Virtually Anglo-Saxon

Old Media, New Media, and Early Medieval Studies in the Late Age of Print

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As we experience the new electronic and organic age with ever stronger indications of its main outlines, the preceding mechanical age becomes quite intelligible. Now that the assembly line recedes before the new patterns of information, synchronized by electric tape, the miracles of mass-production assume entire intelligibility. . . . What will be the new configurations of mechanisms and of literacy as these older forms of perception and judgment are interpenetrated by the new electric age?

—Marshall McLuhan
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Preface and Acknowledgments

As many projects do, *Virtually Anglo-Saxon* arose out of a previous one. In 2001, as I was completing *The Digital Edition of the Bayeux Tapestry*, I realized that the process of translating the medieval textile into digital form had greatly influenced the way in which I now understood the function and the meaning of the work. Until then, short of going to Bayeux, one could study the famous artifact only in print, and the limitations of this medium also limited modes of understanding and interpretation. Thinking about the Tapestry in terms of New Media, as a hypertext (or, rather, a “hypertextile”—a neologism that elicited groans the first time I used it in a conference paper), opened up new critical avenues to explore for medieval expression.

Medieval discourse is not digital in any way, of course, but as New Media theorists like to point out, the medieval and the digital (or the pre-print and the post-print) have much in common that the print medium does not share. Modern print demands physical parameters, fixity, unity, homogeneity, and rigid structures of presentation that in the scholarly realm have now become bulky and imprecise. The lengthy process of formatting this manuscript for publication, following the thirty-odd-page guidelines helpfully provided by University Press of Florida, stands as evidence of how elaborate and at times obstructive the mechanism of print culture has become over the last half millennium. As I write these introductory sentences, I am in the final phase of preparing this manuscript, and now choosing not to include a few last additions and footnotes to various sections because of the difficulty of rearranging the already “fixed” text. With regard to Anglo-Saxon and early medieval studies, the advent of New Media theory and praxis offers alternatives to print that provide a new perspective on the operations, limits, and effects of the older medium, as well as the opportunity to explore what aspects of early medieval expression may have fallen by the wayside in the past five hundred years of study.

Over the five years I worked on *Virtually Anglo-Saxon*, I benefited from the support of many individuals and institutions, without which the project would have never been realized. Research for this book was funded by a Florida State University junior faculty leave, as well as a series of Summer Research Institute and Board of Associates grants from Hood College. I continue to be grateful to Amanda Anderson and the Johns Hopkins University
English Department for my appointment as Fellow-by-Courtesy and the research privileges it includes. Earlier versions of sections in the chapter on the Bayeux Tapestry appeared in *Exemplaria* and *Envoi*, while a section of the chapter on the Cotton *Mappamundi* still appears online in the inaugural issue of Blackwell's *Literature Compass*; they are reproduced here by kind permission of these publications. Additionally, Amy Gorelick and Susan Albury as my editors at UPF have provided clear and steadfast guidance at every step of the publication process.

This book is stronger than it ever could have been for the input, advice, ideas, and/or support of numerous individuals, especially Dan O’Donnell, Peter Robinson, Pat Conner, Allen Frankzen, Will Noel, Kevin Kiernan, Andy Orchard, Simon Keynes, James Cummings, Dot Porter, Jack Niles, David Johnson, Barry Faulk, Mark Cooper, James McNelis, Bob Berkhofer, Chris Fee, Mary Dockray-Miller, Laura Gelfand, Jim Hala, Anne Derbes, Mark Sandona, Scott Pincikowski, Renee Trilling, Jacqueline Stodnick, Yvette Kisor, Chris Henige, Roy Liuza, Stacy Klein, Michael Longero, Jim Caccamo, Asa Mitman, Erica Pittman, Loredana Teresi, Paul Szarmach, Catherine Karkov, and David Way. My work also benefited from invitations from Howard Bloch, Terry Harpold, Mary Swan, Elaine Trehanne, Elizabeth Tyler, Wendy Hoofnagle, Richard Burt, Alex Bruce, Linda Neagle, Peter Robinson, Simon Keynes, Catherine Karkov, Karen Jolly, and Sarah Keefer to speak on various aspects of this project, and from the stimulating conversations that ensued. I am especially indebted to Steven Rose for overseeing the photography of the Nunburnholme monument, to Tom Hall and the late Nick Howe for providing unpublished drafts of their own work, to Karen Overbey, Edward Christie, and Richard Burt for reading the manuscript in its entirety and for their invaluable suggestions, and to Elaine Trehanne for her expert advice and encouragement as the project neared completion. Whitney Trettien proofread the final version and provided an index we would both want to use. Any errors or flaws that remain are surely only my own. Finally, this work could not have begun or continued without the constant support and patience of my wife, Jennifer, to whom this book is dedicated with all my love.

**Introduction**

“Nothing like a CD-ROM”

This book begins with a personal anecdote about not writing a book. In September of 2004, I applied for a National Endowment for the Humanities summer stipend to help fund the development of a digital edition of the Cotton *Mappamundi*, a unique Anglo-Saxon map of the world. I soon came to realize that while the NEH application process had for the first time “gone online” that year, its new digital nature remained firmly entrenched in the technologies of print, and still accommodated inked words much more easily than electronic ones. For proposed editions, the NEH Awards Program Guidelines stipulated that “a sample of the original text and your edited/translated version… not to exceed one page (4,000 characters, approximately 570 words)” must be provided.¹ The Cotton Map project, though, did not have any pages, and I wondered how to repackage the layout and content of this digital edition into approximately 570 words in a way that did not fundamentally change the nature of that sample. When I e-mailed the NEH to inquire whether the online application process accommodated such newer forms of electronic scholarship, samples of which could be sent electronically on CD-ROM or as color screenshots, I received the following instructions from an NEH senior program officer:

Martin Foys: Send us two pages via FAX (do not send us anything like a CD-ROM) and we will copy them and send them to the panelists who will evaluate your application. The FAX number is provided below.²

From this response, I surmised that faxed screenshots counted as pages, and were my only option. What I realized, though, as I assembled, printed, and faxed my two carefully chosen screenshot-pages, was that the readers of my application would be getting a representation of the digital edition at several removes of media from its original formulation—indeed, what they would see would not be “anything like a CD-ROM.” Evaluators would view instead a photocopy of a fax of a laser printout of a screenshot of an area of the digital edition—four levels of degradation from its source. [p.16] Beyond the compromised aspects of graphic representation, the photocopy/fax/printout/screenshot effectively froze the operability of the electronic program on the
page, making it difficult if not impossible to convey. In the grant application, digital scholarship still needed to be converted to print (ironically through several forms of electronic and digital technology) for assessment. Had I been writing a book, of course, there would have been no problem; faxes are designed to reproduce words typed on a page, and the functionality of typed words rarely changes through the process of printing and faxing.

Fortunately, things ended well—I received the grant—but this episode also encapsulated for me the issues that now concern early medieval studies. The increasing prevalence of New Media in scholarship of pre-print cultures makes intelligible (as Marshall McLuhan put it) the relative ability and inability of technological media to reproduce one another, and the complicated relationships that medieval, print, and now digital modes of representation have with each other. For more than half a millennium, print remained the dominant mode of formulating, organizing, and disseminating information, including medieval and other pre-print materials. In the past three decades, as computer technologies have radically transformed the way we handle information, we have entered into what Jay David Bolter terms the "late age of print," and the old foundations of scholarly inquiry, while not cracking, have begun to shift somewhat under the press of digital ones and zeroes.3

In the epigraph that opens this book, McLuhan remarks that the ascendency of alternatives to print in our "new electric age" provides an opportunity to assess the idea and the effect of this precedent technology in ways hitherto unimaginable; with regard to intellectual and perhaps even cognitive development, such changes look to be seismic, akin to how the perception of those two-dimensional shapes in Edwin Abbott's Flatland changed when they grasped the third dimension of space.4 After McLuhan's Gutenberg Galaxy, four decades of scholars have furnished a raft of metatypographical studies that have carefully examined, measured, and recorded how print has changed the way we view and reproduce the world.

Meanwhile, though, a comparatively small body of scholarship has considered the effect of print upon medieval studies, and an even smaller set concerns the Anglo-Saxon period. Likewise, medievalists have welcomed with open arms (and often as pioneers in academia) the notion that with digital technology comes software and databases—new tools to aid in traditional forms of study. Yet at the same time, the critical frontier of how New Media theories and methodologies present alternative ways of interpreting early medieval expressions, literary, artistic, or otherwise remains terra incognita—a tantalizing world awaiting further exploration. Accordingly, Virtually Anglo-Saxon considers how print technology originally fostered and then shaped scholarly interpretation of Anglo-Saxon texts, objects, and ideas. In tandem, precepts of New Media theory are applied to reinterpret specific objects, texts, and other cultural expressions from both the Anglo-Saxon and post-Conquest periods. Taken as a whole, this study explores the limits print culture has imposed upon the pre-print, and then explores how theoretical aspects of post-print, digital expression provide opportunities to lift those critical limits.

Given its subject, there is, of course, a certain irony that this book is a book, and also, therefore, "nothing like a CD-ROM." Though we might be living in the late age of print, the authority of print remains strong, and signs indicate this age might last for a very, very long time (comparable, in respects, to how matters have for centuries proclaimed the imminent death of theater). As an academic, and one who has already published a digital edition of a medieval work, I am still drawn by the allure of publishing "the book," by the solid, stolid, and traditional force of the physical object, as opposed to the more fluid but ephemeral stream of digital zeros and ones that flows across your screen but can never be held in your hand. Certainly, from a professional perspective, the book still carries more "weight" for processes like tenure than a Web site does, no matter how good that Web site may be, and my own professional identity is always already formed out of such printed bias.5 And in ironic lockstep with such authority, most scholarship I reference here happens to have been published in print, not in pixels, no doubt from my anxiety that Web sites might not still be available decades from now. [7194]

This book also doubles, or even triples, the practice of remediation—the complex influence of one representational medium upon another—as it folds both pre- and post-print forms back into the printed book, while I rely almost exclusively on print scholarship to promote and defend the theses contained herein. Indeed, it might be said that I am as guilty of manufacturing the Anglo-Saxon past out of the printed word as the antiquarians and scholars surveyed in the next chapter. But the argument of this book also uses its medium against itself—books, like all printed material, derive their function and even their authority from their physicality. The pervasiveness of digital culture has grown exponentially in the past few decades, and we are beginning to understand that, like the printing press, New Media can also transform the modern world. The following chapters explore the critical limits and obstructions necessitated by information qua atoms, and how digital media, or information qua bytes, help illuminate and surmount these limits.
Early medieval culture did not usually employ or favor the representational practices that have dominated the modern age. Each chapter in Virtually Anglo-Saxon seeks to move the discussion of how old and new media relate early medieval discourse "around print," from the general and reductive to the historically particular and expansive. This study first panoramically explores the effects of print culture upon Anglo-Saxon studies; subsequent chapters consider particular cases of medieval mixed media, beginning with the written word (Anselm of Canterbury’s devotional writings), and then textiles (the Bayeux Tapestry), maps (the Cotton Mappamundi), and stone sculpture (the Nunburnholme Cross). As the study moves further afield from the familiar textuality of writing, so does the kind of New Media theory applied: print culture leads to hypertextuality, which links to virtual reality, which in turn develops notions of medieval space, modern perspective, and our technological production of both the medieval past and the scholarly present. But, as Vannevar Bush noted long ago, our minds remain associative in function, not linear, and despite the neat sequence of media and theory laid out just above, as a New Media inquiry, the argument of Virtually Anglo-Saxon does not, cannot, really, develop in an orderly and linear fashion. While specific New Media theories tend to anchor one discussion or another, other ideas, elsewhere in the book more fully pronounced, continually crop up. Because of this, and because readers may not choose to read this text in a linear order, a number of "links" (similar to World Wide Web hyperlinks) to germane or explanatory discussions will appear, signified by the {control} symbol. These links are only suggestions, and certainly not the only possible ones to be made; they also serve as a reminder of the state of hypermediacy that the printed form has reached, and, further, as an easy example of how New Media has already begun to remediate print. Finally, New Media theories are also beginning to transform the explosion of digital software and applications that scholars continue to design and develop as tools for medieval studies; a brief epilogue considers the practical effect of New Media theory upon the present and future of electronic resources for Anglo-Saxon studies.

As McLuhan observes, "We are today as far into the electric age as the Elizabethans had advanced into the typographic and mechanical age." Through print, early modern scholars of the early medieval world saw much of their subject from destruction, and developed tools and techniques to increase the comprehension and learning of their areas of study by several orders of magnitude. Yet these pioneers, and the scholars who followed them over the next several centuries, also refashioned what they preserved in light of their own ideologies and technologies of representation and reproduction, to the point where technology itself dominated critical ideology and practice. Today, we again live in the process of crossing a major technological threshold. This book arises from this liminal stage of media and scholarship in which all intellectual inquiry need now develop, and is invested with the hope that in some small way it can articulate what is possible in the study of medieval expression when new technology meets, (re)mediates, and revitalizes old, much as when printing press met medieval manuscript more than half a millennium ago.
We can no longer study—or, rather, fail to study—this map as a set of untraceable sources. Instead, the Cotton Map must be understood as a synthetic response to Anglo-Saxon reality, a virtual representation of a world chaotically crammed full of disparate variables that bind together inside the framed world of folio 56v, and then inside the larger spatiotemporal context of the contents of MS Cotton Tiberius B.V. The reflected “world” of the Cotton Map is not one of logical order, but one of the conflict of perceived past and desired future, of classical and scriptural narratives struggling to occupy the same physical space, and of shifting yet simultaneous notions of what defines the center and the edge of a world. Though itself a material document, the Cotton Map is also a virtual landscape that defies the limits of absolute space by containing more than a one-to-one relation of represented object to represented space. This Anglo-Saxon map of the world, like other medieval mappaemundi, is not real, but hyperreal. Manifestly artifced in its construction, its synthetic, virtual construction of the world nevertheless works to reveal and fashion the messy reality of the eleventh-century Anglo-Saxon world.

Cyberspace, Sculpture, and the Revision of Medieval Space

The production of space, having attained the conceptual and linguistic level, acts retroactively upon the past, disclosing aspects and moments of it hitherto uncompprehended. The past appears in a different light, and hence the process whereby that past becomes the present also takes on another aspect.

—Henri Lefebvre

There was no such thing as “space” for medieval people.

—Michael Camille

Generally, and in spite of what we might have learned theoretically about the nature of space, we tend to regard it from a default mode that assumes a simple physical framework that in turn subsumes the objects within it. In everyday consideration, we do not give space much thought; space is always there, unrecognized but present. And while we can perhaps change what goes on inside space, by shuffling around the materials that fill it, and while we can learn more about space, for the most part we regard space as a physical constant, the x-, y-, and z-axes of the universe we inhabit.

But in both the medieval and the modern world, as Harald Kleinschmidt points out, “not only is space itself multidimensional, but also the concept of space.”1 By this, Kleinschmidt does not mean the recent explosion of academic applications of space as hermeneutic tool—literary space, gendered space, utopian space, legal space.2 [>97] Rather, he proposes that space depends upon its reception by its subjects. In other words, space is always already being reconstructed, reproduced, and redefined by its inhabitants. Similarly, the title of Henri Lefebvre’s seminal materialist work The Production of Space, from which this chapter’s opening quotation comes, also produces his thesis: all space must be understood not as natural, but as manufactured.

For such spatial theorists, space consists of two primary aspects, object space and subject space. Object space (or place) is the space we conceive in our everyday lives: the synchronic network of material objects organized in the physical
world, with which we can interact tangibly and transparently. Subject space, on the other hand, derives from our perceptions of space, physical and otherwise. Subject space stands as the diachronic process by which we formulate and practice space—a process that includes continuous historical reconditioning and reproduction, and one capable of producing different spaces, dependent on historical and cultural contingencies. This epistemology has been significantly explored by Michel de Certeau, who argues for the constant shift of relationships (passages) between the "organized" space and the "practiced" place of a culture's social discourse, whether it be walking down a city street or reading a book. The "passages" between these different spaces are important as the spaces we produce today, in the twenty-first century, necessarily differ from those of the past. The opening quotation from Lefebvre reminds us that how we produce space today acts upon our production of the past. As we study the medieval period, we also re-produce medieval space, often unthinkingly, in modes instinctively derived from our modernity. But spaces existed for medieval subjects that do not operate as clearly today, if at all. For instance, as Jacques Le Goff has amply illustrated, the emergence of purgatory in the high Middle Ages was the beginning of a spiritual, yet culturally very real, space that linked the spiritual and physical realms. For medieval subjects, Margaret Wertheim notes, purgatory emerged as "a new space of being" theorized by theologians, described by writers, and understood by the faithful as a vital link between physical space and "soul space."

Wertheim argues that as a result of the physicalist cant of subsequent notions of space, begun in the late Middle Ages and maturing through the Enlightenment, other kinds of spaces, equally real to a medieval mind, devolved and rapidly disappeared. For Wertheim, the prime example of lost medieval space is spiritual space—the very real, if immaterial, space medically "known" to exist beyond the spheres and under the earth. Medieval thinking did not subscribe to the homogeneity of space that is presumed in modern views, which allow only one type of "real" space to exist. In other words, in medieval Europe, the City of God could be every bit as real as a city of man.

The telos of Wertheim's spatial study is the claim that the recent development of cyberspace heralds a return to the cultural production of "multiform space" that operated in medieval ontologies. Far from being a "virtual" reality, cyberspace increasingly functions as a real space in our everyday lives—though we tend to resist this notion because we are conditioned to consider as real space only that which is mathematically reducible and measurable. Indeed, cyberspace does not differ greatly from Descartes' res cogitans, the poorer cousin of his now famous res extensa, the foundation for the infinite but absolute world of quantifiable space. Descartes placed the res cogitans, the projected spaces of thought, on a par with the physical world—a spatial equivalence soon overturned by the march of science.8 Fundamentally, we do not understand space as medieval subjects understood space. As print rose to prominence in the early modern age, so too did the notion of a measurable space and of a single-point perspective to represent it. As medieval maps mundi gave way to calculated measurements of the world, the conception of space also changed. 9 Today, the homologies that arise between medieval conceptions of space and new dimensions of cyberspace frame for us the effect of modern space upon its medieval counterpart; these homologies also help us chart aspects of medieval space now marginalized, if not forgotten about entirely.

**THE NUNBURNHOLME CROSS AND THE RESISTANCE OF SPACE**

During a recent series of talks on the Ruthwell Cross, Fred Orton reviewed the particular problems the physical state of this famous Anglo-Saxon monument imposed upon interpretation.9 In summing up its complicated reconstruction history, its gaps of content, the debate over the character of its plinth and pedestal, and the revised mounting of the cross's uppermost section, Orton commented in passing that Ruthwell stands today as a sculpture remarkably "resistant to space." In short, any reading of Ruthwell's form and content remains necessarily occluded by the physical nature and in situ context of the piece.

The phrase resistant to space also applies to a much more obscure monument from the period, the Anglo-Scandinavian Nunburnholme Cross. The Nunburnholme Cross remains one of those recalcitrant sculptures of which we can say we know more about what we do not know than anything else. Extant sections of the Viking-era cross were rediscovered built into the walls of St. James Church in Nunburnholme, East Yorkshire, during nineteenth-century renovations. The church at Nunburnholme was built in the late twelfth or early thirteenth century; during this time or later, the top and bottom fragments of the monument, each containing a panel of figures on each side, were incorporated into the south porch of the building. A head for the
cross has never been found, though a mortise socket exists at the stone’s top, and some debate continues over whether there might originally have been a middle section containing a third panel.\textsuperscript{13}

The shaft is carved from ashlar, a limestone not typically found in the East Riding of Yorkshire. Most likely the stone is recycled, quarried from Tadcaster by the Romans and originally used in building at York or in a regional Roman settlement.\textsuperscript{14} The limestone was then presumably reexcavated during Scandinavian settlement in the late ninth or early tenth century and transported to Nunburnholme for carving. Since James Lang, critics have generally agreed that two distinct sculptors worked on the stone during the Viking period. The First Sculptor, distinguished in the view of modern critics by a more sophisticated sense of modeling and inclined cutting, worked in late Anglian mode with “Carolingian echoes,” and in a wholly Christian idiom.\textsuperscript{15} However, the First Sculptor completed only perhaps one and one-quarter sides. The Second Sculptor, whose technique is generally characterized as less accomplished, finished the piece in a style markedly different from the First Sculptor’s and, notably, introduced more explicitly secular and Scandinavian iconography to the work.\textsuperscript{16}

The surviving sections of the cross reveal variations of the same design on all four faces. Each side consists of two main panels, roughly equal in size, edged by molding, with a small figural design at the top (see figures 18 and 19). In its “restored” state, the top and bottom sections of the monument have been reversed. The following description presents the cross in its earlier form before restoration; the original sides have been aligned.

Side D reveals what the First Sculptor intended to be the design scheme for all of the sides.\textsuperscript{17} A frieze of two angels adorns the top, their heads centered on the corners, with arms reaching down to grasp an arch framing a beast in profile, with its head thrown back. Below the upper design, a pelleted arch and border frames the lower two panels, which each contain a figure dressed in ecclesiastical garments—a haloed saint above, and a figure holding a cup-like vessel (likely indicating a mass celebration) below. On their chests both figures wear square devices of indeterminate function, though the lower one might be a bishop’s rational or perhaps a book satchel.\textsuperscript{18} The lower half of the bottom figure has been overcarved with a scene of two seated figures. The First Sculptor also likely carved the angel frieze at the top of side B and began the angels and borders of side A.\textsuperscript{19} The Second Sculptor, however, executed most if not all of the remaining original work, at times substantially altering the First Sculptor’s scheme.
Side A contains a gripping angels motif at the top but, along with side B, lacks the small beast figure the First Sculptor included on Side D. The left border of the upper section also shows the outline of First Sculptor's border design, but remains unexecuted, most obviously lacking the pelting of the adjoining side. The upper right border does not as clearly follow the original design. The upper panel of Side A shows a secular figure in half profile, seated on a chair and holding a large, pommelled, Viking-type sword, bearing a hat, helm, or possibly a halo terminating in volutes. The lower figure lacks its head (perhaps obscured by the modern concrete join) but also consists of a seated figure in half profile, holding a staff of some sort in the right hand and grasping a rectangular object, possibly a book, in the left. Though the feet of this figure largely remain, a later sculptor has overcarved the bottom of this scene with an intrusive scene of a centaur and a smaller, human figure.

Side B possesses the same layout as side A, preserving the gripping angels motif at the top but entirely lacking the First Sculptor's border design. The upper panel contains a front-facing ecclesiastical figure, who wears a double cowl that transforms into a stole grasped in both hands. On top of the stole, the figure displays a large rectangular device; as with the lower figure on side D, this could possibly represent a book satchel or a rational. Some question remains whether this figure is the work of the Second Sculptor, the First Sculptor, or even an additional sculptor.20 In the lower panel, the Second Sculptor departs from the overall design by carving not a portrait but a beast chain instead.21

On Side C the Second Sculptor has abandoned the gripping angels design entirely, replacing it with two small facing dragons, bound at their necks by a narrow band that loops around the body of the left beast. The upper panel displays a Virgin Mary and Child, facing front. Mary has a deep, dished halo, and the Christ Child holds a rectangular object, possibly a book. As on side A, the head of the lower-panel figure is missing; two large birds perch on the shoulders of a figure, who reaches down and places his hands on the heads of two lower figures, who in turn reach out and touch his lower body. The scene is probably a crucifixion, though some critics have read it as a scene of benediction.22

The Second Sculptor also saw fit to overcarve the bottom section of the First Sculptor's mass priest in the lower panel of side D, adding a scene of two figures seated, facing each other. Though a reading of this scene cannot be definitively proven, Lang has presented a compelling argument that it represents part of the pagan Sigurd myth, where Sigurd cooks the heart of the dragon.23 In a turn of plastic justice, a third sculptor, probably working more than 150
years later after the Conquest, then overcarved another pagan element onto a seated Second Sculptor figure (side A), adding the decidedly Romanesque figure of a centaur and child, an addition that has been described as a "Norman doodle."  

Nunburnholme, an Anglo-Scandinavian sculpture worked during a 150-year period by three or four or even five different sculptors with several iconographic and stylistic agendas, would be a difficult material discourse to unpack even if it survived wholly intact and in pristine condition. The First Sculptor's original, explicitly Christian, Anglian-derived design (side D) was substantially revised and, in one section, recarved by the Second Sculptor to admit more emphatically Scandinavian elements (sides A, B, C), perhaps with additional work by another contemporary sculptor (side B, top); this work in turn was overcarved by an Anglo-Norman artist, perhaps during the construction of the church building. Further, at any point after the work of the first three/four sculptors, another sculptor could have drilled the eye holes for the corner angels, cowled figure, and centaur.

And though Lang and I. R. Pattison have provided thorough, if not wholly conclusive, investigations into the iconography and stylistic steps of the cross's carving, we know little if anything about the purpose, design, or even specific content of the cross. Its intended location—its literal space—remains anybody's guess, while the very form of the object remains open to debate. Because of missing sections, most notably the head, it is not definite that the Nunburnholme Cross is even a cross at all.

The late medieval and modern history of the monument distorts the spatial issues even further. As noted, when the surviving sections were excavated in the late nineteenth century, they were reassembled reversed, so that the top half is now turned 180 degrees around from the bottom. Additionally, the cement used to join the surviving fragments may be understood as yet another instance of "overcarving," adding yet another layer (this time in both an interpretative and a literal sense) to be assessed.

The present status of the Nunburnholme shaft indeed resists space. Viewing the object in situ taxes the viewer, who must coordinate the actual physical presence of the object in space with a reconstructed imagining of its proper or "original" configuration. Viewing Nunburnholme for the first time—standing in the bell tower and looking at one side of the shaft while mentally replacing half of it with its opposite side, all the while trying to balance which sculptor carved what, and when—can be more than a little disorienting. One must work to connect the spatial dots, to navigate the space between the physically immediate object and the former, twisted, and now imaginary medieval monument.

These literal ways in which the Nunburnholme Cross resists space tie into the larger issues of how we need to understand the space of such early medieval objects. At this point, the easiest way to make sense of the Nunburnholme Cross is not to examine the actual object, but rather to study printed or digital reconstructions of it that restore the sides to their original order. Such remediation of the physical by the representational provides a particularly apt summary of how we subsume medieval space under both later technologies of representation and modern notions of how space functions. It further invites us to revise our modern ordo of medieval space, and to posit modes in which we may reclaim aspects of such space that have become largely lost—lost in translation—by our modern analyses.

THE PERSPECTIVE OF MODERN RESISTANCE

Whereas our notion of representation is grounded in the Aristotelian process of imitation of nature or in Platonic doubling of the "one" that becomes "two," both modified by Leon Battista Alberti's rules of perspective (1435), I believe that the medieval concept of representation had little to do with the prevailing tradition in Western culture that considers representation in terms of optical geometry (and its ideological, cultural, political and social consequences) . . . . Rather, it embraced the ever-shifting relationship between theological, historical, and spiritual formulations that defined the conditions of existence in a place and in a space.

With the significant exception of the mathematicians and scientists who actually understand and can apply Einstein's theory of relativity, our modern, quotidian understanding of the ways objects interact with space has changed very little since the Enlightenment. The early modern period witnessed a shift from previous notions of space as a category used to classify sensory experiences to another kind of category—the mathematical attempt to precisely calculate and classify space. Today, the physicist manner in which we understand space derives from Newton's and Descartes's theories of classical physics, where space and objects in space are mathematically quantifiable, and where that space, though potentially infinite, is also uniform and absolute in its physical integrity—a measurable void that holds objects within it.
As historians of space note, representation conditions cognition, and the revolutionary ideas of Descartes' *res extensa* and Newton's spatial absolutism did not spring into existence *ex nihilo*, but rather built upon new perceptions of space engendered by the late medieval and Renaissance pioneers of perspective. Perspective dominates the ways in which we re-produce space, and its rise is generally understood to have provided a more accurate way of representing objects within space. Perspective did not inform the production of medieval art the way it does modern forms of visual expression, yet it usually governs the ways in which modern audiences interpret and value early medieval objects. With Nunburnholme, for instance, perspectival skill dominates the critical estimation of the sculptors. Critics concur that the Second Sculptor practiced the craft less expertly than his predecessor. Lang, for instance, describes his work as "flat and crude," composed of "linear scratchings of an artless kind," and in particular singles out the "deformity" of the Viking warrior, whose hand appears to stick straight out of his chest, as a failed attempt at half-profile perspective. All reasonably accurate, certainly, but these almost instinctive judgments also reveal, as subtext, how we have come to more or less blindly equate perspectival representation with both nature and accuracy, and how such physicalist assumptions shape our own critical perspectives, and ultimately restrict our view of medieval representation.

The rise of Renaissance perspectivalism distilled the variegated "nows" of medieval art down to a single frozen moment of representation, a snapshot of an invariant, what modern physicists now call a "zero time" representation of space. The emptying of time out of space allows for a comfortingly fixed and unchanging view of an object; the singularity of perspective, guided by the pure linearity of Neoplatonism, provided (and still provides) the illusion of a material reality that only, really, exists in its representation. In his theories of relativity, Einstein took the revolutionary step of putting time back into space, and (to give a reductive summary) time became understood as a function of space, a fourth dimension as important as the three we can see.

In contrast, medieval art often chose to define space not in terms of time but in spite of it. While time was generally conceived as a linear process in early medieval thought, "time's shape was no more than approximate." Early medieval representations of actions and objects in space did not operate under the obligation of temporal fidelity; images often conflated separate times within the same space, and the representation of visual narrative often dispensed with the notion of chronology and sequence altogether. Medieval time with regard to representations of actions in space was porous; it seeped into, out of, and around events that (for us) should be sequential. Since such atemporal qualities are particularly marked in Scandinavian and Anglo-Saxon art of the period, this art is well suited to the purposes of our study.

Perspectival representation, and the absolute Newtonian space that followed, created a wholly different brand of atemporality for modern consideration of medieval objects. For modern scholars, artifacts such as early medieval stone sculpture became objects from the past to be reimagined in a singular snapshot of an "original" condition. In modern representation, the power of print culture joins with that of perspective to re-render medieval objects as singular, static, and unified. Specifically, in Lang's *Corpus of Anglo-Saxon Stone Sculpture*, the flagship treatment of Anglo-Saxon sculpture, the unintended effect of the format is to reconstruct the essential objects, frozen in some sort of imaginary zero-time. The *Corpus*—an incredibly valuable project, it must be noted—presents each entry through small black-and-white photographs, relying on extensive written commentary to reconstruct the object for the reader. The overall effect is also one of remediation, where the medieval three-dimensional object is re-rendered as words and two-dimensional images. As with Nunburnholme, we know almost nothing about the origin, "author," and purpose of most Anglo-Saxon monuments. The *Corpus*, in many ways, attempts to "fix" unknowns such as dates and, as Orton puts it, desires to provide [a monument] with an "author-function," a name and description of its origin, a locus of meaning for its complex signification, a value and mode of existence for its place in the history of Anglo-Saxon England and the discourse of Anglo-Saxon stone sculpture.

While the *Corpus* presents evaluative information of great consequence, its approach to its subject does not make much allowance for a sculpture's "historia of several possible moments of production and use." Orton, as he explores the Foucaultian limitations and potential pitfalls of the *Corpus*, argues against overreliance on such classificatory schema, which belong "to the Classical Age when to know was to tabulate ... based in the ways and means of late-seventeenth—eighteenth-century natural history." Such approaches, like perspectival representation, are, of course, most useful. But they also hauntingly recall Alfred Crosby's assessment of how the Renaissance urge toward pantomometry—the measure of everything—now affects the way we conceptualize reality:
Reduce what you are trying to think about to the minimum required by its definition; visualize it on paper... and divide it, either in fact or in imagination, into equal quanta. Then you can measure it... then you possess a [precise] quantitative representation of your subject... Visualization and quantification: together they snap the padlock—reality is fettered.42

With its three (or more) sculptors, its unknown purpose, and its complicated historia, the Nunburnholme Cross resists fettering or benign reduction to "the minimum required by its definition." The spatial disorientation that results from experiencing the monument in situ indicates a more substantial resistance in our current modes of trying to understand it. In the zero-time eidos of traditional space, the Nunburnholme Cross qua object quite simply does not exist. The artifact as it survives does not match any of its "original" states, and the heterogeneity of its contextual past denies an object that can be recovered through the hermeneutic equivalent of perspectival production. In other words, the cross resists reduction to a symmetrical or mensurable node in a synchronic field; traditional attempts—in print, in photographs, in the Corpus—to represent it as a function of a singular vanishing point can only, as it were, capture part of the picture, and inaccurately at that.

NUNBURNHOLME IN MEDIEVAL SPACE

Notions of absolute space existed before the Middle Ages, in Greek and Roman culture, and then rose to prominence again in the early modern period.43 But the view that the Renaissance development of absolute space represented some sort of return to a spatial status quo denies medieval space meaning on its own terms.44 As Lefebvre observes,

during the supposed emptiness of the late imperial or early medieval period a new space was established which supplanted the absolute space, and secularized the religious and political space of Rome. These changes were necessary though not sufficient conditions for the subsequent development of historical space, a space of accumulation. The "villa," now either a lordly domain or a village, had durably defined a place as an establishment bound to the soil.45

Lefebvre locates the break from imperial space in the early medieval period as a tabula rasa of sorts, one that like, say, the Great Fire of Chicago cleared the way for all sorts of new ways to "build" or to reconfigure space. Lefebvre's assessment also acknowledges that after this spatial reconfiguration begins a process of new accumulation—a new economy. Likewise, Kleinschmidt notes that social organization in the early medieval period

was based on the relations among persons in groups as well as among groups and not a homogeneous space of limited extension, to which we may refer as territory. In other words, groups constituted space more frequently than space constituted groups.46

In England, the transition from groups-constituting-space to space-constituting-groups was particularly pronounced in the Anglo-Saxon period.47 As Della Hooke reports, the patterns and quality of settlements in mid-to-late Anglo-Saxon England spurred "such massive change that the characteristics they acquired have left an imprint on the landscape that has lasted to the present day, despite subsequent changes."48 During the Anglo-Saxon age, the smooth space of Germanic migration began to nucleate, and developed into the striated English space of fixed, public, and group-centered locales; village and city, fort and castle, church and cathedral; the space of England became defined and connected by point-to-point networks of communication and community.49 The result of this process of nucleation was, however, not status but a kind of planned molility, as the nomadic line became redrawn as a planned line, designed to move a subject through Anglo-Saxon space along roads and routes that reinforced the nucleation that developed as England began to coalesce into a unified national identity.

Consider, as one brief example, the itinerancy of Anglo-Saxon royal courts and their attendant bureaucratic apparatus. Early English rule was a shifting mode of governance sharply distinguished from the high and late medieval models that followed, which more firmly anchored government in one or two centers of rule.50 By the end of the Anglo-Saxon period, communities no longer constructed space, as they did at its beginning; rather, by then, long-standing and fabricated spaces of living produced communities and shaped their existence. But during Anglo-Saxon settlement and growth, the physical space of England was liminal, not quite wild and yet not quite ruled and settled. As Heinrich Härke observes,

The introduction of open fields and nucleated villages created a broad division within England: an "ancient countryside" of hamlets and single farmsteads located in irregular fields, with considerable woodland; and
a “planned countryside” of large villages in large regular fields, with straight roads and only small clumps of trees. These “two Anglo-Saxon landscapes” survive in the landscape to the present day.51

The landscape of settlement in Anglo-Saxon England, then, represented a developing hybridity of space. Though modern England, to a degree, now lives within both, during the Anglo-Saxon period the combination of these competing versions of medieval space was still a new and ongoing process.

Inside this historical process of settlement, the arc of the Danelaw of Anglo-Scandinavian, which began in the last third of the ninth century and was integrated, albeit not smoothly, into the national identity by the time of (and perhaps through) the Norman Conquest, stands as a compressed version of such spatial reformulation.52 As products of cultural interpretation, the stone sculpture surviving from this period, such as Nunburnholme, often resists the modern spaces into which we attempt to place it. Emile Durkheim’s studies of tribal culture led him to propose a distinct correlation between the organization of a local community and its inhabitants’ epistemology and representation of macrocosmic space.53 [→ 138] The Nunburnholme Cross functioned as a monument that, ultimately, marked the space of Scandinavian settlement in East Yorkshire, and likewise articulates the larger issues of how the communities lived in the decades after Viking incursions understood and represented the physical and cultural shifts that produced the place and space of their lives.

As with many Anglo-Saxon and Anglo-Scandinavian sculptures, no sure evidence exists for the intended purpose of the Nunburnholme Cross, or that that purpose even remained constant through the time of its manufacture. In early critical assessments, funerary monument for the unnamed Viking jarl led the conjectural pack, with the possibilities of preaching stone, village cross, and territorial marker trailing at respective distances.54 Definition as some sort of sacral marker remains the default assumption about monuments such as Nunburnholme, and most modern critics do not even bother to raise such issues, as specific evidence for individual objects seldom exists. We do not and, short of a windfall literary or archaeological discovery, likely cannot know definitively the particular location and concomitant social purpose of Nunburnholme. However, due (or perhaps overdue) consideration of the more general role this sculpture played in the production of Anglo-Scandinavian space can still recover some of this object’s social definition, and provide a surer sense of the space it helped shape.

At the time of the original carving of Nunburnholme, Anglo-Scandinavian settlements had existed for only a few decades. The Great Army took York in 867, and by 876, the Anglo-Saxon Chronicle notes, the Viking king Halfdan “shared out” the land in Northumbria and settlers began to “plough and make a living for themselves” [− by geare Healfdeane Norðanhyrma lond gedede − ergende waron − hiera tligtende].55 The Vikings who relocated to East Yorkshire apparently embraced the agrarian lifestyle readily, settling and enculturating at a much quicker rate than their Scandinavian peers to the south in the Five Boroughs, or to the west in Dublin.56

A. L. Binns argues that the settlers of Yorkshire “ceased to be Vikings” when they abandoned the peripatetic lifestyle that defined Viking identity in England.57 The shift from Viking mortuary to Anglo-Scandinavian settlement also marked the beginning of the shift Kleinschmidt identifies in the medieval production of the space around centered communities. In the last third of the ninth century, Scandinavian settlers began to work to define and mark their space of living. In other words, the group began to constitute the place. This definition of space occurs at the end of a “nomadic” movement, and anticipates the next phase of medieval space, where place begins to constitute group.

The transformation of Viking harrier into Scandinavian settler concurrently contributed much to the ongoing transformation of the landscape of northern England. The influence of Scandinavian emigration literally rewrote the topography of the area; Yorkshire today still has well over seven hundred place-names of Scandinavian derivation, while in the East Riding a full half of the names from the Anglo-Saxon period are Scandinavian in origin.58 Though, as D. M. Hadley has recently shown, much remains to be proven about the specific scope and character of the Scandinavian settlement, it is safe to assert that such settlement played a significant role in the evolution of the living space of early medieval Yorkshire.59 Härke summarizes one influence of the Danelaw upon the organization and use of territory:

by the tenth century, Scandinavians were active participants in landscape reorganization and urbanization in England, and they may have even been initiators of both processes...the main Scandinavian impact on the landscape was, in fact, in the more densely settled areas of central and eastern England: in the Scandinavian contributions to the ongoing processes of urbanization, nucleation of rural settlement, and creation of open field systems... The earliest evidence of nucleated villages and
open fields, probably of ninth-century date, has been found in the Scandinavian-controlled Midlands where the reorganization of the landscape would have been easier to achieve for the new foreign lords than for the established Anglo-Saxon aristocracy. Even the mouldboard plough has been claimed as a Scandinavian introduction into Britain.66

Suffice it to say, at the very least, that Scandinavian settlers were active participants in the production of Danelaw space.

Unfortunately, as little is currently known about the actual space of late-ninth- and tenth-century Nunburnholme as about the sculpture itself.67 The earliest reference to “Brunhan” (the “Nun” was not added until after the founding of the post-Conquest nunneries) occurs in the Domesday Book, as a berewick of the manor of Warter, held previously by Morcar, the earl of Northumbria who was defeated in 1066 by Harald Hardrada’s forces at the Battle of Fulford Gate, shortly before Harold Godwinson’s victory at Stamford Bridge.68 Though the name reveals an Anglo-Saxon, not Scandinavian, origin, the presence of the nearby town of Burnby with its distinguishing Old Norse ending “-by” suggests, along with the monument, a significant Scandinavian presence in the area.69 At this point, the most that can be stated, tentatively, about Brunham is that its name does not indicate the establishment of a Scandinavian community in uninhabited wilderness, but rather an assumption of control of a preexisting Anglo-Saxon habitation.

Though recent critics have advocated such cultural fusion as an important, if not dominant, result of Halfdan’s mid-ninth-century “sharign out of the land,” the process of social synthesis would not have been an easy one.70 The Anglo-Scandinavian control of York and its surrounding territory was, to say the least, tumultuous and tenuous; in eighty-seven years, settlers of the area saw royal rule change at least twenty times between Danish, English, and Norwegian hands, with some periods apparently lacking any clear leader at all.71

Further, the sharing out of Anglo-Saxon land to settling Scandinavians could be read as other than integration. In one version of the Anglo-Saxon Chronicles’s 876 entry on the Viking settlement of Northumbria (“- by geaxe Healfdene Nordanymbhra lond gedelde - ergende warron - hiera tilgende”), a scribal slip neatly betrays the violence underwriting Halfdan’s agrarian scheme. Instead of reporting that the Vikings were ergende (plowing), the English compiler of the Peterborough version (manuscript E) writes herende (harrying); what from one perspective was settling was, from another, profoundly unsettling.72 What transpired to turn an Anglo-Saxon region into an Anglo-Scandinavian one likely fell somewhere in between ergende and herende. [→ 94]

Michal Kobialka writes that in the instability of such medieval cultural crises “the interplay between representational places and spaces became visible before its traces were washed away by the mechanism of a classificatory grid.” [→ 129] For Kobialka, the modern “grid” that now reproduces medieval space erases the residue of how medieval subjects represented and produced space (place) with the recorded “facts . . . shaped from conflicting imaginations, at once past and present.”73 The competing terms ergende and herende in versions of the Anglo-Saxon Chronicle record one such trace of the discursive interplay of cultural instability; Anglo-Scandinavian stone sculpture has the capacity to preserve others. In the shift from herende to ergende, Scandinavian settlers and their immediate descendants would have desired stability within the potentially explosive framework of a newly integrating society. Whatever their specific purposes, monuments like the Nunburnholme Cross both represented and contributed to the attempt to impose permanence on the settlement of territory. In effect, such objects worked to turn the space of northern England into the place of the Danelaw, a place that in turn would center and define the cultural groups that lived within it.

The history of Anglo-Saxon space was one of inherited lands, and the Anglo-Saxon “story of place had always to deal with the intertwined acts of possession and dispossession, both as historical fact and as future possibility.”74 Viewed as an active participant in this process, the Nunburnholme Cross becomes a cross of another kind, a cross between Anglo-Saxon and Anglo-Scandinavian cultures, as well as a cross between the desire for social stability and the tumultuous reality that marked the formation of the Danelaw. Scholarship on the cross has thus far only considered the stages of carving as part of the teleology of the finished monument—Kobialka’s classificatory grid. But as Lefebvre explains, the representational space of a monument like the cross “overlays physical space, making symbolic use of its objects” and uncovers “space as directly lived through its associated images and symbols, and hence the space of ‘inhabitants’ and ‘users’.”75 In other words, the process of the carving of the Nunburnholme Cross can also reveal much about the struggle to produce the space and place of the Nunburnholme community.

The very source of the monument’s limestone signals the distinctive nature of the cross. Roman ashlar originally mined thirty miles to the west at Tadcaster, and likely brought more than fifteen miles from York to Nun-
burnholme, falls far outside Richard Bailey's normative range for a source of sculpture stone.\textsuperscript{70} The recycling of an ashlar column from Roman York suggests, at the very least, a connection between Nunburnholme and the current capital of the Danelaw. It also demonstrates a desire to produce new Anglo-Scandinavian space out of materials recycled from earlier Roman space. As Anglo-Saxon literature such as The Ruin and Maxims II reveals, contemporary English culture remained fascinated with the masonry construction of Rome that survived amid their timbered communities.\textsuperscript{71} [9144]

The multi-staged sculptural process of the Nunburnholme Cross and its layers of stylistic and iconographic materials also project many of the cultural issues of the new space of Anglo-Scandinavian England. The work of the First Sculptor reveals nothing of a Scandinavian context for production, and if the monument survived with only the work of the First Sculptor, scholars could arguably date the stone as pre-Viking. The cross's early figures all derive from late Anglian modes, and therefore ultimately descend from a Continental, Carolingian style. Because the Scandinavian incursions and settlement fragmented the political unity of the north of England, the styles and motifs of most Anglo-Scandinavian sculpture can be mapped inside small circles of regional influence. However, the execution of the figures and design of side D, the most complete side of the First Sculptor, all point to an aesthetic range well "beyond the confines of Yorkshire" and perhaps suggest a pre-Viking context linked to "the cultural unity [previously] fostered by monastic contact.\textsuperscript{72}

The execution and iconography of side D operate within a predominantly ecclesiastical context. The First Sculptor designed the gripping angels that frame the top corners of the monument, providing a heavenly context for the monument that symbolically pulls its content upward, away from the earthly. The two figures the First Sculptor carved, the saint in clerical garb and the priest celebrating mass, also suggest a wholly religious and specifically Christian milieu for the monument. The first stage of the cross's carving thus appears more at home in the realm of the monastic sculptural houses that dominated the production of stone monuments before the Viking incursions.\textsuperscript{73} In short, the First Sculptor's cross reads more like an Anglo-Saxon monument than anything else.

The reason the First Sculptor did not finish his design cannot be known, and the possible reasons are manifold. Given the discrepancies between the style and content of the two sculptors, however, it is tempting to entertain the thesis that the cross is not the product of two sculptors working consecu-


tively on the same commission. Instead, the monument may well have started as a project far removed in distance, patron, and perhaps time from its final form— itself being "conquered" by Viking invasion and settlement. Richard Bailey outlines the shift from monastic to lay production of stone sculpture that occurred across the late Anglian monastic decline and the beginning of Scandinavian settlement. In this process, the local "village vernacular" replaced more unified monastic models, and native English lay craftsmen had to adapt material primarily derived from wood carving to the less pliable medium of stone.\textsuperscript{74} But whatever the specific historiography of the sculpture's origin, the manifest incongruities of its three-stage style and its shift of content inscribe on one object the representational space of three different cultures. The revisions and additions of the Second Sculptor, even while including scenes of the Virgin and Child and the Crucifixion, easily read as a substantive redirection of the original upward-looking, Christian transcendence of the Anglian design. The Second Sculptor injects into the monument a healthy dose of the secular through the sword-wielding lord, and of the Scandinavian through the Jellinge style of the beast chain, and of the pagan through the overcarved Sigurd scene. The Third Sculptor, post-Conquest, reshapes the monument again, this time as a Romanesque practice piece, "trashing" its prior form and function, as well as the subjugated cultures that produced and preceded it.

The inclusion of the Viking-styled jar on side A announces a personal, not institutional, affiliation for the monument, and provides a secular context for interpreting all of the Christian iconography. On a stylistic basis, the Second Sculptor distinguishes the warrior (and the likewise seated, possibly secular figure beneath him, which might, in an Alfredian mode, represent the "learned" side of him) from all the ecclesiastical figures by attempting to render him in a three-quarter profile. The figure represents an aristocrat, Scandinavian or of close Scandinavian descent, who in all probability was the ranking authority in the community and the patron of the stone. As D. M. Hadley notes, such aristocrats could retain explicit ties to Scandinavia far longer than poorer settlers, who might more rapidly gain an "English" identity.\textsuperscript{75}

The beast chain on side B also pointedly disrupts the original scheme by filling a panel with overtly Scandinavian ornament instead of portraiture. Lang argues for the continuity and synthesis between the Christian elements of the First Sculptor and the secular elements of the Second Sculptor, maintaining that Mercian designs were likely the immediate source for the Nunburnholme beast chain.\textsuperscript{76} It is true that beast chains from the Derbyshire St. Alkmund's Cross and elsewhere contain similarities to Nunburnholme's,
and David Wilson considers side B's design a fusion of Jellinge (double-contour ribbon interface) and Mercian (beast stance). However, Mercian-influenced or not, the inclusion of a beast chain on Nunburnholme still reflects an affinity for iconography strongly reminiscent of Scandinavian art, shares much with the developing Scandinavian style of Jellinge beast chains, and supports the substantial movement from an Anglo-Saxon to a Scandinavian-derived aesthetic evidenced in Danewulf sculpture.

The so-called Sigurd scene on side D remains the most explicit and invasive revision of the original design, as in the midst of the First Sculptor's mass figure the Second Sculptor carves an episode from a pagan myth. As Lang identifies it, in this scene Sigurd roasts the heart of the dragon he has killed and tastes its juices, an action that will give him the power to understand birds. If this is the scene represented, the over carving of the pagan onto the Christian ironically reverses the general historical sense of Germanic spiritual progression—first pagan, then Christian. Whatever the content of the scene, it does mark the intention to depart from the First Sculptor's strictly ecclesiastical design. At the same time, however, an interpolated pagan episode would create syncretic connections that conflate this mythic ritual of supernatural ingestion with the Christian celebration of the Eucharist.

Side C is the only side that does not contain the gripping angels motif. In all possibility, when the First Sculptor mapped out the frieze of his design, side C rested on the ground and so was inaccessible. While retaining the gripping angels motif on the other sides, the Second Sculptor replaces them here with two facing dragons. Yet a simple elision of explicitly Christian content cannot be the goal here; on this same side, the sculptor carves scenes of the Virgin and Child and the Crucifixion. Side C, in a fashion, sums up the social import of this monument. The iconography of the figures, along with the apparent attempt of the Second Sculptor to copy the First Sculptor's saint from side D, down to the Anglian-derived dished haloes, points to the influence of the Anglo-Saxon past upon the design. Still, the monument's hybrid form disrupts the proposed harmony of an angel on every corner. While the Second Sculptor substantially revises the content of the First Sculptor, the final form of the monument does not efface but preserves the presence of the Anglo-Saxon discourse. As with other Anglo-Scandinavian sculpture, Nunburnholme includes both Anglo-Saxon and Scandinavian expression, but here the process of revision and intrusion more overtly records the tendentious, reciprocal relationship between two cultures sharing space and place within the representational confines of this monumental, territorial marker.

In its confusing construction and intricate, multicultural content, the Nunburnholme Cross still helps define the space of the Anglo-Scandinavian settlement it once marked, and represents the shift from monastic to secular production of such cultural monuments. It encodes the desire for an integrated and stable community, and yet reveals the imperfect nature and disruption inherent in such a process. Through its differences of formal elements and design, the monument also suggests, perhaps, how the leaders of the settlement that eventually became Nunburnholme struggled in the process of ideologically producing their own space of living.

**MEDIEVAL SPACE: SMOOTH AND STRIATED**

Like Lefebvre, Gilles Deleuze argues that societies—or, more specifically, social ideologies of power—produce space. Deleuze also develops a spatial epistemology with an eye to how premodern space provides the transition to modern space and its economies—initially by considering the artistic representations of objects across the boundaries of prehistory and history. For Deleuze, historical space arises out of a constant negotiation of two subsets of space, smooth and striated. Striated space is the space of things that has dominated modern representation. It depends on optical distance and the qualities such distance engenders: "constancy of orientation, invariance of distance through an interchange of inertial points of reference, interlinkage by immersion in an ambient milieu, constitution of a central perspective." In essence, striated space is the homogeneous space we now generally assume natural and real: Euclidean, Cartesian, and Newtonian space, geometrically constructed and anchored in the rise of modern perspective. Striation also describes the mechanics of modern criticism that approaches the world of medieval art as a network of point-to-point connections. In its extensive system of cross-references and visual indexing, the Corpus of Anglo-Saxon Stone Sculpture, for example, seeks to understand its objects of study through a network of scholarly and photographic striation.

Striation, though can be medieval as well. On the Nunburnholme Cross, the work of the First Sculptor supports striation. As critics have noted, the First Sculptor skillfully carves his side D portraits, shaping these figures with an accomplished performance of perspective, depth, and modeling. His design arises out of a careful network of interlinking points, panels, diagonals, and semicircles. In the surviving piece, we can still see the First Sculptor's adumbration of a scheme to connect all sides through a series of cleanly and clearly linked shapes. The border design for Side D is pelleted—lines explicitly con-
structured out of points—and the unfinished carving on the upper right border of side B reveals the plan to turn the lines of such pelleting into diamonds across the corners, part of a plan to emphasize a three-dimensional perspective across the flat planes of each face. Such a perspectival vision is most startlingly realized in the First Sculptor's innovative and emulated design of the gripping angels. The angels do not clearly exist when one views the faces of the cross straight on—one sees instead two disembodied arms coming out of the top corners. Only when viewing the monument from its corners are the angels apparent, as the round faces become visible and the right and left arms are seen to link two separate, winged sides. The overall effect of the angels and the pelleting provides the monument with strong senses of linearity, interlinkage, and three-dimensional perspective.

The Second Sculptor imitates and continues many aspects of such striation, but also introduces its Deleuzian counterpart: smooth space. In what he terms the "nomad art" of prehistory, Deleuze discovers a space marked not by precise, stable systems of punctuation and linearity but by their lack. Smooth space is precedent space, and less grounded in materialist and political production. It is haptic, more immediate, and characterized by instability, fluidity, and a variability or abstraction of line that does not reduce space to plane but instead "has no background, plane, or contour, but rather changes in direction and local linkages between parts." 

What Deleuze describes as the "nomadic line" of smooth space has been called by others the "Gothic line" of premodern representations of space. The abstract nature of smooth space and its representation originates in an alternative perception of world-space, one connected to "nomadic" aspects of migratory culture that only slowly receded over the course of the Middle Ages, and usefully informs how the space of living in England changed during the Anglo-Saxon period. Smooth space occurs in much early English medieval art, of course. The "free and swirling, inorganic, yet alive... streaming, spiraling, zig-zagging, snaking, feverish line of variation" typifies much Anglo-Saxon and Hiberno-Saxon illumination sculpture and engraving. The smooth lines of Anglo-Saxon and Celtic interlace also reflect and reframe the spaces that contain them. "Woven" designs, whether on vellum or metal or stone, themselves become "curving lights which catch the light."

Working, ultimately, from a Carolingian revision of classical traditions, the First Sculptor in his later Anglo-Saxon style does not promote such Insular smoothness. The Second Sculptor, however, discontinues most of Nunburnholme's original framing devices of pelleting and borders, and adds panels that either fail at the modeled perspective of the First Sculptor or ignore it altogether. The most obvious example, the poorly rendered perspective of the jarl's hand, has already been noted. And over the clean, orderly arrangement of the First Sculptor's figures, the Second Sculptor's invasively carved Sigurd scene is a jumble of figures and setting, a chaotic counterpoint to the earlier design. Finally, the Second Sculptor's beast chain on side B emphasizes smoothness, and embodies Deleuze's "snaking, feverish line of variation." Whether Scandinavian or English in origin, these twisting lines define a stylistic shift toward smooth space that counterpoints the representational force of the sculpture and attenuates the striated unities of lines, points, planes, contours, and perspectival orientation carefully orchestrated in the First Sculptor's original scheme.

Socially, Deleuze notes, smooth space can reemerge when the striated space of culture is disrupted through "catastrophe." The circumstances of the artistic change that occurred in the carving of the Nunburnholme Cross remain hidden, as does the exact nature of the social and spatial disruption that must have occurred as the region around Nunburnholme changed from Anglo-Saxon to Anglo-Scandinavian. But the monument's condensation of smooth and striated space provides traces of this transition and integration and of the continuous, potentially catastrophic volatility that inhered in the Scandinavian settlements of the late ninth and early tenth centuries.

Striation is the eventual outcome and agent of settlement; it "transforms territory into 'land,' which awaits allocation as property/proper place."

In settlement, society becomes rooted in locales that form points in the lines of communication and traffic, and the location of Nunburnholme itself points to the gradual striation of Anglo-Scandinavian culture. At the time of the Danelaw, Nunburnholme occupied a location of relative importance, lying between two converging Roman roads, as well as two Viking routes connecting the central point of Anglo-Scandinavian York to both the North Sea and the Humber River.

Anglo-Scandinavian sculpture likewise participates in such social striation. Without terming it as such, Richard Bailey developed a striated reading of Anglo-Scandinavian stonework, starting with a classificatory model that identifies iconographic and stylistic groups across sculptures, similar to the Corpus model. Bailey argues that "if we then plot out the distribution of these groups, it is often possible to get some notion of the economic and cultural links between particular villages and districts."

In a related mode, David Stocker has recently adduced evidence for a strong
connection between later tenth-century Hiberno-Norse funerary sculpture in Yorkshire and the rise of successful public markers for Viking traders and Anglo-Scandinavian merchants. Even in the pre-Hiberno-Norse period, the majority of early Anglo-Scandinavian stone sculpture in the East Riding occurs along the primary trade and travel routes of the area. Such placement points first to the privileged status of the settlers who occupied such routes. Second, the marriage of sculpture and status reinforces the relationship between stone sculpture and the gradual stratification of Anglo-Scandinavian space as it turns into Anglo-Scandinavian place. The union of sacred and secular within such representational spaces as the Nunburnholme Cross confirms Lefebvre’s claim that medieval space slowly became the “space of accumulation”—its birthplace and cradle, first in the accumulation of knowledge (sacred space) and then in the accumulation of riches (market space). In the developing Danelaw, these monuments literally demarcated the developing network of this settled space—the “inertial points” on the Anglo-Scandinavian socioeconomic grid. Taken together, such sculptures and the places they helped define chart the rise of group-centered spaces that inculcate worldviews (and views of the world) increasingly stratified in nature—an early, medieval part of the process of social definition that changed the representation and then the nature of “real” space, and moved it into modernity.

**NUNBURNHOLME IN DIGITAL SPACE**

In his assessment of how Old English texts portray landscape, Nicholas Howe classifies the Anglo-Saxon notion of landscape as “inherited, invented, and imagined.” Howe concludes his study by wondering if any Old English text combines all three of these notions. Strictly speaking, the Nunburnholme Cross is not a text about topography. But as we have seen, the monument does play a part in reflecting and shaping the forces that transform Anglo-Saxon space, place, and culture. The visual discourse of the cross embodies all of Howe’s categories: the sculpture inherits and recycles the material of both Roman and Anglian representational space, and its hybrid style and content fashion a new representational space. While encoding the tumult of cultural fusion, the cross’s styles, form, content, and purpose imagine desire and promote a stable and permanent Anglo-Scandinavian community, balanced between its ethnic components, integrated in both sacred and economic spaces, and ruled by a Viking aristocrat.

The overcarvings also lend an air of the palimpsest to the cross’s final form. The Second Sculptor overwrites, but does not eradicate, the work that comes before him. The Anglo-Norman sculptor who intrudes again with the centaur on Side C provides a historical coda to the process of inheritance, invention, and imagination. That centaur, and the sculpture’s subsequent destruction, pronounces the material end of this sculpture, destined to be recycled and assimilated itself in the construction of a new representational space in England: the Anglo-Norman church.

In “reading stone” of Anglo-Saxon sculpture, modern scholars are forced to deal with a frustrating set of unknowns, and their objects of study remain intersections of multivalent and often ambiguous narratives and meanings. Early medieval objects like the Nunburnholme Cross now confound us, because they do not have a monolithic, monologic, and recoverable form. This cross was first a Roman column, then a Christian monument, then a Scandinavian marker of social desire, then an Anglo-Norman practice piece, then a medieval church wall stone, and finally a modern, reconstructed historical artifact. All of this historia is not generally considered in the modern study of this sculpture because it does not fit the modern desire for the zero-time singularity of an essential, unchanging, and recoverable object. Or, as Simon Biggs views the difference, modern pictorial space can be seen as objective and democratic, stripped of symbolic motility, whilst Medieval space is subjective and hermetic; where the meanings of the individual elements shift in relationship to one another and the overall frame of reference.

The “symbolic motility” of medieval representational space may also be understood in Deleuzian terms as a kind of hermeneutic smoothness, and challenges our generally striated attempts to understand it. The medieval space of the Nunburnholme Cross, like the liminal period between migration and group-centered spaces, is both smooth and striated in nature. To better study and comprehend its variegated meaning, a discourse capable of containing smooth and striated notions of space is vital. As we have seen throughout this book, the technology of print excels at striated analyses. But with regard to stone sculpture, the practice of print scholarship also regresses the space of study from three dimensions to largely two dimensions, flattening the discourse and, in the case of most academic assessments, reducing the object of study to a series of low-resolution black-and-white drawings and/or line drawings. Inside the overwhelmingly linear and planar format of the printed page, smooth analysis is difficult, if not impossible.

The Nunburnholme Cross of medieval space no longer exists in the physi-
cal reality of the sculpture. Sections are missing—at least the head, if not a middle panel—and the modern reassembling of what survives has literally twisted the medieval space 180 degrees around. But if physical space now fails the medieval monument, digital space can help reclaim it. In the past few decades, cyberspace has become a virtual location for real experience; inside the realm of the representational, digital space trumps printed space, increasing “in number or level of dimensions as compared to the scroll, codex, printed book, and other traditional forms of communication.” With such extradimensionality comes the potential for smooth discourse. Cyberspace is an inherently fluid medium, with the ability to change or manipulate the represented object across a range of contexts or user inputs. In cyberspace, the studied object is no longer a static object, but becomes alive and responsive to interpretative possibilities. If the space of print is fixed, linear, and hierarchical, digital space is rhizomic, a foundational concept in the theories of Deleuze and Félix Guattari and one that in recent years digital theorists have seized upon to explain the function and operation of cyberspace. Rhizomic space, an evolution of spatial conception, collapses smooth and striated space. It is a space, in the words of Deleuze and Guattari, of acentered systems, finite networks of automata in which communications run from any neighbor to any other, the scenes or channels do not preexist, and all individuals are interchangeable, defined by their state at a given moment.

The rhizomic framework of digital space also encourages the reconstruction of objects such as the Nunburnholme Cross in multiple forms, as well as the combination of traditional and emergent modes of studying them. Cyberspace creates a new practice of space, one that embodies both Euclidean forms and alternatives to them. In cyberspace, space and virtual space constantly form relationships, allowing for not only a single zero-time perspective of an object in space—that is, placing the object—but many, theoretically limitless in number and constitution. The rhizomic network of cyberspace can contain both the striated approaches of older forms of source-and-analogue scholarship and smooth analyses that enact a more fluid and plural range of “perspectives,” from the important stratiﬁcations of formal studies such as Corpus scholarship to the equally viral smoothness of medieval spaces that operate beyond physicalist assumptions of what constitutes “real” space.

In a digital edition of the Nunburnholme Cross, one can conceivably reproduce any or all of the historia of the monument, updating and adapting the physical space of the object of study as context demands. Certainly (with our physicalist concerns) the reproduction of the material object within a three-dimensional virtuality remains a paramount goal. With the current advances in the high-resolution digital scanning of three-dimensional art, the reproduction of a navigable virtual object is now within the realm of the possible for technologically aware academics. Once a high-resolution model is rendered, the user can work within a fluid (or smooth) mode of magniﬁcation, choosing from not one or two static resolutions (as is common in print), but a dynamic spectrum that ranges from the entire object to individual chisel marks.[199] In a sense, digitizing the Nunburnholme Cross re-creates its representational space as one of multiple places of meaning (subject spaces) in a manner impossible within its current physical state. Once the material object is digitized, its physical nature becomes malleable, and renderable into any of a number of forms. In the case of Nunburnholme, the most obvious advantage is the ability to return a three-dimensional representation of the object to its original layouts and designs, thus countering the spatial disorientation of the monument’s current, misinterpreted state. Additionally, a digital form would allow the cross to be easily “edited” in reproduction to highlight and isolate the work of individual sculptors, and to re-create various stages of construction and even test hypotheses of reconstruction. A digital edition could also provide contextual reproductions, placing the object in any of its historical milieus, or virtually “repainting” the cross to give a sense of its original polychroming. Ultimately, a virtual model could allow the user to interactively “mix and match” possible sculptural scenarios. Given the fluid manipulation of digital data now possible, reconstructions could even be produced by “cloning” the work of the original sculptors and then modifying it to fit a reconstructive scheme.

As the image of a digitally rebuilt side A shows (see figure 20), such reconstructions can be seamless even up to a close magnification—and perhaps too alluring and convincing virtually real. As we have seen, the historia of Nunburnholme is confused and complicated enough already, and in such productions of lost medieval space, due care must be taken to distinguish extant materials from projected materials, as the line between the two can easily be blurred. Despite the potential power of a digital edition of the Nunburnholme Cross, most of the features described still only remediate older technologies of reproduction, and only improve upon approaches to medieval discourse already established in print. Though technology allows great advances in the processing and presentation of data, we have yet, at least in most approaches to medieval
critique of the way computer programs unnecessarily spatialize and striate the process by which users create their files. Laurel charges that she does not want to page back through versions of my work; I want to turn back the clock. The dimension of change is best represented through time, not fixed states. A simple chronobar would suffice. Yes, the implementation is hard, but the hardest part is probably visualizing the appropriate representation in the first place.  

Likewise, in “Liquid Architectures in Cyberspace,” Marcos Novak argues that the representational potential of digital space can produce a “dematerialized architecture . . . no longer satisfied with only space and form and light and all the aspects of the real world.”  

As the capability of digital technology continues to progress (at meteoric rates), a similar application of “dematerialization” to the study of medieval objects such as Nunburnholme should soon be feasible.

The digital production of space and time will play a big role in the development of such new programs, and in reconfiguring our older appreciation of time, space, and place within New Media. Lance Strate observes a mediated “bias toward spatialization characteristic of computer software and contemporary culture in general,” and argues in response for the development of alternative interfaces that do more than “simply store and access data.”  

For Nunburnholme, one might design a “chronobar” for a sliding scale of construction, one that begins with a Roman column and ends with a church wall, and factors in the gradations of change performed on this object throughout its complicated two-thousand-year history. Such an approach would not limit the cultural meaning of this object to one “fixed” time—for example, Anglo-Scandinavian monument—but instead reconfigure the signifying space of this stone to display all of its possible meanings within the same digital space.

Such representational moments along this scale could still be contextualized within the striated interpretative places of the monument—the regional connections of Anglo-Scandinavian or Anglian style, for instance, or an archaeological survey of pre-Conquest Nunburnholme, or the trading routes of the emergent Danewal. These “contextual places” provide as much supporting material as possible to understand a particular aspect, a particular moment, or a particular interpretation of the monument. Such places function in smooth space as well, flexibly revising the material in response to adjustments in context, such as dates, locations, cultural emphases. These smooth spaces could in
turn operate within a rhizomic dociverse of cyberspace, connecting to virtual editions of other objects across a range of times, styles, cultures, and theoretical approaches, extensible and modifiable as needed.

In his 1967 essay “Of Other Spaces,” Foucault writes that modern space has now also come to encompass “the storage of data, the intermediate results of a calculation in the memory of a machine”—a position that presaged cyberspace’s rise as a real space. Digital space now has become the data living in the memory of the machine realized for human users. In the same essay, Foucault theorizes the rise of heterotopias, or “placeless places” that have a very real effect on the production of modern space. For Foucault, heterotopias are “virtual places” that intersect the imagined idealism of utopia and the experience of space, physical or otherwise. The medieval space of the Nunburnholme Cross fuses these senses of utopian and real as it contributes to the marking, and re-marking, of the Anglo-Scandinavian space and place of settlement, containing both smooth and striated discourses of space in the process. Inside the immaterial and malleable realm of the digital, smooth and striated can also coexist, and the heterotopia of cyberspace permits an object not only to be represented but, theoretically, to be representable through any number of spatial modes. This discussion has been a first, tentative step toward such visualization. It began as a consideration of the hybridity of the medieval space of an Anglo-Scandinavian cross shaft. It ends with an outline for the production of a heterotopia: an imagined intersection of the classical, medieval, modern, and postmodern spaces of the Nunburnholme Cross, within the full discursive and scholarly potential of the virtual space of the digital. This study serves to remind us that not all space is physical, and that not all meaning, while produced, is necessarily “material.”

Epilogue

For All Practical Purposes: Medieval Studies in a New Media Age

If the aggregate time spent writing scholarly works and in reading them could be evaluated, the ratio between these amounts of time might well be startling... The difficulty seems to be, not so much that we publish mindlessly in view of the extent and variety of present-day interests, but rather that the publication has been extended beyond our present ability to make real use of the record. The summation of human experience is being expanded at a prodigious rate, and the means we use for thread- ing through the consequent maze to the momentarily important item is the same as was used in the days of square-rigged ships.

—Vannevar Bush

The goal of this book has been to some extent cannibalistic, as it seeks to show, through case examples in the academic subspecialty of Anglo-Saxon studies, that in fact the printed book “has been extended beyond our present ability to make real use of the record.” At the same time, this book, with more than seven hundred footnotes, almost five hundred cited sources, and a neat, closure-inducing epilogue, is an exercise in striation and structural unity, enacting in print much of what it critiques about print. This exploration and exploitation has focused primarily on theoretical aspects of how New Media can make us aware of the particular mandates and limits print culture has placed upon early medieval studies, as well as of post-print frameworks for interpretation that are just beginning to emerge.

Vannevar Bush, though, was less concerned with interpretation than with practical application. The Memex apparatus (utilizing combinatorial and annotative microfilm) that he envisioned in a 1945 precursor to the desktop computer was a mechanical aid for the scholar in response to the information overload that print could no longer handle efficiently. In medieval studies, generally, the digital programs and applications developed for scholarly studies have not conceptualized new modes of study, but instead have reacted to new technologies with an eye to improving older methodologies. But just as this book has assessed technological change in more abstract terms of critical approaches to Anglo-Saxon culture and expression, the New Media theory studied here holds equally for more practical applications—the devel-
Chapter 5. Cyberspace, Sculpture, and the Revision of Medieval Space

The epigraphs are from Lefebvre, *The Production of Space*, 65, and Camille, "Signs of the City," 9.

3. Certeau, *Everyday Life*, 117. Certeau writes that "space is a practiced place... thus the street geometrically defined by urban planning (a place) is transformed into a space by walkers. In the same way, and act of reading is the space produced by the practice of a particular place: a written text, that is, a place constituted by a system of signs."
6. Ibid., 44–45.
7. Ibid., 224.
8. Ibid., 3–6, 371; Lefebvre, *The Production of Space*, 1–2.
10. Outside Lang's *Corpus* summaries, at 3:38 and 3:189–93, the most recent substantive discussions of Nunburnholme written were written in the 1970s: Paterson, "Anglo-Danish Sculpture"; Lang, "Sculptors."
16. Lang, "Sculptors," provides a thorough stylistic analysis of each sculptor's work. For the sake of consistency, Lang's lettered classification from the *Corpus* has been retained.
21. Given that most beast chains occupy the entire side of a shaft, Lang, *Corpus*, 3:192, acknowledges the "slim case" that the fragments represent two different monuments, but favors the stylistic unity promoted by the iconography of the other sides.
25. Lang, "Sculptors," 88, notes the stylistic congruity of the centaur face and the Romanesque faces carved on the church's chancel arch.
47. Cf. Lefebvre, who considers the year 1000 "a truly pregnant moment" in which a new form of space is being prepared (The Production of Space, 153).
48. Hooke, "Mid-Late Anglo-Saxon Period," 95. Hooke’s essay studies the shift to place-centered groups in Anglo-Saxon settlements.
52. For reviews of the historical development of the Danelaw in Yorkshire, see Hadley, "In Search of the Vikings"; Binns, Viking Century; C. Morris, "Northumbria."
54. E.g., Collingwood, "Anglian and Danish Sculpture," 266; M. Morris, Nunburnholme, 185, 193.
55. J. Batey, MS A, 50. See discussion and other, similar reports in Sawyer, "Conquest and Colonization." 128. Hadley’s "And They Proceeded to Plough and to Support Themselves" stands as one of the most recent and comprehensive overviews of the critical debate over the character and process of the Scandinavian settlement. For other discussions of the process of Viking settlement in northern England, see Bailey, Viking Age Sculpture, 30–44; C. Morris, "Northumbria"; Binns, Viking Century; Härke, "Kings and Warriors," 157–61.
57. Ibid., 27.
59. Hadley, "And they Proceeded." Hadley argues against the monocular and binary conclusions drawn from many later interpretations of the seminal studies of placenames by Gillian Fellows-Jensen and others; see 69–72, and Bailey, Viking Age Sculpture, 33–40. It is not the purpose of the current study to join this rather vigorous debate. Here it suffices to observe, as Hadley does, "on a very broad level that the large numbers of Scandinavian place-names and of Scandinavian words for landscape features are the result of a significant influx of Scandinavians" (74).
61. For a material survey of the layout and types of building construction included in a Scandinavian settlement, albeit further north in the Tees Valley, see C. Batey, "Rural Settlement." For a social survey of such settlements, see Hadley, "And They Proceeded."
63. Additionally, but more tenuously, the area appears to have remained in the control of Scandinavian descendants until the Conquest. The Domesday Book records that one of the thanes holding Brunnham during the mid-eleventh century was named Tuurchil, a name of Scandinavian derivation and related to the nearby place-name of Thirkleby. Post-Conquest, William the Conqueror granted Brunham to Forne, son of Sigulf, another name of Scandinavian origin; see M. Morris, Nunburnholme, 25, 27–28.
64. For representative discussions, see Hadley, "And They Proceeded"; C. Morris, "Northumbria"; Sawyer, "Conquest and Colonization.
66. Swanton, The Anglo-Saxon Chronicle, 75. In another version, "hergeende" was originally written but the "h" was later erased; see Cubbin, MS D, 26.
69. Lefebvre, The Production of Space, 59.
70. Bailey, Viking Age Sculpture, 238. "Frequently the distance involved is less than a mile; rarely is it more than ten miles."
72. Lang, Corpus, 319. See also Bailey, Viking Age Sculpture, 82, and Bailey’s discussion on 176–106 of the close regional groupings of Anglo-Scandinavian sculptural styles.
73. Bailey, Viking Age Sculpture, 81–84.
74. See Bailey, Viking Age Sculpture, 176–77; Wilson and Klint-Jensen, Viking Art, 104–5.
75. Hadley, "And They Proceeded," 87.
76. Lang, Corpus, 338. "It would be wrong to see the Nunburnholme beast-chain as an intrusive Scandinavian feature or a part of a Viking impact on local taste."
77. Wilson and Klint-Jensen, Viking Art, plate 38b, 103–5. For arguments for the purely Anglian, or even Mercian, origin of the Nunburnholme beast chain, see Lang, "Anglo-Scandinavian Sculpture," 15; Cramp, Studies in Anglo-Saxon Sculpture, 231.
78. For discussions of the origins of Jellinge beast chains and biting beasts as Scandinavian and not Insular, see Bailey, Viking Age Sculpture, 55–56; Wilson and Klint-Jensen, Viking Art, 59.
79. Like most of this monument, the Sigurd scene cannot be authoritatively defined, but this discussion follows the lead of Lang, who provides compelling contextual evidence. The inclusion of other Scandinavian elements (jarl and beast chain) strengthens the case. See Bailey, Viking Age Sculpture, 116–17, 122; Lang, "Sigurd and Weland," 88–90.
81. Lang, "Sigurd and Weland," 89.
82. Lang, "Sculptors," 77.
84. Deleuze, "Nomad Art: Space."
85. Ibid., 166–67.
86. The gripping angels motif from Nunburnholme was later copied by an artist at York on the Newgate 1 cross shaft; see Lang, "Sculptors," 86, 90, and Corpus, 3105.
88. Ibid., 171: "for us ... the abstract line is fundamentally 'Gothic,' or rather nomadic, not rectilinear." Deleuze draws from the arguments of Wilhelm Worringen. See Worringen's Form in Gothic: "Actually, that which Gothic man could not transform into naturalness by means of clear-sighted knowledge, was overpowered by this intensified play of fantasy and transformed into a spectacularly heightened and distorted actuality" (81).
89. Deleuze, "Nomad Art: Space," 171.
90. H. R. Ellis Davidson, cited in Dodwell, Anglo-Saxon Art, 39.
91. Deleuze, "Nomad Art: Space," 166.
93. For a detailed description of Nunburnhole's position between Roman roads, see M. Morris, Nunburnhole, 14-15.
94. Bailey, Viking Age Sculpture, 176; see his subsequent analyses, 177-206.
96. Binns, Viking Century, 27.
97. Lefebvre, The Production of Space, 263.
100. Hawkes, "Reading Stone."
105. Tomas, "Old Rituals for New Space." Compare to Lefebvre, who earlier viewed computer technology as simply a more powerful way to create singular, striated spaces of meaning: "computer science can dominate space in such a fashion, that a computer—hooked up if need be to other image- and document-reproducing equipment—can assemble an indeterminate mass of information relating to a given physical or social space and process it at a single location, virtually at a single point" (The Production of Space, 355). Lefebvre's language is a throwback to perspective and vanishing point—but, importantly, not as a stable object but as a momentary focus in a shifting space. The object fashioned by perception in cyberspace is wholly a function of its representation, and then is gone.
107. See, for instance, the recent accomplishments of the Digital Michelangelo Project for a summary of the project, see graphics.stanford.edu/papers/dmich-sigoo/dmich-sigoo.html (a copy of the project paper that appears in the Proceedings from SIGGRAPH 2000, New Orleans, 2000).
110. Laurel, Computers as Theatre, 114-15; see also Strate, "Hypermedia, Space, and Dimensionality," 274-77.
112. Strate, "Hypermedia, Space, and Dimensionality," 275.
113. Foucault, "Of Other Spaces," 23.
114. Ibid., 24.

Epilogue: For All Practical Purposes

The epigraph is from Bush, "As We May Think," 101.
1. Bush, "As We May Think."
3. Connes, "ANSAXNET. On the Beowulf Workstation, see Connes, "The Beowulf Workstation"; for SEAFARER, a hypertextual "mini-encyclopedia" of the early Middle Ages which began in 1992 as a Hypercard stack program and then was ported to HTML in 1998, see www.wheatonma.edu/kace/TLTC/reports/Drouth.html.
4. For an ongoing survey of electronic resources in Anglo-Saxon studies, see Old English Newsletter. "Circilwyrd."
6. Frantz, By the Numbers.
9. Ibid., 392.
10. On the Domesday Project, see Finney, "Domesday"; O'Donnell, "Domesday Machine."
11. McKie and Thorpe, "Digital Domesday Book Lasts 15 Years."
15. See Text Encoding Initiative home page.
17. Several initiatives to develop protocol for the encoded transcription and description of medieval manuscripts have already come and gone. TEI's most recent standard, P5, contains an extensive set of guidelines for providing "detailed descriptive information about handwritten primary sources," derived from an early set of guidelines specifically designed for medieval manuscripts: see Text Encoding Initiative, "Manuscript Description." For links to other current projects related to encoding manuscripts, see their wiki at "TEI Special Interest Group on Manuscripts (TEI MS SIG)." For a more flexible architecture, see Kevin Kiernan's Electronic Production and Presentation Technology (EPPT) project.