

SOC 261, Fall 2008
Spatial Thinking in Social Science
Wednesday 9-12, Maxcy 108

Course Outline

This course will review ways in which social scientists have incorporated concepts about space, place, and distance into their theories and research. Examples will be drawn from many substantive areas, including the spatial organization of communities (immigrant neighborhoods and ethnic economies), spatial inequalities (health disparities, criminal victimization and school segregation), and mobility. Although this is not primarily a methodology course, separate computing exercises will offer hands-on application of methods of spatial analysis encountered in the course readings, including an introduction to GIS and related mapping tools.

Class meetings will be organized mainly around the course readings. These classes will operate as a seminar in which every reading is introduced orally by one student (who will also prepare 1-2 page written summaries for distribution). There will be two essays assigned during the semester. These will be due on October 15 and December 12.

The labs will be self-paced tutorials. These labs introduce techniques of reading and interpreting maps (with a browser), making maps (with ArcGIS), and doing spatial analyses (with Geoda).

Course readings are articles available on-line through MyCourses. The schedule of readings is as follows:

September 3. Mapping the city.

Ernest Burgess. 1925. The Growth of the City: Introduction to a Research Project. Reprinted from pp. 47-62 in R.E. Park, E.W. Burgess, and R.D. McKenzie, *The City*. Chicago: University of Chicago Press.

September 10. Introduction to methods labs (Seth Spielman).

September 17. General perspectives on location.

Andrew Abbott. 1997. Of Time and Space: The Contemporary Relevance of the Chicago School. *Social Forces* 75: 1149-1182.

Thomas Gieryn. 2000. A Space for Place in Sociology. *Annual Review of Sociology* 26: 463-496.

John R. Logan and Harvey Molotch. 1987. *Urban Fortunes*, Introduction to the 20th Anniversary Edition.

Barry Wellman. 2001. Physical Place and Cyberplace: The Rise of Personalized Networking. *International Journal of Urban and Regional Research* 25: 227-252.

September 24 Spatial structure: causes and effects

Alex Anas, Richard Arnott, and Kenneth Small. 1998. Urban Spatial Structure. *Journal of Economic Literature* 36: 1426-1464.

Richard Harris and Robert Lewis. 2001. The Geography of North American Cities and Suburbs, 1900-1950. A New Synthesis. *Journal of Urban History* 27: 262-292.

John S. Felkner and Robert M. Townsend, 2005. The Wealth of Villages. Working Paper.

Kjersten Bunker Whittington, Jason Owen-Smith, and Walter W. Powell. 2008. Networks, Proximity and Innovation in Technological Communities. *Administrative Science Quarterly*, forthcoming.

October 1. Social and physical space

Celia Fudemma and Eduardo S. Brondizio. 2003. Land Reform and Land-Use Changes in the Lower Amazon: Implications for Agricultural Intensification. *Human Ecology* 3: 369-402.

Jane Guyer and Eric Lambin. 1993. Land Use in an Urban Hinterland: Ethnography and Remote Sensing in the Study of African Intensification. *American Anthropologist* 95: 839-859.

V. Kerry Smith et al. 2006. Adjusting to Natural Disasters. Working paper, Arizona State University.

October 8. Boundaries

Nathaniel Baum-Snow and Justin Marion. 2008. The Effects of Low Income Housing Tax Credit Developments on Neighborhoods. Working Paper.

Leah Platt Boustan. 2006. Inside the Black Box of White Flight: The Role of Suburban Political Autonomy and Public Goods. Annual meeting of the Population Association of America.

Daniel T. Lichter, Domenico Parisi, Steven Michael Grice, and Michael Taquino. 2007, Municipal Underbounding: Annexation and Racial Exclusion in Small Southern Towns *Rural Sociology* 72: 47-68.

October 15. Neighborhood ethnicity and segregation

First essay due.

David Cutler et al. 1999. The Rise and Decline of the American Ghetto. *Journal of Political Economy* 107: 455-506.

George J. Borjas. 1995. Ethnicity, Neighborhoods, and Human-Capital Externalities. *American Economic Review*. 85: 365-390.

Jason Hackworth and Josephine Rekers. 2005. Ethnic Packaging and Gentrification: The Case of Four Neighborhoods in Toronto. *Urban Affairs Review* 41: 211-236.

Richard Alba, John Logan, and Paul Bellair. 1994. Living with Crime: The Implications of Racial/Ethnic Differences in Suburban Location. *Social Forces*

October 22. Spatial segregation

Michael J. White. 1983. The Measurement of Spatial Segregation. *The American Journal of Sociology*, 88:1008-1018.

Sean F. Reardon et al. 2008. The Geographical Scale of Metropolitan Racial Segregation. *Demography*, forthcoming,

John R. Logan, Richard Alba, and Wenquan Zhang. 2002. Immigrant Enclaves and Ethnic Communities in New York and Los Angeles. *American Sociological Review*. Vol. 67 (April:299-322)

October 29. Work and residence

Mark Ellis, Richard Wright, and Virginia Park. 2004. Work Together, Live Apart? Geographies of Racial and Ethnic Segregation at Home and at Work. *Annals of the Association of American Geographers*, 94: 620–637.

Stuart A. Gabriel and Stuart Rosenthal. 1996. Commutes, Neighborhood Effects, and Earnings: An Analysis of Racial Discrimination and Compensating Differentials. *Journal of Urban Economics* 40: 61-83.

Qing Shen and Thomas Sanchez. 2005. Residential Location, Transportation, and Welfare-to-Work in the United States: A Case Study of Milwaukee. *Housing Policy Debate* 16: 394-431.

Nathaniel Baum-Snow and Matthew Kahn. 2000. The Effects of New Public Projects to Expand Urban Rail Transit. *Journal of Public Economics* 77: 241-263.

November 5. Spatial mismatch

Samuel Cohn and Mark Fossett. 1996. What Spatial Mismatch? The Proximity of Blacks to Employment in Boston and Houston. *Social Forces* 75: 557-572.

Casey J. Dawkins, Qing Shen, Thomas W. Sanchez. 2005. Race, space, and unemployment duration. *Journal of Urban Economics* 58:91-113.

Scott W. Allard and Sheldon Danziger. 2003. Proximity and Opportunity: How Residence and Race Affect the Employment of Welfare Recipients. *Housing Policy Debate* 13:675-700.

November 12. Social exclusion

Gilberto Camara et al. 2004. "Mapping Social Exclusion and Inclusion in Developing Countries: Spatial Patterns of São Paulo in the 1990s" Chapter 11 in Michael F. Goodchild and Donald G. Janelle (editors), *Spatially Integrated Social Science*. New York: Oxford University Press.

Greg Squires and Sally O'Connor. 2001. Access to Capital: Milwaukee's Continuing Small Business Lending Gaps. *Review of Black Political Economy*, Fall: 9-46.

Salvatore Saporito and Deenesh Sohoni. 2006. Mapping Educational Inequality: Concentrations of Poverty among Poor and Minority Students in Public Schools. *Social Forces*.

Mei-Po Kwan. 1999. Gender and Individual Access to Urban Opportunities: A Study Using Space-Time Measures. *Professional Geographer* 51: 210-227.

November 19. Environmental exposures

Liam Downey. 2006. Environmental Racial Inequality in Detroit. *Social Forces*. 85: 771-796.

Rachel Morello-Frosch. 2002. Discrimination and the Political Economy of Environmental Inequality. *Environment and Planning C: Government and Policy* 20: 477-496.

Seema Arora and Timothy Cason. 1999. Do Community Characteristics Influence Environmental Outcomes? Evidence from the Toxics Release Inventory. *Southern Economic Journal* 65:691-716.

November 26. No class.

December 3. Diffusion and spatial effects

Robert Baller et al. 2001. Structural Covariates of U.S. County Homicide Rates: Incorporating Spatial Effects. *Criminology* 39: 561-590.

Jacqueline Cohen and George Tita. 1999. Diffusion in Homicide: Exploring a General Method for Detecting Spatial Diffusion Processes. *Journal of Quantitative Criminology*, 15: 451-493.

John Weeks. 2004. The Role of Spatial Analysis in Demographic Research. Chapter 19 in Michael F. Goodchild and Donald G. Janelle (editors), *Spatially Integrated Social Science*. New York: Oxford University Press.

Barbara Entwisle et al. 1996. Community and Contraceptive Choice in Rural Thailand: A Case Study of Nang Rong. *Demography* 33: 1-11.

December 10. Neighborhood mechanisms
Second essay due on December 12.

Jeffrey D. Morenoff. 2003. Neighborhood Mechanisms and the Spatial Dynamics of Birth Weight. *American Journal of Sociology* 108: 976-1017.

Robert Sampson, Jeffrey Morenoff, and Felton Earls. 1999. Beyond Social Capital: Spatial Dynamics of Collective Efficacy for Children. *American Sociological Review* 64: 633-660.

Stewart Tolnay, Glenn Deane, and E.M. Beck. 1996. Vicarious Violence: Spatial Effects on Southern Lynchings, 1890-1919. *American Journal of Sociology* 102: 788-815.

(Preliminary List)

SOC 261 -- Lab Exercises

All labs are available through S4's Spatial Courses and Training webpage. You can link to it from here: <http://www.s4.brown.edu/S4/about.htm>.

Preparation: In order to have access to shape files you will need for some of the lab exercises, during the first week of class please register at the Proximity One website, <http://www.proximityone.com/register.htm>. You will receive a user id and password via email which will allow you to download shape files from this website. Be sure to save **this email and know your user id and password because you will be downloading these files..**

Getting to Know Maps with MapUSA (<http://www.s4.brown.edu>)

Making Your Own Maps of Social Indicators Using the U.S. Census Bureau's American Fact Finder (<http://factfinder.census.gov>)

Making a Map with ArcGIS -- Part I

- Getting around in ArcGIS
- Downloading a boundary shape file
- Creating new data columns
- Joining in a data table

Making a Map with ArcGIS – Part II

- Looking at the distribution of the data to determine cut-off points for the legend
- Creating a thematic map – Legends, colors, views, layouts

Geocoding in ArcGIS – Mapping Street Addresses for Point Pattern Analysis

Creating Distance Buffers in ArcGIS for Spatial Analysis

Introduction to Geoda (http://sal.agecon.uiuc.edu/geoda_main.php)

- Getting around Geoda
- Linking Geoda and ArcGIS

Constructing Spatial Weights from ArcGIS Shape Files

- Creating rook and queen contiguity weights based on ArcGIS shape files
- Characteristics of spatial weights
- Formats for spatial weights in Geoda

Local Moran's I and Analysis of Significance Maps

- Calculating Moran's I in Geoda
- Interpreting the data output
- Joining the data to ArcGIS and creating a significance map
- Using the data output to make maps independent of Geoda

Spatial Weights and Spatial Lags

- Row-Standardization of Spatial Weights
- Higher Order Contiguity Weights
- Constructing Spatial Lags
- Spatial Lag Bar Charts in ArcGIS

Spatial Regression Basics

- Regression problem files
- Standard OLS output
- Diagnostics for spatial effects

Estimation of the Spatial Lag Model

- Spatial error
- Spatial lag and heteroskedasticity