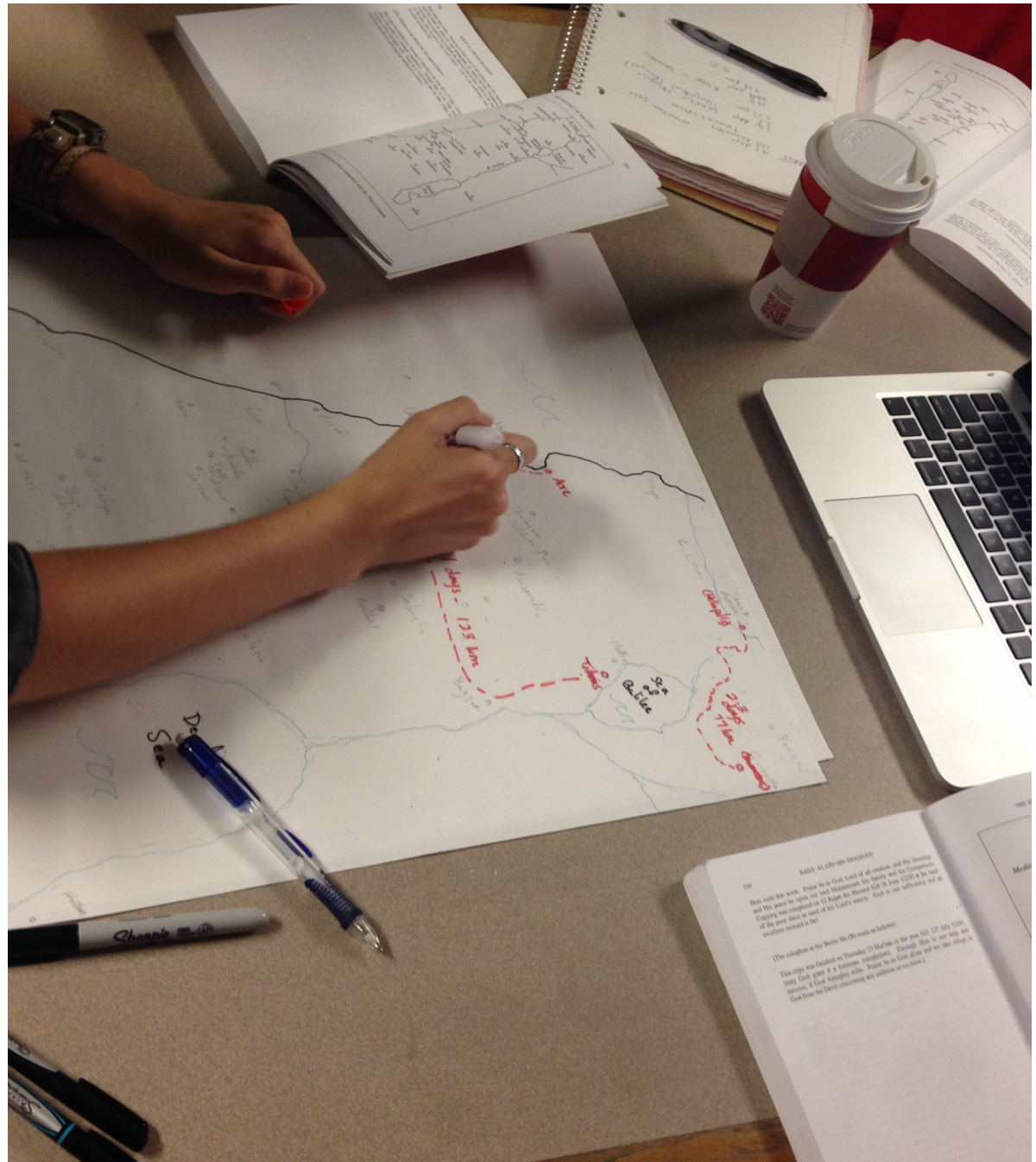


Single-Session Digital- History Lesson Plans with Analog Technology

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Why digital history in classrooms?

- Using “digital” to support “history” by
 - Embedding unfamiliar information in familiar environments (maps)
 - Breaking a familiar environment into smaller, less familiar pieces (text mining)
 - Breaking an unfamiliar environment into smaller, more approachable pieces (networks)
- Introducing students to digital history to support digital literacy outside the classroom

Why single sessions?

- Low risk
- In-class variety keeps students active
- Ability to scaffold (from familiar methodology to unfamiliar methodology)
- Ability to expand (and add technology) when the theory and historical thinking skills pieces of the exercise work

Why analog tools?

- Limitations in
 - Classroom technology
 - Individual student technology
 - Software learning curves
- Advantages
 - Underlying theory and practice separated from specific tool
 - Slower step-by-step practice makes process transparent
 - Later tool use can build on existing theory and practice
- Disadvantages
 - Human confirmation bias not bypassed
 - Slower step-by-step practice doesn't use computerized affordance of speed
 - Too-much-later tool use will have to include reacquaintance with theory and practice.

Underlying pedagogical guidelines

- Explicitly supports a history learning outcome
- Directly ties exercise to digital literacy outside of the classroom.
- Requires student groups of 2 or more
- Distinct focus for each group that requires synthesis with (e.g. paying attention to) other group results
- Advance reading instructions, but also requires students to re-engage with text during the exercise.
- Takes advantage of some technology (1 laptop per group or 2 smartphones per group of 5 students)

Spatial history/historical GIS

- **History learning outcome: Perspective taking.** Integrating hard-to-remember geography into student understanding of a primary source
 - **Historical literacy:** Geography limits historical events in unfamiliar ways, and people assign emotion to geographic space.
 - **Digital literacy:** maps aren't static "truthful" objects
 - **Groups:** 3 (or 4) student groups in 25-person classroom
 - **Focus:** 1 GIS exercise and 3 cartographs
 - **Advance reading instructions:** Frequency of place names, travel overview, emotions
 - **Technology:** Stanford's ORBIS, Google Maps

4 maps (1 map and 3 cartographs)

■ A travel map

- How does landscape alter people's experiences?
- How long did it take to get from place to place?
- What routes did people take from place to place?

■ A frequency map

- Which locations are more important from Ibn Shaddad's point of view?
- Where did Saladin spend most of his time?
- How is the frequency landscape different from the population landscape?

■ An experience map

- Where are Saladin and Ibn Shaddad's positive experiences? Negative?
- How did Ibn Shaddad feel about the different places he'd been?
- How did he portray Saladin's experiences?

■ A diplomatic map

- What cities are most important politically?
- Where are Saladin's allies? His enemies?
- Where does he rule by conquest? By negotiation? By heredity?
- Where does he have no influence?

Text mining via word clouds

- **History learning outcome: Purpose and document corroboration.**
Synthesizing the various themes of several documents to understand what they do and how they complement each other.
 - **Historical literacy:** Structure, context and causality in document purpose when there are competing or confusing narratives.
 - **Digital literacy:** Search results and natural language processing
 - **Groups:** 3 groups in 25-person classroom
 - **Focus:** 3 word clouds for 3 different documents
 - **Advance reading instructions:** Major themes, frequency of people/places/events
 - **Technology:** Wordle or Voyant Tools

Network analysis

- **History learning outcome: Context making.** Synthesizing the various relationships of a large group of people into student understanding of a primary source
 - **Historical literacy:** Cultural and social context in document purpose. Understanding the relationships between people helps us remember them better, and helps us remember how their purpose is driven by interaction with other people.
 - **Digital literacy:** Social network relationships
 - **Groups:** 3 groups in 25-person classroom
 - **Focus:** 3 different kinds of network types
 - **Advance reading instructions:** Frequency of co-occurrence
 - **Technology:** <http://www.yasiv.com/facebook> or Palladio (but hard to use)

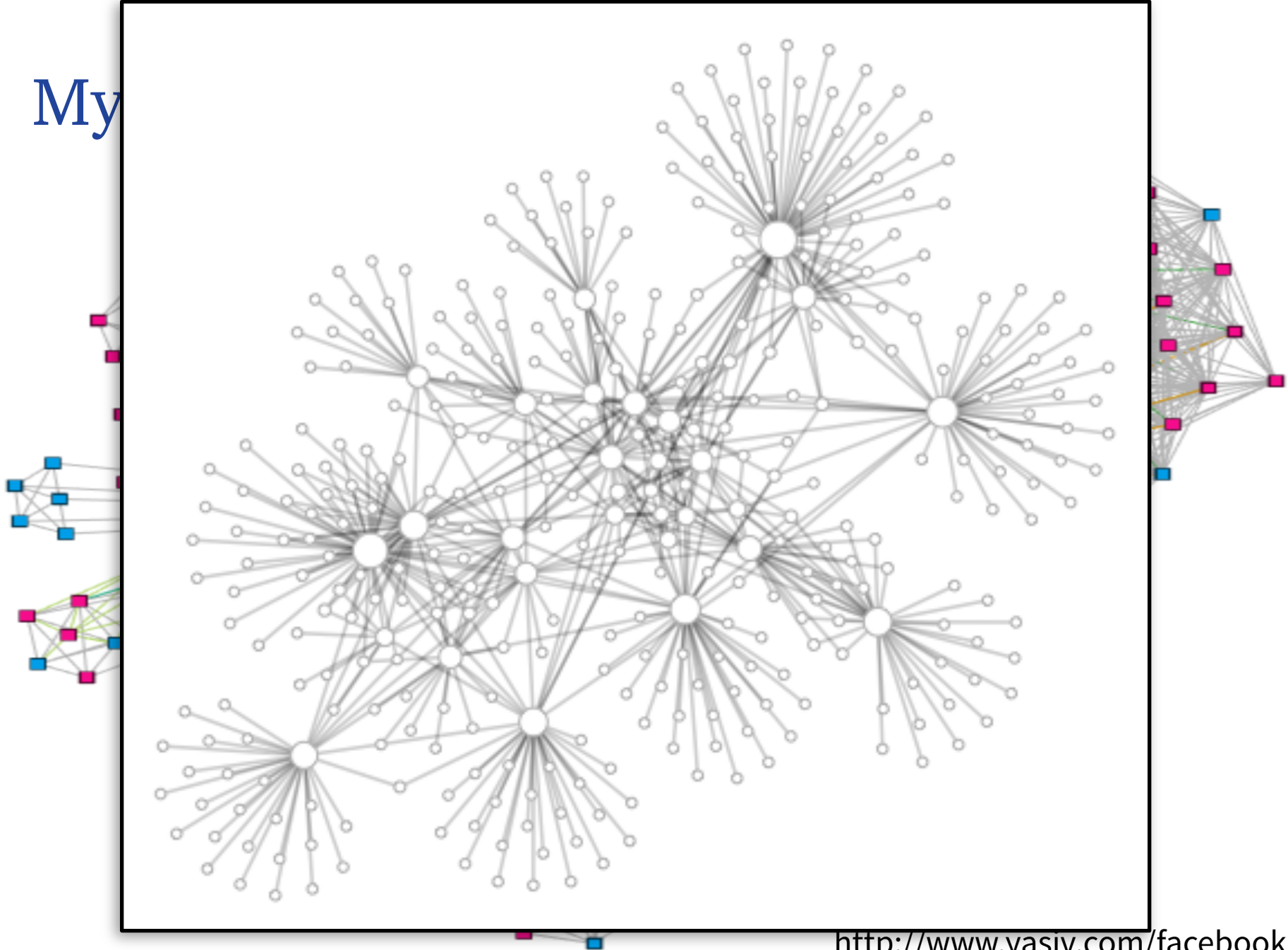
The social network

- Network theory
 - Statistical distribution of people with friendly *or* unfriendly terminology connecting them
- ARE EPIC POEMS REAL? Comparison of:
 - Iliad
 - Beowulf
 - Táin Bó Cuailnge
 - <http://iopscience.iop.org/0295-5075/99/2/28002>

Network-theory results

- Vocabulary
 - **Node:** a network item
 - **Edge:** a connection between two network points
 - **Centrality:** the importance of a node
 - **Degree centrality:** the number of links to/from a node
 - **Closeness centrality:** how far from the farthest node any single node is
 - **Betweenness centrality:** how often a node is on the shortest path between two other nodes

My



Real Social networks

- A real social network is
 - **Assortative:** highly clustered, with nodes connected by edges to other nodes with similar features, resulting in sub-networks
 - How many links to/from a node?
 - **Balanced:** triadic, with most interactions involving edges between three nodes, resulting in tightly clustered sub-networks
 - How far from the farthest node any single node is?
 - **Destructible:** a few high-degree, high-betweenness, high-centrality nodes act as edges between tight clusters of sub-networks
 - How often a node is on the shortest path between two other nodes?

Your hypothesis

- Construct a social-network data visualization for the Iliad:
 - **Assortative:** triadic, with most interactions involving edges between three nodes, resulting in tightly clustered sub-networks
 - Measure and represent degree centrality: how many links go to/from a node?
 - **Balanced:** triadic, with most interactions involving edges between three nodes, resulting in tightly clustered sub-networks
 - Measure and represent closeness centrality: how far from the farthest node is any single node in its subnetwork?
 - **Easily Destructible:** a few high-degree, high-betweenness, high-centrality nodes act as edges between tight clusters of sub-networks
 - Measure and represent betweenness centrality: how often is a node on the shortest path between two other nodes in two different subnetworks?
- Combine network diagrams and decide if the Iliad is a real social network

Your exercise

- Can you think of a primary source or sources where there are barriers to student understanding in:
 - Geography
 - Names or lists of people
 - Competing narratives
- How would that work in your classroom?
 - Consider medium and class size
 - Poster paper means lots of groups can work
 - Chalkboard/whiteboard means groups can work privately and then transfer information
 - Do each group's results need to be posted for comparison and discussion?