# *cartographic* Φ *perspectives*

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## *in this issue*

Does size matter? This question occurred to me again at a business meeting of the Austrian Cartographic Society in May of 1999. The meeting was within walking distance of the Technical University's Department of Cartography and Reproduction Techniques where I was serving as a visiting Fulbright Professor for the spring semester at the invitation of its director, Prof. Fritz Kelnhofer. The meeting room was in an older building in the center of Vienna that now houses the East European Studies Institute on the upper floor. I later learned that Beethoven had given private concerts to the family that lived there but he was required to use the servant's staircase to reach the living quarters. I used the main stairway.

Cartography is taken seriously in Austria, a country of only 8 million people. Both the Technical University and the University of Vienna have well-established

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*(letter from the editor continued)*

cartographic programs, the latter within the Department of Geography. There is a considerable national pride in the products of Austrian cartography, both past and present. The Technical University is working on another in a series of national atlases and the East European Studies Institute was completing its own atlas. The maps displayed on the walls around the room were from this atlas and depicted various social and economic variables for the Balkan countries.

The meeting room was full and I found one of the last chairs in the back of the room. The topic of the meeting centered on various business matters affecting the organization and other items in the news. I began to examine the maps from the atlas that were displayed around the room as discussion turned to the NATO bombing of the Chinese embassy in Belgrade, Yugoslavia, and an article that placed the blame on cartographers in the United States. This was further evidence, it was pointed out, of the decline of cartography in North America. The various thematic maps on the walls were large enough so that I could see the broad patterns that they depicted from a distance. I started to think of ways in which the distributions could be con-

veyed with interaction and animation in a smaller format, such as on the screen of a computer. The user would be able to select maps at different scales and view distributions side-by-side or as an animation. Each map wouldn't be as large or as detailed as those on the walls around me but, in total, the interactive and animated presentation would convey information in a more engaging way. The result would be a better cartographic product.

I also realized that this would be the last time that I would ever see these maps. They were so large that I could not think of taking a copy of the atlas with me. The distribution of the atlas was limited by the medium. The atlas would only be viewed by a small number of people. That was unfortunate because the maps depicted interesting cultural, social, and economic patterns that would be of interest to many people.

I had the opportunity to discuss my observations with Prof. Kelnhofer and others in the following weeks. I talked of a shift in the medium of cartography, from paper to computer, and what this meant to the way in which maps are distributed and used. I saw it as a change similar to a paradigm shift in science in which totally new underlying principles and

methods of research are adopted. I argued that we don't understand the influence of the medium, either paper or computer, on how we present and convey spatial information. Most of all, we know too little about how to present maps through an interactive medium.

Kelnhofer concluded that "we live in different worlds" and indeed we do. The difference, though, is not in technology. The computer resources at the institute would be the envy of any academic cartographer in North America. The equipment consisted of three Intergraph workstations, a large-format ink-jet printer, a complete darkroom facility with a Barco scanner / imagesetter, a lab with ten PCs and a video-display device for instruction, and a LINUX-based web and mail server. Nor is the difference based on human resources. The institute employs a total of ten people, four of whom teach courses on a regular basis. I cannot think of a comparable cartographic institute in all of North America, nor one that could create the atlas-quality maps that were being made there.

The different worlds are our choice of medium. I think of the computer and the World Wide Web as a medium with its potential for the display of maps with interaction and animation. I also see it as a way to distribute maps that can be printed far away from where they are created, either on smaller format printers or larger printers at centrally-located sites. Prof. Kelnhofer's medium is large format paper with high resolution output. In fact, I would often catch him using a magnifying glass to inspect the latest products of the institute. We were like two artists, one working in the medium of clay and the other in oil. What do two such artists have

with Forest Service information as well. Several years ago, the Forest Service entered into an agreement with USGS to produce, in accordance with USGS standards, the quads covering the Forests. Consequently, the Forest Service is in the process of updating a large number of topo maps, and plans to keep their revision cycle on a tighter schedule than would otherwise be possible if USGS were responsible for their update. Five years is the ideal, but realistically it can be as much as 15 to 20 years. Quads in areas of frequent change are revised more frequently.

Until recently, the Forest Visitors' Maps have been available for purchase only from the individual forests themselves. But, the Service has entered into an agreement with USGS such that USGS will sell and distribute Forest Visitor Maps through their vendor network for participating Forests.

In October 1999, President Clinton called a halt to all construction of Roads in unroaded Forest areas. This (the Roadless Initiative) is a conservation effort to protect endangered species and promote biological diversity. An environmental impact statement will be done on 54 million acres. GIS has been an essential tool in this process. Numerous product-specific maps have been generated which display information from a variety of geospatial and tabular files. The data provides information regarding inventory of roadless areas, road status, fire risk, and forest health. These can be viewed at: www.roadless.fs.fed.us.

**National Park Service (NPS)**

Tom Patterson from the National Park Service Division of Publications at the Harpers Ferry Center spoke to the Council regarding mapping of the National Parks. Lands under Park Service stewardship cover most States and Territories, including Alaska, Hawaii,

American Samoa, Guam, the Virgin Islands, and Puerto Rico. The Harpers Ferry Center staff of four cartographers provide visitor-orientation mapping for the 379 parks in the system. The cartographic program at Harpers Ferry Center is unique among Federal agencies for its strong emphasis on graphic design.

The National Park Service web site receives approximately 850,000 hits per day. Within that site, the Harpers Ferry Center's web site is the 10th most popular web site in the NPS. There were 4.7 million hits on the Harpers Ferry site last year.

There are approximately 500 maps in the Division of Publications inventory, 99% of which are digitized. Of the digital inventory, 80% are on the web. The remaining 20% are still waiting to be printed before they are placed on the web. Vector map files are available in both Adobe Acrobat (PDF) format and Adobe Illustrator (AI) format. With the release of Adobe Illustrator 9.0, maps will be posted in PDF format only, since the PDF and AI formats will merge. Shaded relief images, which are used as placed art backgrounds within vector maps, are published on the web only in gray scale. Well over 100 shaded reliefs are loaded on the web page as 200 dpi JPEGs. There are no plans to scan historic park maps.

Tom presented new maps of Mt. Rainier; Crater Lake; Channel Islands (with digitally-generated bathymetry); Buck Island Reef in the Virgin Islands (he noted that it was a challenge to show the reef bottom with traditional cartographic methods, so they incorporated aerial photography); an oblique view of the Grand Canyon; California Trail; a guide to Fort Larned, KS (using 3D technology for the landscape details, including buildings and trees); and Fort Davis, Texas.

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*(letter from the editor continued)*

in common? What can they talk about?

What they talk about, of course, is the advantage of each medium for conveying information. The map on paper is more portable, has a higher resolution and can be larger. No, the map on paper is less portable than map distribution through the web because there is a limit to how many maps you can carry with you, and maps on paper do not offer the advantages of interaction and animation. And so it goes.

So, does size matter? Size, of course, is just the latest argument against the use of computers for the display of maps. It used to be that computers could not be used to produce maps on paper because they could not draw lines well enough or could not produce shadings with the proper gradations. In essence, the computer could not produce an acceptable cartographic product. OK, so now it can. But, the computer monitor is still an unacceptable form of display because, well because, it's too small and we cannot convey broad geographic patterns in a small area. Besides, it doesn't have the fine resolution of maps on paper. And so it goes.

I have a sign on my office door that says: "If it's not on the web, it's not!". The statement tries to convey that even if something is real, if people can't see or experience it, in a very real sense, it doesn't exist. To millions of people, those maps of eastern Europe and Austria, although beautifully done, are not accessible and therefore not real. They don't exist. So, the argument is reduced to a choice of size or existence. Either we make big, "beautiful" maps that don't exist (to large numbers of people) or small maps that do. To be or not to be? I'll take existence.

Speaking of existence, this is my last issue as editor of *Cartographic*

*Perspectives*. I have been with the journal for nearly ten years, initiating an Editorial Board in 1991, serving as guest editor in 1997, and making the transition to editor in 1998. It has been truly gratifying to see the journal grow in these years in both size and status. Most rewarding of all is the amount of help that I've received from everyone involved in the production of *CP* – the Assistant Editor, Section Editors, and the entire Editorial Board. Let me extend my warmest thanks to all of these individuals, and to the guest editors who have given me the extra time to explore cartography outside of North America.

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CALL FOR PAPERS

# *XXI Annual Meeting of the* *NORTH AMERICAN CARTOGRAPHIC INFORMATION SOCIETY*

Portland, Oregon
October 3 – 6, 2001

The NACIS Program Committee invites you to participate in this meeting by presenting a paper, poster, or exhibit, or planning a session, panel discussion or workshop. Computing facilities at the Portland State University will be available for workshops. The meeting will be held at the Downtown Portland Doubletree Hotel.
All cartographic-related topics are welcome.

*Potential topics include:*

- *Map librarianship, digital archives & databases*
  *Map /atlas design & production techniques*
  *GIS data and map acquisition strategies*
  *On-line mapping, animated & interactive cartography*
  *Government agency cartography, Census 2000 mapping*
  *Commercial & free-lance cartography*
  *GI Science, GIS developments, Geographic visualization*
  *Mapping the West*

**For Papers:** E-mail your 250-word abstract to the program chair, Jim Meacham, by May 15th. Please include your submission within the e-mail message, rather than as an attachment. List names and affiliations of all authors, and include phone and e-mail for the presenting author and specify equipment needs. We encourage student participation.

E-mail abstracts & questions to:
**jmeacham@oregon.uoregon.edu**
DUE May 15, 2001
Participants will be notified by June 15, 2001 of acceptance of their abstract.

**For Exhibits or Posters:** Contact Jeffrey McMichael at jmcmichael@gsu.edu by August 24, 2001 with exhibit/poster title, the names and affiliations of authors, and exhibit space needs.