Historical Geography, Economic History & Historical GIS

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• http://www.geog.port.ac.uk/gbhgis
Aims:

- Most presentations on historical GIS are about:
  - **What** we have built or …
  - **How** we have built it.
- This presentation is about **why**
  - Why build a GIS
  - Why fund it
- Relates the GBH GIS to the history of:
  - British historical geography
  - British economic history
    - … and social and demographic history
Historical Geography in Britain

- Early C20: Geography behind history
  - Geographies of the Holy Lands
  - Geographies of Borders and Battles
- 1930s-1970s: HC Darby dominates
  - Key dissidents: Mitchell, Johnson
- 1960s-70s: Quantitative Revolution
  - Limited impact on mainstream HG
- 1980s: Cultural turn, post-modernism
  - Key dissidents: Langton, Cambridge Group
  - Rejection of both technique and progress?
  - Maximising publications, minimising research
“Darbyesque” Historical Geography

• Systematic interpretation of documentary sources:
  • An Historical geography of England before A.D. 1800 (1936)
  • Domesday Geographies (1952-75):
    – The Domesday geography of eastern England (1952)
    – The Domesday geography of northern England (1962)
    – The Domesday geography of south-east England (1962)
    – The Domesday geography of South-west England (1967)
    – The Domesday geography of Midland England (1971)
    – Domesday England (1973)
    – Domesday gazetteer (1975)
  • Baker et al: Geographical Interpretations of Historical Sources (1970)
  • A New Historical Geography of England (1976)
Key Sources for “Darbyesque” HG

• Domesday Book (1086)
• Medieval Taxations
  • Lay Subsidies (1327, 1332, 1334)
  • Tudor Taxations (1524, 1543-5)
• Agricultural Improvement
  • Probate inventories, enclosure awards
  • … but also Arthur Young, etc.
• Census: 1801 onwards
Criticisms of “Darbyesque” HG

• Emphasis on morphology, not process
  – ‘Like watching a man assembling a watch but leaving out the mainspring’
• Less attention paid to spatial framework than to documentary source
  – Domesday geographies use 1888 base
• Diachronic analysis both v. time consuming and crude
### ENGLAND AND WALES.

#### AGES OF THE PEOPLE.

**DIVISION II.—SOUTH-EASTERN COUNTIES.**

**Table I.—Ages of Males and Females enumerated April 3rd, 1871—in Registration or Union Counties.**

| Registration or Union Counties | All Ages | Both Sexes | Under 5 | 5—10 | 10—15 | 15—20 | 20—25 | 25—30 | 30—35 | 35—40 | 40—45 | 45—50 | 50—55 | 55—60 | 60—65 | 65—70 | 70—75 | 75—80 | 80—85 | 85—90 | 90—95 | 100+ |
|-------------------------------|----------|------------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| **SURREY (Ex-metropolitan)**  | 1,207,726 | 233,535 | 45,164 | 35,585 | 17,251 | 13,047 | 11,887 | 10,999 | 10,595 | 9,999 | 9,651 | 9,437 | 9,049 | 8,121 | 7,325 | 6,654 | 5,972 | 5,254 | 4,551 | 3,856 | 3,154 | 2,451 | 1,751 | 1,051 | 757 |
| **KENT (Ex-metropolitan)**    | 928,139  | 184,184 | 33,089 | 28,589 | 15,164 | 11,735 | 11,126 | 10,554 | 10,163 | 9,582 | 9,247 | 8,957 | 8,682 | 8,271 | 7,470 | 6,655 | 5,872 | 5,136 | 4,431 | 3,729 | 3,034 | 2,329 | 1,614 | 1,018 | 726 |
| **SUSSEX**                    | 320,016  | 62,203   | 12,263 | 10,611 | 5,797  | 5,289  | 4,870  | 4,462  | 4,062  | 3,669 | 3,305 | 3,003 | 2,713 | 2,422 | 2,043 | 1,664 | 1,400 | 1,147 | 908  | 722  | 536  | 420  | 315  | 235  | 160  |
| **HAMPSHIRE**                 | 520,149  | 104,034  | 18,607 | 16,054 | 8,821  | 7,219  | 6,625  | 6,062  | 5,502  | 5,057 | 4,641 | 4,338 | 4,035 | 3,732 | 3,230 | 2,862 | 2,532 | 2,188 | 1,843 | 1,466 | 1,096 | 809  | 542  | 375  | 261  |
| **BERKSHIRE**                 | 220,337  | 45,470   | 8,133  | 6,699  | 3,665  | 3,139  | 2,652  | 2,212  | 1,787  | 1,445 | 1,200 | 1,052 | 909  | 766  | 623  | 506  | 405  | 314  | 233  | 165  | 120  | 86   | 62   | 40   | 28   |

The Table is read thus:—In Division II, South-Eastern Counties, there were 2,267,726 persons of both sexes, viz., 1,094,935 males, of whom 143,164 were under 5 years of age, 159,233 aged 5 and under 10 years, 114,171 aged 10 and under 15 years, and so on for each respective column; and 1,113,801 females, of whom 142,398 were under 5 years of age, 159,243 aged 5 and under 10 years, 114,135 aged 10 and under 15 years, and so on.
Source Interpretation via GIS

Infant Mortality, 1898 on 1898 RDs

Deaths under age 1 per 1,000 births:
- Less than 123.4
- 123.4 to 145.3
- 145.4 to 161.7
- 161.8 to 173.3
- 176.4 and above

Circle size is proportional to total pop., (1901)

Mean death rate was 127.2, and the median 121.0
The Stand. Dev. was 28.5 and skewness 0.56
Best 10% of the pop. have a death rate of less than 109.1 and a mean rate of 65.6
Worst 10% of the pop. have a death rate of more than 186.6 and a mean rate of 204.5
The ratio between these is 204.6/65.6 = 3.14
Mapping the Taxatio

The Diocese of Ely in 1291: A Map of the Taxatio Ecclesiatica

The distribution of Ecclesiastical Wealth:

(a) Raw Data

Valuation (pence)
- Yellow: Less than 2366
- Orange: 2366 to 4910
- Red: 4911 to 8419
- Burgundy: 8420 and above

Legend uses nested-means

(b) By Area

Valuation (pence per km2)
- Yellow: Less than 239
- Orange: 239 to 496
- Red: 497 to 783
- Burgundy: 784 and above

Legend uses nested-means

Boundaries are for civil parishes in 1876 as researched by GBHGIS. Data provided by the Manchester Taxatio Project. Data were linked to parishes based on place name, this resulted in 98.4% of the total valuation of Ely being mapped.
• Initially Institutional
• Then quantitative
• Recently, greater emphasis on regional dimension
  • Hudson ("Regions and Industries", 1989) argues that industrialisation in Britain and elsewhere occurred first and foremost within regions rather than within nations as a whole."
  • But in some ways, just a reversion to traditional studies of regional elites.
• Need to study interacting system of regions … but how?
Long-Run change: Unemployment

• Early results from the core project
• Was the north of England more prosperous before the First World War?
• NB Both maps show averages from very long spatio-temporal series.
• Still comparative statics
Long-Run change: Occupations

• Here examining ideas about spatial divisions of labour
• Additional problems of comparison between occupational classifications
Visualising National Trajectories

• Rostow’s Stages of Economic Growth
• Crude …
• But memorable …
Visualising Regional Trajectories

• Using census occupational statistics ...
Visualising People’s Trajectories (1)

• For famous people …
• The first modern General Election campaign in Britain
• Gladstone’s Midlothian campaign of 1880
Visualising People’s Trajectories (2)

... and for less famous people:
Visualising People’s Trajectories (3)

• ... but visualising many people’s movements is hard:
• Members of a trade union of Steam Engine Makers in Bolton
True animation

• This is an ‘animated cartogram’
• It shows trends in infant mortality between 1856 and 1925
• … and if you look carefully, the shape of the country changes too.
Conclusions

• GIS-based technology provides a more rigorous framework for historico-geographical research than traditional paper-based technologies.
  • … but traditional scholarly skills are still needed.

• New visualisation technologies help the historian better understand their data.
  • … but comparative statics is still easier than true dynamic analysis.

• Visualisation tools also create new ways of presenting our ideas to wide audiences, but ...
  • … we must decide between builders/users and authors/readers.
  • … we need to establish and educate our ‘readers’ in a new visual vocabulary.
  • … and it is still hard doing this on the web.