Reviews

Thoughts on Two New Map Design Texts

Designing Better Maps : A Guide for GIS Users
By Cynthia Brewer
ESRI Press, 2005.

Making MAPS: A Visual Guide to Map Design for GIS
By John Krygier and Dennis Wood
Guildford Press, 2005.

Reviewed by Peter Keller
University of Victoria

Introduction

These are not dull times for those interested in cartographic design and communication. Advances in digital information visualization are creating exciting opportunities for innovations in communication, including the practice of map design and geo-visualization. The advent of initiatives like MapQuest Maps [http://www.mapquest.com/maps/], Google Earth [http://earth.google.com/] or ESRI's mapping modules [http://www.esri.com/products.html] remind us that there exist powerful and highly motivated commercial interests advancing the cartographic status quo. Those of us who have an academic interest in cartographic communication and design are caught in a dilemma about how to respond.

On the one hand, we all wish to participate in the cartographic agendas of commercial giants like ESRI, Google Earth and Map Quest. We want to help shape their product development by contributing our long-standing knowledge of excellence in cartographic design and communication, and we would like to play an active part in the cartographic future shaped by these giants. But only very few of us, if any, are invited to play.

Those of us not invited need to follow new products, trends and innovations closely. We need to take a position on how new products and cartographic innovations contribute to cartographic theory and past practice. There are many instances where innovations in cartographic design are delivered by those who have received little or no formal education in the theory of cartographic design; thus, we, who are conversant with theory, need to offer critical analysis of their creations while keeping an open mind to advance our theory and practice to embrace what is worthy of embracing. If nothing else, we can not allow the carto-

graphic design we teach to become antiquated.

The challenge is how to deliver an education and training in map design and geo-visualization that is up-to-date. In an ideal world we should be able to access the latest textbooks on map design to help us: texts that offered a careful blend of long established theory and practice with coverage how map design and geo-visualization is taking advantage of technological innovations to deliver new communication excellence. A comprehensive text should, amongst other things, include coverage of:

- basic communication theory
- the purpose and power of cartographic communication
- fundamentals of geographic data
- step-by-step guide how to manipulate geographic data to get to a message
- different types of maps and their use/abuse (from antique maps to virtual worlds)
- basic map and geo-visualization components
- fundamental map and geo-visualization design principles
- history and evolution of graphic tools supporting map design from earliest days to modern software and hardware options
- practice through application (learning by doing)
- practice through critique and comparison (learning by engaging) and
- abilities to deconstruct maps (engagement through critical thinking)

There exist a number of well-established excellent textbooks in cartography that include sections on design. But few, if any, address all the above points.

Into this situation come two new books on map design, namely: *Designing better Maps* by Cynthia Brewer and *Making Maps* by John Krygier and Denis Wood. What do these two texts contribute? How do they help us cover the topics noted above?

Designing better Maps: A guide for GIS Users
by Cynthia Brewer

Brewer's book is a basic design text that offers a healthy discussion of theory combined with a practical guide for GIS users wishing to communicate their analyses. The theoretical parts of the book are generic, and the practical side offers step-by-step guidance how to produce a map using ESRI's GIS software language.

In her introductory preface Brewer acknowledges that "the book is intended as a basic guide for people who want to improve the maps they make". She goes on to note that the book "describes a subset of basic knowledge taught in introductory cartography courses". She acknowledges that in her own teaching she encourages students to consult other texts to complement this new book of hers.

The book meets and indeed exceeds its intended goals. It can be used as a stand alone reference by any GIS user as well as by students in an introductory GIS course. It is logically organized so that it can either be read cover-to-cover, or accessed specifically (to learn, for example: how to improve on the use of colour in map design, how to arrange the different elements that make up a map, or how to select and place text on a map). The book is filled with examples demonstrating different design approaches, and the reader receives high level instructions how to turn theory into reality using ESRI's GIS. The book encourages the reader to take a critical look at any map produced by GIS. On the other hand, the book is limited by its silence about the world of cartographic design and geo-visualization outside GIS.

Making MAPS: A Visual Guide to Map Design for GIS
by John Krygier and Denis Wood

Krygier and Wood's book is a constructively provocative introductory text that draws attention and creates enthusiasm and excitement. The book challenges the reader to engage and to think. It promotes creativity. It is packed with examples to demonstrate why maps are important.

The book covers considerable ground on map design theory in an unconventional manner, and is packed with introductory information to engage the mind. The end of each chapter contains a guide to follow-up references where students can get more detailed information.

The book does not offer step-by-step or spoon fed guidance. Because of this, it is not a text that will be of much help to the GIS user wishing only to get on with the details of fine-tuning a GIS output. Neither is the book by itself sufficient as a stand-alone introductory text. It does, however, offer potential as a powerful guide if it could be combined with a well written laboratory manual instructing how to complete exercises to turn ideas and theory into reality. Ideally, such laboratory exercises would take advantage of a combination of graphics, animation and GIS software options.

In summary, this text will appeal to those who enjoy being challenged, and to those who wish to explore an introduction to the powers of cartographic communication.

Reflections

There is more to map design and cartography than GIS. Society today is exposed to cartographic communication more than ever before. Maps that are part of an on-board car navigation system, or that render space to facilitate travel in video games, interactive maps on the internet inviting exploration to facilitate tourism planning, the creation of community maps to facilitate civil action, or the down-loading of GPS recorded data from the latest paragliding trip to relive the experience in Google Earth are but a few examples of how contemporary society engages with cartographic communication.

The exciting world of cartographic communication in which we live today cannot be captured by a teaching of map design restricted to thematic mapping via GIS. There exists a bewildering choice of traditional and modern digital tools offering amazing opportunities for powerful communication using the language of cartography. Ideally, we should teach students what each of these tools are about and how the tools can help achieve geo-visualization excellence.

Reality looks different. Most of us are constrained to teach map design as part of an introductory or advanced GIS course. Few of us have the support, time and energy to offer a dedicated course (or, indeed, courses) in cartographic communication and geo-visualization.

I therefore sympathize with the authors and congratulate them on delivering two excellent texts that are both opportune and timely. They have written two books that meet a huge market demand; in Brewer's case, how to draw better maps with conventional GIS, and in Krygier and Wood's case how to get stimulated to think about the power of cartographic communication.

I encourage you to take a look at both books. I highly recommend Brewer's book to anybody who wants to produce a Map in GIS, and Krygier and Wood's book should be a mandatory reference for any introductory cartography or GIS course.

Nonetheless, I will continue to look for that new text in cartographic communication and geo-visualization that ignores a focus on GIS, that goes beyond thematic mapping, and that is grounded in an exciting combination of graphics, cartography and communication theory with a strong coverage of how the latest state-of-the art in graphic design can inform the language of cartography.