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### GPHY 520.01: Seminar in Graphical Thought

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THE UNIVERSITY OF MONTANA

*Seminar in Geographical Thought (GPHY 520)*

General Information

Time	Autumn Semester, 2014; W, 3:10-6:00
Place	Stone Hall, Room 217
Instructor	Jeffrey A. Gritzner
Office	Stone Hall, Room 204
Telephone	243-5626 (office); 273-0665 (home)
Textbook	Martin, Geoffrey J. <i>All Possible Worlds: A History of Geographical Ideas</i> . Fourth Edition. New York: Oxford University Press, 2005.

**Geoffrey Martin** is a member of the *emeriti* faculty of Southern Connecticut State University. Professor Martin's B.Sc. and *Ph.D.* were conferred by the London School of Economics. He had also studied at Kings College-London. His areas of topical specialization are the history of cartography and the history of geography. His area of regional specialization is Europe.

Optional Resource	Glacken, Clarence J. <i>Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century</i> . Berkeley: University of California Press, 1967.
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**Clarence Glacken** (1909-1989) was a professor at the University of California at Berkeley. His *A.B.* and *A.M.* degrees were conferred by the Department of Social Institutions at the University of California at Berkeley; his *Ph.D.* by the Department of Geography at Johns Hopkins University. He was a major contributor to the field of environmental history. *Traces on the Rhodian Shore* is believed by many to among the most remarkable books ever written on the mutual relations between nature and human cultures.

Nature of the Course

The *Seminar in Geographical Thought* is a graduate seminar. Enquiry, student reports, and discussion are the principal ingredients of the seminar. For a general discussion of the approach taken,

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please see Carl O. Sauer, "The Seminar as Exploration," *Historical Geography Newsletter* 6, no. 1 (1976): 31-34. The principal rôle of the instructor will be to introduce topics, serve as a resource person, coördinate class discussions, ask pertinent questions, and place the topics addressed in context. Hence, the instructor serves largely as a facilitator and coördinator; the actual teaching will be conducted by the students themselves.

In *Geographical Thought*, we are concerned chiefly with the origins, evolution, and content of our discipline. Just as a map is an essential tool for the traveller in an unfamiliar land, so too is a knowledge of our intellectual past essential if we are to understand and appreciate our discipline. We shall focus upon key individuals and their contributions; the origin and diffusion of important geographical concepts and skills; the evolution of geographical knowledge; and the events and developments that significantly influenced geographical thought. Our time frame will be from the dawn of history to the modern era.

The Mansfield Library has a satisfactory collection of books devoted to geographical thought. Those placed on reserve are denoted with an asterisk in the list of references below. In addition to the Mansfield holdings, my personal library contains some publications that you might find to be useful. You are welcome to use them. Simply note your name, the date, and the title of the publication(s) on the check-out pad. Given the nature of the seminar, it is probable that several of you will require the same publications at the same time. Hence, please return the books as quickly as possible when you are through with them.

## Evaluation

Course grades will be based upon the following:

**Class notebook.** The purpose of the notebook requirement is to assist you in developing an organized, detailed, and hopefully useful set of resource materials pertaining to geographical thought. Notebooks should contain the following items:

- Course notes that are as detailed as possible.
- Notes on class reports taken on the outlines that will be provided by the students presenting the reports, or summaries of the reports provided by the presenters.
- Bibliographical references and any other items that you may wish to include—such as copies of relevant articles, maps, abstracts, reviews, &c.
- A well-organized format—to include a table of contents and some form of indexing which will make it possible for you to quickly access needed information. (*N.B.* Do not index by the date of

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the lecture.) It is recommended that you purchase a large three-ring notebook, for which you eventually might require two sets of index tabs or dividers.

In evaluating the notebooks, I shall look for the following:

- The content and organization of class notes: Have the notes been taken carefully? Are they complete? Has information been added in those instances where data were lacking? Can the notebook serve as a ready source of information? Are notes organized in some useful and meaningful manner?
- Evidence of initiative, interest, and professionalism: For example, the addition of bibliographical references with brief abstracts or annotations; photocopies of significant articles, highlighted to indicate that you have read them; and additional items, of any nature, that are of interest or use to you—although perhaps not discussed in class.

**Reading.** It is assumed that you will familiarize yourself with the topics presented by other seminar participants; will conduct in-depth, graduate-level research on the topics which you select for your reports; and that you will read a minimum of 1000 pages of literature devoted to the evolution of geographical thought. Full bibliographical citations and a summary of each book or article read should be made, and placed at the end of your notebook. You are not necessarily expected to read entire books. I should prefer that you sample several works (different authors, approaches, content, &c.) in order to become as familiar as possible with the broad spectrum of literature on geographical thought. Basically, browse the stacks and read what you find to be of interest.

**Class reports.** During the semester, each of you will present reports concerned with key individuals and their contributions to geographical thought, as well as other topics of importance or interest in relation to mankind's knowledge of geography and the earth. The reports will be presented orally to the class from detailed notes or PowerPoint. The presenter may either provide other seminar participants with an outline upon which to take notes (so leave plenty of space), or copies of the report. A copy of the complete written report is to be given to the instructor prior to your presentation. The reports will be filed in my office so that other students can review the material at their leisure.

*Major reports* should average twenty to thirty minutes in length. Proposed topics are appended. In preparing your reports, it is expected that you will use primary references to the extent possible. If, for example, your report deals with Aristotle, you should read at least one of his relevant works. Secondary sources will be useful in formulating your own impressions based upon the comments and judgements of others. Tertiary works should not be used unless their content can be justified.

- Primary: The original work of an individual—albeit often in translation.
- Secondary: Someone else's interpretation of primary works—for example, Bunbury's

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commentaries upon classical authors.

- Tertiary: General reference works, such as an encyclopædia or textbook.

Reports on individuals (largely the "major" reports) should include the following:

- A brief biographical sketch.
- The principal geographical contributions of the individual.
- An evaluation of the strengths, weaknesses, and general impact of the person's works.
- A copy of any appropriate map or maps.
- A comprehensive bibliography of pertinent works—both primary and secondary.

*Minor reports* should average fifteen minutes in length. Proposed topics are appended. The topics focus upon a variety of myths, legends, places (real or imagined), events, &c. which had some bearing upon the evolution of geographical thought.

A primary objective of the assigned reports is to familiarize you with a broad spectrum of literature pertaining both directly and indirectly to the history of geographical thought. You will quickly find that much of the literature upon which you will depend is not found in standard geographical publications. It is therefore essential that you familiarize yourself with the broad range of resources available through the Mansfield Library. Should you be unable to locate adequate information on your topics, please come to me for suggestions.

**A word of caution:** The reports cannot be prepared overnight or during a week-end. Your reading and research should begin as soon as reports are assigned.

I shall present the initial major and minor reports, thereby providing some sense of how they might be organized and presented. A part of your grade will be based upon your ability to identify and focus upon the *geographical* relevance of the topic in question.

**Discussion.** You are expected to participate in enlightened class discussion. The degree to which you are able to contribute—adding information which may have been overlooked by the person presenting a report, posing thoughtful questions, being critical of statements made, &c.—should serve as a valid reflection of your outside reading. As noted above, prior to each of the reports, you should do some of background reading related to the topic to be discussed.

**Attendance.** Given the seminar format of the course, it is imperative that you maintain a perfect record of attendance if possible. In the event that you are unable to attend the class on the date that you are scheduled to give a report, it is *essential* that you notify me as far in advance as possible so that your time slot can be filled by another student.

**Final examination.** None. It is hoped and anticipated that *all* students in the seminar will possess a level of professional interest, responsibility, discipline, and commitment to earn a final grade of "A." Unlike undergraduate lecture courses in which students take a number of examinations, the grading of seminar work must by its very nature be somewhat subjective. Attitude, interest, participation, and other less tangible factors are as important as your reports in many respects.

### References

Ackerman, Edward A. *Geography as a Fundamental Research Discipline*. Department of Geography Research Paper no. 53. Chicago: The University of Chicago Press, 1958.

An essay that discusses geography as a fundamental science, with emphasis upon the differentiation of the content of space upon the earth's surface and the analysis of spatial relationships.

Agnew, John, David N. Livingstone, and Alisdair Rogers. *Human Geography: An Essential Anthology*. Oxford, England: Blackwell Publishers, 1996.

A collection of writings permitting an understanding of the field as a whole, and revealing the interactions of its component parts. Part I recounts the history of geography; Part II is concerned with how conceptions of geography have changed in different social and intellectual contexts; Part III focusses upon nature, culture, and landscape; Part IV considers region, place, and locality; Part V is concerned with space, time, and space-time.

Baker, John N. L. *The History of Geography*. New York: Barnes & Noble, 1963.

A collection of articles devoted to the history of geography, with emphasis upon its evolution in the British Isles. Baker was a highly respected figure whose research and writing focussed upon the history of geography, historical geography, and the geography of exploration and discovery. This volume is a collection of selected works compiled by a number of his former students to commemorate his retirement from the University of Oxford.

\*\_\_\_\_\_. *A History of Geographical Discovery and Exploration*. London: Harrap, 1931; revised and reprinted, New York: Cooper Square Publishers, 1967.

An excellent summary of exploration from the European perspective. It encompasses the period of early navigation in the eastern Mediterranean (*ca.* 2000 B.C.) to twentieth century polar exploration. Primarily regional in its organization; good maps; an excellent (fifty-four page) index of terms, locations, individuals, &c. Perhaps the best single volume from which to obtain an overview of exploration and discovery.

Barton, Thomas F. and P. P. Karan. *Leaders in American Geography*. Vol. 1, Geographic Education. Mesilla, New Mexico: Prestige Books International and New Mexico Geographical Society, 1992.

This book contains valuable biographical descriptions of American geographers prominent in the area of geographical education.

\*Beazley, Charles R. *The Dawn of Modern Geography: A History of Exploration and Geographical Science*. Vols. 1 and 2; London: John Murray, 1897 and 1906. Vol. 3; Oxford, England: Clarendon Press, 1906.

Vol. 1 develops geography in the Christian World from *ca.* A.D. 300 to 900. Chapter topics include: the travels of pilgrims; commercial and missionary travel; geographical theory; and the nature of Muslim geography.

Vol. 2 covers the period from 900 to 1260. It includes the exploration of the Vikings; the Crusades to the Holy Land; Hebrew geographers; diplomatic, missionary, and commercial travel; and the status of geographical theory at the time.

Vol. 3 is devoted to the period from 1260 to 1420. Topics include travels to Asia (for example, the brothers Polo); other commercial travel; maritime exploration; additional comments upon the pilgrims of the Middle East; and the status of geographical theory in both the Christian and non-Christian worlds.

At the turn of the century, when the volumes were written, it may have appeared that 1420 was the "Dawn of Modern Geography," but today such a title appears to be somewhat misleading. The volumes are a very good source of information on "Christian geographers" and geographical activity during the so-called "Dark Ages" of Western Civilization. There is an extensive index to facilitate use and cross-referencing.

Belasco, Warren. *Food: The Key Concepts*. Oxford, England: Berg, 2008.

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A useful exploration of food—the first of the essentials of life, our largest industry, our most frequently indulged pleasure, and perhaps the greatest cause of disease and death.

Bergreen, Laurence. *Columbus: The Four Voyages, 1492-1504*. New York: Penguin Books, 2012.

Bergreen provides an unusually complete discussion of the Admiral's complex and paradoxical personality.

Blaut, J. M. *The Colonizer's Model of the World: Geographical Diffusionism and Eurocentric History*. New York: The Guilford Press, 1993.

This book challenges one of the most pervasive and powerful beliefs of our time concerning world history and world geography, the belief that the rise of Europe to modernity and world dominance is owing to some unique European quality of race, environment, culture, mind, or spirit, and that progress for the rest of the world results from the diffusion of European civilization.

Boorstin, Daniel J. *The Discoverers: A History of Man's Search to Know His World and Himself*. New York: Random House, 1983.

Book Two, "The Earth and the Seas," provides interesting insights into the environmental and social contexts of exploration. Included, for example, are discussions of navigation and the constraints of secrecy upon our knowledge of the past.

Braden, Kathleen E., and Fred M. Shelley, *Engaging Geopolitics*. Harlow, England: Pearson Education (Prentice Hall), 2000.

This is a useful introduction to the much-neglected field of geopolitics.

Braudel, Fernand. *A History of Civilizations*. New York: Penguin Books, 1995.

An unusually insightful survey by a remarkable French scholar. Separate sections of the book examine the Muslim world, Black Africa, the Far East, Western Europe, Eastern Europe, the European civilizations of the New World, and "the English-speaking universe."

Brunn, Stanley D., Maureen Hays-Mitchell, and Donald J. Zeigler. *Cities of the World: World Regional Urban Development*. Fifth Edition. Lanham, Maryland: Rowman & Littlefield,

2012.

An excellent analysis of world urban systems.

Bryson, Reid A. and Thomas J. Murray. *Climates of Hunger: Mankind and the World's Changing Weather*. Madison: The University of Wisconsin Press, 1977.

*Climates of Hunger* was written chiefly by Reid Bryson, an internationally acclaimed meteorologist, at a time when "record low temperatures [were] reported with increasing frequency in many parts of the United States."

\*Bunbury, Edward H., *A History of Ancient Geography*. London: 1879 and 1883; New York: Dover Publications, 1959 [a reprint of the 1883 edition in two volumes].

An extremely detailed account of the history of geography from the pre-Homeric period of classical Greece through the second century *A.D.* The survey of individuals and events includes a summary of geographical lore, knowledge, and activity which set the stage for the Homeric Period, and continues through "Roman Writers after Ptolemy." Sections covering individual contributors are extremely detailed (for example, more than 150 minor contributors to geographical thought during the era of classical Greek and Roman antiquity). Bunbury includes many translations from original manuscripts and each entry includes a detailed analysis of the works or activities, as well as an assessment of their validity and impact upon developing geographical thought. There are many original and reconstructed maps; a table of contents which includes reference to all chapter subheadings; detailed citations to literary sources; and an index of individuals, topics, locations, &c. For reports on individuals through Ptolemy, Bunbury is an excellent secondary source of information.

Carolan, Michael. *Society and the Environment: Pragmatic Solutions to Ecological Issues*. Boulder, Colorado: Westview Press, 2013.

This book examines today's environmental controversies within a socio-organizational context.

Casson, Lionel. *Ships and Seamanship in the Ancient World*. Baltimore: The Johns Hopkins University Press, 1971.

Perhaps the finest general reference on the subject of seafaring in antiquity. While extremely detailed with regard to various aspects of ships, navigation, and shipping within an essentially Western context, the book largely avoids consideration of ships and seamanship in the non-

Western world.

Castles, Stephen and Mark J. Miller. *The Age of Migration: International Population Movements in the Modern World*. Second Edition. New York: The Guilford Press, 1998.

Castles and Miller argue that migration cannot be analyzed as an isolated phenomenon, but as one facet of global change and development.

Chew, Sing C. *The Recurring Dark Ages: Ecological Stress, Climate Changes, and System Transformation*. Lanham, Maryland: Altamira Press, 2007.

The book takes ecological disasters based upon systematic long-term overexploitation back to the beginnings of urban life and early industrialization in the Bronze Age. Chew provides an original historical framework for understanding Dark Ages past and present.

Chivian, Eric and Aaron Bernstein, eds. *Sustaining Life: How Human Health Depends on Biodiversity*. Oxford: Oxford University Press, 2008.

This publication includes essays by leading scientists that do a remarkable job of underscoring the importance of biological diversity. It is of basic relevance to those of you interested in biogeography.

Christoff, Peter and Robyn Eckersley. *Globalization and the Environment*. Lanham, Maryland: Rowman & Littlefield Publishers, 2013.

The book analyzes the relationship between globalization and the environment from the early modern period to the present.

Cloke, Paul, Philip Crang, and Mark Goodwin. *Envisioning Human Geographies*. London: Arnold, 2004.

Bringing together many of the leading human geographers from around the English-speaking world, *Envisioning Human Geographies* offers a series of personal visions for the future of human geography. The result is a vigorous and far-sighted debate about what human geography could and should be concerned with in the twenty-first century.

Cresswell, Tim. *Geographic Thought: A Critical Introduction*. Malden, Massachusetts: Wiley-Blackwell, 2013.

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An excellent, accessible introduction to geographical thought, exploring the major thinkers and key theoretical developments in the field of human geography.

Davis, William Morris. *Geographical Essays*. Edited by Douglas Wilson Johnson. New York: Dover, 1954.

Originally published in 1909, this work contains twenty-six essays by a seminal figure in American geography. The essays are organized into two basic categories: Educational Essays and Physiographic Essays. Discussed are teaching methods for high-school and college geography, as well as such topics as the Geographic Cycle, The Peneplain, and The Mountain Ranges of the Great Basin.

De Camp, L. Sprague. *The Ancient Engineers*. New York: Barnes and Noble Books, 1993.

This book addresses issues of technology and invention from the earliest times to the Renaissance.

Diamond, Jared. *The World until Yesterday: What Can We Learn from Traditional Societies?* New York: Viking, 2012.

In this book, the author of *Collapse* and *Guns, Germs, and Steel* reflects upon the problems of today in light of his exhaustive literature review and more than four decades of residing among rural tribesmen in New Guinea.

\*Dickinson, Robert E. *The Makers of Modern Geography*. New York: Frederick A. Praeger, 1969.

Traces the development of modern geography through prominent German and French contributors. The scope is limited to the development of the regional concept. A cursory summary of the period from Strabo to Kant is followed by in-depth analysis of the contributions of Humboldt, Ritter, Ratzel, Richthofen, Penck, Hettner, Schluter, and succeeding generations, concluding with post-World War II trends and developments. The section on French geography focusses primarily upon Le Play, Vidal de la Blache and his contemporaries, and Vidal's students. Post-war trends also are discussed. Contains valuable subject and name reference indices. One interesting feature of the book is the photographic section which includes photographs of many prominent, early geographers.

\_\_\_\_\_. *Regional Ecology: The Study of Man's Environment*. New York: John Wiley & Sons, 1970.

A detailed temporal and conceptual assessment of the origin, nature, and application of the regional concept. The book is divided into three sections: "History" (for example, Strabo and Ptolemy, Varenius and Cluverius, and Humboldt and Ritter—and their various impacts upon the modern era); "Theory" (perhaps the most detailed analysis of the regional concept yet written); and "Practice" (educational and applied uses of the concept).

\_\_\_\_\_. *Regional Ecology: The Anglo-American Leaders*. Boston: Routledge and Kegan Paul, 1976.

An analysis of the evolution of the regional concept in American geography, and a detailed discussion of its leading contributors.

\* \_\_\_\_\_, and O. J. R. Howarth. *The Making of Geography*. Oxford: Oxford University Press, 1933; reprinted, Westport, Connecticut: Greenwood Press, 1976.

Perhaps the single most definitive work on the development of geographical thought in terms of its comprehensive coverage. Individuals and their contributions serve as the framework in which exploration and the development of geographical knowledge, concepts, tools, skills, &c. are examined in detail. Covers the period from the dawn of Western Civilization (including cultural contributions from the Orient) to the early twentieth century. In addition to very thorough coverage of the Greek and Roman periods, the book contains chapters on Moslem geography, the Renaissance Period of European geography, missionaries to the East, Portuguese exploration, the early German School, the Flemish School, measurement and cartography, the evolution of the ship, exploration, and the evolution of each major sub-field found within contemporary geography (as of the 1930s). An excellent reference in terms of its broad scope (similar to James and Martin), but does not match Bunbury for the comprehensive coverage of individual contributors in the distant past.

Dorn, Harold. *The Geography of Science*. Baltimore: The Johns Hopkins University Press, 1991.

This book explores the rôle of geographical context in the development of scientific thought.

Earle, Carville. *The American Way: A Geographical History of Crisis and Recovery*. Lanham, Maryland: Rowman & Littlefield Publishers, 2003.

The book combines political and economic themes in a geographical history of the American past.

El Baradei, Mohamed. *The Age of Deception: Nuclear Diplomacy in Treacherous Times*. New York: Metropolitan Books (Henry Holt and Company), 2011.

The author served as director of the United Nation ' s International Atomic Energy Agency, was the recipient of the 2005 Nobel Peace Prize, and received the 2008 Indira Gandhi Peace Prize. For students interested in political geography, *The Age of Deception* is an insightful primer.

Fielding, Gordon J. *Geography as Social Science*. New York: Harper & Row, 1974.

In this volume, Fielding abstracts material published by geographers, and presents it in a manner that meshes with the concerns of various social sciences.

Fischer, Eric, Robert D. Campbell, and Eldon S. Miller. *A Question of Place: The Development of Geographic Thought*. Arlington, Virginia: Beatty, 1969.

A collection of geographical ideas presented in sequential order. English translations of many original passages add to the value of the book as a primary source of information. Emphasis is placed upon geographical theory, rather than upon the exploration of place as implied by the title. The volume is divided into two sections: "Early Geographers" of the Greek Period through Humboldt and Ritter (including Moslem and Renaissance contributors), and the "Modern Period," which is subdivided into national groups—including German, French, British, Russian, and American contributions. Does not include an analysis of what the authors refer to as the "New Geography" (contemporary theoretical directions).

Frawley, David (Vamadeva Shastri) and Navaratna S. Rajaram. *Hidden Horizons: Unearthing 10,000 Years of Indian Culture*. Ahmedabad, India: Swaminarayan Aksharpith, 2006.

This book has been included because it provides remarkable insight into social change dating from the Late Pleistocene—basically revising our understanding of the rise of civilization.

\*Freeman, Thomas W. *A Hundred Years of Geography*. London: Gerald Duckworth, 1961.

The book considers past achievements and growth in the various topical areas of geography (physical, regional, economic, social, and cartography). Emphasis is upon geography within the British realm since the turn of the century. Contains selected, brief biographies of selected geographers—not limited to British contributors. Most valuable, perhaps, for its listing of some rather obscure individuals for whom information is generally unavailable.

\_\_\_\_\_. *The Geographer's Craft*. Manchester: Manchester University Press, 1967.

*The Geographer's Craft* explores several aspects of geographical research: the nature of the material; the wish for certainty; environmental influences; and field observation. It also explores the important contributions of seven geographers: Francis Galton; Vidal de la Blache; Jovan Cvijić; Ellsworth Huntington; Sten de Geer, Percy Maude Roxby; and Alan Grant Ogilvie.

\_\_\_\_\_, Marguerita Oughton, and Philippe Pinchemel. *Geographers: Biobibliographic Studies*. London: Mansell Information, 1977 (Vol. 1) and 1978 (Vol. 2, by Freeman and Pinchemel only).

A continuing International Geographical Union series on major contributors to the development of geographical thought. Detailed biographical and bibliographical information on each of the thirty-eight geographers who are included in the first two volumes. Includes Russian and Oriental contributors. Most entries are post-1750. Excellent index.

\*Fuson, Robert H. *A Geography of Geography: Origins and Development of the Discipline*. Dubuque, Iowa: Wm. C. Brown, 1969.

A brief, though well done, analysis of the development of geographical thought. Begins with Oriental contributions to Greek geographical thought. In addition to the "standard" information which one might expect to find in a comprehensive volume on the history of geographical thought (the title is misleading in this regard), the author discusses the geographical awareness of Oriental, Muslim, Norse, Pacific, and Native American peoples. The brevity of the book (around 120 pages) limits its value as a research tool. Nevertheless, it is perhaps the best, concise work of its kind available.

\*Gaile, Gary L. and Cort J. Willmott, eds. *Geography in America at the Dawn of the 21<sup>st</sup> Century*. New York: Oxford University Press, 2004.

Surveys American geographers' current research in their specialty areas and tracks trends and innovations in the many subfields of geography. As such, it is both a "state of the discipline" assessment and a topical reference. It includes an introduction by the editors and forty-eight chapters, each on a specific specialty. While it focuses upon work since 1990, it also includes related prior work and work by non-American geographers.

Gersmehl, Phil. *Teaching Geography*. New York: The Guilford Press, 2005.

This book presents a complete conceptual framework and many hands-on ideas for effective

geography instruction in today ' s middle- and secondary-school classrooms.

Glacken, Clarence J. *Traces on the Rhodian Shore*. Berkeley: University of California Press, 1967.

A definitive study of nature and culture in Western thought from antiquity to the end of the eighteenth century. The book focusses upon three interlocking themes: the idea of an earth created by design; the influence of environment upon man; and the influence of man upon his environment. Glacken argues that in Western thought interpretations of the relationship of culture to nature have been based mainly upon these three ideas, sometimes with the major emphasis on one, often in combinations, as they are not mutually exclusive. He believes that this body of thought is part of the matrix from which the social sciences emerged in the nineteenth century. The volume is considered by many scholars to be the finest single example of scholarly research ever published by an American geographer.

Goodell, Jeff. *Big Coal: The Dirty Secret behind America' s Energy Future*. (Boston: A Mariner Book [Houghton Mifflin Company], 2006).

A topic very much of interest to environmental geographers in Montana at this time.

Gould, Peter, and Forrest R. Pitts, eds. *Geographical Voices*. Syracuse, New York: Syracuse University Press, 2002.

Essays by fourteen influential geographers provide timely examples of practical geographical scholarship and a useful antidote to "ivory tower" theories.

Graham, Brian, G. J. Ashworth, and J. E. Tunbridge. *A Geography of Heritage: Power, Culture, and Economy*. London: Arnold, 2000.

This book perhaps represents the first concerted attempt to integrate the study of heritage into contemporary human geography.

Greenberg, Andy. *This Machine Kills Secrets: How Wikileaks, Cypherpunks, and Hacktivists Aim to Free the World' s Information*. New York: Dutton, 2012.

The book discusses the decades-long struggle between openness and secrecy, anonymity and attribution. Greenberg provides firsthand accounts of the eccentric pioneers who are coding around censorship, repression, and even traditional law. In conveying geographical knowledge, it is important to distinguish between fact and narratives serving special interests. Many of the issues addressed in *This Machine Kills Secrets* arose through

narratives of threat. They are explored in Shane Harris, *The Watchers: The Rise of America's Surveillance State* (New York: Penguin Books, 2011).

Haggett, Peter. *The Geographer's Art*. Oxford: Blackwell Publishers, 1990.

Considers the purpose and practice of geography. Haggett describes the attractions, opportunities, and responsibilities of life as a geographer and addresses the basic questions facing the discipline.

Hardwick, Susan Wiley, and Donald G. Holtgrieve. *Geography for Educators: Standards, Themes, and Concepts*. Upper Saddle River, New Jersey: Prentice-Hall, 1996.

This is a useful volume for those wishing to enter the field of geographical education.

\*Harley, J. B., and David Woodward, eds. *The History of Cartography*. Chicago: The University of Chicago Press, 1987-.

Vol. 1 describes cartography in prehistoric, ancient, and medieval Europe and the Mediterranean. Vol. 2, bk. 1 explores cartography within indigenous Asian societies. Vol. 2, bk. 2 considers cartography within the indigenous societies of Africa, the Americas, Australia, and the Pacific. Vol. 3 is concerned with cartography during the Renaissance and Age of Discovery. Vol. 4 focusses upon cartography in the "age of science, enlightenment and expansion." Vol. 5 is devoted to the nineteenth century; Vol. 6 to the twentieth century.

\*Hartshorne, Richard. *The Nature of Geography: A Critical Survey of Current Thought in Light of the Past*. Lancaster, Pennsylvania: Association of American Geographers, 1939.

A critical survey of the changing concept of the nature of geography and those fields or sub-fields that it encompasses—in essence, the development of geographical methodology as interpreted by the author. The temporal span is from *ca.* 1750 to the date of publication. Special attention is devoted to the concept of landscape; geography as the study of areal differentiation of the earth's surface; and the relationship between geography and history. Exceptionally good treatment of European contributors to American geographical thought and of the principal individuals involved in directing the course of the discipline's "modern" evolution. Some geographers have taken exception to several of Hartshorne's somewhat dogmatic views. Nevertheless, the volume must be considered as a landmark contribution with which all professional geographers should be familiar.

A useful adjunct to the volume is J. Nicholas Entrikin and Stanley D. Brunn, eds., *Reflections on Richard Hartshorne's The Nature of Geography* (Washington: Association of American

Geographers, 1989).

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\_\_\_\_\_. *Perspective on the Nature of Geography*. Chicago Rand McNally for the Association of American Geographers, 1959.

Perhaps best described as being an update of Hartshorne's 1939 publication. A number of conceptual and methodological questions common to geographical enquiry are analyzed in light of recent trends and changing perspectives. Chief among these are (i) the meaning of "geography as the study of areal differentiation" and the "earth's surface," (ii) the question of dualism between physical and human geography, and (iii) the matter of geography as a science involved in the formulation of laws, as opposed to mere description.

Harvey, David. *The New Imperialism*. Oxford: Oxford University Press, 2003.

A political geography providing insight into current trends in U.S. foreign policy.

Herodotus *The Histories*

Herodotus provides valuable insights into geographical knowledge within the Greek and Persian territories of the eastern Mediterranean during the fifth century B.C.

Herrmann, Paul. *Conquest by Man*. Translated from the German by Michael Bullock. New York: Harper & Brothers, 1954.

An interesting, unconventional treatment of exploration and discovery by a German historian. It contains a good deal of information related to the minor-report topics.

Hinshaw, Robert E. *Living with Nature's Extremes: The Life of Gilbert Fowler White*. Boulder, Colorado: Johnson Books, 2006.

A thoughtful biography of Gilbert White, the "father" of natural-hazards research.

Hoggart, Keith, Loretta Lees, and Anna Davies. *Researching Human Geography*. London: Arnold, 2002.

This is a useful reference for students about to embark on a research project. An understanding of how different theories of knowledge have influenced research methodologies is of critical importance in planning and designing effective research.

Holt-Jensen, Arild. *Geography: Its History and Concepts*. Translated from Norwegian by Brian Fullerton. Totowa, New Jersey: Barnes & Noble, 1980.

A brief (around 170 pages) book written from the author's course notes and outline. Despite its brevity, it fills a major gap in the literature, and is very well written. Its chapters are devoted to (i) "What Is Geography?" (ii) "The Foundations of Scientific Geography" (the traditional historical approach including key individuals; conceptual positions, such as environmental determinism *vs.* possibilism and landscapes *vs.* regions; and developments in France and England), (iii) "Paradigms and Revolutions" (a thoughtful analysis of each of the major directions taken by geography in recent decades), (iv) "Positivist and Critical Science" (emphasis upon the various "-isms" within geographical thought), and (v) "Geography, A Discipline of Synthesis" (approaches to geographical research and the presentation of data; analysis and synthesis; explanation; &c.). An excellent source for trends and developments in geography.

Humboldt, Alexander von. *Cosmos: A Sketch of the Physical Description of the Universe*. Translated by E. C. Otté. 2 vols. Baltimore: The Johns Hopkins University Press, 1997.

Originally published in four volumes in the mid-1800s, *Cosmos* presents a critical survey of the state of scientific thinking. It also examines how various observers—poets, geographers, philosophers, painters, and others—have perceived nature throughout human history.

James, Preston E., and Clarence F. Jones, eds. *American Geography: Inventory and Prospect*. Syracuse, New York: Syracuse University Press, 1954.

This book, prepared under the auspices of the Association of American Geographers, has aptly been described as being "a progress report on the objectives and procedures of geographic research as of January, 1954." It is a collection of papers contributed by leading scholars, each writing on a major sub-field within geography, as they existed in the early 1950s. This volume represents our best "state-of-the-art" reference for mid-century geography in the United States, and is an invaluable aid to anyone involved in the study of the historical development of geographical sub-fields.

James, Preston E., and G. J. Martin. *The Association of American Geographers: The First Seventy-Five Years, 1904-1979*. Washington: Association of American Geographers, 1979.

A comprehensive history of the Association of American Geographers' first seventy-five years—including the rôles of key individuals, association programs, and the impact of the association upon the growth and development of geography in the United States.

Karan, P. P. and Cotton Mather. *Leaders in American Geography*. Vol. 2, *Research*. Mesilla, New

Mexico: The Geographical Society, 2000.

This book provides biographies of fifty-one American geographers who were identified as leaders in research through questionnaire survey. The biographies provide insights into individuals responsible for the development of American geography during the last 100 years.

Kean, John. *The Evolution of Geography*. London: Edward Stanford, 1899.

The development of geographical thought from the dawn of the historical period to the Age of Discovery. An excellent blending of conceptual developments and the key individuals with whom each is associated.

\*Kish, George, ed. *A Source Book in Geography*. Cambridge, Massachusetts: Harvard University Press, 1978.

The volume presents a panorama of geographical writings ranging in time and scope from the early Greeks to Humboldt and Ritter, and from the dawn of geographical thought in the West to the emergence of topical specialization. It includes a wealth of material from non-Western sources, particularly Moslem and Chinese, that has not been collected previously. An excellent companion reader. Principal limitation is the brevity of most entries.

Landels, J. G. *Engineering in the Ancient World*. New York: Barnes and Noble Books, 1978.

An excellent, somewhat technical treatment of science and technology in the ancient world. For our immediate purposes, this volume is of particular value for its discussions of ships and sea transport as well as land transport.

Leed, Eric J. *The Mind of the Traveler: From Gilgamesh to Global Tourism*. New York: Basic Books, 1991.

From *The Epic of Gilgamesh* to the age of mass tourism, travel has profoundly altered our sense of ourselves and our sense of the world. Leed explores the great travel traditions of the West: "heroic travel," as in the adventures of Odysseus and the chivalric exploits of medieval knights; "sacred travel," as in the holy pilgrimages of penance and purification; and "philosophical travel" in search of knowledge, whether social, as in Marco Polo's itineraries of the East, or scientific, as in Darwin's discoveries aboard the *Beagle*.

Lewis, Bernard. *The Muslim Discovery of Europe*. New York: W. W. Norton, 1982.

The Muslim world of the eleventh century was a great civilization, a center of art and science stretching from Spain to the Middle East, while Europe lay slumbering in the Dark Ages. The two worlds knew little of one another. Slowly, inevitably, however, Europe and Islam came together through trade and war, crusade and diplomacy. The Muslims began to take note of the Europeans and to write about them, to acquire information on languages, science, government, religion, and economics.

Limb, Melanie and Claire Dwyer. *Qualitative Methodologies for Geographers: Issues and Debates*. London: Arnold, 2001.

This book is a critical introduction to qualitative methodologies for those preparing to undertake their own qualitative research, or who need to better understand the processes to evaluate and interpret the geographical research of others. Qualitative research is becoming increasingly important in geographical research.

Livingstone, David N. *The Geographical Tradition: Episodes in the History of a Contested Enterprise*. Oxford, England: Blackwell Publishers, 1992.

Livingstone describes the activities of the explorers and map-makers of Renaissance and early modern Europe; the rôle of geography during the Scientific Revolution, Enlightenment, and the Darwinian Revolution; and interactions between geography and empire building in the nineteenth and early twentieth centuries. He provides an account of the trends, developments, and revolutions by which geography has emerged as a multi-faceted discipline offering unique and revealing perspectives upon a wide range of social and environmental issues.

Lowenthal, David and Martyn J. Bowden, eds. *Geographies of the Mind: Essays in Historical Geosophy*. New York: Oxford University Press, 1976.

The eight essays contained in this work explore the impact of environmental beliefs upon human thought and action, and ultimately upon the environment itself.

Lucretius *On the Nature of the Universe*

Lucretius (*ca.* 100-*ca.* 55 B.C.), a follower of Epicurus, explored the scientific attitudes of his time from a materialistic perspective.

Marsh, George Perkins. *Man and Nature; or, Physical Geography as Modified by Human Action*. New York: Charles Scribner, 1864.

*Man and Nature* was the first book to attack the American myth of the superabundance and inexhaustibility of the earth. It was the fountainhead of the conservation movement, and few books since have had such an influence on the way that humans view and use the land.

\*Martin, Geoffrey J. *All Possible Worlds: A History of Geographical Ideas*. 4<sup>th</sup> ed. New York: Oxford University Press, 2005.

Standard textbook and reference work in the United States for courses concerned with the evolution of geographical thought and method. An essential volume for the library of any serious student of geography. The first chapter is devoted to the nature and definition of geography. The remainder of the volume is divided into two sections: "Classical" (rather brief) and "Modern" (beginning with the nineteenth century). The overall balance of topic coverage is excellent. Geographical developments in Germany, France, Great Britain, the former Soviet Union, Canada, Sweden, and Japan are treated individually—as is the United States. The authors' analysis of developments in geography in the United States is highly detailed. Well indexed; excellent bibliography; useful thumbnail biographical sketches of individuals who have contributed to the growth and development of geographical thought since classical antiquity.

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\_\_\_\_\_. *Ellsworth Huntington: His Life and Thought*. Hamden, Connecticut: Archon Book, 1973.

A biography of an important American geographer.

Mitchell, Don. *Cultural Geography: A Critical Introduction*. Malden, Massachusetts: Blackwell Publishing, 2000.

This is an excellent contemporary critique of cultural geography.

Moore, Charles with Cassandra Phillips. *Plastic Ocean: How a Sea Captain's Chance Discovery Launched a Determined Quest to Save the Oceans*. New York: Avery, 2012.

Moore's research into plastics' invasiveness raises profound questions about the impact and implications of this man-made blight.

Murphey, Rhoads. *The Scope of Geography*. 2d ed. Chicago: Rand McNally College Publishing Company, 1973.

This volume identifies the concepts which occupy the core of geography, and that direct and

shape its investigations.

Nansen, Fridtjof. *In Northern Mists: Arctic Exploration in Early Times*. 2 vols. New York: Frederick A. Stokes Company, 1911.

A remarkable work focussing upon exploration and discovery from classical antiquity to the sixteenth century *A.D.* in the North Atlantic.

National Academy of Sciences-National Research Council. *The Science of Geography*. Washington: National Academy of Sciences-National Research Council, 1965.

A thoughtful assessment of the nature and status of geography in the 1960s. It provides a useful baseline for better understanding *Rediscovering Geography* (below).

\*National Research Council. *Rediscovering Geography: New Relevance for Science and Society*. Washington: National Academy Press, 1997.

*Rediscovering Geography* is the first comprehensive assessment of geography in the United States in almost thirty years. It provides a broad overview of the discipline, and shows how its perspectives and tools are being used by educators, business people, researchers, and policymakers to address a wide range of scientific problems and societal needs.

Nikiforuk, Andrew. *The Energy of Slaves: Oil and the New Servitude*. Vancouver: Greystone Books, 2012.

Societal dependence upon oil is usually discussed in economic terms. This book views our dependency through an ethical lens. Students focusing upon environmental geography would also find Nikiforuk's *Tar Sands: Dirty Oil and the Future of a Continent* (Vancouver: Greystone Books, 2010) to be of interest. The book is a critical exposé of the world's largest energy project, the Alberta tar (oil) sands.

Paglen, Trevor. *Blank Spots on the Map: The Dark Geography of the Pentagon's Secret World*. New York: Dutton, 2009.

*Blank Spots* is an important, well-researched, and insightful exposé that opens a window into the black world of secret operations. The author's doctorate in geography was conferred by the University of California at Berkeley in 2008.

Panikkar, K. M. *Geographical Factors in Indian History*. Mumbai: Bharatiya Vidya Bhavan,

1959.

Although influenced by European geographical thought, Panikkar's study provides interesting insights into Indian geographical perceptions.

Peet, Richard. *Modern Geographical Thought*. Oxford, England: Blackwell Publishers, 1998.

Peet looks in detail at the main trends in human geographical thought over the last thirty years, relating these to broader themes in philosophy and social theory. Beginning with existential phenomenology and humanistic geography, the book covers radical geography and Marxism, structuralism, structuration theory, realism, locality studies, various streams of post-structuralism and post-modernism, and feminism.

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\_\_\_\_\_ and Elaine Hartwick. *Theories of Development: Contentions, Arguments, Alternatives*. Second Edition. New York: The Guilford Press, 2009.

This book critically evaluates the leading theories of international economic development, from classical economic and sociological models to Marxist, poststructuralist, and feminist perspectives.

Ptolemy *Geography*

Claudius Ptolemæus (fl. A.D. 127-148), an Alexandrian geographer, wrote on mathematics, music, and astronomy, but is best known for his *Geography*, a work that strongly influenced geographical thought for centuries.

Pyne, Lydia V. and Stephen J. Pyne. *The Last Lost World: Ice Ages, Human Origins, and the Invention of the Pleistocene*. New York: Penguin Books, 2013.

*The Last Lost World* is a book about the earth's history and how we make that history. It explores the Pleistocene Epoch as both an age in geological time and as a cultural idea about the human past.

Pyne, Stephen J. *Fire: A Brief History*. Seattle: University of Washington Press, 2001.

Pyne describes the great impact that fire has had in shaping landscapes, flora, and fauna all over the world, and how in the Pleistocene humans joined forces with fire by learning to manipulate it.

Royal Geographical Society. *Oxford Atlas of Exploration*. Second Edition. New York: Oxford University Press, 2008.

The atlas begins with the earliest recorded journeys of exploration in Eurasia and Africa, and ranges from the time of the Phoenicians' voyages in the Atlantic and Egyptians' travels in the Arabian Sea to the deep ocean explorations of today. In each section, the main routes of explorers are depicted, while photographs, paintings, and engravings portray the terrain through which the explorers passed. Also included are maps from different historical periods which reveal cartographers' growing knowledge of the shape of the world's continents and oceans. The final section of the atlas contains biographical details of many of the explorers.

Sant, Morgan. *Applied Geography: Practice, Problems and Prospects*. New York: Longman Group, 1982.

Sant examines the fundamental rôle of the applied aspects of geographical work—the practical value of theory and analysis in the management of physical and human landscapes.

Sarton, George. *A History of Science*. 2 vols. Cambridge, Massachusetts: Harvard University Press, 1952, 1959.

A history of scientific philosophies, discoveries, inventions, and innovations in the Western World. Detailed coverage is given to key individuals (for example, Plato, Socrates, Eratosthenes, and Darwin); major centers of innovation (Mesopotamia, the Ægean, Egypt, &c.); and major disciplines (for example, geography, medicine, astronomy, and mathematics). An excellent index allows the volumes to be used with the ease of an encyclopædia.

Sauer, Carl Ortwin. *Land and Life: A Selection from the Writings of Carl Ortwin Sauer*. Edited by John Leighly. Berkeley: University of California Press, 1965.

This book contains nineteen previously published essays organized in five categories: The Midland Frontier; The Southwest and Mexico; Human Uses of the Organic World; The Farther Reaches of Human Time; and The Pursuit of Learning. It contains a listing of Sauer's works published between 1915 and 1962.

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\_\_\_\_\_. *Selected Essays 1963-1975*. Berkeley, California: Turtle Island Foundation, 1981.

This book contains seventeen essays in five categories: Agriculture and the American Colonial Frontier; Culture Origins; The Road Back to Mexico; The American Historical

Geographer; and *The Agency of Man on the Earth*. It also includes a useful listing of Sauer's works in print.

Schwartz, Stuart B. *Implicit Understandings: Observing, Reporting, and Reflecting on the Encounters between Europeans and Other Peoples in the Early Modern Era*. Cambridge: Cambridge University Press, 1994.

This volume brings together the work of twenty historians, anthropologists, and literary scholars in an examination of the nature of encounters between Europeans and other peoples of the world from 1450 to 1800. Part I is concerned with European perceptions of others in the Late Middle Ages; Part II discusses Europeans from the perspectives of other peoples; Part III explores adjustments to the encounters; Part IV is concerned with "Observers Observed: Reflections on Encounters in the Age of Captain Cook."

Schaeffer, Robert K. *Understanding Globalization: The Social Consequences of Political, Economic, and Environmental Change*. 4<sup>th</sup> Edition. Lanham, Maryland: Rowman & Littlefield, 2009.

This is an excellent resource for students interested in the nature and implications of "globalization."

Sheppard, Eric, Philip W. Porter, David R. Faust, and Richa Nagar. *A World of Difference: Encountering and Contesting Development*. Second Edition. New York: The Guilford Press, 2009.

Widely regarded as the authoritative text on development geography, this volume examines the nature and causes of global inequality and critically analyzes contemporary approaches to economic development across the third world.

\*Speck, Gordon. *Myths and New World Explorations*. Fairfield, Washington: Ye Galleon Press, 1979.

An excellent source of information regarding the various myths and traveller's tales that encouraged New World exploration: Atlantis, the Fountain of Youth, the Amazons, the Gilded Man, the Seven Cities, Quivira, the Strait of Anian, and many others. Speck also provides critical portraits of prominent explorers—including Gonzalo Jimenez de Quesada, Francisco Vasquez Coronado, Hernando De Soto, Ferdinand Magellan, Sebastian Cabot, Henry Hudson, and several others.

Spilhaus, M. Whiting. *The Background of Geography*. London: George G. Harrap & Company, 1935.

A splendid summary of the growth of geographical knowledge from earliest times through the end of the nineteenth century.

Steiner, Frederick. *Design for a Vulnerable Planet*. Austin: University of Texas Press, 2011.

Steiner encourages designers and planners to go beyond traditional concepts of sustainability toward innovative new design that fosters regeneration and resilience.

Strabo *The Geography of Strabo*

Strabo (ca. 63 B.C.-A.D. 21), a geographer from Pontus on the Black Sea, travelled widely in Asia Minor, Egypt, and Rome. He was strongly influenced by Eratosthenes. In addition to describing the human geography of the eastern Mediterranean, Strabo discusses the importance of geography as a branch of scientific enquiry.

Sutton, Mark Q. and E. N. Anderson. *Introduction to Cultural Ecology*. Third Edition. Lanham, Maryland: AltaMira Press, 2014.

This book discusses how peoples and cultures respond to environmental issues around the world and across human history.

Taylor, E. Griffith, ed. *Geography in the Twentieth Century*. New York: Philosophical Library, 1951.

A collection of articles by noted geographers. Part I of the volume is devoted to the founding of geography and the various "schools" of geographical thought that emerged in Europe—including a detailed analysis of "Environmentalism and Possibilism." Part II is devoted to "The Environment as a Factor," and contains chapters on geomorphology, meteorology, climatic influences, soils, settlement, the Arctic, Antarctica, the tropics, regionalism, and land-use surveys. Part III, "Special Fields of Geography," is devoted to each of twelve specialized fields of geography. An undertone of environmentalism permeates the volume, thereby making it an excellent source of attitudes and beliefs associated with this philosophical position. It also contributes valuable insights into mid-century British geography, its various sub-fields, and the writings of many leading figures of the time. Particularly unusual chapters would include: "The West Slav Geographers" by J. Král and J. Kondracki; "Settlement by the Modern Pioneer" by Isaiah Bowman; "Geography as a Practical Subject" by D. F. Putnam;

"Geography and Empire" by Charles B. Fawcett; "Racial Geography" by Griffith Taylor; "Geography and Aviation" by Ellsworth Huntington; "Geopolitics and Geopacitics" by Griffith Taylor; and the landmark study in historical geography, "The Relations of Geography and History," by H. C. Darby.

Thomas, William L., Jr., ed. *Man's Role in Changing the Face of the Earth*. Chicago: The University of Chicago Press, 1956.

*Man's Role* includes more than sixty contributions by internationally recognized scholars concerned with human agency in environmental change. Few books have more significantly influenced geographical thought.

Thomson, James Oliver. *History of Ancient Geography*. Cambridge: Cambridge University Press, 1948.

Focuses chiefly upon the geographical contributions of the Greeks and Romans, though an opening chapter is reserved for their predecessors. Presentation is arranged chronologically in four sections, the development of each being further divided on a regional basis. The culminating chapter in each section surveys the theoretical contributions of each period. Notes are abundant throughout, though the index is brief and there is no formal bibliography. The treatment of topics in the theoretical chapters is extensive, both in the description of particular contributions and their ramifications.

\*Tozer, Henry F. *A History of Ancient Geography*. 2d ed. Cambridge: Cambridge University Press, 1935; reprinted; New York: Biblio and Tannen, 1964.

A summary of E. H. Bunbury's comprehensive two volume work updated to include new information, viewpoints, and trends based upon developments occurring during the final three decades of the nineteenth century (the first edition was published in 1897). Major improvements are those pertaining to the understanding of early Mediterranean contributions to geographical thought.

Urbanik, Julie. *Placing Animals: An Introduction to the Geography of Human-Animal Relations*. Lanham, Maryland: Rowman & Littlefield Publishers, 2012.

The book surveys the ways in which animals have been studied in geography—including an historical overview of the development of animal geography and an assessment of the field today.

Wade, Nicholas. *Before the Dawn: Recovering the Lost History of Our Ancestors*. New York: Penguin, 2006.

A particularly useful primer on cultural evolution.

Warmington, E. H. *Library of Greek Thought: Greek Geography*. London: J. M. Dent & Sons, 1934.

A four-part summary of Greek knowledge and attitudes relating to geographical phenomena. Part I considers cosmology and concepts of climatology, geology, physical geography, and the dawn of scientific geography. Part II focusses upon climatology, physical geography, and political geography. Part III deals with exploration and the growth of knowledge, as well as descriptive or topographic geography. Part IV stresses mathematics.

Warntz, William. *Geography Now and Then*. New York: American Geographical Society, 1964.

Emphasis is upon the history of academic geography in the United States from the mid-nineteenth century to the date of publication. The book's greatest contribution is its information and analysis pertaining to geography in higher education in this country.

Williams, Michael. *Deforesting the Earth: From Prehistory to Global Crisis*. Chicago: The University of Chicago Press, 2002.

Williams is an emeritus professor of geography at the University of Oxford. He has written the most sweeping history and geography of deforestation available.

Woodwell, George M., ed. *The Role of Terrestrial Vegetation in the Global Carbon Cycle*. New York: John Wiley & Sons, 1984.

This book examines the rôle of remote sensing in measuring changes in terrestrial vegetation that are significant in the global carbon cycle.

Wright, John Kirtland. *The Geographical Lore of the Time of the Crusades*. New York: American Geographical Society, 1925.

Wright assesses the status of geographical thought, concepts, knowledge, and accomplishments at the end of the Medieval Period of Western Civilization. Information was drawn from a broad range of sources: imagination and hypothesis; cosmological speculation, astrological concepts; religious dogma; traditional beliefs; and the observations of travellers. The first five chapters provide an outline of the influence of classical, Oriental, and Biblical

ideas upon medieval European geography; a review of literary and cartographic sources; and a view of the place of geography in learning. Concluding sections include topical and regional surveys of the geographical lore and knowledge of the period.

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\_\_\_\_\_. *Geography in the Making: The American Geographical Society, 1851-1951*. New York: American Geographical Society, 1952.

Essentially a history of the American Geographical Society, published upon the occasion of its centennial anniversary. The accomplishments of the society and its members are highlighted, with an emphasis upon their rôle in influencing the growth and development of geographical research and teaching in this country.

\*On two-day reserve in the Mansfield Library

Homer ( <i>ca.</i> 900 B.C.)	_____
Hecataeus ( <i>ca.</i> 550- <i>ca.</i> 475 B.C.)	_____
Yü (fifth century B.C.)	Gritzner
Herodotus ( <i>ca.</i> 484-425 B.C.)	_____
Plato (428-348 B.C.)	_____
Aristotle (384-322 B.C.)	_____
Alexander of Macedon (356-323 B.C.)	_____
Eratosthenes of Cyrene ( <i>fl.</i> 220 B.C.)	_____
Ch'ien Chang (2nd century B.C.)	_____
Strabo ( <i>ca.</i> 64 B.C.- <i>A.D.</i> 20)	_____
Ptolemy ( <i>A.D.</i> 90-168)	_____
Geographical Knowledge at the Time of the Crusades	_____
Pre-Columbian New World Contacts	_____
Muslim Contributions—Including Discussion of the Accomplishments of al-Idrisi (1099-1154), Ibn Battuta (1304-1368), and Ibn Khaldun (1332-1406)	_____
Opening of the Orient—Including Discussion of Marco Polo (1254-1323), &c.	_____
Prince Henry ("The Navigator") of Portugal (1394-1460)	_____
Christopher Columbus (1451-1506)	_____
Sixteenth Century Cartography—Including discussion of Martin	_____

Waldseemüller (1470-1518), Gerardus Mercator (1512-1594),  
and Abraham Ortelius (1527-1598)

Francis Drake (1540-1596)

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Richard Hakluyt (*ca.* 1552-1616)

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Samuel de Champlain (1567-1635)

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Bernhardus Varenius (1622-1650)

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Georges-Louis Leclerc de Buffon (1707-1788)

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Immanuel Kant (1724-1804)

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James Cook (1728-1779)

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Jedidiah Morse (1761-1826)

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Alexander Mackenzie (1763-1820)

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Alexander von Humboldt (1769-1859)

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Peter Fidler (1769-1822)

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David Thompson (1770-1857)

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Carl Ritter (1779-1859)

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Mary Somerville (1780-1872)

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Johann Heinrich Von Thünen (1783-1850)

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George Perkins Marsh (1801-1882)

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Jean Louis Rodolphe Agassiz (1807-1873)

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Charles Darwin (1809-1882)

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John Charles Frémont (1813-1890)

---

John Wesley Powell (1834-1902)

---

Friedrich Ratzel (1844-1904)

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Paul Vidal de la Blache (1845-1918)

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William Morris Davis (1850-1934)

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Fridtjof Nansen (1861-1930)

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Mark Jefferson (1863-1949)

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Ellen Churchill Semple (1863-1932)

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Naomasa Yamasaki (1870-1929)

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Joseph Russell Smith (1874-1966)

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Ellsworth Huntington (1876-1947)

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Isaiah Bowman (1878-1950)

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Carl O. Sauer (1889-1975)

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John K. Wright (1891-1969)

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Richard Hartshorne (1899-1992)

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Hans Bobek (1903-1990)

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Clarence J. Glacken (1909-1989)

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John Brinckerhoff Jackson (1909-1996)

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Gilbert F. White (1911-2006)

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George Francis Carter (1912-2004)

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Jean Gottmann (1915-1994)

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Torsten Hägerstrand (1916-2004)

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Paul Wheatly (1921-1999)

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Marvin W. Mikesell (b. 1930)

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Yi-Fu Tuan (b. 1930)

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William M. Denevan (b. 1931)

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Karl W. Butzer (b. 1934)

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David Harvey (b.1935)

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Anne Buttimer (b. 1938)

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Claudia J. Carr (b. 1943)

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Billie L. Turner II (b. 1945)

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Advances in Geographical Technology (from 1950)

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**Proposed Topics for Minor Reports**

The "Land of Punt" (fourth millennium B.C.)	Gritzner
The Cassiterides ("Tin Islands") and Electrides ("Amber Islands") several millennia B.C.)	_____
Red Sea Canals (to the Nile) ( <i>ca.</i> 1900 B.C.- <i>A.D.</i> 98)	_____
Atlas ( <i>ca.</i> 900 B.C.)	_____
King Necho (Egypt) and the Circumnavigation of Africa (609-594 B.C.)	_____
The Silk Road	_____
"Mountains of the Moon" ( <i>ca.</i> 500 B.C.- <i>A.D.</i> 1900s)	_____
The "Seven Seas" (and other enumerations of seven) ( <i>ca.</i> 500 B.C. to the present)	_____
"Amazons" ( <i>ca.</i> 900 B.C.- <i>A.D.</i> 1700s)	_____

Concept of Spherical Earth ( <i>ca.</i> 500 B.C. to <i>A.D.</i> 1500)	_____
The "Lost Continent of Atlantis" (third century B.C.)	_____
"Australis," the Southern Continent (third century B.C.-eighteenth century <i>A.D.</i> )	_____
The "Four Quarters of the Earth" (second century B.C.)	_____
Thule ( <i>ca.</i> 325 B.C. to the era of Arctic exploration)	_____
"T-O" Maps ("Dark Ages")	_____
Lop Nor, the "Wandering Lake" (second century B.C.-nineteenth century <i>A.D.</i> )	_____
Silvia of Aquitaine (4 <sup>th</sup> century <i>A.D.</i> )	_____
The Norse Greenland Colonies (est. <i>A.D.</i> 986)	_____
Prester John ( <i>ca.</i> tenth to fifteenth centuries <i>A.D.</i> )	_____
Polynesian Navigation	_____
Technical Means of Reckoning Navigational Location (antiquity to the Age of Discovery)	_____
Horse Latitudes and the Sargasso Sea (sixteenth and seventeenth centuries <i>A.D.</i> )	_____
The Maelstrom (sixteenth century <i>A.D.</i> )	_____
Mythical Islands of the Atlantic (antiquity through the Age of Discovery)	_____
Chinese New World Contacts Prior to Columbus	_____
Timbuktu (myth and reality)	_____

Lure of the Fantastic (Seven Cities of Gold, El Dorado, the Fountain of Youth, &c.) \_\_\_\_\_

The Journey of Moncacht-Apé (ca. 1700) \_\_\_\_\_

Concluding Columbus' Mission (Northwest Passage, Strait of Anian, River of the West, &c.) \_\_\_\_\_

The Fur Trade Prior to Lewis and Clark \_\_\_\_\_

John Tanner (The Falcon) \_\_\_\_\_

Women in Exploration \_\_\_\_\_

Sacajewa (Lewis and Clark Expedition) \_\_\_\_\_

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