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Acknowledgment

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1. Baranov, V.A., Votintsev, A.A., Gnutikov, R.M., Mironov, A.N., Oshchepkov, S.V., and Romanenko, V.A., "Old Slavic Manuscript Heritage: Electronic Publications and Full-Text Databases" EVA 2004 London (Electronic Imaging, the Visual Arts Conference & Beyond). Conference Proceedings. University College London, Institute of Archaeology. Principal Editor: James Hemsley. London, 2004.
Baranov, V.A., Votintsev, A.A., Gnutikov, R.M., Zuga, O.V., Mironov, A.N., Nikiforova, S.A., Oshchepkov, S.V. Romanenko, V.A., and Ryabova, E.V. (2003) "Elektronnyje izdanija drevnikh pis'mennykh pamjatnikov i tekhnologija sozdanija polnotekstovykh baz dannyx (Electronic Editions of Old Manuscripts and Technology of Creation of Full-Text Databases)." *Krug idej: elektronnye resursy istoricheskoy informatiki*, Moscow, pp. 234–260.
Baranov, V.A., Votintsev, A.A., Gnutikov, R.M., Mironov, A.N., and Romanenko, V.A., (2003) "Spetsializirivannyj tekstovyy redactor "Manuscript" Sistemy obrabotki drevnikh rukopisej (Specialized Text Editor Manuscript of the System for Processing Old Manuscripts)." *Informatsionnyj bjulleten' assotsiatsii "Istorija i komp'yuter* 31: 159-165.

Geographical Information Systems and the Exploration of French Culture and Society

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This presentation describes the principal humanities application of a recent grant project that used Geographical Information Systems (GIS). It explores the institutional context in which the project took place, curricular and survey results, implications for faculty development using a GIS tool in the humanities, and a glimpse at where the project is leading in the study of language, literature and culture. A GIS methodology we used allowed us to map statistical information to make visible what might otherwise have been merely a matrix of numeric data. It allowed us to distinguish meaningful patterns. We have found that when the data come to bear upon historical, political or sociological situations, they can have an impact upon the study of language, culture and even literature, thus the humanities. Such was the premise of our project, the International Studies/Language Technology Initiative, funded by three American philanthropic foundations from 1999-2002, the Culpeper Foundation, the Archbold Charitable Trust, and the Rockefeller Brothers Fund.¹

Our GIS initiative focused on International Studies, Sociology, and Modern Languages and Literatures. We sought to improve our own analytical skills across disciplinary divisions as a model for our students and to promote foreign languages across the curriculum (FLAC).² For French and Spanish, we introduced maps into the curriculum, combined maps with data sets, and encouraged students to answer questions in the foreign language using these materials, which involved relatively simple but relevant statistics that usually had an historical or a sociological context.

The first level consisted of faculty development, followed by the creation and pilot application of interactive maps to help students fill significant gaps in their knowledge of geography, where they could work in pairs or small groups to discuss clues about a country's characteristics or location, then click on the area within the borders to reveal the name and see if they were correct. This approach eventually led to the creation of multimedia GIS maps where the name of the country, capital city or other regions would be pronounced and where other multimedia materials such as digital video with subtitles or captioning would appear to assist language learners (Figures 1

and 2, originally in color).³ The multimedia tagging of maps using a proprietary GIS tool, *MapInfo*, allowed us to experiment with a kind of hypertext and hypermedia suggested by Vannevar Bush's article "As We May Think" (Atlantic Monthly, July 1945, 101-108) and which have been explored by countless other researchers for a host of applications. We are currently investigating the viability of non-proprietary GIS tools such as QGIS and Google Earth applications.

In our project, we created some maps that showed change in demographic or other features over time, others that showed local, regional, national, and transnational patterns in trade, use of resources, socio-demographics and politics. Several of these custom-designed GIS maps will be shown at the presentation. Faculty anecdotally concluded that this work enhanced students' ability to read tables, recognize spatial data, read maps, and use the computer as an analytical tool, not just a word processor, e-mailing device, or means to browse the Internet.

When applied to studies and classes in modern languages and literatures, we developed pedagogies to encourage analytical and critical thinking. One successful application was to pair this author's French Translation class (FR 265) with a class in Urban/Suburban Sociology (SO 163) on several occasions, where the latter's students were charged with a task that is far from trivial, one that Martyn Jessop in the 2006 ADHO conference identified: "The number of digital datasets is growing rapidly and these are often of interest to researchers in fields other than the often highly specialised one that the data was originally derived for but how does one locate them?" (Digital Humanities 2006, p. 101). The task in our case was a "mapquest" activity to find French census data that would allow both the French Translation and anglophone Sociology classes to analyze patterns of North African demographics in France. These results were applied to the discussion in another French class reading short selections from francophone North African literature and about the political situation in France. The presentation will more fully describe the survey results, partially illustrated in Figure 4, based on the students' responses to questions concerning the team activity and their learning.

Applications of these maps to the study of French language and culture and francophone literature come into focus when one "zooms" into a region, city, Parisian *arrondissement* (district) and neighborhood and how it actually looks, much as Stendhal zoomed in on the little town of Verrières in the first chapter of *Le rouge et le noir* (1830). Our project constantly strove to put a human face on what might otherwise have simply been an aerial photo or a map showing colorful patterns. Zooming in on the La Glacière métro stop in Paris through French census data yields one sense of the community. Another one emerges when one views the neighborhood from street level and watches a documentary clip on street basketball (Figure 1).⁴

An historical example includes a GIS map of the population density in the Paris region which surprised us as an illustration compatible with the Concentric Zone Theory proposed by the Chicago School of Ernest Burgess, Robert Parks and others in the 1920's.⁵ The results of the French policy of centralization start to become clear from this perspective by using a map that shows contrasts in population (Figure 3, originally in color). This map and similar ones have sparked student discussions of the differences in schooling between the United States and France, of the relative sizes of cities, and other conversations that have yielded a good number of "aha" moments. The complexity of these thoughts and their expression depend upon the students' language level. However, students starting with the second year of university French study have been able to grasp and discuss the implications of "*L'Etat, c'est moi*" for the general French population under Louis XIV, a statement that presaged the migratory movement that would lead approximately one quarter of the entire French population to live within a forty-four-mile (seventy-one-kilometer) radius starting from the center of Paris (Figure 3).

GIS tools have allowed us to create maps that help answer sociodemographic and other questions that might never have been asked. These new products have made visible certain patterns that would otherwise have been hidden in census and other data (Figure 4, originally in color). This presentation shares the background, materials and procedures by which the project was created and has been sustained in several disciplines since 1999. To our knowledge, no creation of similar materials for French and Sociology had been created.⁶

Further work will involve the collection of authentic materials by U.S. students on study abroad in France and by faculty members. The new materials will include interviews with residents whose lives may already span various generations, photographs linked to GPS coordinates, historical documents, and current realia. These authentic materials will be integrated into language acquisition curricula as well as higher-level courses by faculty in our French program in the proof of concept phase. One prospective benefit is the encouragement of study abroad as students become much more familiar with the people, sounds, sights, arts, thoughts and sociological fabric of various towns and cities in France. Quantitative and qualitative aspects will provide students with a fuller ability to appreciate French culture and civilization as well as give them the chance to work with peers who do not have the linguistic background to access the materials first hand. The results of a small-scale study of such interaction (Figure 5, originally in color) suggest that helping speakers of a foreign language add a GIS analytical ability at the university level and in a career is an easier task than the obverse, training users of GIS sufficiently in the foreign language to allow them first-hand access to the foreign language materials.

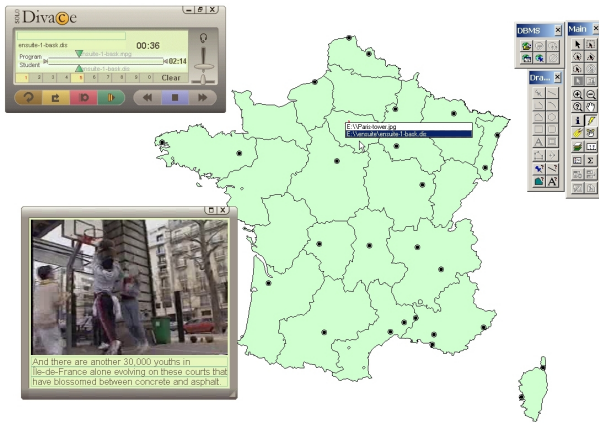


Figure 1:

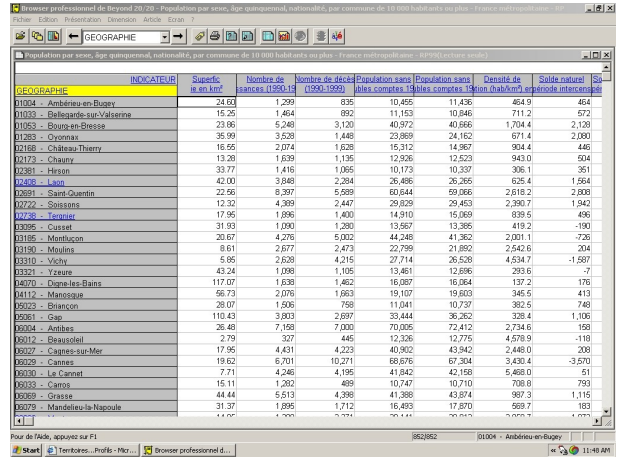


Figure 4:

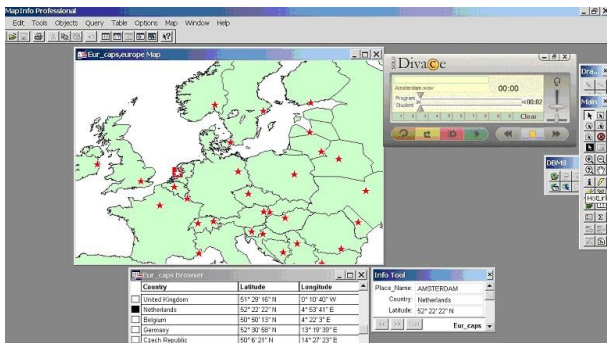


Figure 2:

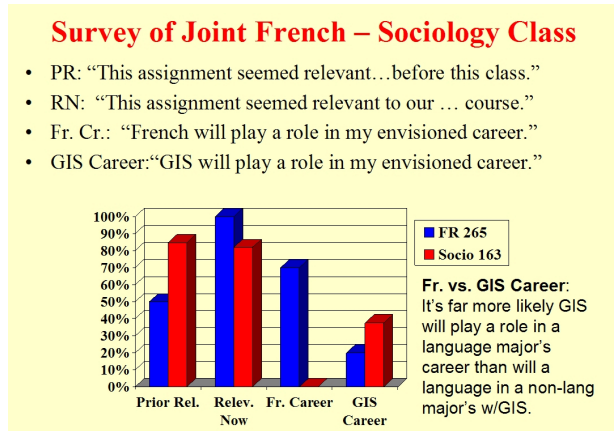


Figure 5:

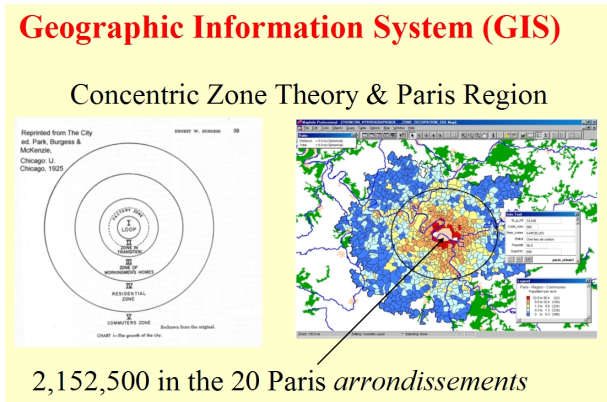


Figure 3:

1. See results reported on the Modern Languages, Literatures and Geographical Information Systems (GIS) Web page at <<http://www.faculty.fairfield.edu/jgoldfield/MLL-GISprojects.htm>> and <<http://www.faculty.fairfield.edu/jgoldfield/ISLT-Webpg0201.htm>> (Feb. 28, 2007). Dr. Kurt Schlichting, Chair and Professor Sociology and Anthropology at Fairfield University directed the ISLT Initiative and, together with Mr. Chris Calienes, assisted the author in the preparation of the GIS maps.
2. See information on successes of FLAC in the liberal arts and professional schools, such as at the University of Rhode Island and the University of Connecticut, at: <http://press.uconn.edu/archive/95-96/10-95/101695-National_conference.html> (Feb. 28, 2007). An important report on FLAC from the American Council on the Teaching of Foreign Languages appears at: <<http://www.actfl.org/files/public/Fall1995LangAcrs.pdf>> (Feb. 28 2007)
3. The digital annotation tool was obtained from Tandberg Educational, Inc., and Divace Oy (now known as Sanako, Inc.),

Divace Solo, v. 4.0 (Turku, Finland: Divace Oy, 1997-2003). The product is now known as *Media Assistant Solo*, CD-ROM, published by Sanako, Inc. (Turku, Finland). The sample scene of inner-city basketball in Paris was part of instruction materials created by the author for French courses of various levels, necessitating varying types of linguistic assistance, such as the English subtitles pictured here. Other versions of the same audio-video materials included French captions or no linguistic support materials.

4. Thompson, Chantal P. and Bette G. Hirsch. Videotape to accompany *Ensuite: Cours intermédiaire de français*. 4th ed. Boston: McGraw-Hill, 2003.
5. Burgess, Ernest. *The Growth of the City: An Introduction to a Research Project*. Eds. Robert Park, Ernest Burgess and R. D. McKenzie. Chicago: University of Chicago Press, 1925.
6. Since March 1, 2000, a monumental integration of GIS, historical, cultural, linguistic, artistic and other materials for the study of Asian cultures has been carried out by Professor David Germano and colleagues for the Tibetan and Himalayan Digital Library at the University of Virginia: <http://www.thdl.org/index.php> (Feb. 28, 2007).

Zeta and Iota and Twentieth-Century American Poetry

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In his intriguing “All the Way Through: Testing for Authorship in Different Frequency Strata”, John F. Burrows follows up his much-discussed Delta (Burrows, 2002a, 2002b, 2003; Hoover 2004a, 2004b, 2006) with two new measures of textual difference: Zeta and Iota (Burrows 2006; see also Burrows 2005).

Both measures begin with a full word frequency list for a sample of Restoration poetry (approximately 20,000 words) by a single primary author. The sample is then divided into five sections of equal size, and word frequency lists are created for them. Zeta deals with words of moderate frequency, words occurring in at least three of the five sections. To compare two poets, the word list is reduced further by removing any occurring more than three times in the second poet’s sample. Where many authors are being compared, the list is reduced by removing any words present in the text samples of most of the other authors. Both methods remove from consideration the most frequent words of English that have been the focus of so much recent work. Whether there are two or many authors, the result is a list of words that are moderately frequent in the primary author but much less frequent in the other author(s).

For Iota, the word list is first limited to words appearing in at most two of the primary author’s sections. To compare two authors, the list is further limited to words that are completely absent from the second author’s sample. Where many authors are being compared, the list is further reduced by removing words that appear in more than half the other authors. In either case, very frequent and moderately frequent words are eliminated, leaving words that are not very frequent in the primary author but are rare or non-existent in the other author(s).

Zeta and Iota are remarkably effective in attributing poems as short as 1,000 words to the correct authors. Even more important, they allow the analyst to concentrate on a relatively small subset of characteristic words, nearly all content words. These lead back to the text and to important questions of interpretation and style.

Both Zeta and Iota will require further testing before they can be confidently applied to genuine questions of authorship and