions of how chant was transmitted, to what degree the melodies were stabilized, and the effect of notation on chant composition, remain inconclusive. Recent scholarship on the importance of memory within medieval culture sheds light on these particularly intractable problems. As shown in chapter 2, the use of memory in the Middle Ages was indicative not only of a mnemonic method, but also of a cultural outlook that valued a particular approach to knowing, creating, and transmitting information. Recognizing this unique cultural perspective allows one to better answer the central questions of chant studies. In particular, I reexamine the musical evidence through an interpretive lens that reveals how memory, composition, and music were understood in the early medieval Frankish culture, not just how they function in an oral culture generically.

Such contextual interpretations of mnemonic practice have already begun to find their way into musical medieval scholarship. Anna Maria Busse Berger applies many of these

[137] Carruthers, *Craft of Thought*, 73.

mnemonic concerns in her book *Medieval Music and the Art of Memory*.[138] In like manner, Treitler has acknowledged how important insights by scholars such as Carruthers deepen our understanding of memory's function within chant.[139] This chapter extends their methods, focusing particularly on the aspects of memorial scholarship that can inform our understanding of the emergence of chant in the 8th and 9th centuries by application to two kinds of medieval musical texts—theory treatises and tonaries. Applying this scholarly lens to these documents shows that memory was used in chant creation, and that this usage directly impacted the final form of Gregorian chants by creating a tonal structure that functioned as a powerful mnemonic device for the medieval subject.

I demarcate this investigation according to the kinds of texts that are utilized. First, I describe the development of medieval music theory by tracing the history, content, and reception of its two primary influences: ancient Greek theory and the Byzantine influenced eight-mode system. I do this by briefly examining Boethius's important work *De institutione musica*, the anonymous *Enchiriadis* treatises, and the work of Hucbald of St. Amand. I also investigate the relationship between theory and memory by examining in more detail the *Enchiriadis* treatises, Aurelian of Réôme's *Musica disciplina*, and their interplay with specifically mnemonic concerns.

Second, I discuss tonaries and describe their use as supports for a mnemonic system of chant codification. In this line of investigation, Busse Berger's impressive study provides a foundational resource.[140] Her work focuses on how memory remained important even in the later Middle Ages, particularly regarding the complex composition and performance of Notre Dame organum. She does also offer insights into how memory functioned in earlier kinds of

[138] Busse Berger, *Music and the Art of Memory*.
[139] See especially Treitler, "'Unwritten' and 'Written," 135, 146, 156.
[140] Busse Berger, *Music and the Art of Memory*.

chant. I extend her work to focus on the function of memory during the 8th and 9th centuries. In particular, I elaborate and critique her insights concerning the use of tonaries and demonstrate how they reveal a second layer of musical mnemonic through the witness of early unnotated tonaries like the St. Riquier fragment (Paris, Bibliothèque nationale, lat. 13159). Based on the evidence of these unnotated tonaries, my examination reveals that modal theory served as a mnemonic aid for the transmission and retention of chant repertoire.

MEDIEVAL MODAL THEORY AND MEMORIAL CULTURE

Music theory's unique memorial function explains the great pains that theorists took to incorporate modal theory into their chant tradition. Indeed, the musical character of Gregorian chant itself is often defined in relation to its unique modality compared to other early chant rites, such as Old Roman or Milanese.[141] I posit that this unique, as McKinnon calls it, "tonal" quality is a very intentional feature of Gregorian chant.[142] It testifies to the importance of modal qualities for the Carolingian chant project. Another indication of this is the readiness of Carolingian theorists to alter the Gregorian melodies in order to have them better fit within the modal system.[143] As musicologist Charles Atkinson realizes, this tendency opens up a number of questions, "perhaps the most fundamental for a modern-day reader is why the melodies of these chants, represented as having been divinely inspired, should have had to be 'emended' at all!"[144] An overview of the history of medieval modal theory informs my subsequent discussion of modal theory's mnemonic functionality.

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[141] Peter Jeffery, "The Earliest Oktoechoi: The Role of Jerusalem and Palestine in the Beginnings of Modal Ordering," in *The Study of Medieval Chant: Paths and Bridges, East and West, in Honor of Kenneth Levy* (Rochester: Boydell, 2001), 161-62.
[142] McKinnon, *Advent Project*, 380-82.
[143] Charles M. Atkinson, *The Critical Nexus: Tone-System, Mode, and Notation in Early Medieval Music* (New York: Oxford University Press, 2009), 3.
[144] Ibid.

The complex development of medieval modal theory involves the synthesis of multiple traditions and often conflicting accounts of its own progress. The historical context of this theoretical turn comes from the 9th century. David Cohen writes that "the musical developments of this period, which were part of the broader cultural movement known as the Carolingian 'Renaissance' or *renovation*, are fundamental to the entire subsequent history of Western music," and as mentioned above, "clearly involved the integration of several disparate elements."[145] Both Hiley and Atkinson mention a dipartite configuration of the primary theoretical streams in the Middle Ages, referring to the heritage of Greek antiquity and the traditions and theoretical needs of the Church.[146] However, Cohen further divides the "Church traditions" that Atkinson and Hiley mention into two; this makes a useful contrast between the "still evolving repertory of Gregorian chant melodies" and the "system of eight 'tones' or 'modes' used by the church to classify and organize those melodies."[147] These two streams plus the heritage of ancient Greek music formed the three primary traditions of music theory, which became a vital conceptual point because "the Carolingian cantors and scholars took it as their task to integrate all of these, using each to illuminate the others."[148] This complex of theoretical ideas, referred to as the critical "web" or "nexus" by Atkinson, served as a vital focal point (as the word "nexus" implies) in which the practice of chant became reshaped in light of theoretical concerns.[149]

Traditionally the motivation for this theoretical explosion has been explained in various ways. McKinnon, Hiley, and Atkinson have mentioned the antiquarian tendencies of the Carolingian dynasty; that is to say, there was a general interest in the reclamation and

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[145] David E. Cohen, "Notes, Scales, and Modes in the Earlier Middle Ages," in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (Cambridge: Cambridge University Press, 2002), 308.
[146] Atkinson, *Critical Nexus*, 6. Also, Hiley, *Western Plainchant*, 442.
[147] Cohen, "Notes, Scales, and Modes," 308.
[148] Ibid.
[149] Atkinson, *Critical Nexus*, 4.

interpretation of Greek texts, at least partially due to their perceived authority.[150] However, even more often, scholars cite the practical political utility of promoting liturgical unity through theoretical systemization. This unifying project was a primary concern of the Carolingian monarchs as well as Church leaders, who were trying to present Christianity as a unified culture.[151] While all of these elements certainly contributed to this effort, I argue for a practical musical reason for the Carolingian interest in theoretical development. Namely, theory had a mnemonic purpose, one that connected modal content with the structuring of tonaries. Further, the application of memorial techniques in chant facilitated the broader concerns of developing a cultural memory as discussed in chapter 2.

Ancient Greek Influence

Ancient Greek music theory's influence on the Middle Ages is often overstated.[152] However, contextualizing this theory within the multifaceted developments of the Carolingian period reveals the more nuanced role it played in later medieval developments. There were several crucial late ancient and early medieval sources that transmitted the ideas of Greek music theory into the Middle Ages. These included Calcidius's translation and commentary of Plato's *Timaeus*, Martianus Capella's *De nuptiis Philologiae et Mercurii*, St. Augustine's *De musica*, Boethius's *De institutione musica*, Cassiodorus's *Institutiones*, and Isidore of Seville's *Etymologiae*.[153] Some, like Calcidius's commentary on *Timaeus* and the works of Augustine, provided an influential conceptual background for medieval music theory through their emphasis on music's relationship to abstract ideas of number, order, and unseen substances.[154] Others,

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[150] Hiley, *Western Plainchant*, 442-43. Also, McKinnon, *Antiquity and the Middle Ages*, 30-32.
[151] Cohen, "Notes, Scales, and Modes," 308-09.
[152] Apel, *Gregorian Chant*, 133-34.
[153] Calvin M. Bower, "The Transmission of Ancient Music Theory into the Middle Ages," in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (Cambridge: Cambridge University Press, 2002), 137-38.
[154] Van Deusen, *Cultural Context*, 83-94, 110-15.

such as the works of the early medieval encyclopedists Cassiodorus and Isidore, are important because of the *kind* of intellectual tradition that they promoted. Both Cassiodorus and Isidore emphasized the Christianization of music theory through biblical passages, allusions, and early examples of the importance of practical musicianship for cantors.[155] However, the most significant of these sources for the transmission of the specific technical aspects of Greek music theory to the Frankish North were Martianus Capella's *De nuptiis Philologiae et Mercurii* and Boethius's *De institutione musica*.[156] Of these two sources, I focus on Boethius's work since it provides the clearest indication of which aspects of ancient Greek theory became integral to the Middle Ages.

As mentioned above, the Carolingian renaissance placed a vital emphasis on the reclamation of ancient Greek and Roman learning. Preservation of books from antiquity and the earlier Middle Ages became paramount. Charlemagne himself stressed in a series of capitularies that such education was both good and necessary for the continuation of the Carolingian Empire. For example, in his capitulary *De litteris colendis* he proclaims, "we urge you not only not to neglect the study of [ancient] literature, but indeed to learn it eagerly, with humble and devout attention to God, so that you may be able to penetrate more easily and correctly the mysteries of divine scriptures."[157] As Atkinson states in relation to this injunction, "it is hardly any wonder that Carolingian schoolmasters would ultimately seize the opportunity to teach sophisticated ancient works, such as . . . Boethius's *De institutione musicae*."[158] The earliest indications of a unique Carolingian response to Boethius's text were commentaries placed in the margins or in-

[155] Bower, "Transmission of Ancient," 147-149.
[156] Ibid., 150.
[157] As cited in Charles M. Atkinson, "Some Thoughts on Music Pedagogy in the Carolingian Era," in *Music Education in the Middle Ages and the Renaissance*, ed. Russell Eugene Murray, Susan Forscher Weiss, and Cynthia J. Cyrus (Bloomington: Indiana University Press, 2010), 39.
[158] Ibid., 40.

between lines of the manuscripts.[159] However, as Bower notes, "The writers of these glosses were obviously scholars and philosophers, not musicians."[160] This fact is indicated by the specific concerns of these earliest Carolingian glossators, which revolve primarily around making sense of unfamiliar Greek terms and concepts using medieval etymological techniques, often with mathematical and grammatical confusion following.[161] They paid special attention to the complicated numerical problems that Boethius introduced concerning theoretical oddities, such as the Pythagorean comma and other complex ratios. Bower contends that "their interest in ratios led them to an obsession with musical pitch, with the consequence that other parameters of music were largely ignored."[162]

By the mid-9th century, the center of intellectual power moved away from court scholars to specific monastic centers such as Corbie, Saint-Riquier, Saint-Denis, and Tours.[163] This shift tied Boethius's Greek music theory more closely to practical matters of sounding music. The earliest examples of this were late-9th-century glosses that utilized examples from chant to explain the Greek theory in Carolingian terms. For example, in one of the few extant 9th-century glosses of Boethius's modal theory, the glossator explains Boethius's diagram of the Greek scales by stating, "The beginning of the *autentus protus* starts on the *parhypate meson* in the diatonic genus in the *diapente* proportion;" the glossator then follows with a verbal description of this mode, much like a melodic incipit.[164] This method of using church modality to explain Greek theory would reach its culmination in the important theory treatises of the later 9th and 10th centuries.

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[159] Bower, "Transmission of Ancient," 150.
[160] Ibid.
[161] Atkinson, *Critical Nexus*, 78-81.
[162] Bower, "Transmission of Ancient," 151.
[163] Ibid.
[164] As cited in Atkinson, *Critical Nexus*, 83.

Having discussed the historical process of Greek theory transmission, I turn to the content of Greek music theory as presented in Boethius. The *De institutione musica* is essentially a complex combination of translation and commentary. As Bower states, "Boethius's translations are more than literal translations of works from one language to another; they represent a scholar's efforts to make a foreign text his own."[165] Bower has shown that most likely the first 4 books of *De institutione* are translations of significant portions from the mostly lost musical treatise by Nicomachus (called *Eisagoge musica*), while the 5th book, and those that would have come after, is a translation of Ptolemy's *Harmonica*.[166] Regardless of the extensive presence of translation, Boethius's work is still quite innovative, both in juxtaposing multiple ancient texts in ways that inform one another, and in his clarification of difficult points through impressive diagrams of his own creation.[167]

The theory that Boethius describes is founded on the Pythagorean method of musical investigation. In this sense, it was based on ratios and proportional mathematics; however, it did value sounding music as a means to check these mathematical properties. As Boethius states, "it is indisputable that we use our senses to perceive sensible objects" and, again with special reference to music, "the whole origin of this discipline [*musica*] is taken from the sense of hearing, for if nothing were heard, no argument whatsoever concerning pitches would exist."[168] In this way, the monochord, a single stringed instrument with a moveable bridge, became vital for Boethius's proofs because the abstract proportional mathematics could be substantiated with sounding music. This focus on discovering intervallic content through mathematics, supported by the sounding monochord, defined much of Greek theory and provided the three primary

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[165] Anicius Manlius Severinus Boethius, *Fundamentals of Music*, ed. Claude V. Palisca, trans. Calvin M. Bower (New Haven: Yale University Press, 1989), xxv.
[166] Ibid., xxvi.
[167] Ibid., xxiv-xxv.
[168] Ibid., 1, 16-17.

contributions of Greek theory to later medieval music: a scale system; a mathematical method to calculate this scale system; and a larger epistemic framework concerning the relationship between sound and music that this system entails. As such, intervallic properties were fundamental to both Greek and medieval theory.

The most fundamental ratios in Greek theory were the fourth, fifth, and octave. Boethius sees them as so basic that in *De institutione* he first introduces them to the reader without a proof, as Bower paraphrases:

> Pythagoras discovered the ratios—the immutable essences—of musical harmonies; the octave lay in the ratio of 2:1; the fifth was determined by the ratio of 3:2; and the fourth was found in the ratio of 4:3. Moreover, since the basic building block of music, the tone, was the difference between a fourth and a fifth, the ratio of that interval was the difference between 3:2 (or 12:8) and 4:3 (or 12:9), thus 9:8.[169]

By linking Pythagoras to this simple assertion of basic intervallic ratios, Boethius gives these ratios extra historical weight. Boethius cultivates this sense of authority as the basis for these ratios' prominence in the rest of the Greek musical system.[170] From these basic intervals, Boethius is able to calculate or prove the rest, as in the above quote where he finds the ratio of the tone as the difference between the fourth and fifth. Using these methods of proportional mathematics, smaller intervals with more complex ratios can be obtained. These include intervals like the *limma* (ratio 256:243) and the *apotome* (ratio 2,187:2,048), both of which are called "semitones" in Pythagorean Greek theory, since a semitone is not exactly half a tone.[171] These various intervals are then combined to produce the basic building blocks of ancient Greek scale systems.

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[169] Bower, "Transmission of Ancient," 143.
[170] Boethius, *Fundamentals of Music*, 17-19.
[171] Thomas J. Mathiesen, "Greek Music Theory," in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (Cambridge: Cambridge University Press, 2002), 116.

The basic structural unit in ancient Greek theory was the tetrachord, which consists of three intervals defined by the span of a fourth.[172] In this system, the outer notes of the tetrachord are considered stable; however, inner notes are variable.[173] This allowed for three different genera of tetrachord: the enharmonic, chromatic, and diatonic.[174] Though Boethius mentions and briefly describes all three genera, he chooses to focus on only one in his later examples and diagrams. As Atkinson points out:

> Boethius's diagrams for deriving species and explicating the modes, however, use the diatonic genus only . . . As a result, and perhaps also because its division of tonal space was perceived to be closest to that of the chant repertoire to which it was eventually applied, the diatonic genus was the one taken over from Boethius into the medieval theoretical tradition.[175]

Because of its importance for later medieval theory I will describe the diatonic genus in greater detail. The diatonic tetrachord consisted of two intervals of a tone (9:8) and one interval of a *limma* semitone (256:243) and by convention this semitone was placed lowest in the tetrachord (see Figure 1).[176] These basic tetrachordal building blocks are then combined to create the scale systems according to principles that, as the Greek theorist Aristoxenus asserts, "[follow] the nature of *melos*."[177] Perhaps the most important of these principles was that "scales larger than the tetrachord are assembled by combining tetrachords, either by conjunction . . . or disjunction."[178]

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[172] Bower, "Transmission of Ancient," 143.
[173] Mathiesen, "Greek Music Theory," 123.
[174] Ibid., 117.
[175] Atkinson, *Critical Nexus*, 11.
[176] Bower, "Transmission of Ancient," 143.
[177] As cited in Mathiesen, "Greek Music Theory," 124.
[178] Mathiesen, "Greek Music Theory," 124.

(1)	(2)		(3)		(4)
256	: 243	:	216	:	192
	= 9	:	8 *and* 9	:	8
E	F		G		A

Figure 1: The Diatonic Pythagorean Tetrachord with Ratios and Modern Pitch Equivalents.[179]

[179] Bower, "Transmission of Ancient," 142.

With these basic building blocks, Boethius reveals two fundamental collections of pitches: a two-octave, disjunct system called the Greater Perfect System, and an octave-plus-fourth, conjunct system called the Lesser Perfect System.[180] These two scale systems became foundational for music theory later during the Middle Ages (see Figures 2 and 3).[181] Ancient Greek theory as transmitted by Boethius provided much of the content of medieval music theory; however, the structure of medieval theory was largely inspired by a different stream of thought, namely, the Byzantine eight-mode system of organization and structure.

Byzantine Influence

Scholars have long considered the appearance of Church modes to be organically related to the medieval appropriation of Greek music theory.[182] However, as Jeffery states, "We can no longer . . . prove the then universal assumption that the Middle Ages inherited the eight modes directly from Greco-Roman antiquity, and that the creators of Gregorian chant therefore knowingly employed melodic-scalar constructs that had been familiar for centuries."[183] As musicologist Calvin Bower has noted, in the Middle Ages there was a strong inclination for the adoption of Greek modes of musical thought; however, this existed in tension with the more practical elements of music performance.[184] Recent scholarship suggests a less-than-direct connection between the musical conceptualization of the medieval modes and that of the Greek system.

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[180] Bower, "Transmission of Ancient," 143.
[181] Hiley, *Western Plainchant*, 444-46.
[182] Ibid., 454-55, 461-62, 622-29.
[183] Jeffery, "Earliest Oktoechoi," 149.
[184] Bower, "Transmission of Ancient," 149-53.

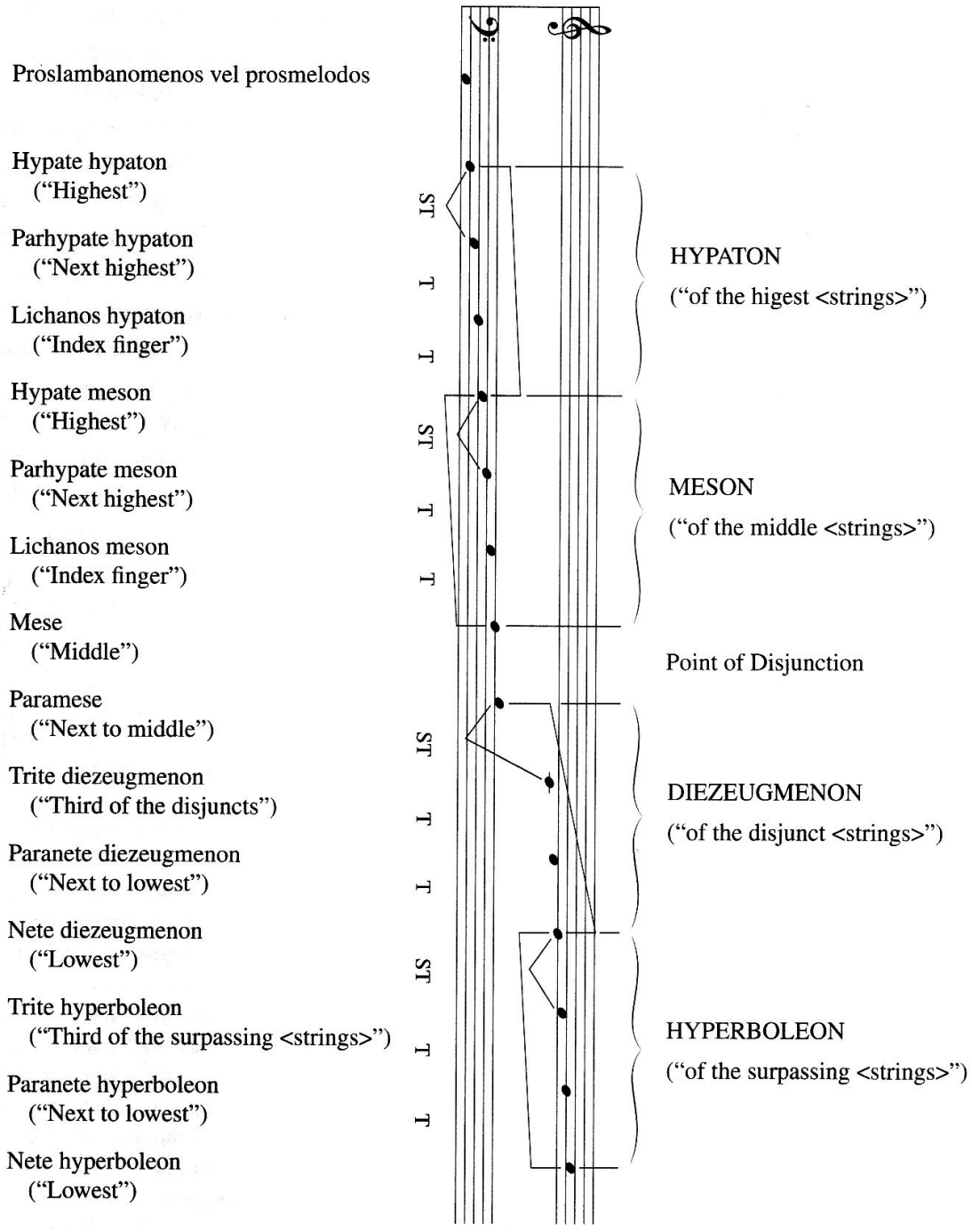

Figure 2: Greater Perfect System as Presented by Boethius, with Modern Notation.[185]

[185] Atkinson, *Critical Nexus*, 12.

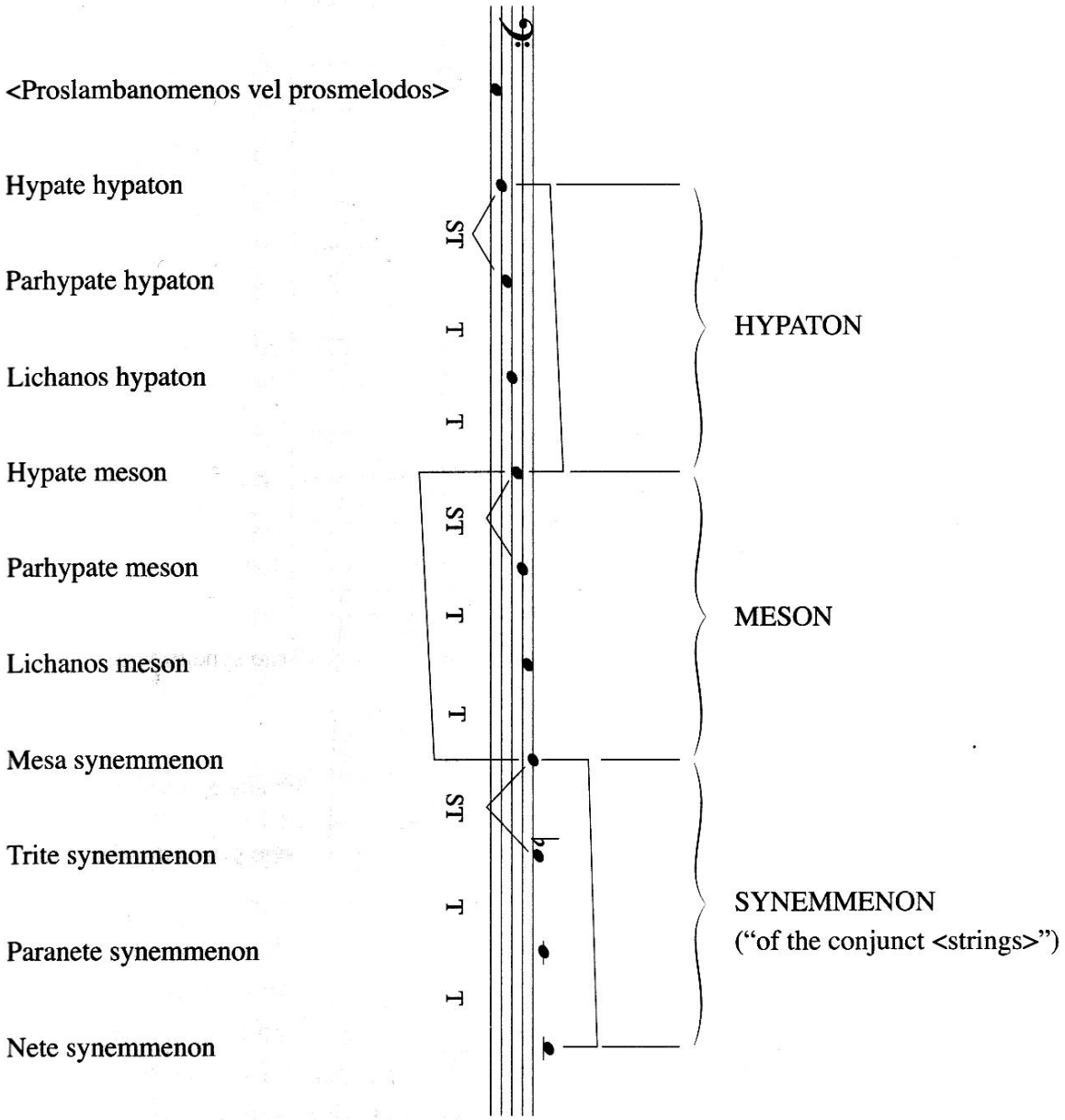

Figure 3: Lesser Perfect System as Presented by Boethius, with Modern Notation.[186]

[186] Ibid., 13.

Indeed, Bower comments that the medieval modal system is distinct from previous medieval attempts to synthesize ancient Greek music theory, stating that it "must be examined as fundamental parts of a musical system independent of *musica* [i.e. ancient Greek theory]."[187] Bower suggests that modality's closest origins can be traced only to the *Enchiriadis* family of theory treatises and that "we lose any trail if we try to follow them back further than around 800."[188]

Jeffery is more optimistic of the possibility of tracing church modal theory's birth. He notes that the tortuous process of integrating modal theory into Carolingian practice points to modality's antecedent origins. These sometimes pained efforts speak to the unwieldy process of melding a foreign idea with current practice.[189] Thus, modal theory was an external influence instead of an internal development. Further, Jeffery stresses that this antecedent theory cannot be understood as a complicated incorporation of merely ancient Greek theory. In fact, Jeffery argues that the relationship between medieval modes and ancient Greek *tonoi* was an artificial product of the Middle Ages itself, as the theorists and musicians of the Carolingian period attempted to synthesize the extant ancient Greek sources with their current musical situation. Part of this process was an appropriation of the terminology of important theorists of antiquity like Boethius and Martianus Cappella.[190] This appropriation contributes to some of the confusion for modern scholars. For example, the concept of "mode" itself has several different possible words associated with it, including the familiar *modus* but also *tonus* and *tropus*.[191] This obscure genealogy illuminates Jeffery's point, since the terminological confusion and

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[187] Ibid., 153.
[188] Bower, "Transmission of Ancient," 154.
[189] For a detailed compilation and statistical study of the church modes see, John Harris Planer, "The Ecclesiastical Modes in the Late Eighth Century" (Ph.D. Diss., University of Michigan, 1970).
[190] Jeffery, "Earliest Oktoechoi," 149.
[191] Nancy Phillips, "Music," in *Medieval Latin: An Introduction and Bibliographical Guide*, ed. F.A.C. Mantello and A.G. Rigg (Washington, DC: The Catholic University of America Press, 1996), 297.

subsequent attempts to synthesize theory with practice indicate a complex process of incorporation.[192]

From where did Carolingian theorists receive this modal system if not ancient Greek theory? Recent scholarship points to the relationship between modal theory and the Byzantine *oktōēchos*—roughly translated "eightfold sound."[193] As Cohen explains, the *oktōēchos* system was "used by the Byzantine clergy since at least the seventh century for the classification of their liturgical melodies into eight categories (called *echoi*)."[194] This classificatory scheme shares many similarities with the later Western version, such as the subdivision into two (authentic and plagal) sets of four modes, as well as the use of intonation formulas.[195] However, some adjustment did occur since the Greek *echoi* seem to have been similar to melody types with defining contours, motifs, and formulae while the Western use of modes adhered to more abstract "tonal" principles defined by finals, range, and prominent notes.[196]

This observation concerning the abstract nature of Western modal theory points to a broader definition of modality. This definition describes how modality as a concept can cover varied musical items; that is to say, the kind of abstract scalar system that typically defines Western modal theory is not the only possible modal configuration. As musicologists Harold Powers and Frans Wiering explain:

> Mode can be defined as either a "particularized scale" or a "generalized tune," or both, depending on the particular musical and cultural context. If one thinks of scale and tune as representing the poles of a continuum of melodic predetermination, then most of the area between can be designated one way or another as being in the domain of mode. To attribute mode to a musical item implies some hierarchy of pitch relationships, or some

[192] Jeffery, "Earliest Oktoechoi," 150.
[193] Ibid., 148.
[194] Cohen, "Notes, Scales, and Modes," 310.
[195] Ibid., 309-11. For more explicit information concerning the transmission of Byzantine modal theory into the Latin West, see the seminal article by Peter Jeffery, "Earliest Oktoechoi." For more on the development of intonation formulas in particular, see Terence Bailey, *The Intonation Formulas of Western Chant* (Toronto: Pontifical Institute of Mediaeval Studies, 1974).
[196] Hiley, *Western Plainchant*, 454.

> restriction on pitch successions; it is more than merely a scale. At the same time, what can be called the mode of a musical item is never so restricted as what is implied by referring to its "tune;" a mode is always at least a melody type or melody model, never just a fixed melody.[197]

In this regard, Atkinson notes that in Byzantine singing manuals, called *papadikai*, the very language of Byzantine theory reinforces a more "melody type" configuration for modality. As he states, "*Echos* in these manuals is used to convey a twofold meaning: (1) In conjunction with the intonation formulas (*ēchēmata*), the *ēchoi* have 'tonal' significance. Indeed the *ēchēmata* that demonstrate the *ēchoi* could, in this case, almost be taken to be identical with them;" and "(2)The *ēchoi* are also treated as individual pitches that are located above or below each other in acoustic space and that can be 'drawn together' to form a tetrachord."[198] While Atkinson notes that these elements can lead to the more abstract configurations of later medieval theory, like *ēchoi* as "individual pitches" becoming analogous to the finals in medieval theory, the emphasis in Byzantine theory clearly remains on modes as primarily melodic-type descriptions.[199] In like manner, Powers and Wiering note that modal function in Byzantine chant is often determined by non-musical constraints like the Church calendar. This aspect was not taken into Western tradition, again, presumably because of the Western proclivity for more abstract structures.[200] These facts about Byzantine modal theory raise an important question: given that the melody-type construction was changed, what exactly was the *oktōēchos* contribution to Western theory?

The eightfold organizational scheme was very influential for Western theory even though the function of these modes subtly shifted from melodic to abstract principles. Notably, this scheme fostered a conceptualization of melodies that centered on their shared *musical* properties.

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[197] Harold S. Powers, et al., "Mode," *Grove Music Online*, *Oxford Music Online*, Oxford University Press, accessed May 15, 2012, http://www.oxfordmusiconline.com/subscriber/article/grove/music/43718pg1.
[198] Atkinson, *Critical Nexus*, 116-17.
[199] Ibid., 117-20.
[200] Powers, et al., "Mode."

That is to say, the content of Byzantine modal theory gave to the Middle Ages a hierarchical system for classifying and controlling the chant repertory. As Hiley notes, "The plainchant modes . . . cannot be equated simply with scales: a number of notes are more prominent than others, and melodies in a particular mode may be related to each other by melodic characteristics."[201] This contrasts with the ancient Greek modal tradition, as described by Boethius, in which the modes are primarily configured as octave species defined by the order of their tones and semitones. As Powers and Wiering mention, these ancient Greek scales are without "any actual musical function. Neither *mesē* nor boundary notes nor any other note was deputed to a musical role such as tonic or final."[202] Thus, the primary contribution of the Byzantine modal system was a powerful method of organization with *practical* consequences since it influenced a more "functionally minded" system of music theory, one in which the nature of a final pitch was, as the *Enchiriadis* treatise says, to "rule and end" a given mode.[203]

To summarize, 9th-century Carolingian theorists absorbed two primary influences—ancient Greek theory and Byzantine *oktōēchos* organization. Theorists united these foundations with the chant repertory already present in the Frankish North to create a distinctly Carolingian modal theory. From ancient Greek practice the Carolingian theorists took a systematic method of determining pitch, and an essentially diatonic collection of pitches. In like manner, from Byzantium they received a powerful organizational scheme that classified melodies according to specific musical properties. However, to say that later medieval modal theory was *merely* an amalgamation of these two influences would undervalue the creative ingenuity of Carolingian theorists. By interweaving two very different theoretical traditions with their own practices and

[201] Hiley, *Western Plainchant*, 454-55.
[202] Powers, et al., "Mode."
[203] Raymond Erickson, ed. *Musica Enchiriadis and Scolica Enchiriadis* (New Haven: Yale University Press, 1995), 4.

concerns, Frankish theorists of the 9th and 10th centuries created a powerful and essentially new system of music theory.

A Frankish Synthesis

The first witness of a uniquely medieval modal terminology in the West is the Saint-Riquier tonary, which dates from the late 8th century.[204] The terminology utilizes ordinal numbers to designate the four different modes as defined by final, and then additional descriptors (authentic or plagal) to categorize according to range. This system of four sets with two modes in each set is clearly derived from Byzantine practice; it even keeps most of the same terminology with the exception that there are no "authentic" designations for the original Byzantine *echos*.[205] I discuss the tonary of St. Riquier in more detail later in this chapter; for now, it is merely important to note that it does not provide any kind of theoretical explanation for the modal designations. In like manner, the theorists Aurelian of Réôme and Regino of Prüm both discuss modal theory briefly, but neither gives a systematic presentation that reveals the process of Frankish theoretical assimilation.[206] The first detailed presentations of modal theory came in the later 9th century with the *Enchiriadis* treatises and the monumental theoretical work of Hucbald. By examining *Musica Enchiriadis* and Hucbald's theory treatise, I reveal exactly how ancient Greek theory became synthesized with modal organization and Frankish liturgical music.

As Bower has stated, it is unlikely that the theoretical tradition represented by the two *Enchiriadis* documents—now known as *Musica Enchiriadis* and *Scolica Enchiriadis*—was initiated by those works, but rather that they represent a culmination of Frankish thought

[204] Hiley, *Western Plainchant*, 459.
[205] Ibid.
[206] Bower, "Transmission of Ancient," 151-52.

concerning modal theory in the 8th and 9th centuries.[207] Musicologist Raymond Erickson has noted that "the dates and provenance of the *Enchiriadis* treatises are still a matter of conjecture."[208] The earliest manuscript only contains a small fragment of the *Scolica Enchiriadis* and dates from the late 9th century. However, another important factor in dating these documents is their use of Boethian theory. The *Musica Enchiriadis* and *Scolica Enchiriadis* documents exhibit a rather complex understanding of Boethian concepts; accordingly, it is unlikely that they were written before the Carolingian assimilation of Boethius's treatise in the first quarter of the 9th century.[209] Given this general chronology, it is safe to say that these treatises provide the earliest complete presentation of uniquely Frankish thought about the three influences on medieval chant: ancient Greek music, modal organization, and chant melodies. Of these two *Enchiriadis* treatises, the *Musica Enchiriadis* is, as Erickson puts it, "a remarkably cogent, concise, original, and carefully argued document."[210] As such, it provides the clearest picture of Frankish modal theory.

Earlier theorists, like Aurelian, mentioned how four tones governed the overall pitch centricity of modal chant and provided the basic terminology of *protus*, *deuterus*, *tritus*, and *tetrardus* for these tones; but, they stop there without elaborating or systematizing this modal terminology.[211] In contrast, *Musica Enchiriadis* provides a systematized description of these terms as groundwork for the rest of the treatise. Bower summarizes, "These terms [*protus*, *deuterus*, *tritus*, and *tetrardus*] form the very foundation of texts in the *Enchiriadis* tradition, for here they form the names of pitches and functions within basic tetrachords used to build a

[207] Ibid., 154.
[208] Erickson, ed., *Enchiriadis*, xxi.
[209] Ibid., xxi-xxii.
[210] Ibid., xxiv.
[211] Bower, "Transmission of Ancient," 152-53.

musical system."[212] This format already reveals the influence of ancient Greek theory just by its systematic orientation; however, there is also a strong emphasis on the practical concerns of liturgical chant. Taken together, this gives us a unique picture of how Frankish theorists creatively synthesized the disparate influences discussed above.

Much like Boethius's opening chapters of *De institutione*, which assert the primacy of basic Pythagorean ratios as a kind of musical *a priori*, the *Musica Enchiriadis* treatise begins by establishing the first principle of "tones" since, as the *Enchiriadis* author states, "the content of all music is ultimately reducible to them."[213] However, by "tone," the *Enchiriadis* does not merely mean sounds but instead only those sounds that "by virtue of being at proper distances from each other are apt for melody. Thus a series of them is joined together, ascending and descending in a natural way, so that they follow one another, always in similarly constituted groups of four."[214] The treatise goes on to specify that these four tones have a particular quality according to the relationship between them; it then names these tones *protus*, *deuterus*, *tritus*, and *tetrardus* (D, E, F, and G in modern nomenclature).[215] As Atkinson mentions, the treatise suggests that an infinite amount of pitches could be strung together by linking the intervals of these four tones. However, it then limits itself to a system of eighteen sounds, segregated into four tetrachords plus two extra notes at the highest pitch level (see Figure 4).[216]

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[212] Ibid., 155.
[213] Erickson, ed., *Enchiriadis*, 1.
[214] Ibid., 2.
[215] Ibid.
[216] Atkinson, *Critical Nexus*, 120.

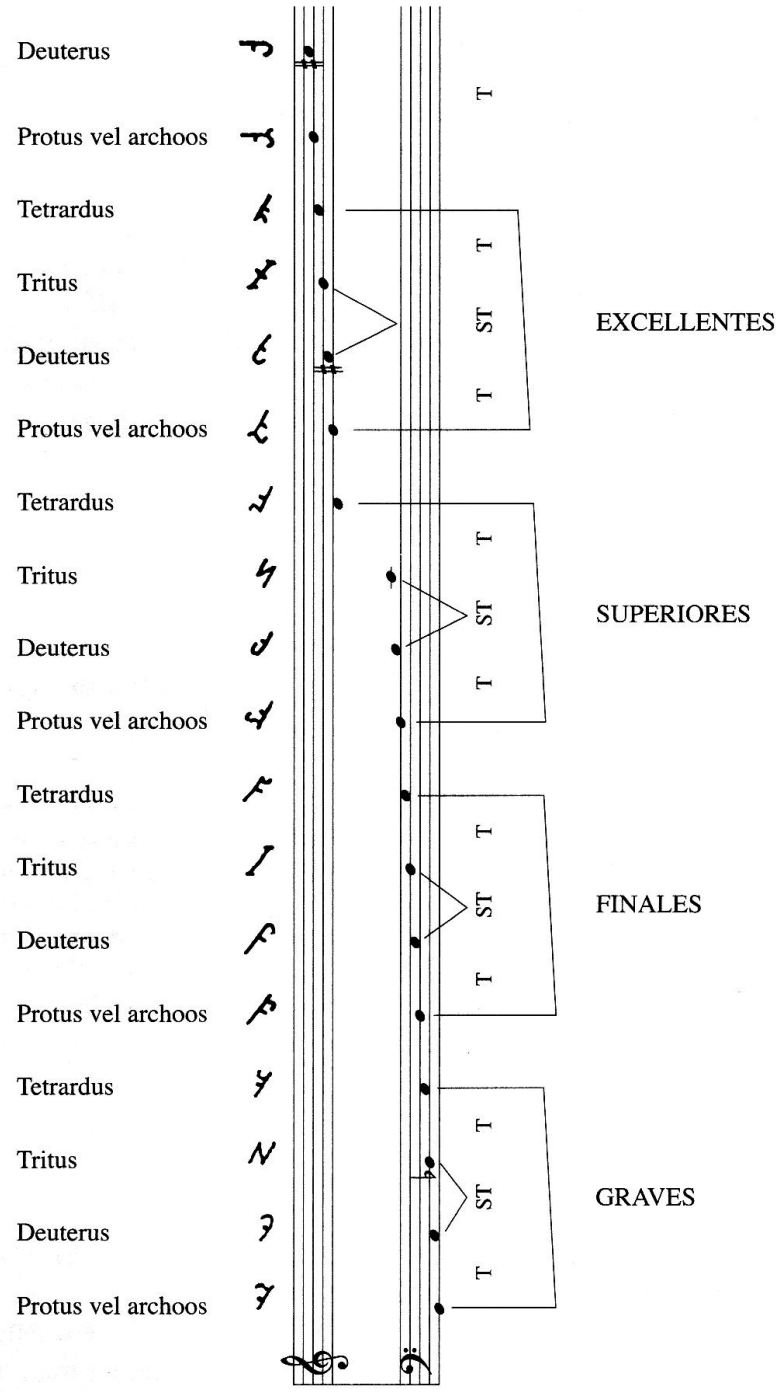

Figure 4: The *Enchiriadis* System with *Dasian* Letters and Modern Notation.[217]

[217] Ibid., 122.

Thus, in this opening discussion of modal theory, the *Musica Enchiriadis* already provides us with a revealing description of how Carolingian theorists united ancient Greek and modal theory. For example, the tetrachordal basis of the *Enchiriadis* system has a clear relationship with the tetrachordal foundation of ancient Greek theory; however, these *Enchiriadis* tetrachords are based on the four modal tones rather than the Pythagorean ratios of ancient Greek theory. As Bower summarizes, "the basic building block of music according to the *Enchiriadis* texts is a tetrachord with the semitone in the middle position, a tetrachord essentially different from that of the ancient Greek tradition with the semitone in the first and lowest position."[218]

Further, while *Musica Enchiriadis* does, like Boethius, build a larger scale system out of this tetrachord, the subsequent tetrachordal divisions are not determined by the position of the notes on an instrument, as in Boethius, but rather they are labeled according to their relationship in *sung chant*.[219] That is to say, they are labeled in a manner that seems to derive from the Franks' practical bent concerning music since the tetrachords are related to each other in acoustic space or according to musical function. Thus, the lowest pitched tetrachord is called *graves*, meaning "low," while the *finales* tetrachord contains, as one might expect, the finals (D, E, F, and G) in which every melody must end. In like manner, the *superiores*, or higher, tetrachord is higher than the other two, and the *excellentes* tetrachord, meaning "excellent" or "surpassing," is the highest of all four tetrachords.[220]

Finally, it is worth noting that the *Enchiriadis* author makes explicit attempts to tie this essentially scalar system he developed to the greater abstractions of modal theory. For example, he states, "From the character (*vitus*) of these four tones also comes the character (*potestas*) of

[218] Bower, "Transmission of Ancient," 155.
[219] Ibid.
[220] Atkinson, *Critical Nexus*, 120; Bower, "Transmission of Ancient," 155; Erickson, *Enchiriadis*, 3.

the eight modes (*modi*)."[221] As Atkinson notes, when the *Enchiriadis* author emphasizes that the "character" or "quality" of the four finals produces the all the modes, what the author means is that the unique sound created by a melody's intervallic distribution is changed depending on which *finales* it ends.[222] The *Enchiriadis* author underscores this point by presenting four versions of an *Alleluia* melody in *dasian* notation with each version ending on a different final (see Figure 5). *Dasian* notation is a system of notation that utilizes symbols from ancient Greek prosody along with verbal descriptions of intervallic relationships in order to indicate pitch. [223] Immediately following this *Alleluia* example, the author states:

> These four individual examples, while they are separated only by a semitone or whole tone—that is, by a harmonic interval—are changed (*transponere*) by that alone from one type [of mode] to another. When you sing the first version, you will be able to discern that the nature of the first tone produces the character (*virtus*) of the first mode, which is called *protus authenticus*.[224]

In this case, we once again find a synthesis of the three influences—ancient Greek theory, modal organization, and Carolingian liturgical practice—on medieval theory. The author unites the tetrachordal scale system he just explained (ancient Greek) with the concept of modality (Byzantine) through the use of a chant example, even saying that "when you sing" you will understand (Carolingian). Thus, we can see that the *Enchiriadis* text is a complex work that begins the process of medieval theoretical synthesis.

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[221] Erickson, ed., *Enchiriadis*, 3. Atkinson suggests a slightly more nuanced translation, with *virtus* meaning "strength" or "character" and *potestas* meaning "energy" or "power;" for more see, Atkinson, *Critical Nexus*, 123.
[222] Atkinson, *Critical Nexus*, 123-25.
[223] David Hiley, "Dasian Notation," in *Grove Music Online, Oxford Music Online,* Oxford University Press, accessed May 15, http://www.oxfordmusiconline.com/subscriber/article/grove/music/07239.
[224] Erickson, ed., *Enchiriadis*, 9.

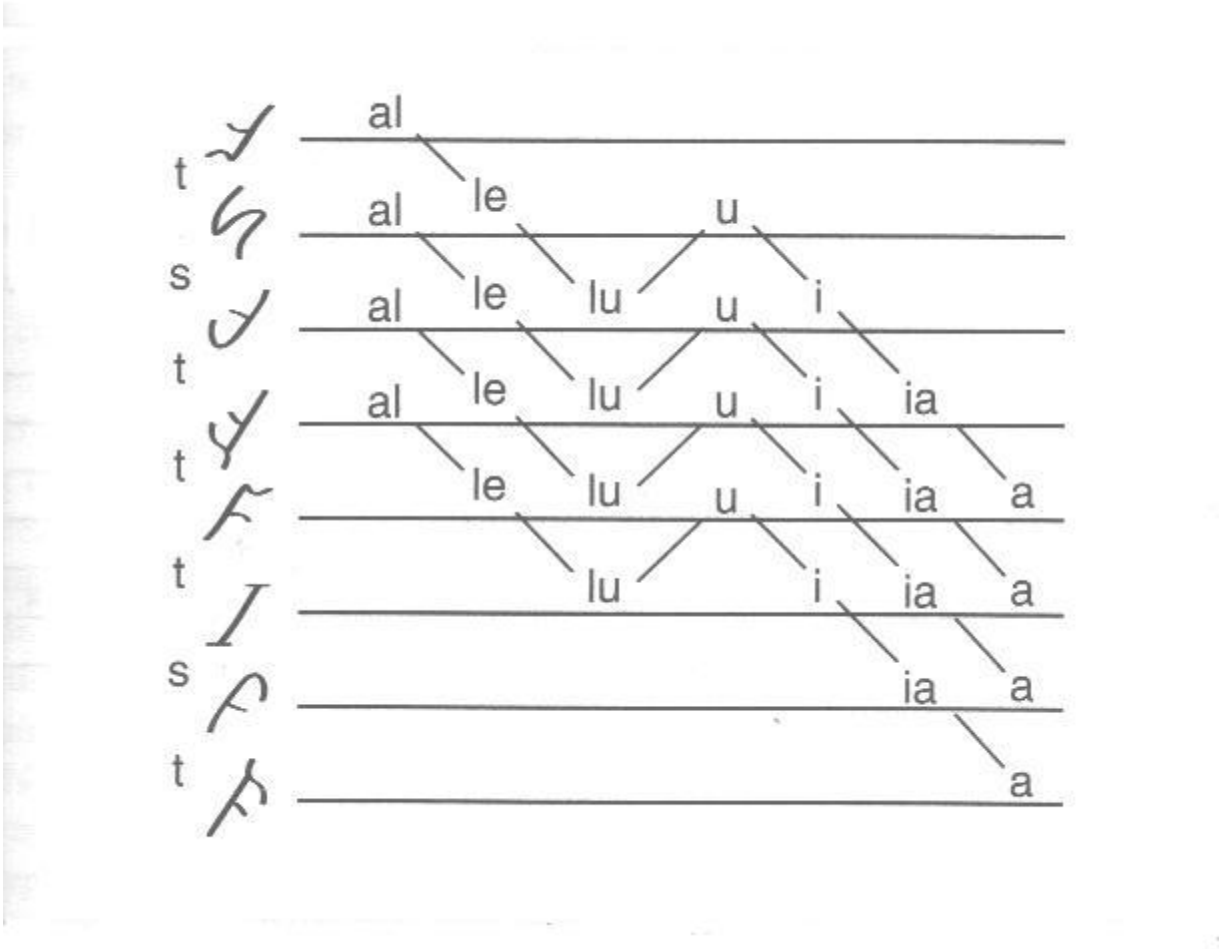

Figure 5: *Alleluias* in *Dasian* Notation as Presented in *Musica Enchiriadis* to Explain the Finals. The pitches indicated by this notation are, from the bottom, D, E, F, G, a, b, c, d.[225]

[225] Atkinson, *Critical Nexus*, 125.

Even given the creative insights of the *Enchiriadis* author, aspects of this synthesis remained incomplete or problematic from the standpoint of creating a theoretical system that could fully account for both the liturgical traditions of Western church music and ancient Greek traditions. Perhaps the most glaring example of this is caused by the disjunct distribution of the tetrachords within the *Enchiriadis* scale. This disjunct ordering creates a whole step between every tetrachord, which leads to periodicity at the fifth rather than the octave.[226] This causes augmented octaves to occur, thus going against the intervallic relationships valued in Greek theory as well as the actual intricacies of chant practice. As music theorist David Cohen has pointed out, the *Enchiriadis* treatises recognize the discrepancy between the practice of singing at octaves and the normative scale presented in their system; however, they solve this dilemma by either assuming the presence of an octave system "superimposed" onto their scale, or even explaining it away by calling it simply a "wondrous change (*mutation mirabilis*)."[227] These issues meant that, while highly influential, the full *Enchiriadis* system was never adopted completely in Western musical practice.

The solution to these continuing problems of amalgamating theory with practice eventually came from an even closer synthesis with ancient Greek theory. This development was first described in an important treatise by Hucbald of Saint-Amand, commonly referred to as *De harmonica institutione*. Written between 870 and 900, this work is educational in tone, perhaps written for monks that were well versed in the chant repertoire yet unfamiliar with the finer details of Boethian theory.[228] Indeed, there is some evidence that the musical treatise may have been written for a school in Rheims that Hucbald helped found at the request of Archbishop

[226] Cohen, "Notes, Scales, and Modes," 324.
[227] Ibid., 330.
[228] Ibid., 318.

Fulco of Rheims.[229] Whatever the case, the resulting document provides the kind of close synthesis between Greek theory, modal organization, and liturgical practice that resolves many of the issues raised by the *Enchiriadis* tradition.

Hucbald's primary innovation is in utilizing, with alterations, the diatonic version of the Greater Perfect System, as presented by Boethius, to describe chant.[230] After presenting the Greater Perfect System in a straightforward manner, he immediately notes that one of its most important features is octave equivalence, which, as Atkinson points out, is "a feature that contrasts with the augmented octaves in the Dasia tone-system of the *Musica* and *Scolica Enchiriadis*."[231] According to Hucbald, when these notes are sounded together, "they will blend with an altogether pleasant and harmonious sweetness, as though the sound were one and single."[232] Thus, by justifying the importance of octave equivalence Hucbald tacitly supports the ancient Greek scale system over the *Enchiriadis* method, though not without adjustment.

Hucbald's next step is to reconfigure the Greater Perfect System in terms of Frankish chant practice. He accomplishes this by representing the System in ascending pitch order, and grouping these pitches according into the "modal" tetrachord configuration (Tone-Semitone-Tone) popularized by the *Enchiriadis* treatises.[233] Furthermore, Hucbald infuses this discussion of Greek scales with a Frankish sense of practicality by utilizing chant examples to illustrate the points he is making.[234] For example, to explain the "modal" tetrachord Hucbald references the *Venite* phrase from the Invitatorium *Christus natus est* (see Figure 6).[235]

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[229] Claude V. Palisca, ed., *Hucbald, Guido, and John On Music: Three Medieval Treatises* (New Haven: Yale University Press, 1978), 4.
[230] Cohen, "Notes, Scales, and Modes," 319-20.
[231] Atkinson, *Critical Nexus*.
[232] Palisca, ed., *Hucbald, Guido, and John*, 25.
[233] Atkinson, *Critical Nexus*, 155.
[234] Ibid.
[235] Palisca, ed., *Hucbald, Guido, and John*, 28.

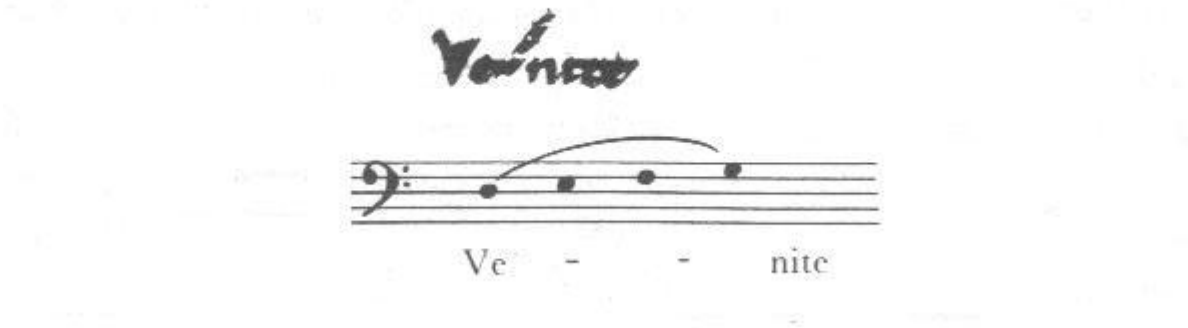

Figure 6: Hucbald's Use of *Christus natus est* to Describe the Intervals of a Modal Tetrachord. A facsimile is given above the modern notation.[236]

[236] Ibid.

Then, in another innovative move, Hucbald attaches the *synemmenon* tetrachord from the Lesser Perfect System to the middle of the Greater Perfect System to create a five tetrachord array (see Figure 7). The result has a unique property: the integration of the *synemmenon* tetrachord generates an alternative note, the *trite synemmenon* (b-flat). After laying out this reconfigured system, Hucbald then ties it even more closely to modality. First, he implicitly maps Gregorian chant onto the Greek scales through his use of chant examples. Second, he explicitly ties modal finals to the ancient Greek scale system by showing that the ancient Greek pitches, like *lichanos hypaton* (D), can control and characterize a given mode, like the *protus* mode.[237] Further, the addition of a variable b-flat (*trite synemmenon*) allows the incorporation of many chants into the otherwise ridged Greater Perfect System, by transposing the chant to where the chromatic pitch falls in the *synemmenon* tetrachord.[238] Thus, as Atkinson summarizes, "Hucbald forges a link between the 'instrumental' Greek theory of Boethius and the 'vocal' theory of plainchant and its notation found in the *Musica Enchiriadis*."[239] Medieval music theory would continue to develop into the later 10th and 11th centuries and the centers of innovation would move from the Frankish North to other regions, such as Italy; however, the important foundation provided by the *Enchiriadis* treatises and the work of Hucbald remained vital for centuries to come.

[237] Atkinson, *Critical Nexus*, 159.
[238] Bower, "Transmission of Ancient," 160-61.
[239] Atkinson, *Critical Nexus*, 160.

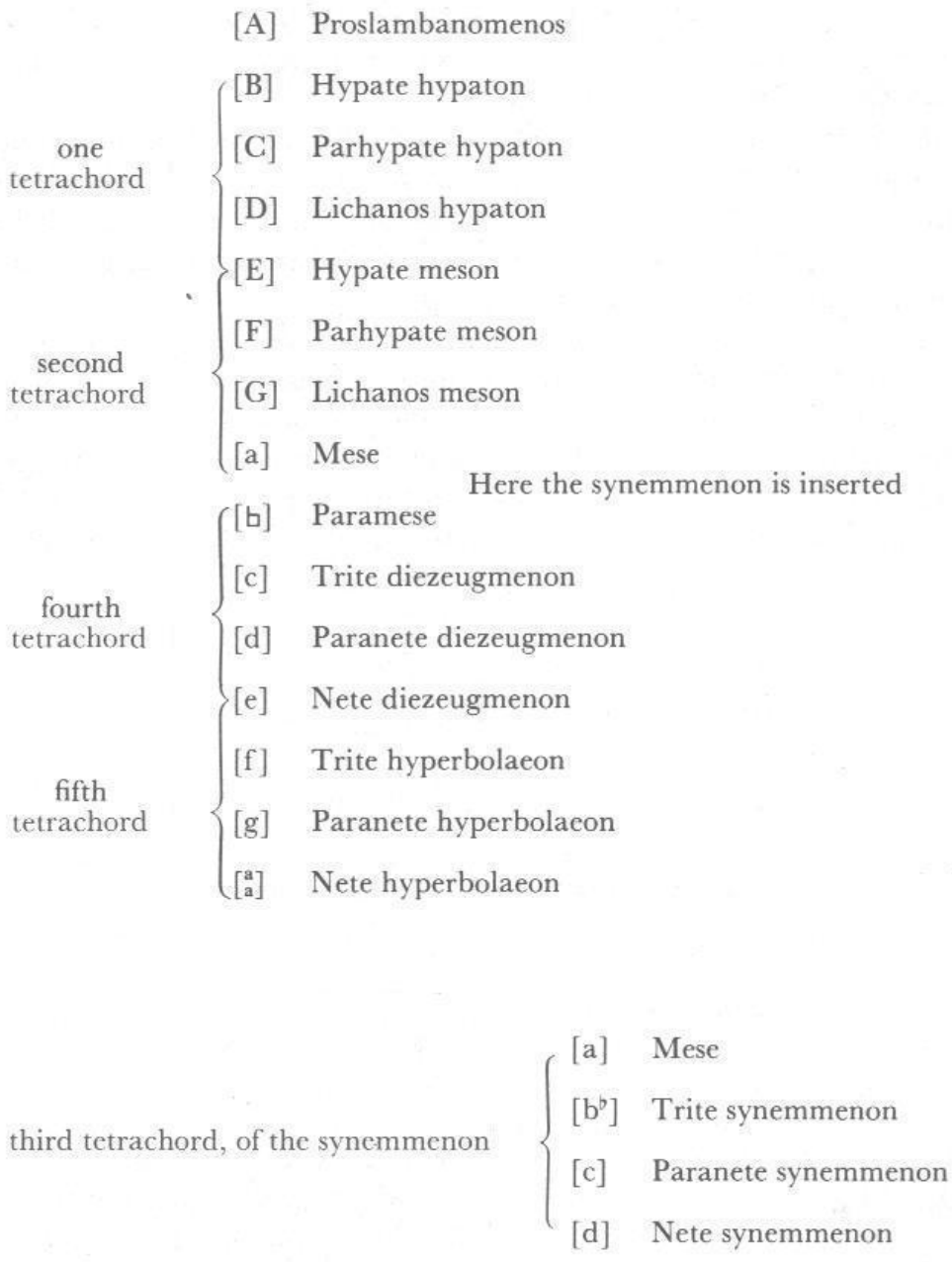

Figure 7: Hucbald's Five Tetrachord Scale System, with Variable *Synemmenon* Tetrachord.[240]

[240] Ibid., 33.

As I have shown, from the three very different traditions—ancient Greek theory, Byzantine modal organization, and Carolingian liturgical chant practice—Frankish theorists in the late 9th and early 10th centuries were able to craft a unique theoretical system that was explanatorily powerful and practically effective. The above historical overview also points to the complexity of this process of assimilation.

The incorporation of these new traditions was an intense intellectual endeavor, as revealed by the earlier efforts of Carolingian theorists. These facts point back to the important question of "why?" Why expend all of this effort to create an abstract modal theory, especially one that requires so much tweaking to even *begin* to fit the Western church's liturgical practices? Though certainly a complex answer fits such a complex question, I will highlight one particular response that has not been given enough attention. I argue that modal theory offers a powerful method for mnemonically retaining chant melodies, and thus was utilized as part of the larger project of chant transmission and incorporation begun in the Carolingian period. Now that the historical and musical background of medieval chant theory has been discussed, I turn to investigate the mnemonic functionality of modal theory. I show that modality was the ideal musical system for an essentially memorial culture, like that of the Carolingians, to retain and transmit melodies.

Music Theory and Mnemonic Functionality

The key to understanding how modality can effectively function as a mnemonic device lies in first answering why Carolingian theorists chose to change the Byzantine melody-type tradition of modal theory into the more abstract version that became central to the West. The reason for this change seems to stem at a practical level from imparting a foreign system of theoretical organization onto an already extant repertory. But, what does this kind of modal

system provide Carolingian theorists that other methods of systemization and analysis do not? By briefly turning again to the presentation of modality in two of the earliest western European theory treatises, *Musica Enchiriadis* and *Musica disciplina*, one discovers that modality, when reconfigured as an abstract system by the Carolingians, provided a powerful sense of musical stability and place and yet remained abstract enough to be applied to many different kinds of chant.

Given the complexities inherent in the process of transmission and synthesis, it is striking how unified the early treatises are in ascribing importance to modal classification. Indeed, one sees that rather than configuring modality as an arbitrary classification scheme, the Carolingians thought of modality as actively and intimately controlling the music. Furthermore, the practical nature of the Carolingian treatises, a bent that is absent from ancient theory documents, reveals the underlying concern for this theory to become ensconced at every level of musicianship.[241] For example, in the anonymous mid-9th-century *Musica Enchiriadis* treatise, we find the first detailed description of modal theory. Interestingly, in explaining why the ending notes of the modes are called "finals," the medieval author states, "because every melody must end on one of these four [tones]. Indeed, a melody in the first mode and its plagal (*subiugalis*) is *ruled* and ended by the *archous* [i.e. first] tone D."[242] It is worth emphasizing the adjective "ruled" in this excerpt, in Latin *regitur*, since it is repeated by the author in a litany-like manner: his description of each of the four tones concludes with the phrase "*regitur et finitur.*"[243] Rosenstiel's translation uses the word "controls" in its place, thus still emphasizing the determining role of

[241] Erickson, ed., *Enchiriadis*, xix.
[242] Ibid., 4.
[243] Atkinson, *Critical Nexus*, 123.

pitch centricity for the mode.[244] The importance of this role can easily be seen when the author of *Musica Enchiriadis* describes how the melodies are "governed by and end on the same tone, whence they also are considered to be one and the same mode."[245]

Recognition of these pitch relationship is also clearly important for practical musicianship. Thus, modal theory is configured as a practical element that musicians find directly in *sounding* music, not merely an abstract scholarly project. As the *Musica Enchiriadis* states, "Something must also be offered those less practiced in these things so they may learn either to differentiate the respective qualities of the tones in any known melody or to decipher an unknown melody from the quality and ordering of the tones."[246] This concern can also be seen in the early-9th-century treatise *Musica disciplina* by Aurelian of Réôme. Aurelian expresses a similar concern that singers learn the systemization of modal theory.

Even though Aurelian has a less practical, or systematized, attitude than the *Enchiriadis* author, the two primary concerns I have just described—practical modal understanding, and the determining or "ruling" force of modal tones—remain foregrounded in his discussion. For example, concerning the ruling force of modality Aurelian states, "We have said, then, that in music there are eight modes through which *every* melody seems to hold together as though with a kind of glue."[247] By using the phrase "hold together" (*adherere*) Aurelian subtly emphasizes that modal control permeates through, or inheres to, the melodies. This implicitly suggests the concept of pitch centricity since it shows that modes are more than just a goal, but also a defining characteristic of these melodies. Also, by stating that this is true for "every" (*omnis*) melody he

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[244] Léonie Rosenstiel, ed., *Music Handbook (Musica Enchiriadis)* (Colorado Springs: Colorado College Music Press, 1976), 3.
[245] Erickson, ed., *Enchiriadis*, 5.
[246] Ibid.
[247] Ponte, "*Musica disciplina*," 54. My italics. For the complete Latin text, see, Aurelian, *Aureliani Reomensis Musica disciplina* (n p.: American Institute of Musicology, 1975), 78.

universalizes this modal configuration and thus reveals the underlying Carolingian desire for musical unity. Further, according to Aurelian, knowledge and ability concerning these theories marked a good singer from a mediocre singer. As he notes:

> Moreover, unless I am mistaken, although anyone may be called by the name singer he cannot be perfect at all unless he has ingrafted by memory in the sheath of his heart the inflection of all the verses through all the Tones, and the difference between the tones.[248]

Here Aurelian not only emphasizes the vital task of learning the relationship between the "Tones" (modes) and the melodies, but also how this is something that must be kept in the memory. The phrase "ingrafted by memory in the sheath of his heart" clearly reflects many of the medieval and ancient memorial metaphors that I discussed in chapter 2, such as the "heart" being a symbolic focus of memorialization.[249]

Perhaps the greatest point to take away from both of the treatises is that modality as an important—indeed "ruling"—concept was something established early in Gregorian chant's development. Even with confusing terminology and relatively unsystematized theory practices, the fundamental importance of modality was expressed across authors, times, and even geographic distances. Thus, I return to the question of why. Why was modality so important for Carolingian theorists and musicians?

I argue that applying the insights of memorial scholarship to developments in medieval music theory reveals the answer to this question. For, as Carruthers notes, the memorial act that precedes composition, or performance, consisted first of situating oneself in a "place" or "mental location" from whence the appropriate memories could be drawn, or reconstructed depending on the context.[250] As such, this compositional location was *not* merely the specific information or material that needed to be recalled, but rather an abstraction in which, and from which, subjects

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[248] Ponte, "*Musica disciplina*," 154.
[249] Carruthers, *Book of Memory*, 59-60.
[250] Carruthers, *Craft of Thought*, 71.

could orient themselves toward the relevant material. The act of drawing these memories out depended on the presence of a metaphorical chain, or *catena*, which allows the subject to grasp onto the pertinent memory.[251] These "hooks" are a kind of abstract tool, what today we might summarize with the word "mnemonic."[252] Musicologist Rachel Golden has argued persuasively for this conceptualization to be applied to the interrelationships between lyrical figures and musical gestures, such as those found in the Aquitanian *versus* tradition. As she states, "In partnership with the text, musical cues in the *versus* participate in a unified rhetorical construct, ripe with striking imagery and adornment;" she elaborates that these elements become hooks precisely because their uniqueness excites the mind to contemplation and memory.[253] I slightly extend Golden's argument, positing that structural musical properties can also be mnemonic, independent from textual connections. This is because certain musical properties simultaneously provide the "mental hooks" to recall material, as well as an abstract framework in which to reconstruct this material. I contend that the modes function in this manner.

To support this claim, I turn to the insightful introductory study by Richard Crocker who states, "the remarkable aspect of Gregorian chant is that it does not move in a different tonal space, but in a part—a central part—of the tonal space with which we are most familiar in classical and popular music."[254] According to Crocker, a vital quality of monophonic music is that this tonal space is readily audible to the listener and performer, since in monophonic music all structural importance exists at the surface level. As such, it provides the listener with more direct access to the music.[255]

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[251] Carruthers, *Book of Memory*, 78.
[252] Ibid., 77-79.
[253] Rachel Golden Carlson, "Striking Ornaments: Complexities of Sense and Song in Aquitanian *Versus*," *Music & Letters* 84, no. 4 (2003), 13.
[254] Crocker, *Introduction to Gregorian Chant*, 22.
[255] Ibid., 6.

As Crocker has argued elsewhere, the melodies of Gregorian chant are the easiest parts of the chant to remember; according to him, this is why early notation was more concerned with contour, phrasing, and rhythmical constructs then completely accurate pitch notation.[256] This ease of remembering, according to Crocker, is intimately related to chant's direct presentation of pitch space, as he summarizes:

> A melody generates a tonal space by moving through a range of pitches. A reciting pitch, in contrast, does not generate a space, but rather just a place to be, by dwelling on one pitch. The reciting pitch seems to be a point, a sharply defined location in an otherwise undefined expanse. In comparison, the tonal spaces generated by melodies are less well defined than a reciting pitch; still, they are readily audible. Awareness of tonal space is easily heightened; and even when we are not aware of it, tonal space is a principal source of the musical meaning of Gregorian chant.[257]

There is an immediately resonance between this passage's language concerning pitches that "generate a space" and statements by the medieval theorists themselves. For example, when Aurelian described how modality "holds together" the melodies of Gregorian chant or when *Musica Enchiriadis* states that the finals "rule" a given mode, both of these medieval examples describe the creation a kind tonal space.[258] Crocker's unique insight is that he describes pitch centricity as "a place to be," not just the site of musical structure. Modality develops a kind of musical location that, as Carruthers suggests, is a "habitation for the mind" in which the singing subject orients his musical memory.

Thus, the choice of modal theory as a viable theoretical system in the Carolingian period was influenced, in part, by its function as a powerful mnemonic, a mnemonic that was embedded within the music itself. The theory treatises I have described in the previous section provided some evidence for the possibility of modality as a mnemonic system. However, to tie modality

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[256] Richard L. Crocker, "Carolingian Chant: Roman, Frankish-Roman, Frankish," in *The Gentle Voices of Teachers: Aspects of Learning in the Carolingian Age*, ed. Richard E. Sullivan (Columbus: Ohio State University Press, 1995), 146.
[257] Crocker, *Introduction to Gregorian Chant*, 23.
[258] Ponte, "*Musica disciplina*," 54; Erickson, ed., *Enchiriadis*, 4.

more directly to memory I will examine another kind of musical document—tonaries. I argue that a close examination of tonaries will not only substantiate my previous assertion of modality's mnemonic functionality, but also tie modal concerns to larger processes of memorialization already at work in medieval culture.

TONARIES AND TEXTUALIZATION

Tonaries, perhaps more than any other document discussed in this chapter, are dependent on the mnemonic and scholarly impulses that defined medieval Frankish culture. As such, before one can discuss the content and purpose of tonaries as musical documents, it is important to situate them in this broader context. The first aspect that must be emphasized is the essentially textual nature of medieval culture. Carruthers, among others, has shown that medieval culture was profoundly shaped by its relationship to texts, whether as seats of authority or as grounds for conceptualization.[259] However, one must understand that the concept of a "text" was significantly more fluid than our modern conception. As she states, "A book is not necessarily the same thing as a text. 'Texts' are the material out of which human beings make 'literature' . . . in a memorial culture, a 'book' is only one way among several to remember a 'text,' to provision and cue one's memory."[260] Ultimately, there was a dynamic interplay among writing, memory, orality, and performance, all through their diverse presentations of "texts." Thus, traditional scholarly narratives concerning the stark difference between a written and oral society must be understood within this more nuanced exchange. As such, writing itself becomes an outgrowth of memory, rather than memory's competitor.

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[259] Carruthers, *Book of Memory*, 239-40.
[260] Ibid., 9.

Mnemonic Textuality and Musical Notation

As noted above, in the Middle Ages writing was a mnemonic aid and, perhaps more startling for the modern scholar, reading was intimately related to the incorporation of the text into the subject as a memory. As Carruthers glosses, "a book is itself a mnemonic, among many other functions it can also have;" elsewhere she notes, "the book itself is the chief external support of *memoria* throughout the Middle Ages."[261] This relationship between writing and internalization was seen as necessary for the subject to come to *know* the text. As such, the Middle Ages did not move from a memorial to literary culture purely through the advent of more widespread writing practices. Instead, memory and mnemonic practices remained a vital part of medieval life. This general principle can also be applied specifically to music, as Busse Berger shows.[262] She notes that recent research both in musicology and medieval studies reveals that the tradition of memorized chant performance continued into the 17th century even at major centers of literacy like Notre Dame.[263]

The continued importance of memorization for musical performance, well into the later Middle Ages, implicitly points to the support of written documents as mnemonics for these musical "texts." This assertion becomes even more obvious once one realizes the sheer amount of material that needed to be memorized. The Gregorian chant repertory was vast. Further, there were quite a few literary injunctions for memorization, most notably of all 150 psalms. Once one adds the sizable memorization of mass chants (over 560 chants as calculated by Michel Huglo),[264] and for some clergy the full Office repertory as well (over 3,000 chants by the end of

[261] Ibid., 240.
[262] Busse Berger, *Music and the Art of Memory*, 3-8. See also 67-77.
[263] Ibid., 48.
[264] Michel Huglo, *Les livres de chant liturgique* (Turnhout: Brepols, 1988), 102.

the Middle Ages),[265] the question of just how such large amounts of material was memorized becomes crucial.

Some scholars have argued that this large amount of chant required notational support for effective memorization and transmission; the early archetype theory of Kenneth Levy exemplifies this kind of approach.[266] In his model, the earliest neumes existed from at least the year 800, and perhaps earlier.[267] This view is, however, not mainstream. As Levy acknowledges, most scholars follow, with various nuances, the foundational work of musicologist Solange Corbin, "who saw the neumes as an invention of the earlier ninth century for the purpose of recording ancillary and novel music . . . while the central repertory of Gregorian Propers remained consigned to oral transmission until about 900."[268] Regardless of the theory, a traditional trend in notational research is that the development of notation was unidirectional and evolutionary, with a common origin from which many regional variations developed.[269]

After the dating of chant notation, the identity of chant notation's presumed common origin is perhaps one of the most disputed aspects of notational research. Hiley mentions at least five different possibilities for notational predecessors: prosodic accents, punctuation, *ekphonetic* notation, Byzantine notation, and cheironomy.[270] There is no clear consensus among the scholarship as to which is the most likely. Some, like Atkinson, prefer a kind of prosodic accent theory, noting the morphological similarity between grammar accent marks and certain signs in early neumatic scripts, like paleo-Frankish notation.[271] Others, like Treitler, think that the early

[265] Busse Berger, *Music and the Art of Memory*, 48.
[266] Levy, *Chant and the Carolingians*, 81-108.
[267] Ibid., 89-91.
[268] Ibid., 110.
[269] Ibid., 109-10.
[270] Hiley, *Western Plainchant*, 364-70.
[271] Atkinson, *Critical Nexus*, 106-11.

punctuation marks from medieval Latin heavily influenced the development of notation because of the organic connection between music and lyrics.[272] Still others, such as musicologist Constantin Floros, highlight the connections between Byzantine and Latin notation, reasoning that if modal theory was derived from Byzantine developments then perhaps notation was imported to the Latin West as well.[273]

A detailed discussion of the varied development of neumes is beyond the scope of this thesis. Regardless of when notation was first developed, a greater fact concerning memorization and chant remains true—early notation cannot fully transmit chant melodies. As Busse Berger has said, "From our perspective, neumes are an ambiguous notational tool because they do not specify pitch." As such, "The function of non-diastematic neumes, then, was not to indicate exact pitch; rather, the neumes helped singers to perform chants that they already knew very well."[274] This means despite uncertainty of the exact beginnings of notation—whether in the 9th century per the traditional view, or in the 8th century with the early archetype model—the question returns to memorization.

Further, I argue that viewing the development of musical notation through this memorial lens reveals at least partial answers to some of the questions of concerning notation's origin. To illustrate this, I will briefly discuss the specific difficulties surrounding the cheironomic theory of notational origins. This theory states that the hand gestures used by choir leaders to direct their choirs became graphically represented in neumes.[275] Cheironomy existed in both the Eastern and Western churches, though exactly how early is open to some debate. The earliest concrete

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[272] Leo Treitler, "The Early History of Music Writing in the West," *Journal of the American Musicological Society* 35, no. 2 (Summer 1982), 269-72.
[273] Constantin Floros and Neil K. Moran, *Introduction to Early Medieval Notation*, enlarged 2nd ed. (Warren: Harmonie Park, 2005), 3-12.
[274] Busse Berger, *Music and the Art of Memory*, 49-50.
[275] Hiley, *Western Plainchant*, 370.

iconographic evidence comes from the Latin West in the 9th or 10th century.[276] As Floros mentions this theory does have some support; for example, in the Byzantine system most, if not all, the notational signs had cheironomic parallels.[277]

However, recent investigations have thrown doubt on the cheironomy theory's explanatory power concerning the origin of notation. Hiley notes that there is little physical evidence for a connection between cheironomy and notation and thus the theory is essentially an argument from silence.[278] Likewise, Floros contends that while there may have been some overlap, it was primarily a simultaneous yet unrelated development.[279] In light of these difficulties, scholars, such as Hiley and Floros, suggest that while there may have been some connection between neumations and cheironomic gestures, it remains unknowable what that relationship was. However, I argue that utilizing an approach that is sensitive to the underlying memorial culture of the Middle Ages gives scholars a viable framework for positing a meaningful connection between neumes and cheironomy.

As I noted in chapter 2, Carruthers argues that memory as configured in a memorial culture is not reducible to technologies, like books or notation, but is instead a fundamental orientation *to* those technologies.[280] Thus, for example, books, mental schemes, and pictorial elements could all be outgrowths of this underlying memorial culture, all of them diverse mnemonics for achieving the same goal of memorization. Indeed, Carruthers notes that the most valuable memories were configured as being multisensory. That is to say, multiple mnemonics

[276] Floros and Moran, *Early Medieval Notation*, 12-13.
[277] Ibid., 14.
[278] Hiley, *Western Plainchant*, 370.
[279] Floros and Moran, *Early Medieval Notation*, 15.
[280] Carruthers, *Book of Memory*, 9.

stimulating different senses boosted the effectiveness of any memorial process: a copiously inscribed memory is more effectively remembered.[281]

In this way, the relationship between neumes and cheironomy becomes reconfigured. Instead of attempting to find a causal link between them, we can understand them as parallel outgrowths that are united by their relationship to the memorial processes that created them in the first place. Cheironomy becomes an embodied representation of melodic lines and pitch intervals, fostering recollection through the active visual-spatial presentation of a melody in time. Similarly, the early non-diastematic neumes can be understood as pictorial representations of the sound, a kind of visual hook by which performers can draw out the melodies from their memory.

To give another example of how a memorial framework allows us to reevaluate the history of notation, consider the diverse versions of neumatic notation that appeared regionally, such as "French," "German," "Laon," "Breton," or "Aquitanian" notation.[282] The large amount of neumatic variations found throughout Western Europe can be understood as the creative goal of each local group's memorializing process. This is substantiated by Carruthers explanation of memory hooks. She states, "All such chains are individually habitual . . . All ancient mnemonic advice takes this fact into account by counseling that any learned technique must be adapted to individual preferences and quirks."[283] Thus, regional neumations are obviously related to each other, but not *merely* as a necessary evolutionary result of their distance from a single notational archetype.

Thus, neumatic notation, though certainly an important development, cannot be divorced from its fundamental relationship to aspects of medieval memorial culture. Recently, scholars like Busse Berger have recognized this important connection between memory, notation, and the

[281] Ibid., 92, 97.
[282] Hiley, *Western Plainchant*, 346-54.
[283] Carruthers, *Book of Memory*, 80.

creation of Gregorian chant. But, I contend that they have not followed these implications far enough. In the following section, I will examine in detail Busse Berger's argument concerning the mnemonic use of tonaries. This will reveal that while her study does show that tonaries are unique testaments to the powerful relationship between memory and chant, by overstating the radicalizing nature of musical notation Busse Berger misses an even deeper mnemonic connection. I then show, through an examination of the earliest unnotated tonary, the St. Riquier fragment, that tonaries point to the mnemonic use of modal theory itself. This provides more evidence that memorial concerns were embedded within the musical structure of the melodies, and thus *ars memoria* has a foundational role in determining the shape of Gregorian chant.

Tonaries, Florilegia, and the Purpose of Systemization

Given that, as I showed in the previous section, writing was the Middle Age's most ubiquitous mnemonic, how did writing support musical memory during the early years of neumatic notation's development? Busse Burger suggests that tonaries can provide at least a partial answer to that question. According to her, the purpose of tonaries mirrors the mnemonic uses of medieval literary genres like florilegia.[284] Florilegia were complex notebooks of material written as support for memorization and general retention. In this way, they can cover diverse subjects but provide only limited quotations from each subject. However, these quotations usually follow a set system of mnemonic structure where the limited quotations act as memorial "hooks." Thereby the memorized material was brought to the forefront of the reader's mind. In

[284] Busse Berger, *Music and the Art of Memory*, 77-79. For more on florilegia in general and their biblical content, see, Barry Taylor, "Medieval Proverb Collections: The West European Tradition," *Journal of the Warburg and Courtauld Institutes* 55 (1992), 19-35. Much scholarship on florilegia has focused on tracing which classical sources are most often quoted and identifying unknown quotes. For a more detailed study along these research lines, see, Mary A. Rouse and Richard H. Rouse, *Authentic Witnesses: Approaches to Medieval Texts and Manuscripts* (Notre Dame: University of Notre Dame Press, 1991), 5-7, 101-88. For more on the function of florilegia in medieval culture, see, Carruthers, *Book of Memory*, 217-22.

like manner, Busse Burger argues that tonaries themselves similarly performed a mnemonic function by becoming the "hooks" through which chant could be recalled.

The basic organizational system of a tonary is *itself* a clue to its memorial function. In contrast to standard graduals or antiphoners that follow the liturgical order, tonaries are always first determined by modal concerns. As Busse Burger notes, "the most important point about the tonaries is that their compilers fundamentally reorganized the order of the antiphoners (and often graduals as well), replacing the liturgical order with a classification into eight modes."[285] After this first level of organization, the subsequent levels of hierarchical ordering differ with each tonary, but the primacy of modal classification has no exceptions in the extant manuscripts.[286]

Many scholars have suggested that this kind of modal organization helped cantors in the practical act of liturgical singing.[287] For example, in performance practice, antiphons were generally linked to adjacent psalms tones. As Joseph Dyer explains, both Gregorian and Old Roman chant required for stylistic continuity a "cadential gesture which linked the psalm verses with a recurrent antiphon."[288] These gestures went by many names, especially in earlier sources, including *varietas*, *divisio*, *diffinitio*, and *differentia*.[289] Busse Berger concurs with this observation, further noting that classifying chant according to these modal parameters was an intuitive development. She remarks, "It is not hard to understand why theorists began grouping the chant in this way. They noticed that many antiphons share similar designs, ranges, and beginnings and simply arranged them accordingly."[290] Thus, a smoothly flowing performance

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[285] Busse Berger, *Music and the Art of Memory*, 58.
[286] Ibid.
[287] Margot E. Fassler, "The Office of the Cantor in Early Western Monastic Rules and Customaries: A Preliminary Investigation," *Early Music History* 5 (1985), 29-51. Fassler has even suggested that the development of various kinds of musical texts (such as tonaries) helped stabilize the position of cantor itself and expand the position's power and influence. Ibid., 46-47.
[288] Joseph Dyer, "The Singing of Psalms in the Early-Medieval Office," *Speculum* 64, no. 3 (1989), 539.
[289] Ibid.
[290] Busse Berger, *Music and the Art of Memory*, 58.

required the cantor to be able to select the termination of the psalm tone (referred to as *diffinitio* by Busse Burger) that best fit its accompanying antiphon. And since tonaries make explicit these modal terminations, they may have functioned as specific reminders for picking suitable chants.[291]

This reason for modal organization is well documented by scholars such as David Hiley.[292] Hiley's view is paradigmatic of this broader scholarly consensus concerning the use of tonaries in particular and the development of modal theory in general. According to this view, anomalies, such as the modal classification of chants that do not have corresponding psalm verses, are taken to be examples of a distinctly Carolingian theoretically-minded desire for systemization without practical roots. On the other hand, Busse Berger goes on to show that the mnemonic function of tonaries may explain these kinds of phenomena in a more practical manner. Namely, the use of the tonary as a complete reference work seems unlikely since, as Busse Burger argues:

> If a cantor was using the tonary to find the correct psalm tone, he had to know the rule of the reciting pitches. Moreover, in order to find his antiphon in the tonary, he either had to scan the entire tonary, or else look in the right class because he already knew to which mode the antiphon was assigned.[293]

Thus, Busse Burger concludes that the tonaries were mnemonic frameworks within which the cantor could organize previously memorized chants, not comprehensive references of new or unknown information.

Although persuasive, Busse Burger's argument does contain a problematic assertion concerning the relationship between writing and memorization. According to Busse Burger, this powerful mnemonic system is only possible in light of the advancements of musical notation,

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[291] Ibid., 59.
[292] Hiley, *Western Plainchant*, 522.
[293] Busse Berger, *Music and the Art of Memory*, 59-60.

thus tacitly placing writing as the pre-condition for this kind of musical memory. The theoretical underpinnings of her assertion come from the work of anthropologist Jack Goody and his studies in Ghana, where orality and literacy exist side by side.[294] He concludes that writing begins a fundamental, even paradigmatic, shift in the kind of cognition and conceptualization that a person utilizes. Though certainly not the antiquated view that the introduction of writing replaced the "less advanced" art of memory, Goody's argument does make the still bold claim that writing fundamentally reshapes one's approach to a given textual object. Because, as Busse Berger glosses, "only if you write something down are you able to *analyze* the text. Only if you see a text inscribed on paper parchment, or a tablet can you make a study of the grammar."[295] Writing's capacity to remake phenomena into a simultaneous rather than successive structure allows the observance of patterns that then can be turned into normative rules. Thus, according to Busse Berger, this fundamental reshaping increases the depth of memorial functionality within chant. As she states, "The mnemonic feats described by Frances Yates and Mary Carruthers are characteristic of written cultures."[296] In this formulation, writing becomes the foundation of memory.

Busse Berger then takes this perspective and applies it to music. Though admitting that it is purely a hypothesis, she asks whether, "one might even wonder . . . if the creation of tonaries was not a direct result of neumatic notation."[297] To give further support to this supposition, Busse Berger endorses Levy's theory of the early Carolingian archetype for musical notation.[298] As she summarizes:

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[294] Ibid., 81.
[295] Ibid.
[296] Ibid., 82.
[297] Ibid., 84.
[298] For a more detailed discussion of this theory, see, Levy, *Chant and the Carolingians*, 12-15.

> If Levy is right and we argue with Goody that only a written text permits analysis, we can explore the hypothesis that neumatic notation might have contributed to the making of tonaries. Is it possible that music notated in neumes allowed theorists to sit down, study, and classify chant and rearrange it into tables?[299]

Busse Berger's greater point concerning the interrelation of memory and writing is accurate and helpful. However, there are reasons to question her account of literacy in regard to music. I posit that Busse Berger overstates the necessity of notation for conceptual analysis and the mnemonic role that notation plays in tonaries. Instead, the presence of early unnotated tonaries suggests that the mnemonic and organizational information they codified was not intrinsically, or primarily, notational in the sense that Busse Berger suggests.

One can see the problematic nature of this argument by considering the Metz tonary (Metz, Bibliothèque nationale, lat. 1118), which, though unnotated, is the earliest structurally complete tonary.[300] As Busse Burger notes, some recent research suggests the original exemplar from which the Metz tonary was taken must have been notated.[301] However, what is more interesting is that Busse Berger finds it necessary to argue that the tonary was "meant to be" notated before she can even begin to discuss its mnemonic implications. This consideration of tonaries as implicitly notated underlies her conclusion concerning the necessity of notation for the entire tonary project. But, in positing this notational supremacy, Busse Berger glosses over the existence of the earliest unnotated tonary, the late 8th-century St. Riquier fragment (Paris, Bibliothèque nationale, lat. 13159). An investigation of the early St. Riquier tonary itself reveals that, contrary to Busse Berger's position, tonaries can encode important mnemonic information that is not, strictly speaking, notational.

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[299] Busse Berger, *Music and the Art of Memory*, 84.
[300] Ibid., 60.
[301] Ibid.

St. Riquier, Dijon, and the Witness of Unnotated Tonaries

The St. Riquier tonary is contained within a larger work referred to as the Psalter of Charlemagne or the Carolingian Psalter (Paris, Bibliothèque nationale, lat. 13159). It is a relatively small book that on the basis of writing and decoration most likely comes from the end of the 8th century (see Figure 8).[302] The tonary itself begins on fol. 167r and continues only to 167v of lat. 13159. Paleographic analysis shows that it is copied by the same scribe as the previous psalter pages. The tonary is often referred to as the St. Riquier fragment because it only shows representative chants for the first 5 modes, primarily from chants of the gradual. As Huglo notes, there are indications that the rest of the 8 modes would have been represented on a following page that is no longer extant.[303] Huglo suggests further that the more complete version may have also contained a tonary of antiphoner chants to complement the selections from the gradual, though this assertion is primarily speculative.[304]

As mentioned earlier, scholars generally conceive of tonaries' practical function to be codifying the modes of chants so that the cantor would be able to make a musical selection that matched with the corresponding psalm tone. Uniquely, the St. Riquier fragment contains not only Antiphons but other chant genres (Graduals, Alleluias, and Offertories) that have no corresponding psalm tones. Huglo has reasoned that this indicates not a practical aim but only "theoretical or didactical" ends.[305]

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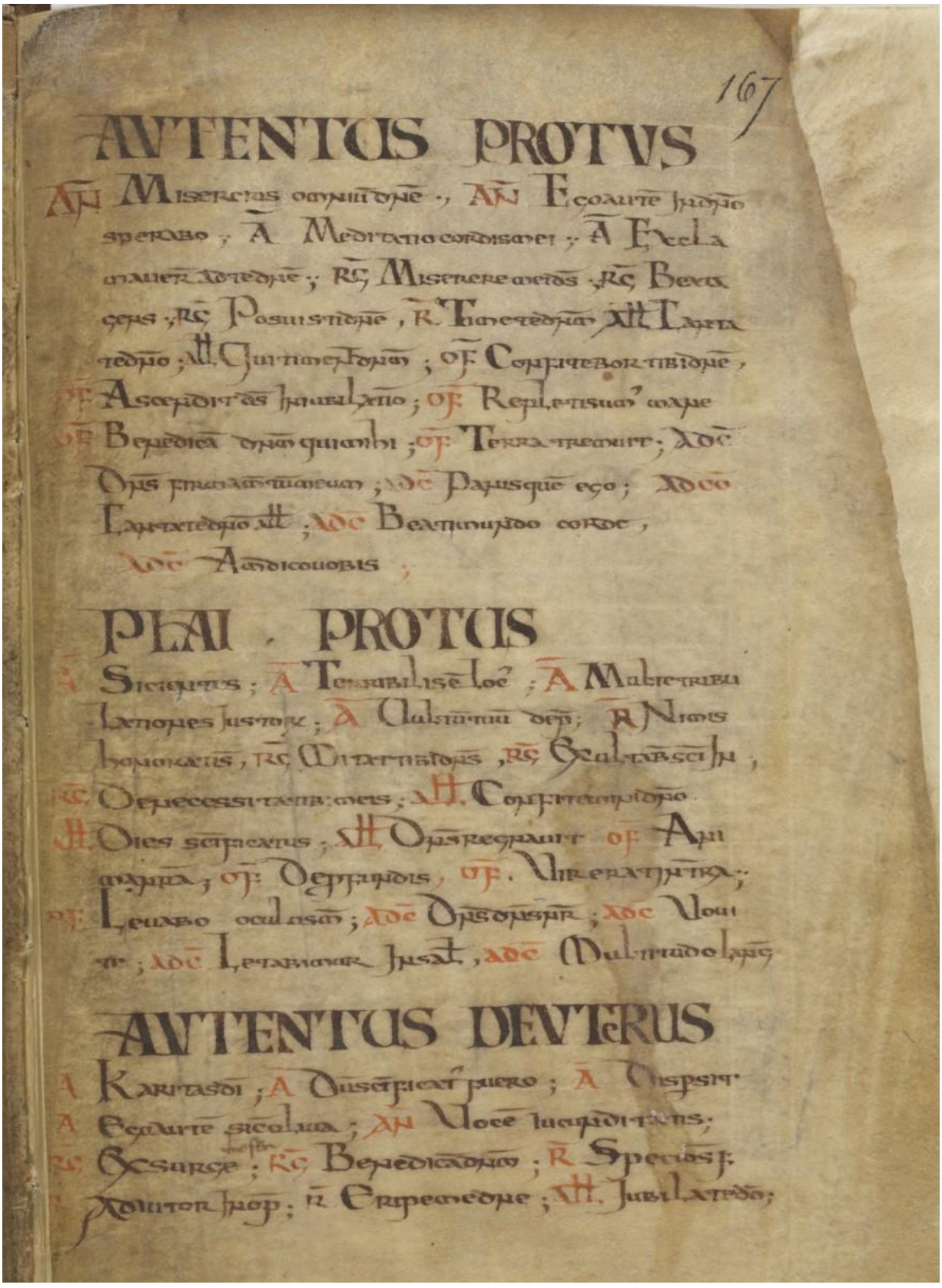
[302] Michel Huglo, *Les tonaires: Inventaire, analyse, comparaison* (Paris: Société Française de Musicologie, 1971), 25. "Le 'Psautier de Charlemagne' ou 'Psautier carolingien' . . . est un manuscript de petit format (25 X 16 cm.) qui peut être daté, d'après l'analyse de la decoration et de l'écriture, de la fin du VIIIe siècle." The rest of my discussion in this paragraph is also informed by Huglo's description of the tonary.
[303] Ibid., 26.
[304] Ibid.
[305] Ibid., 29. My translation.

Figure 8: St. Riquier Tonary Fragment, folio 167_r. This page contains the authentic *protus*, plagal *protus*, and part of the authentic *deuterus* modes. Note the Offertory *Ascendit Deus* under the authentic *protus* designation.[306]

[306] Paris, Bibliothèque nationale, lat. 13159, fol. 167_r, Accessed May 15, 2012 http://gallica.bnf.fr/ark:/12148/btv1b84267835/f337.image.



AVTENTVS PROTVS

AN Misereris omnium dne ; AN Ego autem in dno sperabo ; A Meditatio cordis mei ; A Exclamaverunt ad te dne ; RG Miserere mei ds ; RG Beatus gens ; RG Posuisti dne , R Timete dnm ; AH Cantate dno ; AH Quiti mente dnm ; OF Confitebor tibi dne , OF Ascendit ds in iubilatio ; OF Repletisum mane OF Benedica dnm qui mihi ; OF Terra tremuit ; ADC Dns firmamentum meum ; ADC Panisque ego ; ADCO Cantate dno AH ; ADC Beati mundo corde , ADC Amen dico vobis ;

PLAI . PROTVS

A Sicientes ; A Terribilis est locus ; A Multe tribulationes iustorum ; A Vultum tuum dep ; R Nimis honoratus , RG Mitat tibi dns , RG Exultabunt sci in , RG De necessitatibus meis ; AH Confitemini dno AH Dies sanctificatus ; AH Dns regnavit OF Animam nra ; OF De profundis , OF Vir erat in tra ; OF Levabo oculos m ; ADC Dns dns nr ; ADC Vovite ; ADC Letabimur in sal , ADC Multitudo lang

AVTENTVS DEVTERVS

A Karitas di ; A Dus sanctificat puero ; A Dispersit A Ego autem sicut oliva ; AN Voce iucunditatis ; RG Exsurge ; RG Benedica dnm ; R Speciosus f. Adiutor in op ; R Eripe me dne ; AH Iubilate dno ;

He also mentions how "we do not find in this manuscript a list of all the pieces of the repertoire, but only a selection of examples;" because of these particularities Huglo places "this tonary in a special category that we call 'educational tonaries'[*tonaries d'enseignement*] or didactical tonaries, as opposed to the practical tonaries."[307]

As mentioned earlier, this point concerning the abstract musico-theoretical aims of tonaries like the St. Riquier fragment has also been supported by later authors such as David Hiley.[308] While Busse Burger's challenge to this limited notion reveals the practical possibilities of these tonaries as mnemonic devices, her emphasis on the necessity of musical notation within mnemonic functionality leaves her unable to fully account for examples like the St. Riquier fragment. This reinforces the possibility of accepting Huglo and Hiley's accounts of the purely theoretical function of such tonaries. But, these accounts, in which the documents figure as mere relics of the theoretical classification of chant practice according to modal theory, remain problematic.

In contrast to either of these two positions, I posit that even unnotated and relatively eclectic tonaries like St. Riquier function mnemonically. Their lack of notation points to the transmission of a different, and perhaps more basic, set of mnemonic information than that described by Busse Burger. This information was not inherently defined by musical notation, though it was certainly supported by notation's later development.

As mentioned before, the entire tonary fragment covers only folio 167, *recto* and *verso*. The heading organization is according to the theoretical tradition of dividing the modes into four main groups by their final and then subdividing each into two subgroups according to range.[309] Hiley explains this kind of modal organization with reference to 9th-century theorist Hucbald of

[307] Huglo, *Les tonaires*, 29. My translation.
[308] Hiley, *Western Plainchant*, 330-31.
[309] Busse Berger, *Music and the Art of Memory*, 57.

Saint-Amand, stating, "Hucbald gives names of the four 'modes or tropes, which we call tones': *protus*, *deuterus*, *tritus*, and *tetrardus*; and he explains that each of the four notes 'reigns' over an authentic and a plagal trope."[310] The St. Riquier fragment clearly exhibits this system with the opening heading in large capital letters—AVTENTUS PROTVS—that labels the authentic version of the first (*protus*) mode-family.[311] Underneath this heading, several chants are labeled first with an abbreviation in red ink that indicates their liturgical genre (for example, "OF" for offertory) and then a very brief Latin incipit from the beginning of the chant in question.[312] This same format is used for each section, finally ending with the heading AVTENTUS TRITVS and its corresponding chants.[313]

This format provides two indicators of both the importance and stability of modal theory in the Carolingian musical imagination. The first of these indicators has been recognized by many scholars; as David Hiley notes, St. Riquier—"possibly written as early as the late eighth century—shows that the eight-mode system was already understood in Charlemagne's time."[314] There are no explanatory notes in the tonary concerning the modal classification system, presumably because the author expected those who would read it would already know the modal system well. The second indicator is that comparison with later tonaries shows that the selection of chants was not merely an idiosyncratic element of this particular tonary but in fact relatively stable.

The Dijon tonary gives a good example of this persistence of modal attribution since it organizes chants into the same modal categories as St. Riquier. The impetus behind the creation

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[310] Hiley, *Western Plainchant*, 451.
[311] Paris, Bibliothèque nationale, lat. 13159, fol. 167_r, accessed May 15 2012, http://gallica.bnf.fr/ark:/12148/btv1b84267835/f337.image
[312] Ibid.
[313] Ibid., 167_v
[314] Hiley, *Western Plainchant*, 521.

of this tonary was related to the activities of liturgical reform, musical innovation, and educational expansion associated with Abbot Guillaume de Volpiano, who was installed at St. Bénigne in Dijon by Odo of Cluny in 990.[315] On this point, both Huglo and Finn Egeland Hansen, author of an annotated transcription of the tonary, are in agreement. Hansen even suggests that paleographic evidence indicates that Guillaume may have had a direct hand in the project, perhaps even writing some of the corrections and performing scribal duties himself.[316] This, and other paleographic evidence, dates the manuscript to the first half of the 11th century and perhaps, if Hansen's account is to be believed, shortly before Guillaume's death in 1031.

Like St. Riquier, the Dijon tonary includes the more typical Antiphons along with other mass chants; however, the comprehensiveness of the Dijon tonary is far greater than that of St. Riquier (see Figure 9).[317] The Dijon tonary contains a full repertoire of the Proper of the Mass. Further, rather than just providing only melodic incipits, most of the chants are fully notated.[318] Concerning organization, the tonary follows the trend of placing modality as the first level of systemization. As Busse Berger observes, "the chant is classified first according to mode; second, the type of chant; third, according to the starting note, from the lowest upward; and fourth, according to the top note of the melody."[319] Huglo has described this comprehensiveness as a combination of qualities that typically are present in either graduals or tonaries, but not both.[320]

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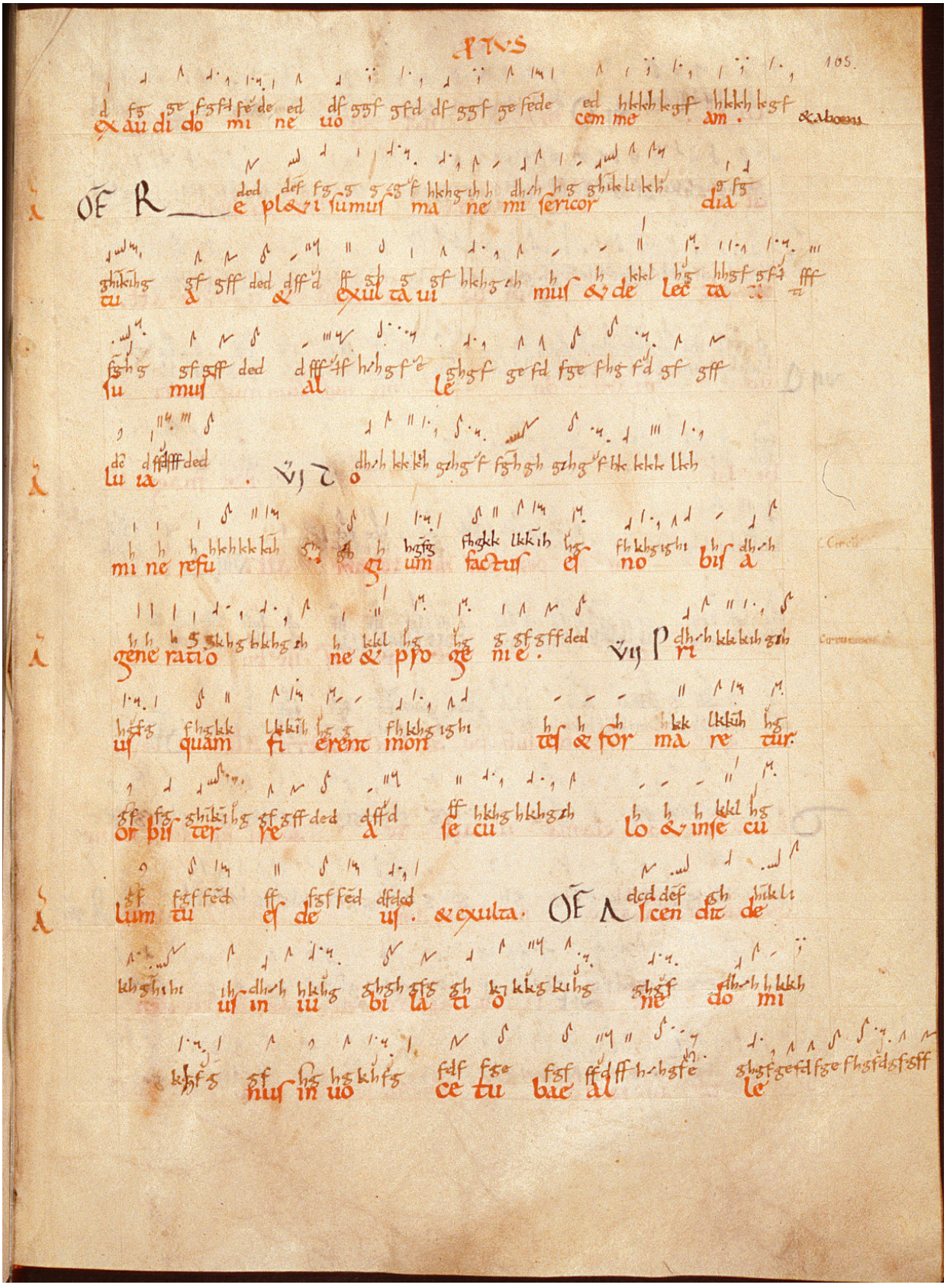
[315] Finn Egeland Hansen, ed., *H 159 Montpellier: Tonary of St Bénigne of Dijon* (Copenhagen: Dan Fog Musikforlag, 1974), 20.
[316] Ibid., 19-21. Huglo, *Les tonaires*, 328-29, 332-33.
[317] Busse Berger, *Music and the Art of Memory*, 79.
[318] Ibid.
[319] Ibid.
[320] Huglo, *Les tonaires*, 329- 30.

Figure 9: Dijon Tonary, folio 105_r, Showing Offertories in the Authentic *Protus* Mode. Notice the authentic indication as a stylized "A" in the left-hand margin. It is written both for the opening section of each chant as well as each verse. Also, note the letter notation *and* neumatic notation above the Latin text. Like in St. Riquier, the final Offertory on this page is *Ascendit Deus*.[321]

[321] Montpellier, Bibliothèque Inter-Universitaire, Faculté de Médecine, Ms. H 159, fol. 105_r, Accessed May 13 2012, http://manuscrits.biu-montpellier.fr/images/159105rZ.jpg .



Another important aspect that highlights this tonary's comprehensiveness is its double notation. Not only does Dijon utilize "French" style non-diastematic neumes, but it also often employs letter notation, similar to the Greek letter notation used by Boethius, in which the letters A through p stand for the pitches of a double octave, A-a′.[322]

Thus, in some ways the tonary models the *dasian* notation used by the earlier *Enchiriadis* treatises or the letter notation Hucbald used in conjunction with, as he says, the "customary notes" of neumatic notation to provide a more specific index of pitch.[323] Further, this letter notation makes a clear distinction between b and b-flat, thus providing a notational indication for the musically difficult task of altered notes.[324] Often, the melodies are accompanied by marginalia that gives a summary of important information such as melodic range, the use of b or b-flat, as well authentic or plagal classification; however, these are not complete.[325] Hansen notes that paleographic evidence shows, that only the two scribes responsible for letter notation provided marginalia concerning the range and chromatic notes.[326] Meanwhile, the final scribe who edited the others' work, which Hansen takes as an indication of his leadership of the project, provided the marginal indications of authentic or plagal modality.[327]

All of these unique aspects of the Dijon tonary set it apart from similar documents. In many ways, it could be called overdetermined, in the sense that its copious amounts of information presented through neumes, letter notation, text, marginalia, headings, and symbols, seem at some junctures excessive. Indeed, Hansen is somewhat puzzled by the, at times, idiosyncratic organizational system, which as he sates, "is unsuitable as a practical service

[322] Hansen, ed., *H 159 Montepellier*, 16.
[323] Palisca, ed., *Hucbald, Guido, and John*, 36-37.
[324] Hansen, ed., *H 159 Montepellier*, 16.
[325] Ibid., 18.
[326] Ibid., 29.
[327] Ibid., 28-29.

book."[328] However, as discussed in chapter 2 and in the section on textuality above, this kind of multifaceted recording points to the mnemonic function of documents like tonaries. After all, a copious mnemonic was highly valued for its ability to impress a full or complete memory on the subject. More importantly, a comparative examination between Offertories in both Dijon and St. Riquier shows that one aspect of this classification scheme remained stable between tonaries—modality.

I choose to focus on the Offertory because of this genre's unique musical features. The Offertory's liturgical function was to accompany the action of bringing gifts to the altar, which means that it is functionally similar to an Introit accompanying the procession or a Communion accompanying the clean up after consuming the Eucharist.[329] However, it is musically quite different; as McKinnon has succinctly stated, "The offertory is a world unto itself" and possesses attributes of a "carefully crafted genre, the creation of quasi-professional liturgical musicians."[330] These attributes include a highly ornate melodic style that may contain several melismas both in the verses and in the first part of the chant, which sometimes is called the "respond."[331]

Further, the melody itself may modulate either between modes, or between the authentic and plagal designation. The Dijon tonary provides witness to the complex modal nature of Offertories with scribes often clarifying the authentic or plagal category of both the respond *and* the verse through marginal notes, as Figure 9 demonstrates.[332] Indeed, at times the scribes seemed confused and did not include those modal designations due to the ambiguous range of

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[328] Ibid., 18.
[329] Hiley, *Western Plainchant*, 121.
[330] McKinnon, *Advent Project*, 298, 304.
[331] Hiley, *Western Plainchant*, 121-22.
[332] André Mocquereau, ed., *Antiphonarium tonale missarum, XIe siècle: Codex H. 159 de la Bibliothèque de l'Ecole de Médecine de Montpellier*, vol. 8 of *Paléographie musicale: Les principaux manuscrits de chant Grégorien, Ambrosien, Mozarabe, Gallican* (Solesmes: Saint-Pierre, 1905), 193.

the Offertories, although Hansen suggests that some of the missing marginal indications may have been due to the edges being "radically trimmed" in later book binding processes.[333]

In short, the complexity of the Offertory repertoire implies difficulty with accurate transmission. One would expect such a highly ornate genre to be unstable between regions and over time, especially without a pitch-accurate form of notation. With this in mind, I now turn to compare the St. Riquier with the Dijon tonary.

There is a gap of about 250 years between the St. Riquier fragment and the Dijon tonary. Yet, in spite of this temporal distance, we still notably find common chants ordered with the same modal classification in both tonaries, even for the most complex chant genres. For example, take several of the melodically and modally complex Offertories from St. Riquier—*Ascendit Deus in jubilation*, *Anima nostra*, and *Benedictus es . . . in labiss*—that fall in the *authentic protus*, *plagal protus*, and *authentic deuterus* modes, respectively.[334] A brief comparison with the chants in Dijon tonary reveals that, strikingly, they all still have the same modal classification.[335]

Table 1: Comparison of Offertory Modality in the St. Riquier and Dijon Tonaries' Offertories.

Chant	**Genre**	**Mode: St. Riquier**	**Mode: Dijon**
Ascendit Deus in jubilation	Offertory	*authentic protus*	*authentic protus*
Anima nostra	Offertory	*plagal protus*	*plagal protus*
Benedictus es . . .in labiss	Offertory	*authentic deuterus*	*authentic deuterus*

[333] Hansen, ed., *H 159 Montepellier*, 41-42.
[334] Huglo, *Les tonaires*, 26- 27.
[335] Hansen, ed., *H 159 Montepellier*, 542-43.

This is an even more remarkable connection when one reconsiders the vast difference in scope between these two manuscripts. The St. Riquier fragment only contains around 20 chants for any given mode, with perhaps only 4 representative examples of each particular genre (Offertory, Alleluia, etc.). In contrast, the Dijon tonary is quite extensive with up to 130 chants in a given mode and over 20 representing each single genre.[336] Furthermore, as noted above, the Offertories were the most complex type of Gregorian chant. Thus, to have them exhibit such stability is striking—particularly regarding the ambiguous aspects of authentic or plagal classification. Moreover, since offertories are not associated with a psalm tone, there is no apparent practical need for modal stability, as need in matching antiphons with psalm verses. Despite this, the majority of these chants are modally stable across both tonaries. Modal stability—even over sizable temporal and physical distances, between such different manuscripts, and among complex genres without psalm tones—demonstrates the primarily mnemonic purpose of tonaries.

Further support is found by noting the modal and melodic stability of these complicated chants in other types of documents, beyond the theory treatises and tonaries I have thus far considered. The *Graduale Triplex*, a liturgical book that combines modern chant transcriptions with neumes from two of the oldest Gregorian sources, reveals this stability. The *Triplex* uses neumes from Laon and Saint-Gall manuscripts, respectively.[337] Examining an Offertory discussed above, such as *Ascendit Deus*, in the *Triplex* reveals that not only is the melodic outline stable between all three notation varieties *within* the *Triplex*, but there is also stability of both melodic and modal properties when compared with the tonaries' classification (see Figure 10).

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[336] Ibid., 522-24.
[337] Catholic Church et al., *Graduale Triplex: Seu Graduale Romanum Pauli PP. VI cura recognitum et rhythmicis signis a Solesmensibus monachis ornatum* (Solesmis: Abbaye Saint-Pierre de Solesmes, 1998), 5-6.

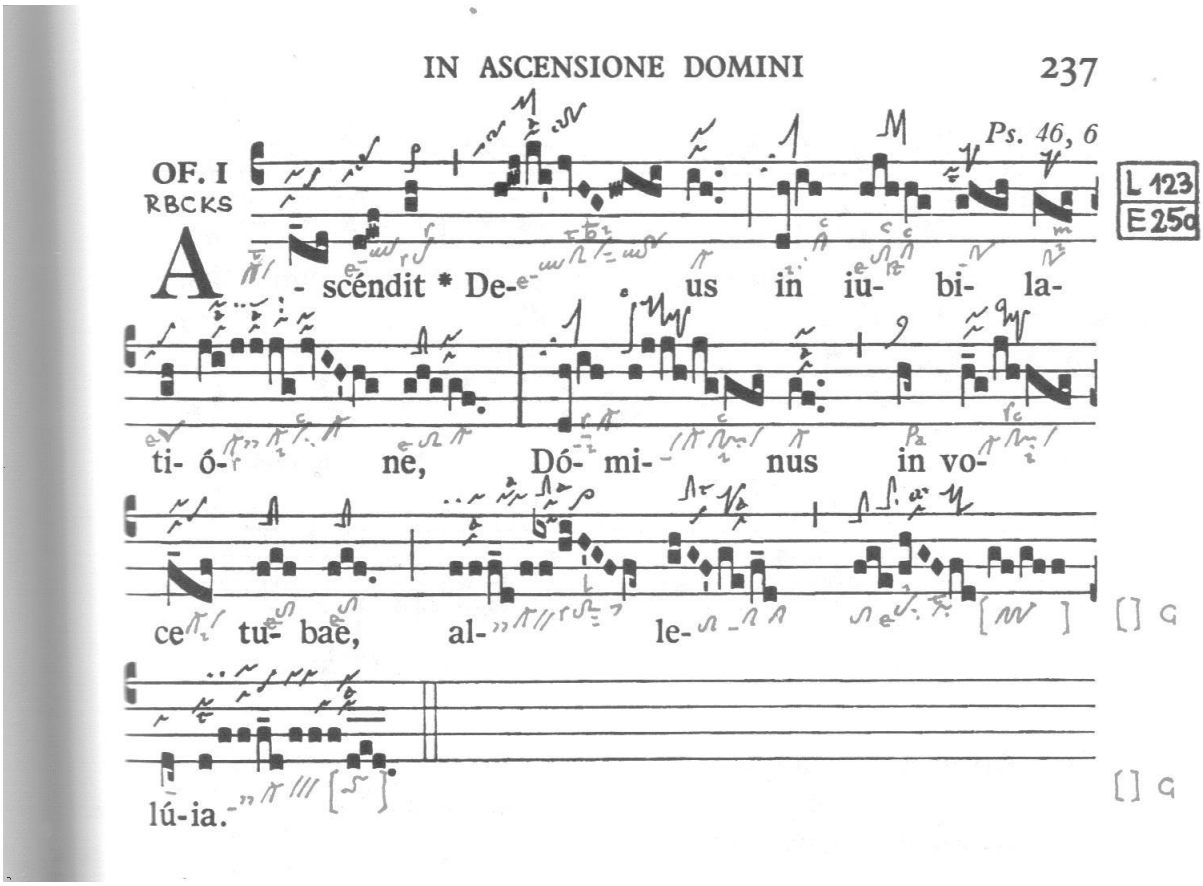

Figure 10: *Ascendit Deus* in the *Graduale Triplex*.[338] Laon manuscript neumes are above the modern transcription; St. Gall neumes are below. A comparison with the Dijon tonary's notation, found in Figure 9, reveals striking similarities. The melodic range, and final notes are all consistent with the authentic *protus* mode. Further, the neumation is stylistically analogous.

[338] Ibid., 237.

To summarize, the use of modal classification as an organizing principle at an early date, its stability, as well as its presence in unnotated manuscripts, all suggests that the modal system *itself* was the vital part of the tonary project. This point must be stressed because it runs counter to Busse Burger's reading. Again, in her conception, the tonary was a mnemonic support for the singer: by classifying the chants, one provides the necessary mnemonic structure for conceptually storing and, more importantly, retrieving the chant par the methods of *ars memoria*.

Though I agree with this general assessment it does contain a problematic assumption. It assumes that the choice of modal classification as an organizing principle was essentially arbitrary; that is to say, the modal classification in tonaries is one of many possible classificatory schemes that could have been used to create a memory framework. To be sure, whatever the scheme, it would work best if somehow directly connected to the music. Thus, I do not suggest that Busse Burger would say that *any* possible classificatory scheme would work. Rather, she implies that of all the possible classificatory schemes musically related to chant, modality is just one arbitrary choice. Thus the question of "why modality?" becomes, for Busse Burger, answered either by the practical concerns of choosing the correct relationship between verses and psalm tones or as a mere function of habit.

However, the presence of modal classification in the earliest tonary with mass chants that lack a psalm tone *and* without any notation suggests that in fact there is something intrinsically important about modal classification, something that functions at the mnemonic level. Thus, while I agree with Busse Burger that tonaries' classification of chant is a way to create memorial networks for quick mental recall, I also argue that the choice of modal means of classification are far from arbitrary. Rather, as I argued at the beginning of this chapter, modality itself became a

kind of musical mnemonic through its delineation of conceptual musical space, thus fulfilling the mnemonic purpose of the tonary at a more intrinsic level.

THEORY AND TONARIES: A COPIOUS MNEMONIC

As already noted, the Frankish version of modal theory was an abstracted systemization of the common structural properties of chant, not merely a catalogue of melody traits. Further, this systemization was not merely classificatory but also productive for, as Atkinson noted, the Carolingian theorists were quite willing to adjust even the sacred melodies of chant in order to bring them in line with this system. These steps were taken because, as Crocker stated, the modal system creates "a place to be," an abstract musical location in which, once the subject is oriented, the rest of the musical composition could be reconstructed. Thus, to draw the connection even more directly, modality became the musical equivalent of the *locus* in *ars memoria* a mental place, space, or room in which the details that needed to be recalled could be attached like hooks or stored like honey.

I argue that this mnemonic concern, this memorial functionality, underlies the process of chant "tonification"—the creation of Gregorian chant's uniquely tonal qualities in the Carolingian era—which has been recognized by many scholars yet often only in passing.[339] Thus, this argument also answers our initial question concerning unnotated tonaries, since it shows that tonaries *did* operate on two memorial levels. On the first level, they provide, as Busse Burger realized, a classificatory scheme that organizes chant around some musical property, in this case modality. On the second level, the musical property *itself* acts as a mnemonic, allowing the cantor to reconstruct the *specific* properties of a given chant in relation to its modal *locus*. Hence, notation, though related *to* tonaries, was not *necessary* for their

[339] Crocker, "Carolingian Chant," 151. See also, McKinnon, *Advent Project*, 381; Cohen, "Notes, Scales, and Modes," 307-63; and Atkinson, *Critical Nexus*, 234-58.

inception because the most important mnemonic information—modal assignment—could already be transmitted in tonaries as early as St. Riquier.

As such, the relationship between theory and medieval chant is extremely interconnected. As Hiley notes, this relationship extends from the kind of practical and mathematical concerns that we might expect to even the abstract philosophical concerns of medieval cosmology and theology.[340] This recalls Atkinson's concept of the "critical nexus" through which the practice of chant became reshaped in light of theoretical concerns.[341] The reshaping imparted what McKinnon has referred to as the characteristic traits that define Western music: "Mathematically based rhythmic measure, mathematically based harmony, and its tendency toward architectonic formal design."[342] Whether or not one agrees with the rather strong statements of McKinnon it is undeniable that, at the height of theoretical innovation during the Carolingian Renaissance, there existed a concern to reshape the Carolingian practice of chant with the Carolingian theory of chant.

However, this effort was not inspired merely by the antiquarian or theoretical tendencies of the Franks. Instead, I argue that the memorial conceptualization of Carolingian-Frankish culture *drove* the distinctly musical project of transmitting and creating chant, with music theory becoming a *necessary* instrument, or crucible, of this project. Further, Carolingian theorists and musicians consciously and intentionally applied this theoretical crucible in a productive manner. In doing so they eventually refined Roman and Frankish practice, as well as ancient Greek and modal theory, into a new creative whole—Gregorian chant. This is further substantiated by noting the concurrence of multiple *parallel* mnemonics, such as regional neumes, cherionomy, and modality, with remarkable independent stability across both temporal and physical distance.

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[340] Hiley, *Western Plainchant*, 442.
[341] Atkinson, *Critical Nexus*, 4.
[342] McKinnon, *Antiquity and the Middle Ages*, 86.

In other words, the fact that neumatic notation remained stable, as the *Graduale Triplex* shows, without explicit support from modality; or that modality itself, as the tonaries show, remained stable apart from neumes; or that cheironomy continued into the 15th century without explicit support from either neumes or modality, implies that instead of a causal connection there is a deeper coherence. Something else supports these multiple musical texts and provides their underlying stability. I argue in my final chapter that this underlying stability is in the Frankish subject himself, as an embodied memory fostered through the practices of *ars memoria*, who then generates copious musical mnemonics that ultimately shape the sound of chant.

Chapter 4
Public Spaces and Musical Rites:
Memory, Chant, and the Unity of Corporate Knowledge

We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.[343] ~T.S. Eliot

I now return to considering the greater Frankish project. The conceptual background discussed in chapter 2—Carruthers's studies of *ars memoria* in medieval culture and Halbwachs's theory of collective memory—provides a unique framework for understanding the Carolingian chant project. As Giles Brown has extensively shown, the Carolingian renaissance came out of a period of disunity and religious decline. A loss of Christian coherence, as well as practical concerns of political chaos and violence, did much to motivate the Frankish reforms.[344] The Frankish concern with implementing Roman liturgy was more than just a political move or religious fervor. Rather, it constituted something of an identity crisis.

The relatively young Carolingian dynasty wished to be identified as legitimately Christian, and in an age when self-knowledge was tied so explicitly to memory, what better way to assert one's Christianness than to ally oneself with the copious memory of Rome? The actions taken by Frankish leaders underscore this desire for a kind of memorial unity. The transmission of chant to the North exemplifies this process in complex ways. In addition, analogous examples can be seen in other areas of the Frankish project, such as in Francia's interest in relics. For example, Brown notes, "The translation to Francia of relics of Roman saints, now and later, was construed by contemporaries as an integral and important part of the drive to centre and focus the

[343] Eliot, "Little Gidding," 59.
[344] Brown, "Introduction: The Carolingian Renaissance," 10-13.

Frankish Church on Rome."[345] Further, as Amy Remensnyder argues, relics themselves are memorial objects, often configured in the Middle Ages as physical repositories of memory. Relics are thus a kind of hook used by the medieval subject to draw to mind the past.[346] In this way, the Franks attempted to *literally* bring the memories of Rome to the Frankish North.

Yet, as Halbwachs argues, in religion the primary uniting factor for collective identity is ritual, and this is precisely what the Frankish North lacked. While on the one hand, they professed a unified Christian identity with Rome, on the other hand the rituals by which they performed this identity, in the form of Christian liturgy and worship practices, were disjunct from each other. To make matters worse, part of this disjunction stemmed from the very nature of chant ritual itself as sung. For, to again quote Isidore of Seville's consideration of the word *music*:

> Their sound [i.e. the Muses' song], because it is something perceived by the senses, vanishes as the moment passes and is imprinted in the memory. Whence came the invention of the poets that the Muses are the daughters of Jupiter and Memory, for unless sounds are held by the memory of man, they perish, because they cannot be written down.[347]

Thus, memory's necessity for the ontological stability of sound is expressed within the word for music itself. Furthermore, this dependence makes sound all the more unstable since, unlike the memorial procedures discussed in chapter 2, sound cannot be imaged per se, which was the first step in any memorial system.

An additional witness to this problematic musical instability can be found beneath the often biting medieval accounts of who better performed the Gregorian liturgy. One example of this is the now famously conflicting testimonies of John Hymmonides (also known as John the

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[345] Ibid., 14.
[346] Amy Remensnyder, "Legendary Treasures at Conques: Reliquaries and Imaginative Memory," *Speculum* 71, no. 4 (1996), 886-87.
[347] Barney, ed., et al., *Etymologies*, 95.

Deacon) and Notker Balbulus of St. Gall, in which we see an existential panic regarding this instability.[348]

In the well known example, John Hymmonides discusses the incorporation of Roman chant into the North, stating:

> Charles, the king of the Franks, disturbed when at Rome by the discrepancy between the Roman and the Gallican chat, is said to have asked . . . whether the stream or the fountain is liable to preserve the clearer water. When they replied that it was the fountain he wisely added: "therefore it is necessary that we, who have up to now drunk the tainted water of the stream, return to the flowing source of the perennial fountain." Shortly afterward, then, he left two of his diligent clergymen with Hadrian . . . But when after a considerable time, with those who had been educated at Rome now dead . . . the king recognized that all indeed had corrupted the suavity of the Roman chant by a sort of carelessness.[349]

John Hymmonides blames this "carelessness" on the Gauls' primitive natures. However, Frankish scholar Notker Balbulus has a very different version. He states:

> Charles, that tireless devotee of the divine liturgy . . . took care to request from Stephen, pope of blessed memory that he send additional clerics who were greatly skilled in the divine chant. When the above-mentioned clerics departed from Rome, they plotted among themselves (since all Greeks and Romans are ever consumed with envy of Frankish glory) how they could so alter the chant that its unity and harmony might never be enjoyed in a realm and province other than their own.[350]

Though the accounts of Notker and John differ to a great degree, they both attest to the underlying dilemma of chant transmission due to the unstable nature of sound. Further, their harsh tone implicitly suggests the concern that motivated this project was very real. This crisis was one of many factors explaining the dogged determination with which the Carolingian monarchy attempted to acquire and transmit Roman liturgy in general and chant in particular. The Carolingians solved this problem through their unique approach to developing a theory of music that responded to memorial concerns.

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[348] Hiley, *Western Plainchant*, 517.
[349] James McKinnon, ed., *The Early Christian Period and the Latin Middle Ages*, vol. 2 (New York: W. W. Norton, 1998), 70.
[350] Ibid., 72.

As argued in chapter 3, the specific musical quality of chant stemmed from these memorial concerns. Modality itself was a mnemonic device that allowed the performer to locate the relevant material to perform any given chant. However, this kind of memorial process is unique compared to the standard use of *ars memoria*. As Carruthers has documented, the medieval sources on how to construct memorial *loci* are ubiquitous in their instruction to make these *loci* unique to the given individual.[351] Though sometimes providing examples, these authors often emphasize how the best memories are connected to images that are emotionally charged and thus personal to the remembering subject.

In contrast, tonaries are standardized rather than personalized systems. This standardization appears at the modal level, though, interestingly, not necessarily at other levels. Busse Burger, as discussed in chapter 3, demonstrates that tonaries diverge according to each author's mnemonic preference, similar to the divergences in florigelia, with the exception that the first layer of organization is always classified by mode.

In this way, classification by mode becomes a kind of corporate memory. Thus, we can see a unifying point between the cultural practice of chant and its musical foundation. Modality becomes the collective aural memory of chant, not just for the performers who use it as a practical mnemonic aid, but for the listeners as well.

The modal sound of chant is not a private location in some sort of hermeneutical system, but rather a public location where both the listener and performer can find themselves—and thus find each other. Again, to quote Crocker:

> Under certain conditions it is a powerful kind of sound that shows the power of musical tone to involve the listener vicariously in performance. To be in the presence of this sound is to participate in it: listening and singing become one.[352]

[351] Carruthers, *Book of Memory*, 80.
[352] Crocker, *Introduction to Gregorian Chant*, 6.

This becomes the cultural power of modality. It opens up a musical space that resolves the larger concerns of Christian identity discussed in chapter 2 via a copious public memory in which both the performer and listener can find a place.

This musical space resolves the tension discussed in chapter 2 between the personalized public memory of Carruthers's account and the dramatically collective memory described by Halbwachs. The brilliance of Gregorian chant is that it is at once *both* a personalized experience and a collective rite. By becoming a *musical* space, a conceptual "place to be," chant allows the subjects to enter into that space, and thus enrich their own personalized memorial archive, while *at the same time* participating in the cultural memory demarcated by that space. This synthesis between collective and personalized memory I describe with the term "corporate memory." This term intentionally plays with the word "corporate" and its ability to signify both a group and a body, since chant, much like the term, is at once personal and collective.

This corporate memory has another important implicit characteristic: to have a corporate memory one must "meet," in the sense of "become acquainted with," and perhaps even confront, the object of this memory. Even as we utilize spatial language, we should not forget that the musical space of chant is a space *performed in time*; it exists in a phenomenological moment. Indeed, since the mnemonic hooks of chant do reside in the sound of chant itself, as argued in chapter 3, then the moment of mnemonic apprehension and the moment of mnemonic recollection are actually the same moment—memory and experience collapse into a single phenomenological event. For the subject, this phenomenological event is the moment of acquaintance.

In this performance act, chant reveals its most profound characteristic. For the medieval subject, to perform or listen to chant in this way is fundamentally to come to *know* something—

one's own identity. Thus, the memorial act and the music that it sustains are both epistemic in character. The memorial function of chant was intrinsic to the music itself, not merely a broadly external cultural concern. Accordingly, an epistemic function was likewise at the root of the chant project. In this way, we must understand corporate memory as corporate knowledge. To support this conclusion, I turn to analytical philosophy's presentation of acquaintance epistemology, both to clarify the cultural purpose of medieval chant, as well as to suggest the cultural power of aesthetic experiences as such. Understanding this implicit epistemology not only reveals the purpose of chant as self-knowledge in the Middle Ages, but also allows one to draw connections more generally to how, as modern subjects, our own aesthetic experiences can be understood as epistemic.

EPISTEMOLOGY, MEMORY, AND CORPORATE KNOWLEDGE

The historical relationship between memory and epistemology is well attested. As Coleman has shown, the primary cause of philosophical theorizing concerning memory in antiquity was epistemic concerns. Coleman states, "During the classical period of Greek thought, the question of what memory is was linked intimately with the problem of how we know what we know, and what the object of knowing essentially is." According to Coleman, this is because, "To know somehow also includes retaining over time information that is not necessarily continuously present to perception. To know implies a more stable and enduring grasp of what the something is than a momentary reception of its visible or audible characteristic affords us. "[353] In light of this historical epistemic relationship, modern epistemological theories usefully clarify the epistemic function of memory in medieval culture. In particular, Richard Fumerton's configuration of acquaintance foundationalism mirrors much medieval thought

[353] Coleman, *Ancient and Medieval Memories*, 4.

concerning memory. This suggests that an underlying epistemic structure ties together medieval memorial theories.

Fumerton's system relates closely to the medieval conceptions of memory discussed in chapter 2. These two systems run parallel to each other; indeed, much of the language that we ascribed to medieval memorial processes can be utilized in understanding Fumerton's epistemology. Fumerton's suggestion is that the primary bearers of truth are not objects per se but rather thoughts (much like the medieval *res*), which we then articulate through linguistic complexes (similar to the medieval *verbum*). This relationship to truth exists precisely because our minds stand in acquaintance with antecedent facts about the world. Furmerton describes these facts as jumbled like a pile of books that our mind must then order, which harkens to the medieval conception of the *silva*.[354]

Furthermore, in describing this relationship Fumerton states that we "image" these facts, much like the imaging process in medieval psychology. We then come to know these facts because of our tripartite acquaintance relationship to the thought, the fact, and the relationship between the thought and fact. This complex action that belies simple thoughts bears a significant resemblance to the constructive process of thought as described by Carruthers. To reiterate, she states, "one should therefore think of a single *cogitation* or 'thought' as a small-scale composition, a bringing-together (*con* + *pono*) of various pieces (as *phantasmata*) from one's inventory."[355] Finally, Fumerton's epistemology implies a dualist philosophy of mind that is much closer to the medieval conception of human mentality.

At first glance, we might ask if this becomes a radically subjective theory of knowledge. After all, if Fumerton places the locus of truth in thoughts, then to what degree does the mind

[354] Fumerton, *Metaepistemology*, 78.
[355] Carruthers, *Book of Memory*, 39.

shape reality? Interestingly, Fumerton's position once again mirrors the medieval conception of reality. While he acknowledges that all knowledge is mediated through thought, he also posits that this mediation need not be alienating from reality. Taking the middle way, he suggests that while the mind has many subjective ways of organizing the facts with which it is acquainted, ultimately this still means that there must be antecedent facts. As he argues:

> despite the periodic popularity of extreme nominalism and rampant antirealism, it is surely absurd to suppose that it is even in principle possible for a mind to force a structure on a *literally* unstructured world. There are indefinitely many ways to sort the books in a library and some are just as useful as others, but there would be no way to begin sorting books were books undifferentiated. The world comes to us with its differences. Indeed, it comes to us with far too many differences for us to be bothered noticing all of them. And it is in this sense that the mind *does* impose order on chaos.[356]

Thus, our acquaintance with *a priori* reality becomes "imaged" in our thoughts, and we are then acquainted with the relationship of correspondence between factual reality and this thought-image. In this way, we have both epistemic justification and knowledge. Just so, a medieval subject, as Carruthers has shown, sees *verbum* as mediation of *res* but as an unproblematic form of mediation, one that doe not alienate the subject from the reality.

Furthermore, at a very basic level the fundamental concept of "direct acquaintance" has interesting implications when read in light of medieval memorial scholarship. Both imply a kind of embodied confrontation with the object of knowledge, whether this object is music or something else. This process takes place at many particular levels—memorial, cultural, and personal—but in each case the *structure* of this process follows Fumerton's system. In particular, in every instance, acquaintance with reality (experience of facts and events) becomes "imaged," whether individually in the mind or culturally in ritual. This image of reality is then transformed into knowledge via the subjects' acquaintance with their relation to that reality. Further, since thoughts bear truth in Fumerton's system, this knowledge is conscious and as such

[356] Ibid., 78.

it is available for explicit articulation. The *res* can become a *verbum*, at either the personal or group level.

Therefore, Fumerton's epistemic system provides a modern philosophical framework in which we can understand both the medieval workings of memory on a public and private level, as well as how these conceptions of memory are related to knowledge more generally. Both collective memory and *ars memoria* are ultimately concerned with articulating a "knowledge-of-self," an identity that is not just lived as a *res*, but spoken as a *verbum*. This phenomenon becomes fully realized in chant performance. The listener is aware of the fact of his experience, which is the sound of chant, his thoughts concerning it, which is his personalized memory, and most importantly the correspondence between these two facets. It is this final action of correspondence that creates corporate memory by uniting the subject with the object, and other subjects. His participation in the phenomenological event allows him to come to *know* the identity expressed through chant, and thus the identity expressed through both himself and others united to him *within* the embodied experience of chant.

CONCLUSION

In a way that a medieval scholar would surely appreciate, I return to the opening questions of this thesis and find a profound unity. The "why" of chant is inseparable from the "how" of chant. The concern for articulating a corporate identity by establishing a copious memory, which in part motivated the Frankish project, is inseparable from the specific musical decisions concerning modality made during that project. Furthermore, the underlying structure of acquaintance epistemology manifests in both cases and provides the conceptual glue that holds these cultural acts together, since ultimately chant is a system for coming to *know*—mentally and bodily—one's own identity.

This final point has important consequences even for us as modern subjects. For, while the focus, or object, of epistemic inquiry continually shifts (as Foucault, among others, has argued at length),[357] the *structure* of epistemic thought, from the perspective of acquaintance, has arguably remained consistent if not constant. The fundamental nature of this acquaintance relation means that, perhaps, from the medieval example, we can draw generalized conclusions. So, when we examine our own efforts at identity formation we will find that, as T.S. Eliot reminds us, we have "arrived where we started/and *know* the place for the first time."[358]

[357] James William Bernauer and David M. Rasmussen, *The Final Foucault*, 1st MIT Press ed. (Cambridge, MA: MIT, 1988), 1-20, 34-44.
[358] Eliot, "Little Gidding," 59. My italics.

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Vita

Jordan Baker was born in Memphis, Tennessee to Tim and Sharron Baker, and was homeschooled by his parents from kindergarten through high school graduation. He attended Union University where he received his Bachelor of Music degree in Music Theory. Jordan's research interests have always revolved around philosophical matters and they tend to fall across diverse fields. These interests include studying the development of ethical issues in, and through, musical scholarship; medieval configurations of authorial instability; related implications for medieval theology; and, most recently, theorizing about memory and its interplay with corporate identity through music.

Jordan has presented his research at several important conferences in both musicology and medieval studies. In 2012 he won the Longyear Prize from the American Musicological Society, South-Central Chapter for best student paper. He also enjoys playing piano and composing when time permits. Jordan will receive his Master of Music with a concentration in Musicology from the University of Tennessee in 2012 and will begin his Ph.D. in Philosophy, with a graduate assistantship, at University of Tennessee. In his doctoral studies, he hopes to explore the philosophical connections between aesthetics and epistemology.