Mapping NAPP: A Spatial Analysis of Nineteenth-Century Migration and Labor Force Participation Using Census Data from the North Atlantic Population Project (NAPP)

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INTRODUCTION AND OBJECTIVES

Complete count datasets for the North Atlantic population in the nineteenth century represent a powerful new resource for analyzing demographic processes. Since the data cover the entire enumerated population, they are particularly suitable for spatial representation and analysis of sub-group populations. Maps can help us understand the impact of social and economic change on places in which people live and work. This poster is a demonstration of the benefits of incorporating maps into research on the North Atlantic population in the nineteenth century using data from NAPP (North Atlantic Population Project). These data are available on-line at no cost to historians and other qualified researchers. The objectives of this poster are to introduce researchers and educators to the availability of these data for analysis and classroom use.

NAPP DATA

The North Atlantic Population Project (NAPP) is a harmonized database from the late nineteenth century comprised of census microdata from Canada, Denmark, Great Britain, Iceland, Mecklenburg (Germany), Norway, Sweden, and the United States. Presently NAPP contains data on more than 106 million individuals, including several complete-count censuses. All the samples are coded consistently across all countries, facilitating an easy comparative analysis of historical census data of the North Atlantic world.

- The oldest data is from Mecklenburg in Germany in 1819. The newest is from the United States in 1910.
- Most data are complete counts of the population for that year.
- All NAPP datasets contain basic demographic information on age, sex, marital status, place of residence, birthplace, and occupation.
- Other variables of interest to researchers studying migration and social incorporation include race, language, and religion.
- A shopping cart system for extracting data limits download only to those countries and cases needed for analysis.
- The mapping examples shown here analyze males age 15-59 living in England, Norway, Sweden, the United States and Wales.
- Migration and immigration rates for these people are shown by migration status for each country, with each dot representing a number of movers.
- Chloropleth maps show the contribution of agricultural and industrial employment to each geographic subunit.

Census Data Available in NAPP

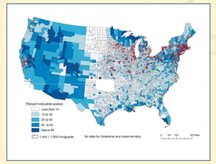
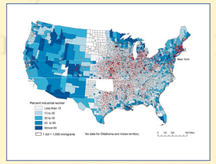
Country	Year	Sample Density (%)	NAPP Status	Source
Canada	1852	10	released	University of Montréal
Canada	1871	5	released	University of Guelph
Canada	1881	5	released	University of Toronto
Canada	1891	5		University of Guelph
Canada	1901	5	released	University of Victoria
Canada	1911	5		University of Victoria
Canada	1921	4		University of Guelph
Denmark	1787			Danish Data Archive
Denmark	1801			Danish Data Archive
Denmark	1835			Danish Data Archive
Denmark	1845			Danish Data Archive
Denmark	1855			Danish Data Archive
Great Britain	1851	2	released	UK Data Archive
Great Britain	1881	2	released	UK Data Archive
Iceland	1703			University of Iceland
Iceland	1801	1	released	University of Iceland
Iceland	1845	1		University of Iceland
Iceland	1855	1		University of Iceland
Iceland	1870	1		University of Iceland
Iceland	1880	1		University of Iceland
Iceland	1890	1	released	University of Iceland
Mecklenburg-Schwerin	1819	6	released	University of Rostock
Norway	1801	1	released	University of Bergen
Norway	1865	1	released	University of Bergen
Norway	1875	2, 10	released	University of Tromsø
Norway	1900	1	released	University of Tromsø
Sweden	1880	1	released	Swedish National Archives
Sweden	1890	1		Swedish National Archives
Sweden	1900	1	released	Swedish National Archives
United States	1850	1	released	Minnesota Population Center
United States	1860	1	released	Minnesota Population Center
United States	1870	1	released	Minnesota Population Center
United States	1880	100	released	Minnesota Population Center
United States	1900	1	released	Minnesota Population Center
United States	1910	1	released	Minnesota Population Center

Migrant Concentrations in Industrial Employment and Farming

Country and Census Year	Non-Migrant %	Internal Migrant %	International Migrant %
Industrial Employment *			
Norway 1900	92.5	5.9	1.6
Sweden 1900	86.8	10.9	0.4
United States, 1880	57.6	29.6	12.6
Great Britain 1881	68.9	27.6	n.a.
Farming			
Norway 1900	56.7	14.0	14.3
Sweden 1900	47.4	16.6	15.6
United States, 1880	56.4	14.8	10.5
Great Britain 1881	25.9	11.0	n.a.


EXAMPLE 1: ONE COUNTRY, TWO MIGRATIONS

Industrial employment, migration and immigration in the United States, 1881.

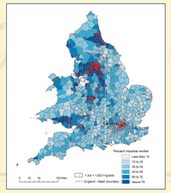
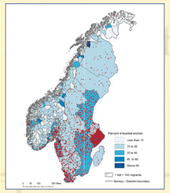
These two maps show county rates of industrial employment in the United States in 1880 (measured by the percent of persons employed in industry in each county) and the distribution of internal migrants and immigrants in the same year. The maps show the impact that the cumulative decisions of individuals have on the places they inhabit. Maps dramatically and in detail demonstrate how these processes are not evenly distributed across the landscape. The bunching or spread of these processes can have widely differential impacts across countries or across counties within one nation.

- Blank spaces indicate no data available, including the Oklahoma Indian Territories. Native Americans were not included in the census of 1880 unless they were living off of reservation land.
- Concentrations of industrial employment vary widely across the regions of the United States.
- Internal migrants are spread across the whole landscape, settling in areas of both high- and low-concentrations of industrial employment.
- Immigrants do not settle in the south, however, where industrial employment is low.

PHOTO SOURCE: All photos courtesy of the Library of Congress Prints & Photographs Division, Washington, D.C.: Farmer and Son Load Hay, Southern Vermont (LC-USZ62-38229); Cheney Silk Mills, South Manchester, Connecticut (LC-DIG-nclc-03144); Boys "Linking" Bed-Springs, Boston, Massachusetts (LC-DIG-nclc-05129); Gorenflo Canning Co., Biloxi, Mississippi (LC-DIG-nclc-00783); Exhibition of Jewish Farmers of America (LC-USZ62-52617); Buena Vista Farm (LC-USZ62-36803).


EXAMPLE 2: INTERNAL MIGRATION IN FOUR COUNTRIES

Nineteenth-century industrial employment and internal migration in Great Britain, Norway and Sweden.

These two maps show parish rates of industrial employment in Great Britain, Norway, Sweden and Wales in the nineteenth century (measured as the percent of persons employed in industry in each parish) and the distribution of internal migrants represented by dot concentrations.

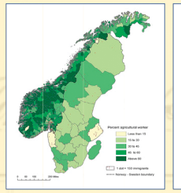
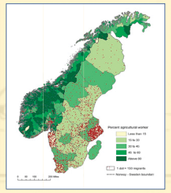
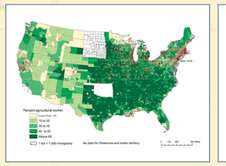
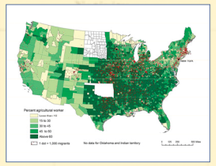
- Censuses of Norway and Sweden were taken in the same year and can be shown on the same map. Mapping contiguous countries shows cross-border processes more clearly.
- Norway has the lowest levels of internal migration and migrants are concentrated in a few rather isolated places.
- Sweden has slightly higher internal migration rates than Norway.
- Sweden's internal migration is more evenly distributed around the country than is migration in Great Britain or Norway.
- Internal migration in Great Britain is twice as high as either Norway or Sweden.
- Industrialization is stronger and came earlier in Great Britain than the other countries.
- Differences in the economic base of the four countries is clearly revealed in their migration patterns.

DATA SOURCES

- Minnesota Population Center. *North Atlantic Population Project: Complete Count Microdata. Version 2.0* [Machine-readable database]. Minneapolis, MN: Minnesota Population Center, 2008.
- K. Schürer and M. Woollard. *National Sample from the 1881 Census of Great Britain* [computer file]. Colchester, Essex: History Data Service, UK Data Archive [distributor], 2003.
- The Digital Archive (The National Archive), The Norwegian Historical Data Centre (University of Tromsø) and the Minnesota Population Center. Version 2.0, Bergen, Oslo, Tromsø, Minneapolis 2008.
- Great Britain Historical GIS Project, Department of Geography, University of Portsmouth, United Kingdom.

EXAMPLE 3: THREE COUNTRIES, TWO MIGRATIONS

Nineteenth-Century agricultural employment, migration and immigration in Norway, Sweden and the United States

These maps show the relationship between two measures of movement—internal migration and immigration—and agricultural employment. Only in the United States does agriculture act as a draw to both internal migrants and immigrants in this time period. The U.S. Homestead Act of 1862 made government lands available to anyone. Immigrants in this period were drawn to the U.S. by the desire to own farms of their own.

- Displaying contiguous countries in the same map, as with Norway and Sweden, reveals that internal migration and immigration are the same process in border regions.
- In Norway and Sweden, neither migrants nor immigrants appear to be drawn to areas of high agricultural employment.
- In the U.S., there is an almost complete absence of immigrants to the agricultural south, due to the primacy of the plantation system.
- The concentration of immigrants and migrants in the U.S. northeast region confirms that industrial employment was also a lure for both groups of movers.