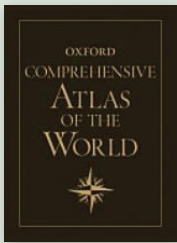


each decade by concretely demonstrating its vitally important role to the American economy, society, and culture.



OXFORD COMPREHENSIVE ATLAS OF THE WORLD

Oxford, UK: Oxford University Press, 2008.
584 pages. \$250.00, hardcover.

ISBN: 978-0195374797

Review by: Fritz C. Kessler,
Frostburg State University

In a time of “this and that” web deliverables, it is refreshing to be able to hold something tangible in your hands and leaf through 584 pages of heavy weight glossy paper. Personally, I would get very little satisfaction trying to pore over this atlas on my 18.5 inch flat panel screen, and I suspect many of you would too. Richly bound in black leather wrap, complete with three brilliant red ribbon markers and gold gilded page edges, it also makes quite a stunning visual impression. Yes, it is pleasurable to see and hold the likes of the *Oxford Comprehensive Atlas of the World*—all 13.6 pounds of it. This massive atlas, measuring 15.6 x 11.9 x 2.1 inches, seems to hark back to an earlier time when world atlases in book form were lavish productions that represented a stylistic approach to presenting Earth in all its geographic complexities.

The world journey begins just inside the front and back covers with helpful index maps. Inside the front cover is a double-page spread map of the world titled *Key to World Map Pages* employing a cylindrical projection (most likely the Miller). A medium dark tan fill is used to separate the landmasses from the light cyan ocean fill. Land-water contrast is further emphasized by a medium brown coastline vignette. Boxes of various sizes appear on the world map outlining the extent of the maps within the atlas. A color-coded number attached to each box points the user to the page where the map can be viewed. Red, blue, or green numbers indicate, respectively, the three different scale classes used throughout the atlas: greater than 1:2,900,000, between 1:3,000,000 to 1:7,000,000, and less than 1:7,100,000. Selected world cities and various islands are also shown on the world map along with the page numbers for their reference map. Inside the front cover, one finds explanations of symbols and type for both the city and world maps. Finally, the color tints associated with elevations and bathymetry are clearly shown. Inside the back cover is a double page spread of two maps titled “Key to North America Map Pages” and “Key to Europe Map Pages. The same color-coded box system and city/island designation found on the front end paper is also used in the back. An azimuthal projection is used for the North America map while a cylindrical projection

is the base for the Europe map. Along the bottom of both cover pages, a convenient alphabetized index of countries, islands, states/provinces, and cities indicate the page number(s) for each location listed.

After the foreword is a one-page “User Guide.” Topics discussed in this guide include Map Sequence, Map Presentation, Map Symbols, Map Scales, Measuring Distances, Map Projections, Latitude and Longitude, and Name Forms. This guide serves the reader in two ways. First, it explains various cartographic concepts in which the user may not be fully versed. Second, the guide explains the logic governing the decision making process that the publisher went through in laying out this atlas. For instance, the guide states that the atlas includes reference maps that were compiled “in accordance with the highest standards of international cartography to provide an accurate and detailed representation of the Earth” (p. 3). That being stated, the guide proceeds to inform the reader that the maps are presented in a “classic arrangement adopted by most cartographers since the 16th century” (p. 3). That is, maps of Europe are presented first followed by maps of Asia, Africa, Australia and Oceania, then North and South America. Furthermore, under Map Sequence, a reference map is shown with a bright red line that starts in Iceland and meanders throughout Earth’s landmasses terminating at the Falkland Islands that illustrates the sequence in which the maps are presented in the atlas.

Following the “User Guide,” “Contents” covers four pages, artistically presented over the backdrop of global maps. Sections include “World Statistics,” “Images of Earth,” “World Geography,” “World Cities,” and “Oceans.” The three remaining pages list the world and regional maps with the additional information of the principal scale at which each map was compiled. The scale information provides specifics not included in the front cover map index.

The *Atlas of the World* (hereafter, the *Atlas*) begins with “World Statistics.” The tabular Countries and Cities data, printed on a backdrop of an urban landscape, includes land area (kilometers² and miles²), population totals, and annual income (in USD equivalent) for individual countries, and population totals for principal cities. The Tabular Climate data, printed on a backdrop of hurricane cloud imagery, presents average monthly temperature (degrees Celsius) and rainfall (millimeters) for approximately 90 world cities. The remaining pages in this section show eight shaded relief maps of elevation and bathymetry cast on large orthographic projections, illustrating the world in various hemispheric views. These maps are intended to locate various Earth physical and human extremities (for example, highest mountain, longest river, most populous city, and greatest economic wealth). Each map includes tables presenting the same extremes; listing, for example, the 10 least populous countries. In addition to pinpointing the location of a

selected extremity, flag(s) of the country(ies) of reference are also shown.

“Images of Earth” includes satellite imagery of fourteen world cities and one delta region. Contrasting images of Greenland’s Helheim Glacier and the Arctic ice sheet are also provided. All the imagery is presented in natural color, and associated with each image is a short textual description of the scene highlighting important features or attributes of the area. The satellite images were provided by NAP Group, but little other information about the imagery specifics is given. According to the NAP Group website (www.napgroup.com), they are only processors and distributors of satellite imagery, and the site lists numerous government and private sources from which they acquire satellite data.

A detailed visual exhibition of physical and human geography comes next in “World Geography.” Each of the 27 included topics is given a two-page spread incorporating a multitude of informational methods. The astronomical topics (Universe, Stars and Constellations, Solar System, Moon, and Earth) employ satellite images, star charts, planetary data, NASA mission information, and graphics. More earthly and traditional atlas topics follow: Surface Geology, Landforms, Oceans, Atmosphere and Weather, Climate, Water and Vegetation, Population, Languages and Religion, Food Production, Minerals, Energy, Trade and Wealth, and Standards of Living. These present data on such topics as continental drift, ocean currents, monsoons, and annual sediment yield, using artistic renditions, climographs, digital elevation models, and choropleth maps. The atlas also includes contemporary topics such as Climate Change and Global Warming, Biodiversity, International Organizations, Conflict, Globalization, Health, and Travel and Tourism that report on issues such as carbon dioxide emissions, totals of endemic species, numbers of refugees, and descriptions of organizations through text, pie charts, photographs, bar graphs, and flow maps.

The primary cartographic component of the *Atlas* begins with maps of 88 world cities. The maps are arranged alphabetically with one to four maps per page. The city maps take on a familiar design using pastel hues that show roads, rail lines, urban areas, woodlands, points of interests, airports, and individual important buildings. There are plenty of labels identifying the various features mapped. Each city map is drawn at a different scale, but is accompanied by individual scale bars (in both miles and kilometers). A map inset positions each city within its country or state.

Although all five oceans are included in “Oceans,” the Atlantic and Pacific Oceans are each given a two-page spread. A sequential blue color scheme represents bathymetry, while a spectral color scheme illustrates topography. Basins, plains, rises, and ridges are labeled along with trenches and fracture zones.

Continental, regional, and country maps comprise the meat of the *Atlas*. The maps take on a traditional format in terms of their geographic organization (in order, the divisions are World, Europe, Asia, Africa, Oceania, North America, and South America). Each geographic area is presented in the same template. A natural satellite image cast on an orthographic projection (in the tradition of Richard Edes Harrison) introduces each section. There follows a physical and political map of each continent/region, and then maps of the individual countries/regions. In the World division, each physical map is matched with an elevation/bathymetric cross-section along 40° N. Each political map is accompanied by eight smaller world maps, with oblique azimuthal equidistant projections, showing distances from the center. In the remaining divisions, each physical map shows major rivers, waterbodies, and landforms, while country boundaries, capital cities, major cities, and major rivers are shown on the political map. Both types of maps show topography and bathymetry. The ensuing individual country/region maps include shaded relief, bathymetry, rivers, water bodies, cities, airports, and a graticule. A scale bar, representative fraction, inset map, page references to adjoining maps, and a color legend for the topography and bathymetry are included with each map.

A two-page “Geographical Glossary” follows the cartographic presentation. The glossary presents a listing of non-English geographical terms along with the country of origin and English translation (for example, Hon Vietnamese island). The *Atlas* concludes with the lengthy “Index to World Maps.” This index, which is set using what appears to be approximately 6-point type and divided into six columns per page, spans pages 435 to 584 (almost one-fifth of the book; which is to be expected given the scope of this atlas). Each entry provides latitude and longitude, page number, and map grid location.

While leafing through the atlas, one finds many impressive touches. Certainly, the larger satellite images captivate one’s attention, drawing the viewer in to carefully study the landscape complexity and the details contained within the richly hued patterns. “World Geography” presents detailed information on a diversified subject matter in a way that mimics the presentation found in human or physical geography textbooks. Page after page of colored graphics, diagrams, artistic renderings, colorful maps, concise but informative textual descriptions (and, where appropriate, pictures) draw your attention to this section for a better look. Included in this section is a plethora of multivariate pie charts and bar graphs that buttress the information content of each topic. Numerous tables reporting informative data populate each topical section. While I did see one example of a cartogram showing world population and a handful of flow maps, it is the choropleth map that dominates the thematic symbolization presentation of data with their saturated

hues. In many cases, four or five choropleth maps accompany each section's two-page spread. Most maps use the Winkel Tripel modified azimuthal projection. However, there are other projections employed throughout this section, most of which unfortunately are unnamed. The ones that I was able to visually identify include the Mercator, Miller, Plate Carrée, Eckert IV, and interrupted Mollweide. In short, this visual complexity helps to accentuate the diversity of topics and themes to which Earth's inhabitants have to manage. The "World Map" section presents a complete inventory of the world at scales large enough to be useful to the reader. Individual section map scales range from approximately 1:770,000 to 1:26,000,000, a breadth of range that solves a number of problems experienced by other atlases. With many smaller atlases, the map scale must be compromised, calling into question the utility of the maps. Another benefit from the large format of this atlas is the number of labels appearing on the individual maps. Wise use of different type sizes and styles creates a clear visual hierarchy. Possibly one of the greater design accomplishments of this atlas has to be the way in which a double-page spread is visually matched at the gutter. In some lesser-quality atlases where a double page-spread is found, much of the information that crosses the gutter is lost. Not so with this atlas, as there is just enough shifting of the map or image as to make all of the information visually available.

The main points of contention I take with the atlas concern the often poor overall map design, which makes reading the labels difficult (especially for older eyes) and creates an overly dismal feel to the maps. First, poor choices were made with the color values used for the shaded relief on the individual country/region maps. On most of these maps the relief is simply too dark. The relief shades progress from light green to pale yellow to an orange-brown hue, ending in a saturated purple. The dark brown and purple of the highest elevations causes the greatest difficulty when reading the labels (e.g., Southwest Asia, pp. 266–267). The inclusion of a light halo around each letter does little to alleviate the difficulty in reading the labels. Using a screened shaded relief in order to create a lighter progression of hues would have increased the visual contrast and promoted label readability. A similar problem exists with the individual United States state maps. The state in focus uses the same hue progression as the country/region maps but the surrounding states are shaded in a grayish brown. The overall effect gives the maps an unnecessarily gloomy feel. The problem is especially prevalent in maps of states with low relief (e.g., Ohio, p. 374). The somber shaded relief coupled with the choice of red to represent the roads and county boundaries (which are difficult to distinguish), creates maps that are depressing to view.

Second, the symbolization often interferes with text readability. Again, on the individual United States state maps, a thin diagonal-line fill is used to represent

administrative boundaries such as national forests. This diagonal-line fill is most troublesome on the western states like Arizona (p. 360) where the dark brown color sequence used for the higher elevations creates poor visual contrast. Yet on the country and regional maps, the administrative areas are outlined without any interior diagonal-line fill (e.g., Southern British Columbia, p. 328), an approach that makes the areas laborious to find. Changing the outline colors so that they do not fall within the shaded relief color scheme would ease the situation, although, as already mentioned, lightening the overall shaded relief sequence would diminish the conflict.

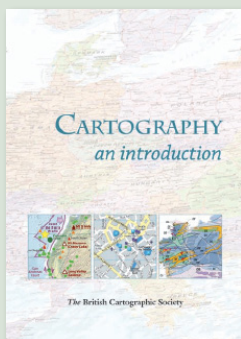
Third, in the World Geography section, there are several instances where flow maps are aptly used, but the choice of map projection is wholly inappropriate. For example, the World Migration flow map (p. 70) inappropriately casts the data on an interrupted Mollweide projection. This approach creates conceptual difficulties for the naïve map reader in two ways; first, the flow lines arc beyond the projection's boundary, and second, the flow lines jump across the interruptions. A non-interrupted projection could have kept the flow lines completely within the map, lessening confusion and thus aiding the map reader in interpreting the flow lines. The World Air Travel and Tourist Destinations flow maps (pp. 90–91) use a different interrupted projection, and as a result share a similar problem, albeit to a lesser extent, as the flow lines do not extend beyond the projection's boundaries to the degree as seen on page 70. Despite these difficulties, the air travel and tourist destination maps successfully force the user to view the world from a non-traditional perspective.

There are a few petty criticisms I found with the *Atlas*. In the "User Guide," the Map Sequence line should have started in Greenland instead of Iceland (p. 3) as this is the order in which geographical topics are presented. In "World Statistics," the shaded relief color sequence for the maps do not follow the Elevation and Depth Tint key found inside the front cover, and no substitute key is offered (pp. 12–19). In "Images of Earth," the satellite images of the Helheim Glacier, Greenland, are temporally reversed from what the caption indicates (p. 36).

Within "World Geography," there is an issue of consistency in the map presentation. For instance, the application of map borders is inconsistent. Most maps are displayed within a border (e.g., p. 72) while a few maps appear to be floating on the page without borders (e.g., p. 71). In a similar fashion, the inclusion of the graticule is not consistent. Some maps show the Prime Meridian and the equator using easily identifiable lines cast in a cyan hue (p. 74) while on other maps both or only one of the lines is barely visible (p. 87). Antarctica's presence on many maps is unpredictable. It appears as if Antarctica is included in the Winkel Tripel (p. 59) but is

absent on other map projections (p. 63). The positioning of some maps inside their border in this section is unbalanced. Some map borders are tight along the west-east extent, but spacious along the north-south extent (p. 78). For other maps, this juxtaposition is reversed with the map border tight against the north-south coastline with extra space between the west-east coastline (p. 78).

In summary, this atlas will serve map libraries and other institutional settings best where there is a range of user curiosity about the nature of Earth's geographic phenomena. An individual, however, would have to give considerable thought as to whether or not to purchase this atlas. Aside from its cost, one has to reconcile the fact that most of the data that is presented in this atlas is available via the web. Its size and weight practically eliminates portability. Conversely, while you may be able to find the *data* on the web, you are not going to find it assembled together in such an artful, creative, and visually impressive way. Yes, there are issues with the map design. But, with a massive research and compilation undertaking such as this, perfection is largely fleeting. The bottom line is: if you are someone who needs the most recent and timely statistic, craves the ability to query and click, and salivates at the latest techno-whiz-bang web app for your geographic pleasure, then this atlas is obviously not for you. If, on the other hand, you cherish the laborious construction involved in compiling a world atlas, luxuriate in the lavish feel of glossy paper between your thumb and forefinger, enjoy casually leafing through large format pages, and marvel at the wonderment that unfolds before your eyes, then this atlas should be on your short list.



CARTOGRAPHY: AN INTRODUCTION

By Giles Darkes and Mary Spence.

London: The British Cartographic Society, 2008. 64 pages, maps, figures. £4.99 (about US \$7.99), softcover.

ISBN: 978-0904482232

Review by: Trudy Suchan

The British Cartographic Society published this little book because they were "... convinced that with a little knowledge of cartography a map's message can be communicated much better" (Foreword, p. 5). How little is the book? The maps and illustrations are postage-stamp sized. Does it impart a little knowledge? Much more than that. All of the basics are here—scale, projections, generalization, symbolization, classification, color, text, legends, and marginalia. The authors encapsulate the evolution of cartography in three pages, including space for six illustrations. They emphasize the importance of knowing

the audience of and purpose for a map, and they introduce concepts of data quality and map quality.

The book is written for the lay mapmaker. The text is punctuated vigorously with exclamation marks and speaks directly, even casually, to the reader: "Maps which don't work are often unclear, imprecise and inefficient! ...But don't worry, we hope some of the ideas and issues in cartography explained in this booklet will help you to design a better map" (p. 9). If the explanations seem too long winded, we are assured that "The impatient or harried can immediately refer to [the chapter] Better Mapping in 5, 15 and 50 Minutes" (p. 60).

In its appeal to the lay audience, the book employs visual design gambits from other media: the running page footer is reminiscent of a TV news screen crawl, while the "did you know...?" balloons and useful tip boxes would be pop-up text in an online guide. Typically, unfamiliar terms and acronyms should be defined at first use, but the GIS acronym is used at the top of page 8, expanded to "Geographical Information Systems (GIS)" at bottom of page 8, and is at last defined on page 21. Similarly, cartograms are referred to on page 8, defined on page 15, and finally illustrated on page 33. I would guess that these rules were waived in the name of non-technical, breezy writing, but it is perhaps a little too breezy for an introduction.

One strength of the book is the variety of maps shown. There are snippets of antique maps, political maps from contemporary world atlases, navigation charts, geological maps, Ordnance Survey maps, a subway map, a walking map, and imagery; all are miniaturized nicely. In addition, the second author enriched the book with numerous contributed illustrations; most notably, a 4 x 8 cm cartogram of population for the world.

Organizing the technical and conceptual body of topics in such a short volume must have been a challenge. The authors developed five sections: "An Introduction to Cartography," "Some Map Basics, Issues in Producing Good Maps," "Designing Better Maps," and the two-page "Tips for Improving Your Maps." Separating basic precepts from design forced some artificial breaks in the flow of information about certain topics, for example, color, symbolization, and GIS technology. But even that separation is not clean; conceptual content (know your audience, what makes for good map design, integrity in data representation) is found in the midst of technical topics. Still, in 64 pages, it's easy enough to find all that the book has to offer on a given topic.

In summation, the maps and illustrations are notable, and the book content is up-to-date and satisfyingly complete. The price is so reasonable that I would buy several; one to keep and one to lend, but over-40 readers should factor in the cost of a magnifier.