Week 8: Spatial Interaction

Introduction to Geography
Lehman College GEH 101/GEH 501
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Mental Mapping Exercise

Draw a map of your neighborhood

- Do not use any references!
- Include labels, symbols, diagrams, or anything else that might help someone interpret your map
Mental Mapping Exercise

Part I: Draw a map of your neighborhood

Part II: Draw a map of the world and label the 10 most important cities

- Do not use any references!
- Your maps can be in whatever style you feel is most appropriate
- Include labels, symbols, relational diagrams, or anything that might help someone else to understand your maps
What does the map reflect about how the author interacts with her/his neighborhood?

Think about:

- **people** (e.g., family, peers, strangers)
- **places** (e.g., transportation, recreation, landmarks, physical features)
- **culture** (e.g., food, religion, ethnic groups)
- **economy** (e.g., work, school, shopping)
- **other aspects of society**?
Mental Map Pair-Share

- What does the neighborhood map tell you about how its author interacts with **people** (e.g., family, peers, strangers), **places** (e.g., transportation, recreation, landmarks, physical features), **culture** (e.g., food, religion, ethnic groups), the **economy** (e.g., work, school, shopping), or any other **aspects of society**?

- How might your maps be different if you were at a different stage in your life?

- What makes the cities on the world map important?

- What sorts of geographic patterns (e.g., spatial, political, economic, linguistic) can you identify in the cities?
Spatial Interaction

- Places are given meaning by how people conceptualize and interact with their environments.

- Spatial interactions are shaped by the ways that people understand, know, and relate to different places.

  - How do you feel about the walkability of your neighborhood?
  - What do you know about Sumatra? Paris?
  - What relationships exist between the U.S. and Japan?
Spatial Interaction

- Barriers and friction - affect frequency and ease of interaction
  - time-space
  - physical landscape
  - social, cultural, political, economic factors
  - psychological

- How might your neighborhood map have been different if you were at a different stage in your life?
Mapping Music

- Afro-Funk
- Bluegrass
- Blues
- Cajun/Zydeco
- Christian Rock
- Classical
- Classic Rock
- Country Western
- Easy Listening
- Electronica
- Emo
- Folk
- Funk
- Gospel
- Heavy Metal
- Hip-Hop/Rap
- Indie Rock
- Jazz
- Lounge
- Norteño/Tejaño
- Oldies
- Opera
- Polka
- Punk
- Reggae
- R&B
- Salsa
- Ska
- Soul
- Swing
Figure 2. Example of a student-drawn mental map of music regions. Most students, but not all, created maps that could be used for data analysis. After three classes, we had a total of fifty-six maps of music regions. The maps were analyzed in several different ways using basic geographic information systems (GIS) software and techniques. To discern any broad general patterns for each class, we created choropleth maps by assigning a count to each state if a student's music region crossed over that state's boundary. Although a rather simplistic representation of the collective music regions, the choropleth map technique allowed the data to be compiled quickly and shared with the students. Figure 3 shows some examples of these maps. With this approach, we could use GIS software interactively in the classroom to display maps for each music genre, showing either classified simple counts or densities calculated using state populations. After the first exercise, these choropleth maps were shared with students in subsequent classes after they had completed the exercise. This provided an opportunity to teach about map interpretation and to introduce the challenges involved in mapping social phenomena.

The choropleth maps exhibited some distinctive spatial patterns. Students consistently associated bluegrass and blues with particular states; jazz, hip-hop, and the various rock music categories were far more variable. Although it was not surprising to see most students define a hip-hop or indie rock region, the frequency with which they identified other music regions, such as bluegrass, blues, and salsa, was notable. Table 1 displays the percent of students who created a music region for the most often identified genres. These results and classroom discussions led to the collection of further information from the students about what influenced their creation of music regions for six different genres: hip-hop, indie rock, punk, country and western, blues, and bluegrass. After their maps were complete, students were asked to briefly describe why they created regions for these music genres.

The authors also decided to perform a more detailed data analysis using the music regions for blues and bluegrass. For both of these music genres, each shape created by the students was digitized into a GIS database. Some students used text to suggest the extent of a region, and for these maps an approximation of that region was created. The region shapes were overlayed to create composite maps for each class and a single composite map for all classes representing student-defined regions for both bluegrass and blues music (Fig. 4). Each map displays five regions ranging from greatest to least overlap.

As a point of comparison, the authors explored ways to create more objective music regions. Geographers have mapped concert tours, musician birthplaces, recording centers, radio stations, and other similar data to illustrate the concentration of music styles (Arkell 1994; Carney 1994; White and Day 1997). Sinton and Huber (2007) used GIS mapping techniques to create...
Figure 3. Choropleth maps showing the composite response of three classes for selected music genres.

Polka music regions from radio station data, and it is this technique that we adapted to create comparative maps. We compiled radio station data from Internet sites (http://www.williamsandclarkexpedition.com and www.mary4music.com) during the summer of 2008. Radio stations that had programming dedicated to bluegrass and blues music were included. Such programming might include Sunday night blues broadcasts and public radio programming. We occasionally visited individual station Web pages to confirm the type of programming available, but we did not check all radio stations in the database. No attempt was made to distinguish between a station's address and the location of its radio tower; its point location was assigned to the nearest city. This database does not include the locations of radio stations that broadcast on the Internet. A total of 567 radio stations with bluegrass programming and 452 radio stations with blues programming were included in the database.

As an additional data source, we tabulated 464 bluegrass and 420 blues music festivals for the year 2008 based on Internet data (http://www.bluegrassfestivalguide.com, bluegrasslist.com and www.mary4music.com). We calculated a density grid of the radio station and festival point locations by using a kernel function with a search radius of 250 kilometers. In this method the importance of any point location in the calculation diminishes with increasing distance from the point, reaching zero at the search radius distance. Figures 5 and 6 show the results. To explore whether the resulting distribution of radio stations simply reflected the distribution of population, population density based on census 2000 data was calculated by the same technique. The radio station and festival grids were then divided by the population grid, yielding radio stations/person or festivals/person.

The results for bluegrass radio stations and blues festivals can be seen in Figure 7. This technique confirmed that, with the exception of outlying low population areas in the upper Midwest, the music regions based on the location of radio programming or festivals shown in Figures 5 and 6 are not the result of population alone.

Discussion

Here we relate our classroom project to the literature and our three main suppositions. First, music often serves as a surrogate for cultural understandings of place and regional stereotypes. Second, the combined use of music and maps is an excellent vehicle for teaching cultural geography. Third, maps need to be more comprehensively integrated into teaching human geography.

Related to our first main point, the classroom exercises suggest that understandings of place are tied to music and that ideas about music are likewise informed by
three classes. (b) Isoline map of blues regions showing the composite response of

Socially constructed. We agree with Stokes who argues graphical imaginations and in the way that places are

and certain genres of music but rather to emphasize Hunters Shobe and David Banis

dicated that they identified mostly rural places in the South (the bluegrass state) were key to how they established their

Mountains, Appalachia (as a cultural region), and Kentucky as centers of bluegrass. Here music informs understandings

for placing bluegrass in the South while several students cited the movie Deliverance. This illustrates how

be the South. Students also cited Nashville as a center for

of what is rural, what is urban, and what is considered to

radio stations with blues programming.

Second, through these classroom exercises, we have learned that the use of music and maps is an excellent way

live and the lack of connections to that part of the

existing notions of rural and urban.

Many of those subsequent genres, including those that the students indicated they identified, are examples of music that formed part of how students understood the world in spatial terms. These music regions are not mere reflections of popular culture, in this case film, but part and parcel of how students navigated their world. The blues regions show a clear pattern of diffusion of cultural, political, and economic phenomena. In this way, the blues regions were used to reveal geographical concepts and to link ideas about both music and place.
Bluegrass

Graphical imaginations and in the way that places are how music can play a powerful role in both our geographic and certain genres of music but rather to emphasize there are essential determinate links between certain places—place—they are inextricably linked. This is not to say (a) Isoline map of bluegrass regions showing the composite response of indicated that they identified mostly rural places in the South music and place are closely connected. Many students indicated that the bluegrass state was key to how they established their Mountains, Appalachia (as a cultural region), and Kentucky. Several student responses suggest that the Appalachian相似 cited the movie for placing bluegrass in the South while several students cited the movie be the South. Students also cited Nashville as a center for of what is rural, what is urban, and what is considered to learn that the use of music and maps is an excellent way to? One answer was provided them indicated they did not list to Appalachia and Kentucky/areas southwest of it. The composite response for Appalachia and the student's maps.

Regions with ethnic associations existing notions of rural and urban. This is demonstrated in the composite map reflects more of a sense of the history of the music to define—it is stylistically consistent responses: Cajun/zydeco, distinct and conforms well to pre-sic styles with strong cultural narratives elicited frequent and consistent to place compared with

These types of music all have a variety of social boundaries, but rather that music is not merely a reflection of economic changes and opportuni-math as well as migration based on important role of slavery. Discussion of the composite maps of previous classes, and themes. Discussion of the composite map exercise was also a key process for learning about

Bluegrass

Student regions of the blues regions (Fig. 4a) shows a strong degree of

where music predominates, in-keeping. In the latter case, bluegrass and felt most confident about identifying the blues. Students indicated that the blues. Students indicated that for drawing the blues regions in the

and Chicago, the latter city cited by many students who seem to be conflating Christian

Americans, only to leave the South out of any hip-hop

some students also often reasoned that hip-hop would also indicated that they associated country and western mu-

the genre with conservative politics. Hip-hop was often

southern accents. Some students

South because country artists have

prompted comments about how

Many of those subsequent genres, prompted students to talk about...blues was the basis of many forms...of place are

regional stereotypes. For example, the genre's contemporary pattern

when discussing the origin of the blues. Students talked about the

influence of both African and European

economic phenomena. In this way, the

process of human geography. For example,

Bluegrass Radio Station Density

Lowest

Highest

Bluegrass Festival Density

Lowest

Highest

Number of Students Identifying Regions

1 - 2

3 - 10

11 - 15

16 - 20

21 - 30
Geographies of Music

- What do these maps tell us about the spread and influence of musical genres in shaping other genres?
- What factors shape musical diffusion?
- How do the maps that we create reflect our stereotypes and knowledge of people and places? How might this shape our interactions with those places and the people there?
Examples of social barriers and factors that increase/decrease the friction of spatial interactions

- **Cultural:** language, religion, racism, pop media
- **Political:** laws, trade agreements/embargoes, imperialism
- **Economic:** transport costs, natural resources, production
Spatial Diffusion

- How do “things” move from place to place through time?

- What are some methods for transmission/transportation of:
  - People
  - Goods and resources
  - Money
  - Ideas, Knowledge, Culture
  - Plants, Animals, Diseases
How does music travel?
Spatial Diffusion Patterns

- Different patterns of spatial diffusion can be observed for different “things”

- Depends on the structures influencing how and why the things travel through space
  - does it need to be physically moved?
  - what types of friction affect it?
Spatial Diffusion Patterns

- Contagious (expansion): spreads outward from the origin
- Relocation: Jumps from one place to the next
- Hierarchical: Stages of spread from local to translocal to local
Contagious Diffusion

European Influenza Pandemic of 1781

[Map showing the spread of the pandemic across Europe with arrows indicating movement from April to August, with a shaded region in the north indicating the initial outbreak.]
Relocation: Black Populations and Hip-Hop
Hierarchical Diffusion
Hierarchical Diffusion: McDonalds
The Spread of Wal*Mart
Technology

- Transportation
  - Ships
  - Rail
  - Cars
  - Airplanes

- Communication
  - Printing Press
  - Telephones
  - Computers
  - Satellites
  - Internet
Internet Diffusion and Interaction

- Connects people with shared interests, ideologies, etc.
- How do new forms of social media reshape human interactions?
- Who has access? China, Egypt, Australia...
- YouTube, Facebook, reddit/digg, Twitter, flickr, wikipedia
- Memes: sociocultural information transmitted from person to person; the social equivalent of a gene. Can mutate and evolve over time.
Globalization

- With increasing interaction comes increasing interdependence
- Spatial impacts of the 2008 Financial Crisis
David Harvey, Anthropologist and Geographer at Graduate Center

*The Condition of Postmodernity* (1990)

"processes that . . . revolutionize the objective qualities of space and time"

modernization is about removing spatial barriers to speed up and accelerate the pace of life to reduce turnover time, driven by the process of capital accumulation, which has the effect perpetually working to “annihilate space through time”
Globalized Finance

- Shift from gold to electronic exchanges
- International Banking
  - Lending and investment is global and instantaneous
  - Global financial crisis
- Transnational Corporations
- Global Markets and Marketing
- State sovereignty? “The World is Flat”? 
Time-Space Compression

- Shift from gold to electronic exchanges
- International Banking
  - Lending and investment is global and instantaneous
  - Global financial crisis
- Transnational Corporations
- Global Markets and Marketing
- National sovereignty
Global Governance

- Political alliances, trade agreements, etc.
- United Nations (UN)
- International Monetary Fund (IMF), World Bank
- World Trade Organization (WTO), NAFTA, ALBA
- International Non-Governmental Organizations (NGOs)
- Anti-Globalization actors
Term Paper Thought Points

- How does spatial interaction factor in to your topic?
- Does your topic affect friction or barriers to diffusion?
- What is the role of communication and transportation technologies?
- Who is affected by your topic? Is that shaped by spatial diffusion?