The Evolution and Design of a Visualization Project

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KINDRED BRITAIN

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Kindred Britain is an interactive scholarly work created to represent the breadth and nature of familial connections between members of the British cultural elites, primarily from 1700 - 1900.

Visual Structure

The general layout of the site is meant to use a tile-based style like that found at http://www.blenderbox.com/ or Pinterest or the like.
Kindred Britain is an interactive scholarly work created to represent the breadth and nature of familial connections between members of the British cultural elites, primarily from 1700 - 1900.

The site is expected to provide a vision of British society that is both novel and nuanced, with an emphasis on the individual as fulcrum or nexus between professions, families, periods, and places.

The general layout of the site is meant to use a tile-based style like that found at http://www.blenderbox.com/ or Pinterest or the like.
**Core Interface**

The core UI is the visualization itself, which is always present.

**Primary Components**

The four primary components are collapsible, so they can be hidden or revealed in any combination.

- **Network**
  
Network view of individuals

- **Timeline**
  
Timeline view of events for individuals
  
May also include global events, for context

- **Narrative**
  
Dynamic, primarily text-based content displays differently based on context, either:
  
A) Prewritten narrative content (story with links)
B) Card summary info for an individual, plus links to "related" items

- **Map**
  
Geographic view of events for individuals

**Secondary Components**

These elements appear only temporarily, like tooltips that reveal details about the data only on mouse hover.

- **Person Details**
  
Like a mini profile of a person.
  
Photo, name, DOB, and other summary information on a person, suitable for rollover

- **Event Details**
  
Event title, date, place, related people

- **Place Details**
  
Event title, date, place, related people

**Overlays**

These UI elements appear on top of the primary UI

- **About (Welcome / Intro)**
- **Credits**
- **People**
  
  - **Top Connections**
    
  e.g. Kevin Bacon — Virginia Woolf
  
  Queen Elizabeth — Charles Darwin
  
  ...

- **Most Connected**
- **Least Connected**
- **Most Known**
- **Least Known**
- **Most Important Nodes**
- **Historically Important, Unknown People**
  
  (Most important, least known nodes)
- **Groups (by category, e.g. Scientists, Politicians...)**
Erasmus Darwin
1731–1802

Marries Mary Howard

Marries Elizabeth Pole

Birth

Significant event for context

George III reign begins

American Revolution

Death
Erasmus Darwin
1731 – 1802

Nullam elementum, ipsum sed voluptat feugiat, sem nisi
congue massa, id sollicitudin metus enim non felis. Proin
lectus lorem, ultrices at congue vel, sodales et mi. Ali-
quam lacina interdum nisi a gravida. Nunc at lacus sit
amet ipsum placerat fringilla eget vitae lorem. Phasellus
accumsan enim in lacus tincidunt at adipiscing arcu
aliquet. Vivamus lacina commodo luctus. Nunc nec
neque vel lacus ullamcorper molestie sit amet sed nulla.
Kindred Britain is a network of 28,000+ historically significant individuals, all of whom can be connected to each other through relationships, much like in a family tree. More →

Unexpected Connections
Charles Darwin and Winston Churchill →
Kevin Bacon and Virginia Woolf →
Napoleon and Madonna →
Jane Austen and Matthew Crawley →
Shakespeare and Sigmund Freud →
↑ More

Most Viewed People
Queen Elizabeth II →
Erasmus Darwin →
Kevin Bacon →
Virginia Woolf →
Winston Churchill →
↑ More

Top Stories
A Tragic Ending →
Love Like No Other →
Scandalous Cessation →
The Revolutionary Family →
An Unknown Tipping Point →
↑ More

↓ More

Charles Darwin
1809 – 1882

Europe's First Botanist: Erasmus Darwin

Like his personal life, Darwin's professional life was multidimensional. His poems describe a blended, heterogeneous cosmos in which "supernatural agents such as nymphs, gnomes, sylphs, and salamanders" mingle with "men of industry and science" (McNeil).

Darwin's medical work (first in Nottingham and Lichfield and then later in Derby) took in all sorts. While he focused it primarily on the wealthier echelons of the middle class, and in particular on the families of "men of industry and science", also his work brought him into contact with the working class and with the very rich. Darwin hoped to establish a dispensary for Derby's poor, yet on occasion he also treated people of "family, fortune and consequence", such as the Countess of Northesk [1820]. He may even have been asked for help by the mad king George III [1804] - a request he seems to have turned down.

Darwin sprang from a solidly bourgeois background: his great-great-grandfather, Erasmus Earle [18767], was serjeant-at-law for Oliver Cromwell, his father (Robert Darwin [17453]) was a wealthy Nottingham lawyer who retired early. Erasmus Darwin himself was twice married and eventually had at least 14 children (at least three of whom were illegitimate) from two marriages and from two non-marital liaisons. Five of his offspring died before their father. Darwin's first union was relatively conventional, socially speaking. His wife was Mary Howard [17453], who came from a similar background to her husband's, being the daughter of a solicitor from Lichfield. Death was omnipresent in the family, even though at its head was a man whose profession was to preserve life: Mary Howard died in 1770 at the age of 30 and, though the couple had five children, only three of them survived to adulthood and only
Navigation Structure
Every individual in Kindred Britain can be connected to any other individual. We often discover surprising connections between people through networks of relationships — ancestors, descendants, marriages and illicit partnerships.

**Unexpected Connections**
- Charles Darwin and Winston Churchill
- Kevin Bacon and Virginia Woolf
- Napoleon and Madonna
- Jane Austen and Matthew Crawley
- Shakespeare and Sigmund Freud

**Famous Families**
- Royalty
- The Darwins
- The Newtons
- The Smiths
- The Austens

**Guilds and Societies**
- Blacksmiths, 1800–1900
- Freemasons in England, 1800–1900
- Catholic Rebels in Europe, 1600–1800

**Sordid Affairs**
- Charles Darwin and Winston Churchill
- Napoleon and Madonna
- Jane Austen and Matthew Crawley
- Kevin Bacon and Virginia Woolf
- Napoleon and Madonna
- Jane Austen and Matthew Crawley
- Shakespeare and Sigmund Freud

**Well-Known Alliances**
- Charles Darwin and Winston Churchill
- Napoleon and Madonna
- Jane Austen and Matthew Crawley
- Kevin Bacon and Virginia Woolf
- Napoleon and Madonna
- Jane Austen and Matthew Crawley
- Shakespeare and Sigmund Freud

More →
Kindred Britain is a network of nearly 30,000 individuals — many of them iconic figures in British culture — connected through family relationships of blood, marriage, or affiliation. It is a vision of the nation’s history as a giant family affair.
Interaction

Release to compare profiles of
Charles Darwin
1820–1898
Jane Austen
1830–1879

Release to connect
Charles Darwin
1820–1898
Jane Austen
1830–1879
Release to compare profiles of
Charles Darwin
1820–1898
Jane Austen
1830–1879

Release to connect
Charles Darwin
1820–1898
Jane Austen
1830–1879
<table>
<thead>
<tr>
<th>PROFESSION</th>
<th>FAMILY</th>
<th>PLACE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>family names to search</td>
<td>place names to search</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SEARCH
Color

Y1Gn

BuGn
“...avoiding catastrophe becomes the first principle in bringing color to information: Above all, do no harm.”

—Edward Tufte, *Envisioning Information*
“Position is everything. Color is difficult.”

—Moritz Stefaner
The family of Elissa Dowelles

Elissa Dowelles is the daughter of Lady Genevieve Dowelles

Elissa Dowelles
1820–1898
The family of Elissa Dowelles

Elissa Dowelles is the daughter of Lady Genevieve Dowelles

Elissa Dowelles
1820–1898
The family of Elissa Dowelles

Elissa Dowelles is the daughter of Lady Genevieve Dowelles

Elissa Dowelles 1820–1898
The family of Elissa Dowelles

Elissa Dowelles is the daughter of Lady Genevieve Dowelles

Elissa Dowelles
1820–1898

Kindred Britain

People
Connections
Stories
Colorbrewer palettes

YlGn

YlGnBu

BuGn

To generate each palette, reference 6-color Colorbrewer palette named above, then discard the first (lightest) color.
Kindred Britain is a network of nearly 30,000 individuals — many of them iconic figures in British culture — connected through family relationships of blood, marriage, or affiliation. It is a vision of the nation’s history as a giant family affair.

All type is Sorts Mill Goudy (except arrows)

Button (default state)
10px internal padding all around
text: 13px, black, all caps
background-color: #a9e0dc
border: 1px solid #69ada8
3px rounded corners

Button (hover mouseover state)
text: #333333
background-color: #fffbb2
border: #999999

Button (mousedown “active” state)
text: black
background-color: #ffe4a9
border: #ffaf00

Button (“selected” state)
text: black
background-color: #9ddeff
border: #69b8df
Authorship
KINDRED BRITAIN

Version 1.0

‘Only connect...’ — E. M. Forster

‘Family connexions are part of the poetry of history’ — Noel Annan

ESSAYS
Originating Kindred Britain by Nicholas Jenkins
Developing Kindred Britain by Elijah Meeks and Karl Grossner
Designing Kindred Britain by Scott Murray
Kindred Britain: Statistics by Elijah Meeks

GENERAL INFORMATION
User’s Guide by Hannah Abalos and Nicholas Jenkins
FAQs
Glossary by Hannah Abalos and Emma Townley-Smith
Acknowledgements
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Origining Kindred Britain

by Nicholas Jenkins

Only connect...

- E. M. Forster

ORIGINS

In the beginning were the murders. Kindred Britain, a digital humanities project about the family in British history, was born in the distant aftermath of a set of domestic murders and a suicide. First came the deeds. Then, much later, came the words and the connections.

In early 1908, my great-great grandfather, Frederick Holmes, was a businessman living with his family in the hamlet of Fawley in Buckinghamshire, by the gentle meanderings of the River Thames. It was Wind in the Willows country. A brewer, Frederick had made and lost a great deal of money and, by the middle of the first decade of the 20th century, he had also become ill with a series of grim but unspecified ailments. His eyes were failing, he kept losing his balance, he had ‘gastric pains’. The family kept up appearances but their world was under pressure. He still tramped the fields with friends, shooting at creatures. But he had been forced to sell his last horse. Then, one night in February 1908, Frederick got up in the darkness of his bedroom, loaded his Webley revolver and shot my great-great grandmother Florence where she slept. He then moved down the corridor and shot their sleeping daughter Winifred. Afterwards, he climbed to the attic and murdered the young servants Lizzie Hayes and Ethel Morris. Frederick returned to his bedroom and, next to his wife’s corpse, reloaded his revolver before moving downstairs and out into the English countryside. A white, winter sun must have been coming up, there must have been heavy dew on the ground, birds must have been singing. He wandered around for several hours in who knows what agony of spirit before taking the gentleman’s coat, the hat, the gloves and a bag of money.
This is not to imply that Murray was only involved in look-and-feel. The emphasis on the creation of a tightly-integrated and well-designed site lead to the creation of some of the most innovative features, such as the group search, search brush, and drag-and-drop pathfinding. While Murray didn’t write the code, his deep familiarity with the function and structure of interactive information visualization was key to the high quality of the site from a data visualization and interaction perspective, as well as from an aesthetic perspective.

Figure 9: Early Information Visualization Legend

Along the way, this meant that certain features were cut to streamline Kindred Britain. For instance, clicking on occupations or locations would bring up a group of people associated with that occupation or location, but because we couldn’t feasibly display more than 100 people at a time, it proved too difficult to determine which 100 people to display in the case of a highly represented place (like London) or occupation (like author). In another case, a variety of legends provided the distribution of numerical and categorical attributes, but these were considered to be more appropriate for an expert-driven examination of the site, and would impede the use and appreciation of the site by general users.

Queries

The site uses what can be considered a rather archaic PHP-based data services layer that runs PostgreSQL queries with
Figure 9: Average Number of Children Based on Birth Date

Number of children reflects the higher number of multiple marriages among men, combined with perturbations in family size. *Kindred Britain* doesn’t exhaustively account for children, which makes the results ambiguous.

Figure 10: Average Number of Marriages Based on Birth Date

Because this chart is based on the birth date of the individual getting married, the gap in the late 19th century likely reflects the war widows. Otherwise, men consistently get married younger than women.
Designing Kindred Britain

by Scott Murray

For an information visualizer, it is a rare treat to work with a data set as complex, interconnected, and historically significant as that of Kindred Britain. While, visualizations of network data are increasingly common, the Kindred Britain data has a special property: every node can be connected to any other node. That is, by following the right path of connections, one can follow relationships from any one person in the data to any other person in the data. There are no ‘islands’, of disconnected nodes, as Nicholas Jenkins made the conscious decision to exclude any such nodes from the database. If a connection couldn’t be found through painstaking research, then that person wasn’t included.

This property of guaranteed connectedness offered us several opportunities for purposes of designing the visualization and interactions. First and foremost, we could design the whole experience around a theme of connection, and we could enable visitors to discover their own connections between historical figures. Secondly, we could articulate this concept of a path between two people, and, we hope, begin to tell the story of how one historical figure was influenced by another, even when they are separated by multiple generations, or centuries, or lovers.

The famous names are fun, of course, but what about the unknown figures that populate those connecting paths? To me, the most interesting characters are the well-connected known unknowns: that is, the people about whom we know little, but we know that they existed, and they may have inadvertently played critical roles in shaping history, by connecting the figures whose names we do recognize. In network analysis terms, these people are most ‘central’ to the network, but, historically, they are unsung heroes. I hope that Kindred Britain will provoke discussions into these