SOCIAL NETWORK ANALYSIS

WHY, WHAT, HOW?

AN INTRODUCTION FOR THE ROYAL STUDIES NETWORK

REALLY?

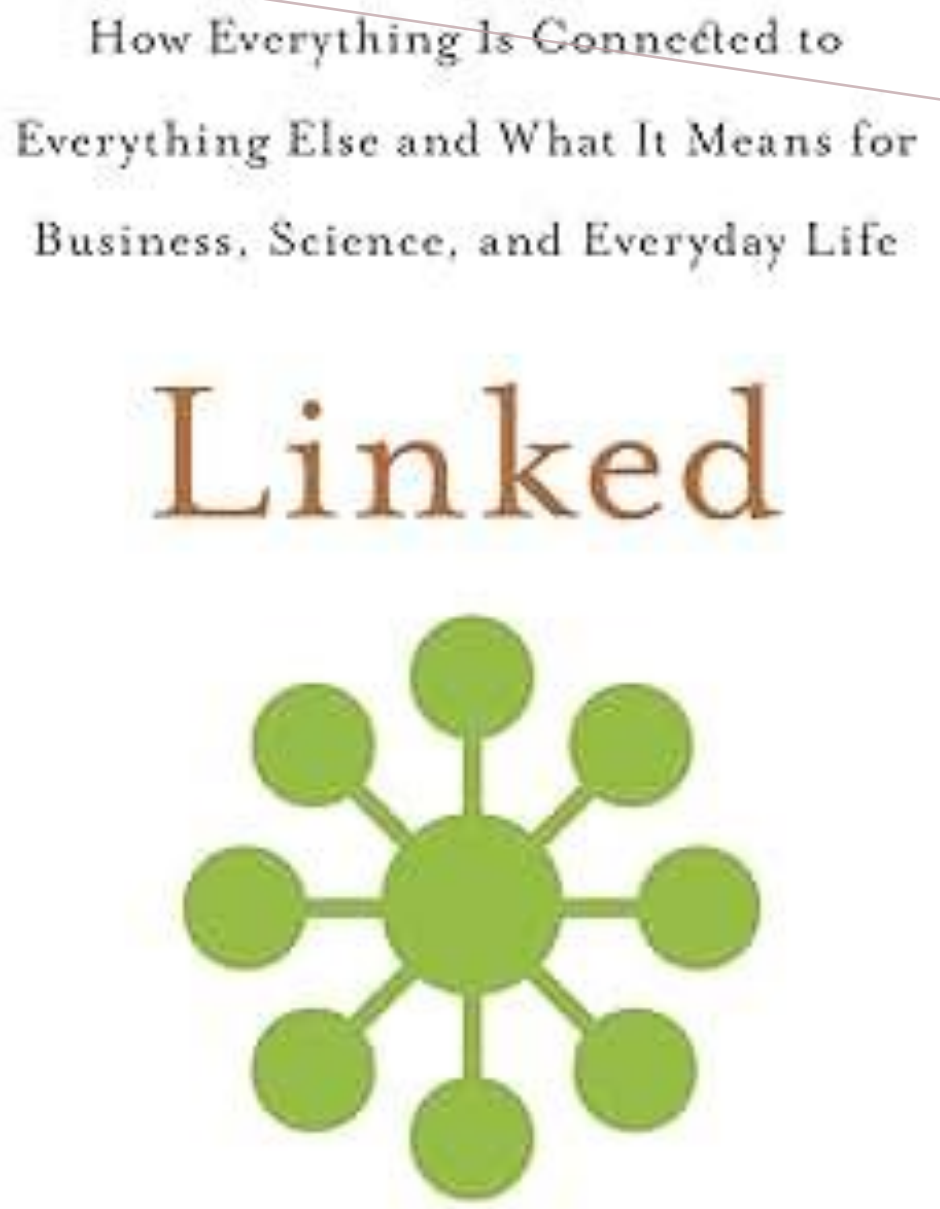
A fabulous tool for illuminating hidden corners of history?

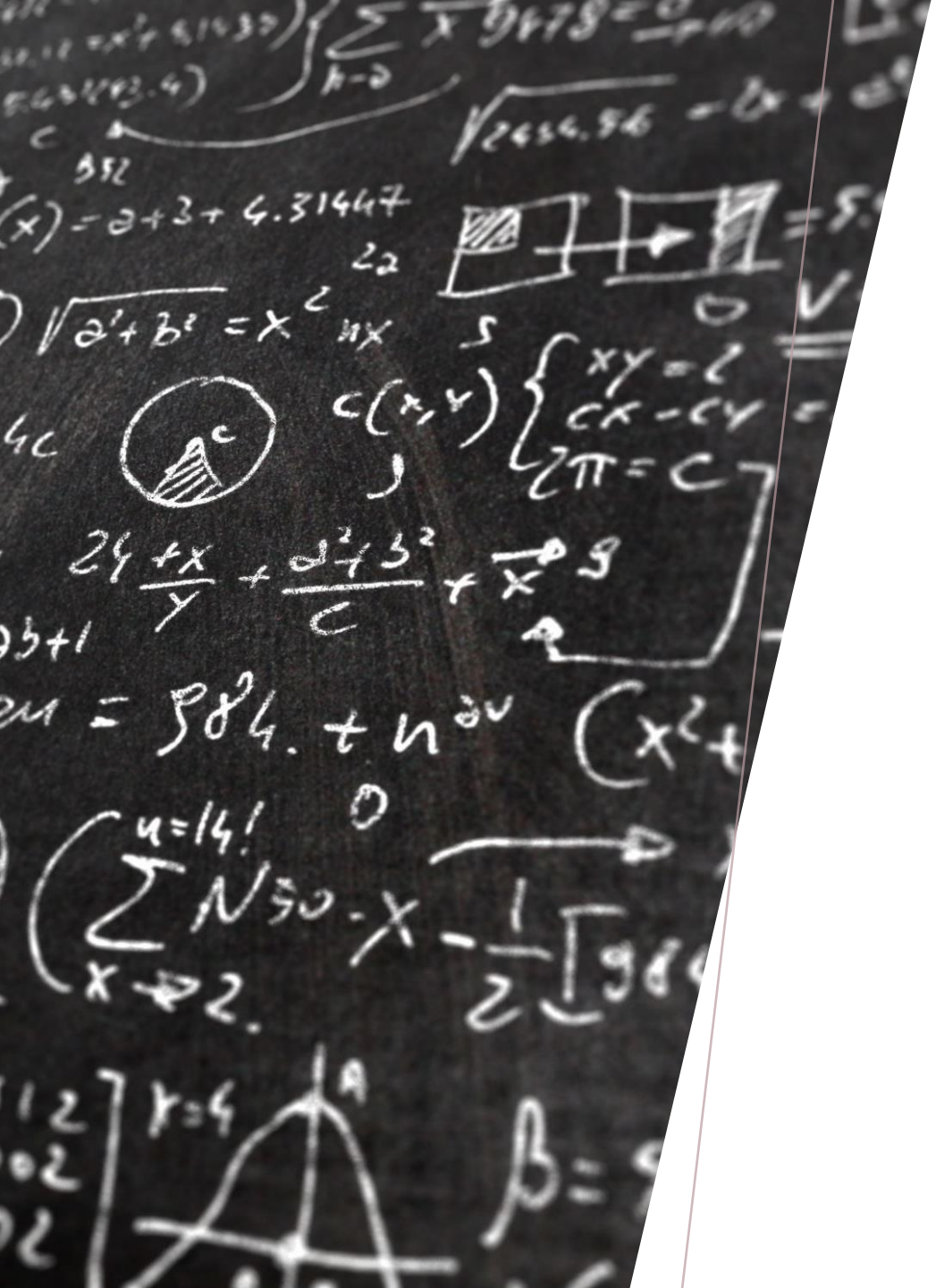
A waste of time because it tells us what we already know?

A fashionable take on prosopography, jazzed up with a few swirly spirograph diagrams?

WHAT?

- A way to visualise relationships between ‘things’, such as people, cities, books.
    - The things being linked are called nodes, elements, occasionally vertices.
- Connections can be tangible e.g. letters, bridges, publishers, or intangible e.g. family relationship, birth and death locations, news, ideas.
    - Connections are called edges, or links.
- Based on graph theory which has demonstrated that networks have certain predictable qualities.
- Popularised by the idea of ‘six degrees of separation’, and modern networking sites, such as LinkedIn or Facebook.

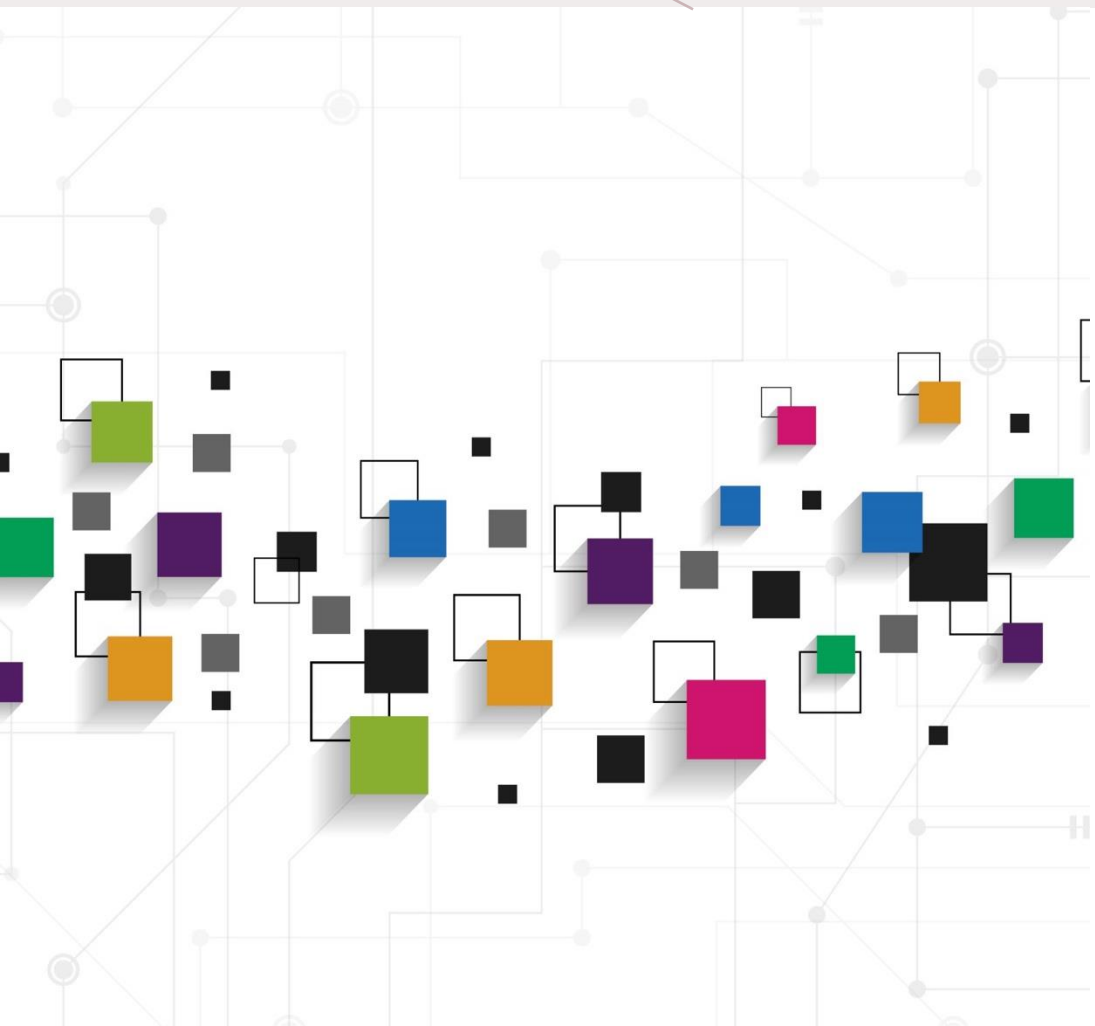




EXAMPLES

- https://tudornetworks.net/
- https://histecon.fas.harvard.edu/visualizing/angouleme/marie_aymard.html
- https://www.youtube.com/watch?v=xSay3YC3f_4

PROS



- It can link the detailed micro-analysis of history to the macro-analysis with an intermediate ‘meso’ step: Ahnert.
- Huge amounts of data can be seen simultaneously, in different dimensions, by use of colours and shapes.
- Information can be intuited from a diagram more easily than from a list of data.

CONS

- The map is not the territory!
- It does not represent hierarchy.
- There is a risk that because it is quantitatively driven, it is perceived as absolute fact, rather than based on the researcher's choice of data.
- Static representation of change over time.

SNA MEASURES

- Degree – number of links
  - In-degree: links into a node, e.g. letters received.
  - Out-degree: links from a node, e.g. gifts given.
  - If Henry sends letters to Katharine, Mary, and Wolsey, he has an out-degree of 3.
  - If he receives letters from Katharine, Wolsey, Cromwell, and Carew, he has an in-degree of 4.
  - Total degree: 7
- Weighted degree, in-, or out-
  - Frequency of link. Henry sends 3 letters to Katharine, 2 to Wolsey, and 1 each to Cromwell and Carew = weighted out-degree of 7.
- Node size
  - Number of other nodes linked to. In the above examples, Henry has a size of 5.

CENTRALITY

- Closeness: how embedded is a node? How many steps to reach any other node?
- Betweenness: how often is a node on the path between any other two nodes?
  - High betweenness can indicate gate-keepers if there is no alternative path.
- Bridging centrality:
  - High bridging indicates nodes linking otherwise disparate clusters
- Eigenvector
  - Proximity to powerful nodes. The ‘eminence grise’.

François Leclerc du Tremblay, by Jean-Léon Gérôme, Wallraf-Richarts-Museum

WHERE DO YOU START?

What do you want to link?

One type of node e.g. people (unimodal graph)

Several types of node e.g. merchant, ship, city

An ego-network or a whole society network?

What are the edges/links?

Letters, contracts, gifts, news, disease.

Directed, undirected, mutual?

Be careful about mixing directed and undirected.

WHAT INFORMATION TO RECORD

- What should be recorded about each node?
  - People – e.g. name, DoB, DoD, gender, profession, location of birth, religious or trade affiliations etc,
- And about each edge?
  - Contract – e.g. date, length of time, goods covered, legal jurisdiction.
- It is VERY HARD to go back and add information later. Think about it in detail first

HOW TO RECORD IT: EXCEL?

PROS

- Easily available
- Straightforward to use
- Easy to manipulate

CONS

- Can be unstable if too much data
- Need to record the same data multiple times to be useful
- Limited interrogation possibilities

RELATIONAL DATABASE

PRO

Far more data can be handled and manipulated

Not as scary as it sounds – effectively 3-dimensional Excel.

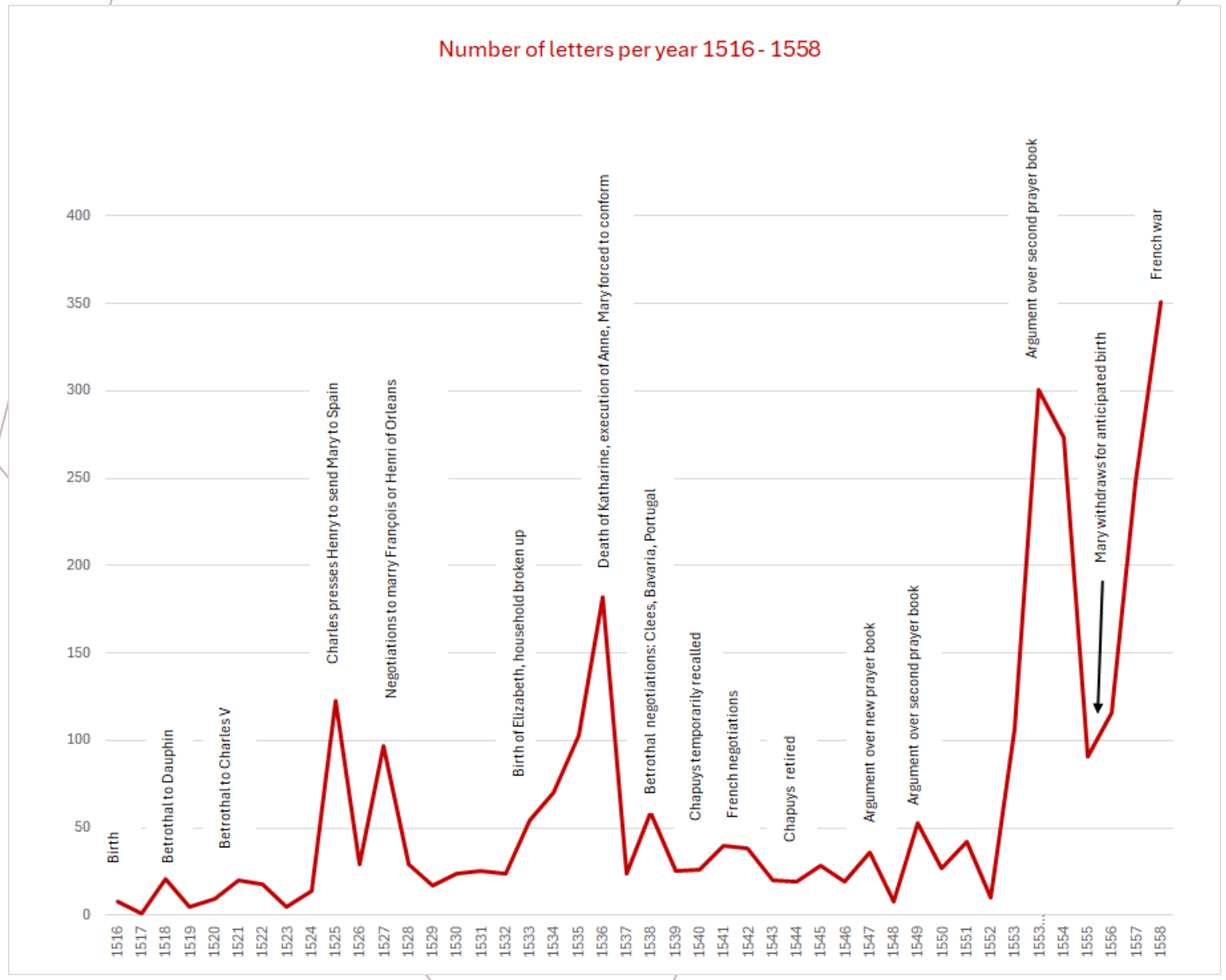
CON

- Steeper learning curve
- Less intuitive to use

NETWORKS OVER TIME

- One whole network
- Network building over time
- Time slices

LETTERS OVER TIME



SUMMARY

1. SNA is not a panacea – it is only as good as your data, and you need to be clear about how you have selected the data;
2. It is extraordinarily visually powerful, as humans like patterns, so use that benefit, while understanding that there are lies, damned lies, and statistics;
3. Use it to uncover hidden people, surprising links, previously unnoticed people – it is very effective at what you might call the second rank people. We all know that Wolsey, Cromwell, Cardinal Pole etc were important, but some of the other people really come to the fore;
4. Plan, plan, plan! Before collecting the data.