

around the nation. The goal of the project is to place a map in each of the approximately 10,000 Bolivian public schools. The 4-by-6-foot maps are made of heavy stock paper and retail in the United States for around \$10 apiece.

Stephen Hubbard, a special projects manager for National Geographic, said by phone from his office in the U.S. capital that the maps were the first ever donated by the organization to an overseas government. In addition to the two German republics, Hubbard said, the maps show North and South Yemen, which were also unified last year.

*Arthur Golden, San Diego Union, December 1, 1991*

#### NATIONAL GEOGRAPHIC SCHOLARSHIP

The Cartography Specialty Group and the National Geographic Society are pleased to announce the sixth annual National Geographic Scholarship in Cartography. The scholarship recognizes exceptional student achievement and encourages graduate work in cartography. The scholarship is open to full-time college students of junior or senior standing. The amount of the award is \$1,000. All students who enter will receive a map product from National Geographic. Deadline for application is February 11, 1992.

Information and application forms are available from: Borden Dent, Department of Geography, Georgia State University, Atlanta, GA 30303; (404) 651-3232.

#### LANDSAT 6 ERA BEGINS

The Landsat 6 Era has begun for EOSAT customers. Last week EOSAT operations engineers brought the Landsat 6 ground system on line at EOSAT headquarters in Lanham, MD. Members of the operations and production staffs immediately

began training on the new image processing equipment and order tracking software. The new system makes it possible for EOSAT to offer improved TM products from Landsats 4 and 5 in anticipation of the Landsat 6 launch next year. The first products from the system will be shipped October 1.

In anticipation of the 1992 launch of Landsat 6, EOSAT will begin distributing digital TM products in a new, improved version of Fast Format. The panchromatic band on Landsat 6, with 15-meter ground resolution, will generate four times as much data as the reflective bands on current Landsats. Fast Format Version B will make it easier for TM data users to load the data into their computers. Other changes have been made to Fast Format in response to suggestions from customers. In August, EOSAT notified image processing software companies of the changes, which will take place on October 1.

#### cartographic artifacts

##### ATLAS REVIEW

**Turner, Eugene and James P. Allen**

*An Atlas of Population Patterns in Metropolitan Los Angeles and Orange Counties 1990*

*Reviewed by Michael Hyslop, Michigan State University*

*An Atlas of Population Patterns in Metropolitan Los Angeles and Orange Counties* is Number 8 in Occasional Publications in Geography series from California State University, Northridge. It is a spiral-bound, large-format atlas that consists of ten maps and a table of Race and Hispanic Population Totals for Los Angeles and Orange Counties, 1980 to 1990. Each map is accom-

panied by several paragraphs of explanation that highlight areas of interest and explain certain distributions. In addition, an introductory page discusses the geographic region mapped, the sources of data, map design and production techniques, and data adjustments.

The atlas addresses the most populous region of California: Los Angeles and Orange Counties. The less populated areas outside of Metropolitan Los Angeles — eastern Orange County and portions of Los Angeles County north of the San Fernando Valley and west of Pacific Palisades — are excluded from the maps. Census tract boundaries from 1980 are the areal units outlined. County boundaries and major highways are also delineated for reference.

The maps are of two types. Four dot maps show the distribution change from 1980 to 1990 for non-Hispanic white, black, Asian and Hispanic populations. Blue and red dots are used to show a population decrease or increase. Four choropleth maps illustrate the distribution of non-Hispanic white, black, Asian and Hispanic persons as a percentage of total tract population. Two additional choropleth maps show ethnic diversity by tract, and change in ethnic diversity for 1980-1990. Some of the choropleth maps contain five classes, others have six. A different color sequence is used for each of the choropleth maps. According to the introductory page, colors were chosen to accentuate high and low percentage tracts. Most colors in the sequences are easily distinguishable.

The introduction to this atlas states, "The production of this book represents a significant change from the way that atlases have traditionally been created since it was produced entirely on a Macintosh II computer. None of

the usual manual and photographic map production methods were used." Breaking with traditional production methods is becoming common: other atlases produced in a similar fashion have appeared recently. The maps were created using commercially available software. Atlas *MapMaker* was used to produce the base maps, which were saved as PICT files. The PICT files were then opened in Deneba Software's *Canvas*, and exported using *Canvas Separator* as Adobe *Illustrator* files. Final editing was done in *Illustrator*, and color separated negatives were created using a Linotronic 330 Imagesetter.

Census tract boundary files created by Strategic Mapping, Inc. were used for the base maps. This is understandable — digitizing the hundreds of census tracts in this area would have been a time-consuming task. However, SMI's boundary files do contain flaws. Slivers, gaps and spurious polygons are common. These flaws do not affect the presentation of the data, they only detract from the appearance of the maps.

This atlas gives an excellent overview of the distribution of ethnic groups in Metropolitan Los Angeles, and how these distributions are changing. Copies of the atlas can be acquired by sending a check for \$10 (payable to CSUN Trust Fund) to the Center for Geographical Studies, Department of Geography, California State University, Northridge, Northridge, CA 91330. Individual map pages are available for \$3, two for \$5.

#### DEFINING WHAT WE DO

*Final meeting of the ICA Working Group on Cartographic Definitions, Bournemouth, England, 30 September 1991*

Twenty-two individuals participated in a discussion of the report

presented by the chairman, Dr. Christopher Board, on the deliberations of the Working Group. The discussion began with the definitions of three terms — map, cartography and cartographer — proposed in the chairman's report. In view of the ICA Executive Committee's intention to propose a new Working Group to report on the main theoretical issues in cartography to report by May 1993, president D.R.F. Taylor explained that it was vital that working definitions were agreed upon at the meeting.

It is with some satisfaction that I can report that a consensus was achieved on the following definitions:

#### Map

A conventionalized image representing selected features or characteristics of geographical reality designed for use when spatial relationships are of primary relevance.

#### Cartography

The discipline dealing with the conception, production, dissemination and study of maps.

#### Cartographer

A person who engages in cartography.

It will be noted that these three definitions are intimately related, nesting together in the manner of three Russian dolls. We were conscious that cartographers ought to be prepared to say what a map was, because both the scientific community and the general public associated maps with cartography. In short we have attempted to find definitions acceptable to both cartographers and those outside the profession. Some explanation of the specific form of words was thought desirable. The notion of communicating geographical information through maps did not find favor because it implied

success, which was not achieved.

Attention then focused upon the definition of **map**. This had to be broad enough to embrace both the catholicity of Brian Harley's concept of representation in any kind of socio-political or cultural context, and also to include mental images that appeared to share many of the properties of paper maps. We did not feel constrained to mention digital or tactile maps per se. Digital geographically referenced data become maps when imagined or imaged as maps; and the use of tactile maps created spatial images. Conventionalized images incorporated the idea of there being rules or principles involved in representing the real world. For instance, Beran's landscape drawings were regarded as maps because they made use of conventions of mapmaking. Conventional also implied a restraint on the form of a representation that suited the socio-cultural milieu in which it was being used, but which allowed for changes in viewpoint throughout history.

Moreover, it was vital to indicate that the function of a map was to represent only a selection of what the real world consisted of and someone or some organization had deliberately to select what was to be represented. We felt it was helpful to specify that features and/or characteristics of what was generally and conventionally accepted as geographical provided the content of maps. Thus there could be identified a core content that normally excluded features or characteristics of spaces as small as desk-tops or as far away from the Earth as neighboring planets. It was decided that the utility of maps would be better expressed by employing the word "design" rather than the term "tool." Design carried with it the connotation of intention and a process, embedding within it the idea of a device or instrument for a specified purpose. Features or charac-