

its chapters, the text is to be highly recommended as encouraging further work in this realm. Because of this book, and other publications by Knowles, Hillier, Bol, Gregory, and others, I look forward to future publications in the use of GIS for History.

Terra Incognita: Mapping the Antipodes before 1600

By Alfred Hiatt

University of Chicago Press, 2008

298 pages, 8 color plates, 47 grayscale figures

Hardbound (ISBN 13: 978-0-226-33303-8)

Reviewed by: Jonathan F. Lewis
Benedictine University

Terra Incognita examines and explains the initial appearance and subsequent evolution of European perspectives on remote, unvisited portions of the globe. Covering the period from antiquity through the medieval epoch and into the period of global exploration, the book's eight chapters are arranged in chronological succession. While the chapters are of roughly equal length, the periods each covers necessarily are not.

Hiatt's initial chapter lays out his framework for presenting European representations of unknown lands, which he introduces by describing Abraham Ortelius' sixteenth century *Typus orbis terrarum*. This map's inscription on the massive continent thought at the time to dominate the southern hemisphere reads, "*Terra Australis Nondum Cognita*," or "Southern Land Not Yet Known," a clear indication of the expectation that remote lands did in fact exist, even if their exact form and contents were unknown. As Europeans acquired new knowledge about remote regions, *terra incognita* gradually became *terra inventa* (discovered land) and *terra nondum cognita* (land not yet known). That is to say, it evolved from unknowable into places both knowable and places soon to be known.

Throughout his book, Hiatt consistently returns to four organizational themes. The first theme involves the political implications "of spaces and people beyond the known world" (8). These implications include both imperial ambitions and tests of faith, the former because the antipodes represented frustrating limitations on ambitious rulers, and the latter stemming from Biblical assertions that Christianity must be spread to all lands. This theological implication led St. Augustine to conclude that no territory (and certainly no people) existed beyond the insurmountable barriers of vast oceans and intense desert heat.

Hiatt's second theme covers the manner in which remote areas were described and depicted, producing a particular geographic or cartographic tradition. As knowledge of the world was handed down through

generations, it was gradually supplemented by new knowledge, which led to the need to distinguish ancient from modern knowledge. For Hiatt, there is a clear and consistent, if not always smooth, line of thought extending from the ancient period through the early modern. It is characterized by ancient writings being retold and supplemented, not simply to preserve the originals, but to give them prolonged credibility by making them appear to foretell subsequent discoveries.

The third theme explores periodization, and Hiatt's conviction that conceptions of the world do not easily fit standard period delimiters. He observes that, while change did occur, "[W]hy that change occurred will not be enlightening if it falls back on banalities about inherently "antique," "medieval," or "modern" ways of viewing the world" (9). For Hiatt, the medieval period witnessed not the end of a view of the world informed by ancient writers, but rather a dialogue with older texts carried out by medieval translators challenged to explain (or explain away) positions taken by esteemed writers such as Virgil. Later, as European explorers encountered new regions, their attempts to map it were heavily informed by the very traditions that had deemed these areas forever inaccessible.

The book's final theme is one of representation. Many of the chapters examine the necessarily speculative graphic representations of unvisited and/or unreachable *terra incognita* lands that were devised by European cartographers and explorers over a period spanning hundreds of years.

The convergence of the four themes is exemplified by the medieval reinvention of Cicero's ideas via Macrobius and his subsequent translators and critics, thus allowing an ancient perspective to make its way into much later and, presumably, more knowledgeable periods.

The map of Macrobius illustrates Cicero's theories; it was produced for a text written in the fifth century; there is reason to think that it was wholly or partially reconstructed in the tenth. It underwent significant adaptations in the twelfth century, and a revival of interest in the fifteenth as a result of humanist interest in Cicero. Is the map classical, late antique, medieval, or Renaissance? Does it not rather belong to any period in which it was reproduced? (11)

Given Hiatt's objectives, the early chapter "The Antipodes in Antiquity" represents an important foundation for what follows. In it, he examines texts produced during the period and the political and social significance of distant, unreachable lands. He introduces the antipodes by reviewing texts of classical writers convinced not only of Earth's sphericity but also its likelihood of being widely inhabited. Plato, in particular, is cited as having set many terms for subsequent discussion, including a test of basic intel-

ligence and reasoning based on explaining why people living on the opposite side of the planet would not see themselves as upside down. Later, Crates of Mallos offered what came to be a popular depiction of Earth divided into four regions, whose remote residents were identified by Geminus as *periokoi* (inhabitants of the northern portion of the western hemisphere), *antoikoi* (those living in the southern portion of the eastern hemisphere, i.e. Africa), and *antipodes* (people dwelling in the southern portion of the western hemisphere and whose feet were, thus, opposite our own, inspiring the region's name). The central reference point for these regions, of course, was *oikoumene* or *ecumene*, the known world of the Mediterranean, Europe, and western Asia. Once accepted, these regions represented opportunities for political commentary and were particularly useful for characterizing the foolishness of ambitious emperors intent on world conquest, given the impossibility of reaching, much less subduing, remote outlying areas.

From there, Hiatt proceeds to describe three major writers whose works preserved classical formulations of remote and unknown regions of the world: Augustine of Hippo, Macrobius, and Capella. Describing the views of each in detail, Hiatt characterizes them as either receiving and rejecting the ideas of the classical period (Augustine) or receiving and embellishing them in ways that affected later understanding of the classics (Macrobius). Hiatt then moves to graphic depictions of unknown regions, particularly as these were informed by the writings of classical authors and their translators. This section introduces zonal maps into the discussion in order to analyze how areas lying in and to the south of the unbearably hot zone, within and to the north of the excruciatingly cold zone, and to the west of a vast and unnavigable ocean were characterized. Informed by longstanding legends and by tales from travelers who claimed to have visited some of these areas, cartographers occasionally populated such regions with monstrous races. What prevailed from the ancient into the medieval periods, then, was uncertainty about places beyond the *ecumene*. The antipodes had to be explained or explained away in a debate that was largely theoretical. Before long, however, "[P]eople began to challenge the impermeability of the barriers between known and unknown worlds" (89).

By the fourteenth century, translations of Arabic texts had raised doubts about the impermeability of southern regions. These doubts were amplified in the fifteenth century with the translation of Ptolemy's *Geographia* and led to a reconceptualization wherein the antipodes came to represent "the failure of states and their rulers to push at the barriers of knowledge" (96) This led in turn to new evaluations of received texts and to wholly new speculations as well. Significantly, confirmed discoveries of new lands did not

introduce devastating challenges to old systems of knowledge. After all, Augustine had said only that God would not have put people in regions that were inaccessible. Clearly, his error lay only in believing that insurmountable barriers existed, an observation accepted by the ancients, not in the position he had derived from scripture. Now that it was known that humans in fact dwelt in previously unknown areas, the work of evangelization should continue because "the head of the Church was charged with the apostolic duty of promoting the spread of the gospel to all peoples" (159). Unknown land was thereafter increasingly defined as land where the name of the savior was unknown and, thus, where the duty of Christian explorers was to redeem the residents by bringing them into the flock of the faithful.

Hiatt examines various European explorers' encounters with the Americas in order to show the coexistence of old ways of thinking alongside new. Columbus, for example, is mentioned for having continued to believe he had reached Asia, displaying the resilience of the perspective that all land formed one vast continent. This is in contrast to Vespucci's conclusion that the new continents were not at all connected with the Old World. Hiatt shows how the insular perspective was again given a new lease on life with the discovery of Antarctica merging with early reports of Australia to produce maps depicting a vast southern continent, *Terra Australis*.

The enormous southern continent was quickly recognized as an opportunity to exonerate old systems of knowledge. Not only did it connect major land masses into one territory, as the insular perspective required, it also offset the weight of northern land masses, something the ancients had insisted was required for Earth's rotation to remain stable. Thus posited, early observations were seen as corroborations that only slowly came to be reevaluated with the introduction of new information. Even then, however, *terra incognita* continued to exist, only displaced toward the interior of lands whose coastlines had been mapped.

Hiatt devotes considerable space to the evolving cartographic treatment of *Terra Australis*, whose falsely depicted vast dimensions remained in place well into the seventeenth century. Such large, unknown areas also afforded cartographers blank surfaces to display additional information about the European conquerors, whose superior knowledge systems, advanced technology, and omnipotent deity had come to encompass the entire planet. These descriptive texts and graphics, in turn, provide additional data to Hiatt concerning the purpose of areas soon to be explored and brought under subjugation.

In his conclusion, Hiatt asks us to view *terra incognita* as expressing "the ignorance that accompanies dreams of world expansion, of universal reach, always

receding into the distance.”(253) The term represents an elusive quest for knowledge and the control that knowledge brings. Utilizing sources from several major libraries and cartographic collections, displaying dozens of key illustrations, and having command of several languages, Hiatt makes of *Terra Incognita* a well reasoned, solidly documented case that is both organizationally and stylistically well constructed. Chapters begin with useful prefatory remarks describing what is to follow and end by persuasively showing how developments in that chapter prepare the ground for its successor.

Convinced of his own view, Hiatt’s reasoning and documentation are uncharacteristically thin in one or two spots. For example, in his discussion of extensive text being placed on depictions of *Terra Australis*, where he focuses closely on one particularly crowded cartouche, his frustrations lead him to assert that “such is the illegibility of the words in these panels when seen from any distance that one must conclude that the multiplicity of text . . . is designed to be seen primarily as a whole, and not read. Or rather, that instead of being a display of text intended to be read, it is intended to be read as a display of text” (232). He seems here to confound effect with intent; other paleographers often struggle with documents having extremely crowded, nearly illegible text bodies without reaching similar conclusions. Similarly, although Hiatt acknowledges that there is little surviving evidence that Ortelius gave much thought to the southern continent, he suggests that Ortelius might have thought of *terra incognita* as part of “the scorned world” because recent studies have linked him with a neo-Stoic religious group and neo-Stoics were known to have distinguished “scorned” from “adorned” portions of the world (234). Such stretches are few, though, and not entirely without foundation.

Terra Incognita is a solid research effort reminiscent of the sort found in the University of Chicago Press’s multi-volume *History of Cartography*. Like that series, a separate volume will be needed to document non-European treatments of the same topic. For the period and subject matter identified by its title, *Terra Incognita: Mapping the Antipodes before 1600* is the definitive word on the topic. In that regard, Hiatt comes to resemble some of the medieval translators he describes early in his book, who both transmitted and enhanced the earlier sources they were reviewing and thus contributed to an ongoing cartographic tradition.

Understanding Place: GIS and Mapping across the Curriculum

Diana Stuart Sinton and Jennifer J. Lund, editors
ESRI Press
272 pages
\$49.95
ISBN: 9781589481497

Reviewed by: Dr. Nicolas Karanikolas
Aristotle University of Thessaloniki

Reviewing a book always is a good opportunity to go one step further than just reading. You have to think like the writer, the publisher, and, of course, the reader.

Reading, according to Umberto Eco, is like “living more” through the writer’s thoughts, and we can agree that a good book is the book that guides you to new thoughts, new images, and finally to new places. *Understanding Place: GIS and Mapping across the Curriculum* is a book that succeeds on this concept. The editors, Diana Stuart Sinton and Jennifer L. Lund, have done excellent work with the help of a big number of writers. Thirty-six writers sign the nineteen chapters of this book, and they give us something new: a holistic approach about the use of GIS and mapping in teaching, learning, and researching across many subjects from liberal arts to humanities.

Reading this book helps one to understand that map making and map reading are not mechanical activities but aspects that need communication skills. GIS today provides the controls of how, when, and where all information will be displayed. That’s why maps and GIS are valuable in a teaching and learning environment (Medyckyj-Scott and Hearnshaw 1994).

The structure of the book is divided in two basic parts. In the first part of the book, five chapters reference one of the basic issues for so many instructors: how to teach students to think spatially. In this main part, many professors write about the way they use GIS to help students to think and learn in a more spatial way.

Terms like distance, proximity, and pattern recognition are some of the main subjects which interest instructors today. Basic geographic terms, like how to transform a data matrix into a map and by this change view and analyze scales in order to come to different conclusions, are also some of the basic aspects of this part.

Students who work with GIS learn to explore new ways of thinking and knowing. By using maps and geographic systems, they develop new skills of thinking with information images and become intelligent consumers of visual information and effective communicators with maps. They can actually learn to organize their thoughts for complex issues of their studies as layers of a geographic information system.