招待講演　講師紹介

Associate Professor Karen K. Kemp（カレン・ケンプ）

所属
Associate Professor of Geographic Information Science
Director of the International Masters Program in GIS
University of Redlands, Redlands, CA,

E-mail:kemp@uor.edu

略歴
Until Dec 1998 - Associate Director
National Center for Geographic Information and Analysis
University of California Santa Barbara

January 1999 to May 2000 - Executive Director
Geographic Information Science Center
University of California Berkeley

Starting September 2000 -
Associate Professor of Geographic Information Science
Director of International Masters Program in GIS
University of Redlands, Redlands CA

最近の発表
GIS in the Humanities
　（1）GIS Day, California State Polytechnic University Pomona, May 10, 2001
　　　　Extending GIS into the Humanities
　（2）Electronic Cultural Atlas Initiative Conference, Sydney Australia, June 12, 2001
　　　　Digital Earth, Digital People. Where is the Humanity in GIS?
　（3）Digital Earth 2001, Fredericton NB, June 25, 2001
　　　　Digital Earth: A global village for the Humanities

USING GEOGRAPHIC INFORMATION TO IMPROVE THE SHARING OF DIGITAL INFORMATION RESOURCES IN THE HUMANITIES

Karen K. Kemp, PhD

University of Redlands, Redlands, California, USA

Abstract :Adding geographic information as an index to digital archives of cultural resources is a major improvement to traditional temporal and subject based catalogs. Geographic information allows information from many different sources to be integrated through geography and provide geographic context for specific objects of study. However, the use of geographic references in the Humanities is traditionally inadequate and generally poorly specified. Problems such as continual changes in place names and boundaries over time are common in historical data but difficult to manage in current GIS.

Many scholars in the Humanities have broadly embraced Information Technology as a significant advance in the ability to access and share inaccessible scholarly resources. A quick surf for "history" on the Web will locate a huge number of sites devoted to making available digital versions of rare cultural and historic resources previously only seen by individuals fortunate enough to visit the museum, institute or location at which they can be found. Excellent examples of such websites include the Perseus Project at Tufts University (www.perseus.tufts.edu), the International Dunhuang Project at the British Library (idp.bl.uk) and the Valley of the Shadow project at the University of Virginia (jefferson.village.virginia.edu/vshadow2/). The recent Digital Libraries Initiative II, a major research program funded by the US National Science Foundation, provided support for several projects intended to create systems for digitally archiving resources as diverse as music, handwritten manuscripts, cuneiform sources and Chinese texts. As the means of digitizing and cataloging these materials are worked out, their implementation explodes. The constraint now, it seems, is not so much the technology for digitization, but the ability to find and use what is already on-line. The time has come to focus some research attention on ensuring that scholars can and will be able to use these diverse digital resources.

A notable exception to the single project approach to digital resource archives for the Humanities is the Electronic Cultural Atlas Initiative (ECAI, www.ecai.org). Created by Lewis Lancaster, Prof. Emeritus of Chinese and Buddhist Studies at the University of California Berkeley, it is now a worldwide collaborative effort to develop a globally distributed, spatio-temporally indexed digital library of cultural and historical resources. Rather than supporting the development of unique, project-specific on-line resources, ECAI seeks to encourage the development of interoperable archives and to bind them together through common metadata, automatic connections to remote servers and a GIS-based browser, TimeMap, which is currently under development by ECAI members at the University of Sydney, Australia (www.timemap.net).

However, ECAI now has a critical need to focus on larger issues related to how Humanities scholars will actually make use of this infrastructure. The community of scholars excited about what ECAI can potentially offer has grown substantially over the past couple of years, but it has become difficult to encourage individual scholars to participate through the

development of content for the archive and metadata for the library. It is apparent that though the vision is exciting, many of these scholars are reluctant to commit to an effort that currently does not seem to enhance their scholarship. In particular, while location is one of the major keys to finding resources within the distributed ECAI archive, how Humanities scholars conceptualize, record, represent and visualize location and the geographic context is yet to be explored.

While the geographic perspective is not traditionally a significant component of research done in the disciplines focusing on the preservation, transmission, and interpretation of the human record, geographic information is nevertheless a fundamental attribute of much of the data collected and studied in these fields. Geographic references appear in texts, are part of the documentation stored with images of historic sites and events and are used to differentiate between historic individuals with similar names. Traditional Humanities scholarship involves working with a wide variety of materials in order to build a complex, interpreted reconstruction of events and processes. The serendipitous discovery of a clue from an unexpected source is often significant. Discovering items related by geography and learning about the geographic context of events, societies or historical figures are important to unraveling an interpretation. Providing geographic context and relating things by geography, of course, are what GIS is designed to do. But in order to examine these objects of study in their geographic context, it is necessary to be able to be explicit about location. In the Humanities, location is often simply a place name whose geographic coordinates are poorly specified and whose name has changed over the centuries and through different linguistic communities. Boundaries are very fuzzy, in some cases they may not ever have been explicitly determined, or if they were, that information is lost in the intervening centuries of cultural upheaval.

Must Humanities scholars accept that in order to "use GIS", they must put a dot or a line on a digital map precisely locating places for which the location is uncertain? How can geographically related digital information provided by other scholars be found automatically if everyone gives their dots different geographic coordinates? Are these different locations the same place? How can current efforts to develop interoperable digital gazetteers be enhanced to support the needs of this community? Our contention is that we need to find ways to make the technology sensitive to these kinds of locational uncertainties so that scholars can continue to do what they do best without fighting with the technology.

Given that there will soon be huge quantities of historical and cultural resources on-line for easy access, how can these scholars use the power of information technology to mine these resources and find the clues they are looking for in their search for understanding? If we can find appropriate ways to deal with the fuzziness and uncertainty of location in the Humanities, are there spatial analysis methods that can be adapted or developed to support this scholarship? As well, are there opportunities to use spatial analysis techniques in areas of study where the interest is more on the spatio-temporal arrangement of objects as opposed to their geographic locations? Such are the exciting challenges awaiting Geographic Information Scientists and Humanities scholars as they attempt to improve the sharing and use of digital information resources.