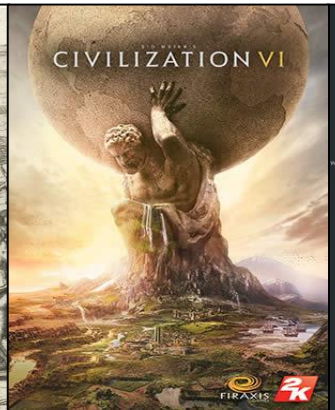
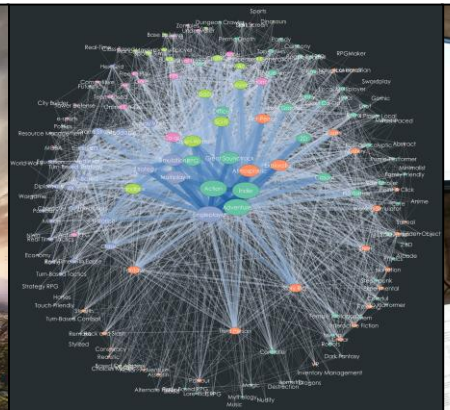
Universiteit Leiden

Digital Approaches to Historical Inquiries

8th Class

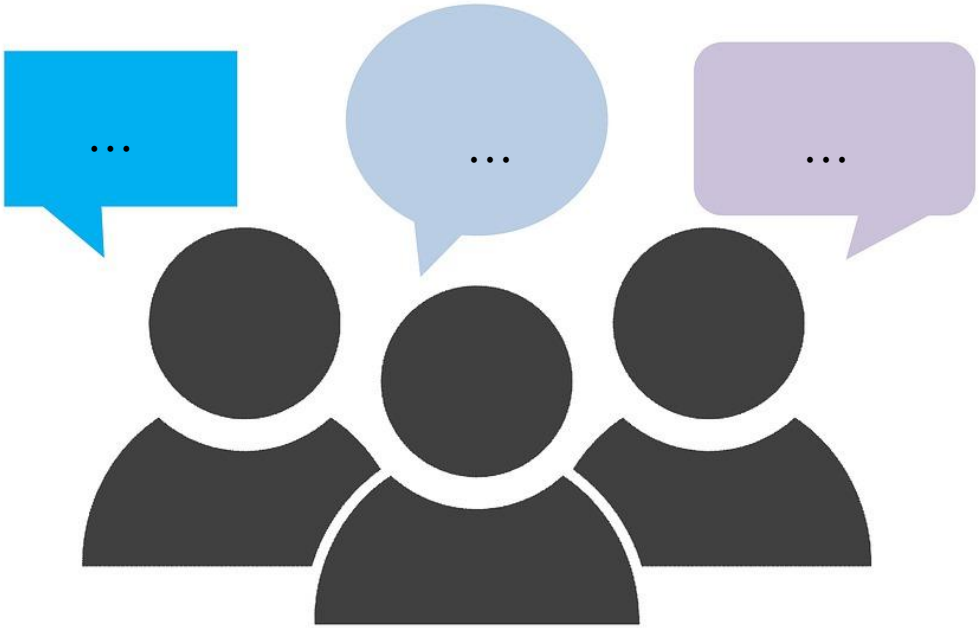




Assignment 6

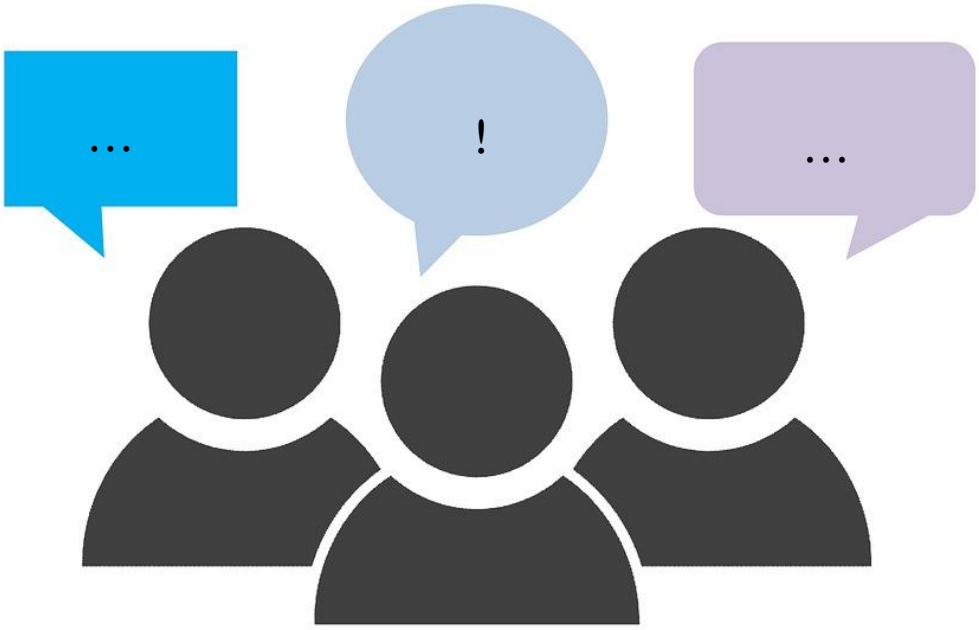
- Due on April 10 (in two weeks)
- Analyze your own (or mine) Facebook network data using Lost Circles
- Import the data-set in visone
- Identify the top 5 most central actors using at least two different centrality measures
  - Visualize and explain the measures
  - If personal network: discuss the results from your perspective (keeping in mind anonymity/personal privacy)
  - If my network: provide a discussion of the position of my 5 most central nodes (and, if you like, provide your own guess as to what social role in my life they fulfill).
- Is time present in this flat network? How?
- Does geographic space factor into your network? How?
- Export the visualization(s) of your network (e.g. .png or PDF) and provide a max 700 word report that discusses the outcome of your centrality measures and temporal/spatial dynamics acting on your network via Slack.
- Bonus points if you can connect your own findings to specific network theories (e.g. small worlds, structural holes, weak ties, "robust action", et cetera).

On Feedback



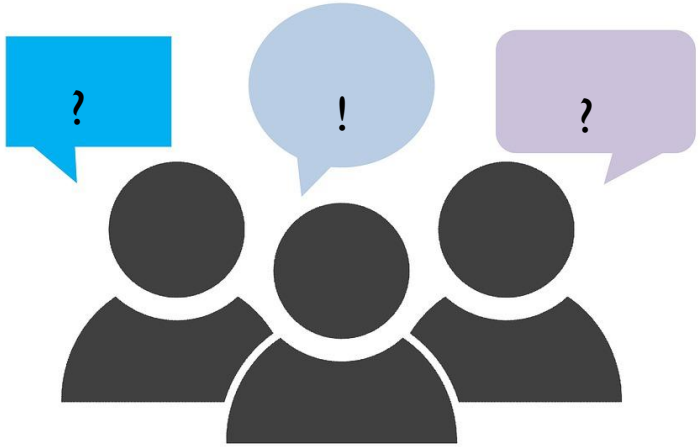
Deafening Silence-model

On Feedback

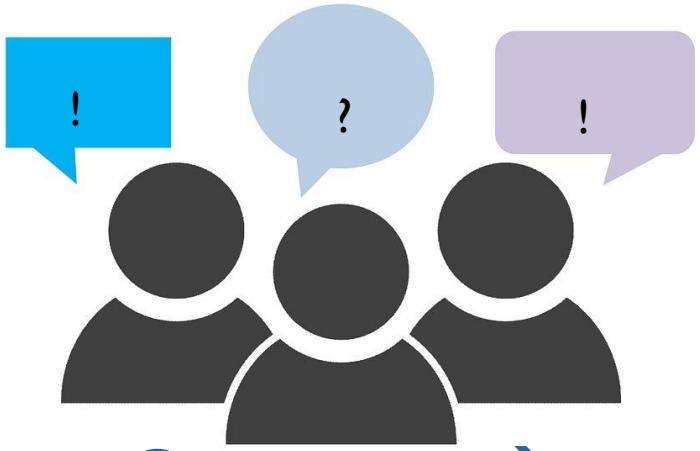


Voice in the Wind-model

On Feedback

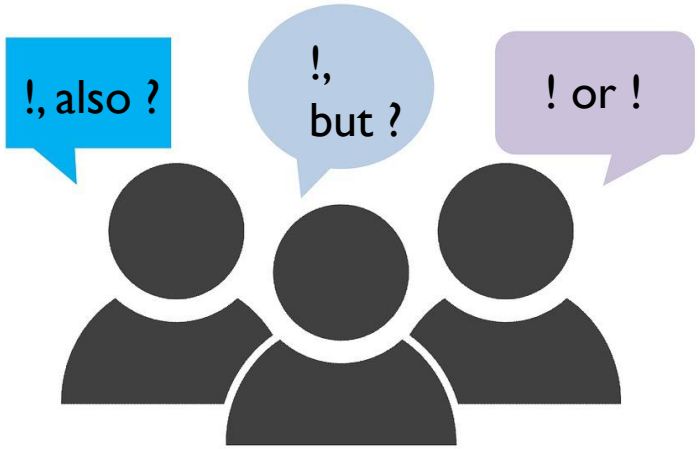


Action →
Suggestion -model



Question →
Advice-model

On Feedback



Action with Question → Advice/Suggestion
(→ Reflection→follow-up)-model

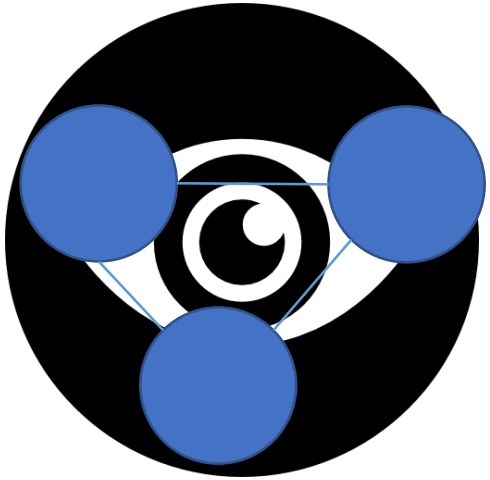
On Feedback (Oxford Learning Institute)

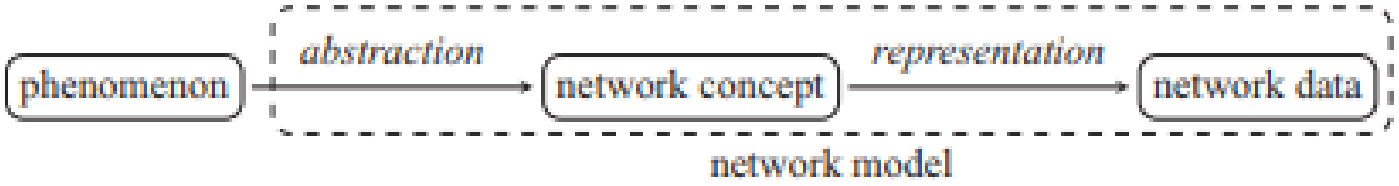
- 1. **Invite the individual to self-assess**
  - For instance, "what do you see as the strengths and weaknesses of your analysis?"
- 2. **Comment on positives**
  - Whenever possible, try to give some (genuine) positive feedback – it makes the negative easier to bear.
- 3. **Focus on the content not the person**
  - For instance, "I think that the draft you've given me needs more thorough editing here, and here", rather than "Your writing is really shoddy."
- 4. **Be specific and clear; if possible, suggest concrete ways to make improvements**
  - For instance, "The proposed method does not align well with the methodology. Are there studies in the literature that can provide guidance?
- 5. **Own the statement**
  - Use 'I' statements rather than 'you' statements, e.g. "I find your description confusing" rather than "you sound confused here".
- 6. **Don't wait**
  - Immediate feedback is the most valuable. If this is not possible, give it as soon as you can.
- 7. **Recognize that an immediate response to negative feedback may be defensive**
  - Be prepared for these kinds of responses since without addressing them the feedback is unlikely to have much effect.

- 1. **Self-assess your ideas and work beforehand**
  - Prepare some specific questions that you want the other person to provide feedback on.
- 2. **Ask for help in finding solutions to the difficulties**
  - For instance, "Can you tell me what you think would work better?"
- 3. **Remember that it is easy not to "hear" feedback, particularly if it's negative.**
  - There are several ways in which individuals may prevent themselves from taking in negative feedback.
  - They may justify (e.g. "Well, you'd have done the same thing in that situation"),
  - explain (e.g. "Well you don't really know the situation"),
  - deny
  - or become angry or hurt.
- 4. **Remind yourself that all feedback, even negative, can be useful**.
  - Take notes so that you can think through more thoughtfully the specifics of any negative feedback you receive.
- 5. **Check that you have fully understood the specifics of the feedback.**
  - For instance, "So the main things I should focus on are xxx, yyy, etc"
- (6. **Follow-up**
  - be open and/or show if and how feedback that was given has made an impact on your work)

On Feedback

- Via Slack in your dighistproject[groupnumber]
- Follow netiquette
- Run by you, moderated by me
- Part of your grade!
  - It's not about quantity, but about quality
  - …But it does need to happen!




phenomenon
abstraction
network concept
representation
network data
network model

Slide created by and courtesy of C.L. Hofman (Leiden, 2007)

Floating phenonemena ("Metaphors")

"Cultural Mosaic"
(Wilson 1993)

"Interaction Spheres"
(Boomert 2000)

"Diffuse Unity"
(Hoopes and Fonseca 2004)

"Chaos"
(Keegan 2004)

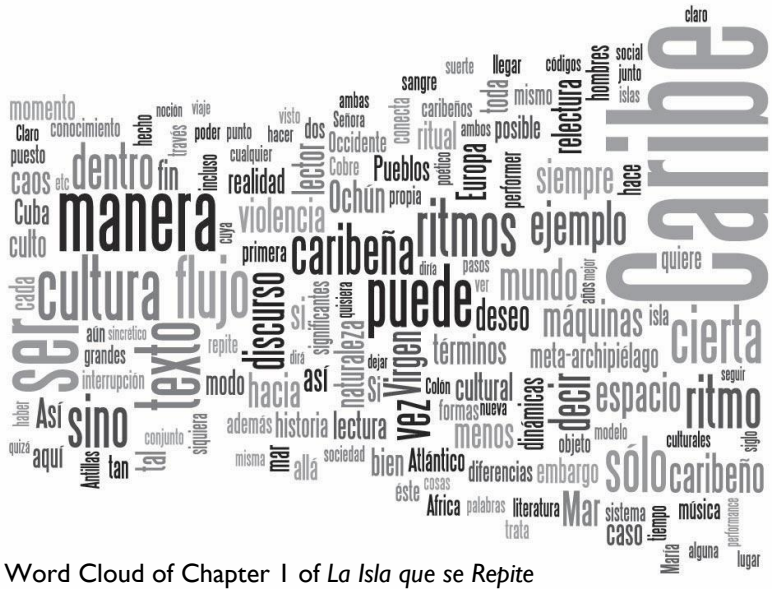
"Multi-vectorality"
(Rodriguez Ramos and Pagán Jiménez 2006)

"Island Rhythms"
Hofman et al. 2007

"Veneer"
(Keegan 2007)

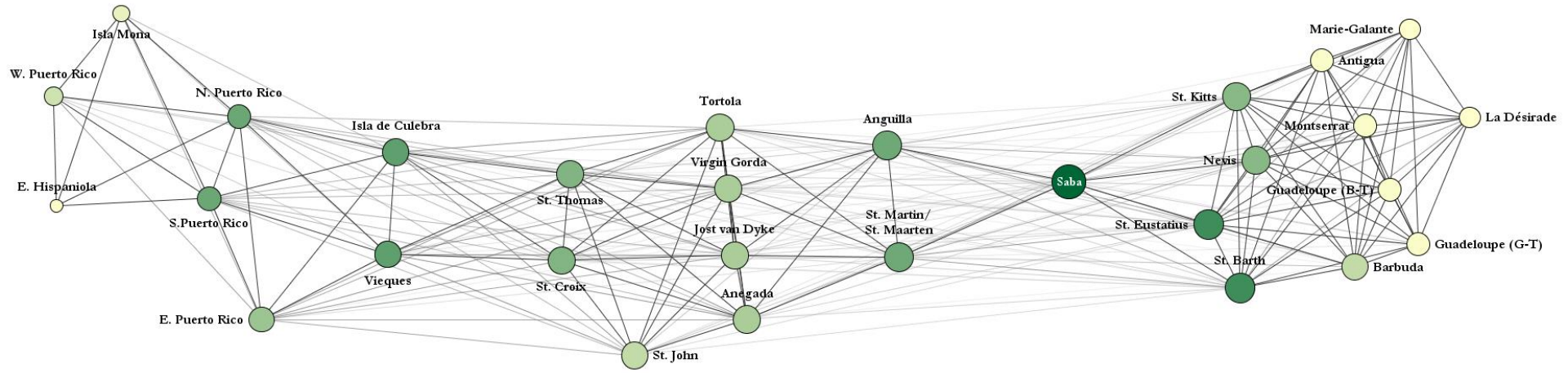
"Webs"
(Oliver 2009)

"Kaleidoscope"
(Siegel et al. 2013)



Word Cloud of Chapter 1 of *La Isla que se Repite*
(A. Benítez Rojo 1998)

Network of Islands

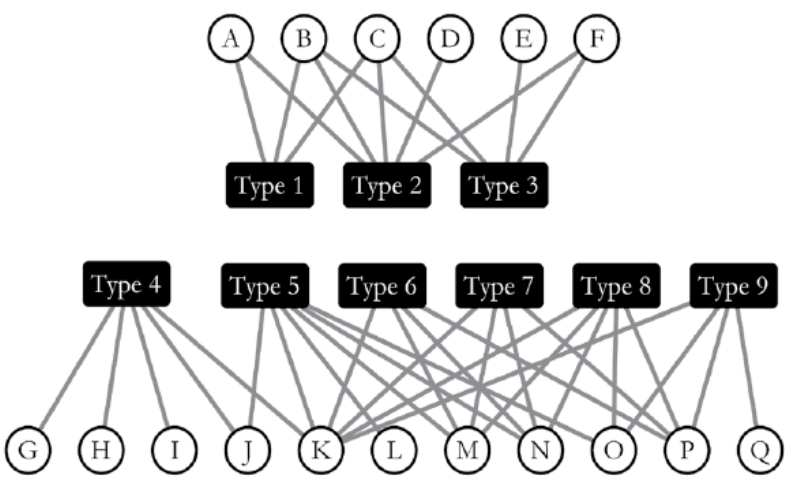


Map and PPA-network of NE Caribbean

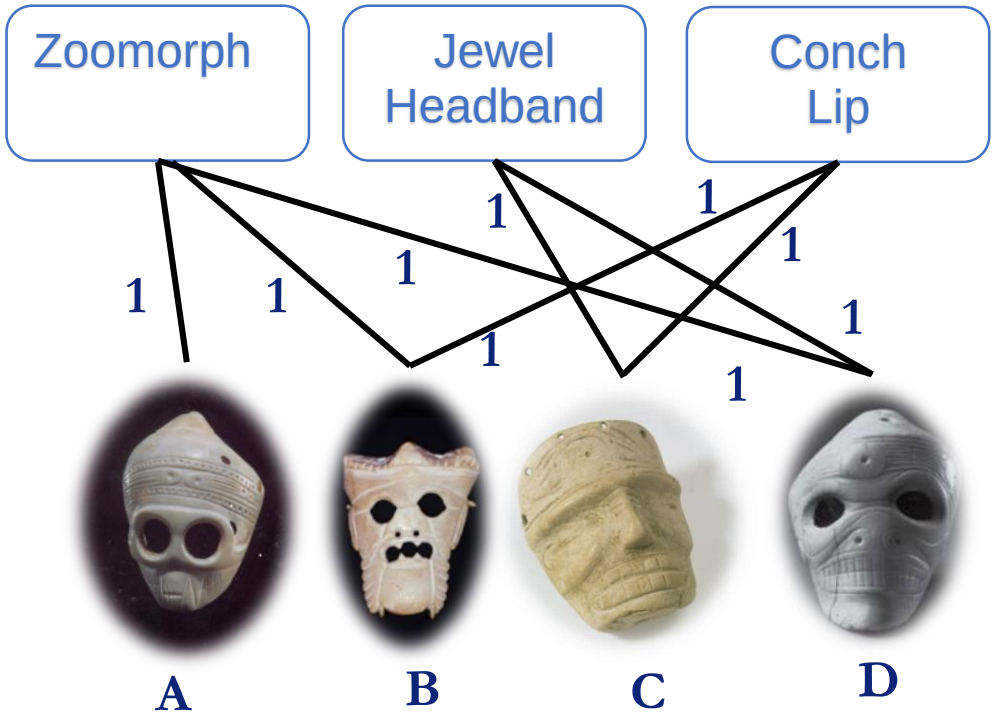

Florida
Mexico
Cuba
Dominican Republic
Haiti
Puerto Rico
Jamaica
Hispaniola
Greater Antilles
Leeward Islands
Windward Islands
Trinidad

2-mode "Style Networks"

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0
3	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0
6	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	0
7	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	0
8	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0
9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1



ID/Group	Zoo	Jewel	Lip
A	1	0	0
B	1	0	1
C	0	1	1
D	1	1	0

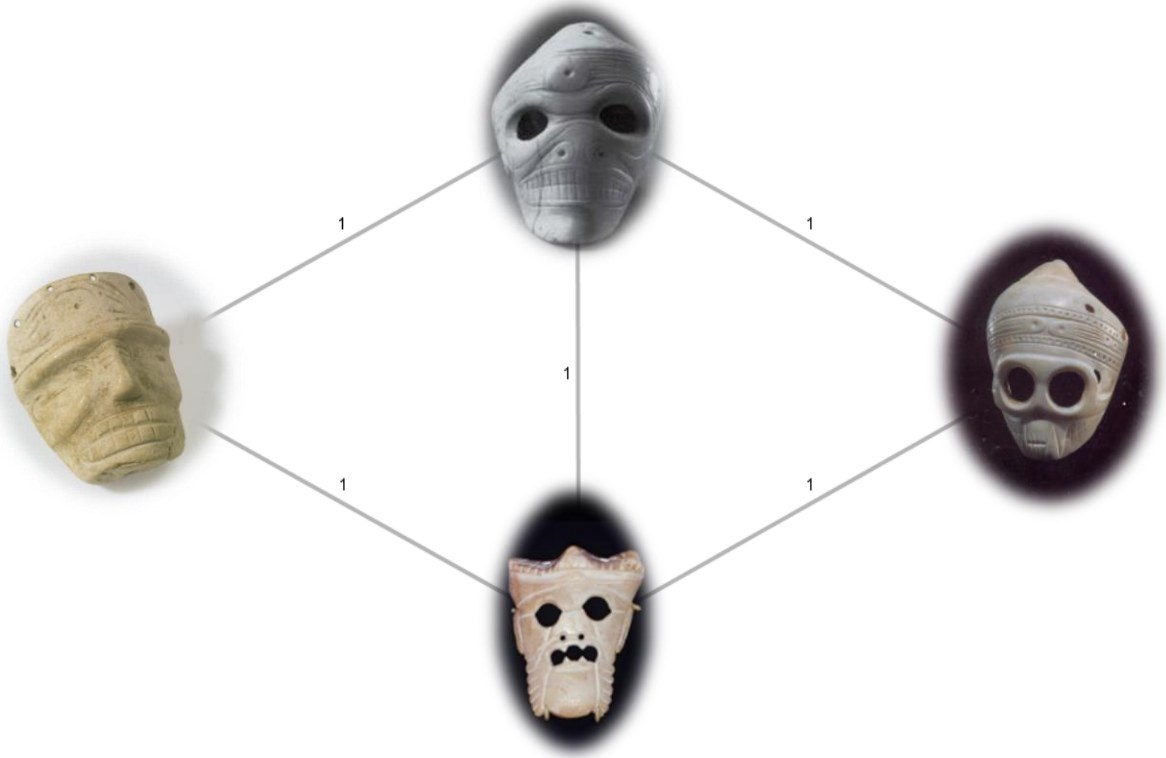


Affiliation Networks

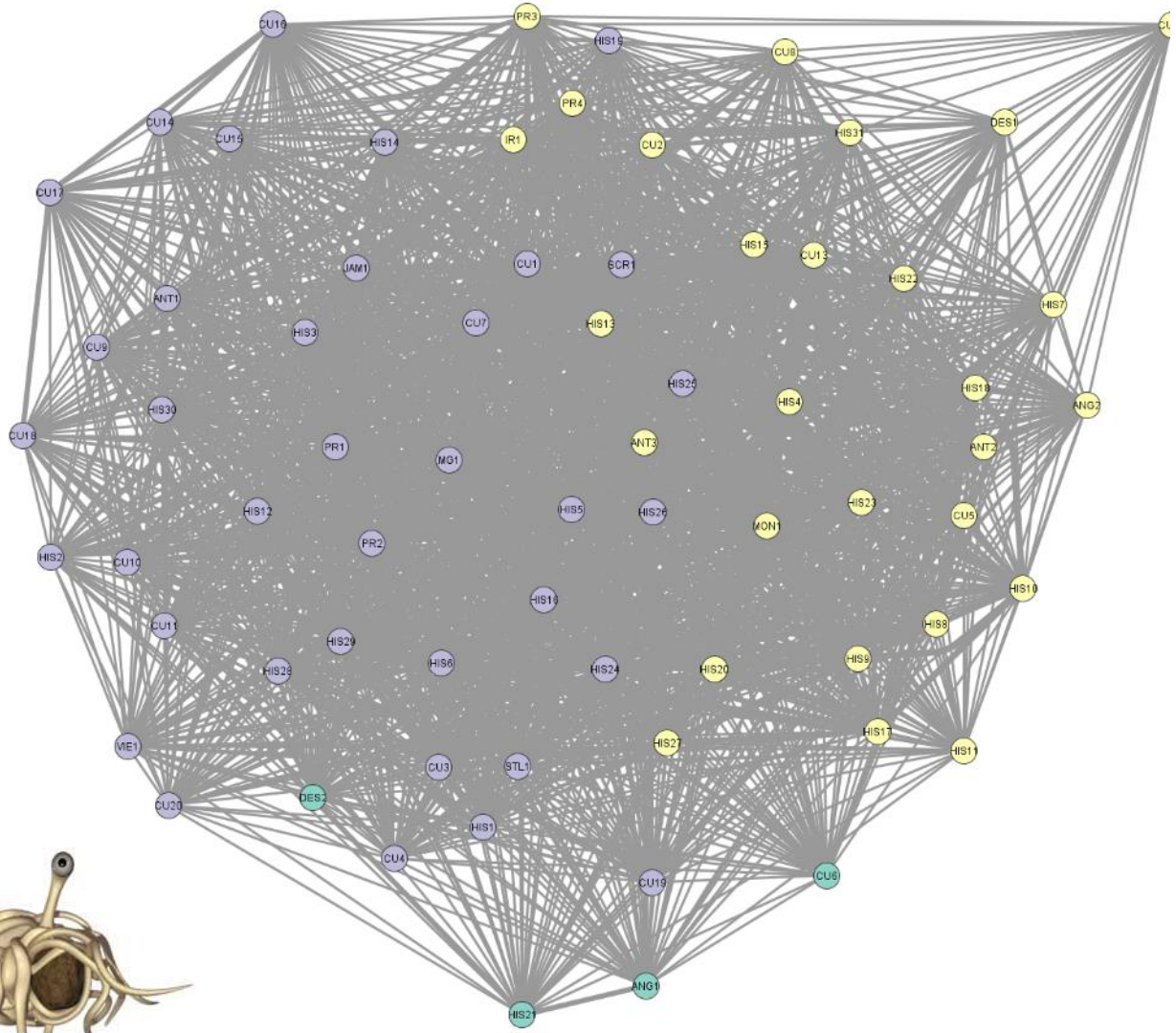
ID/Group	Zoo	Jewel	Lip
A	1	0	0
B	1	0	1
C	0	1	1
D	1	1	0

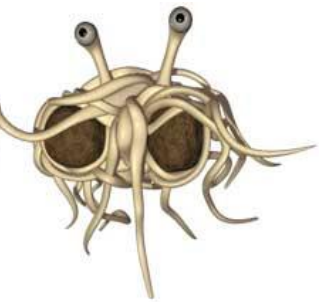
$$a_{ij} = \sum_k x_{ik} x_{jk} \text{ or } A = XX'$$

a_{ij} = the number of groups that both *i* and *j* are members of



Similarity Networks

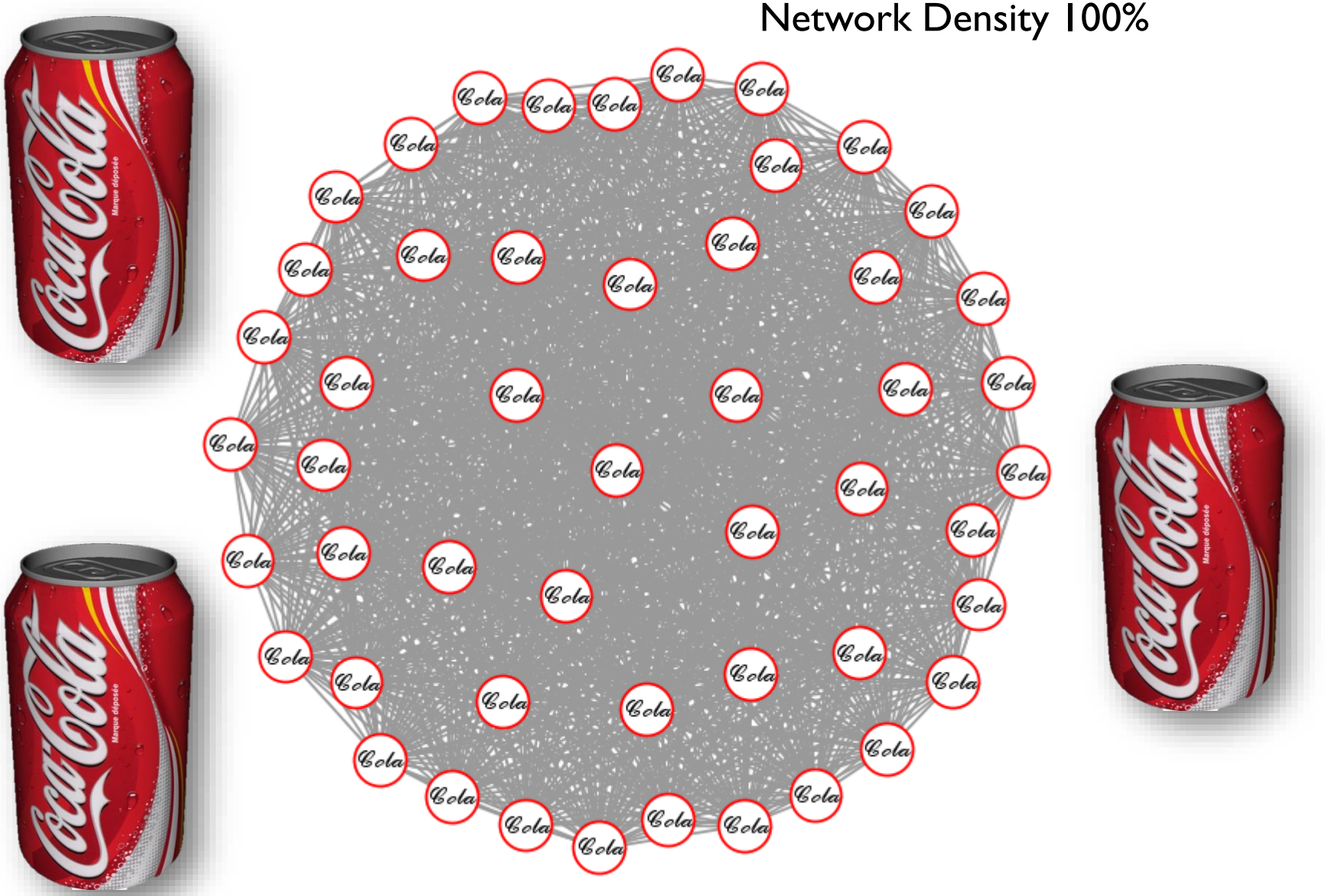


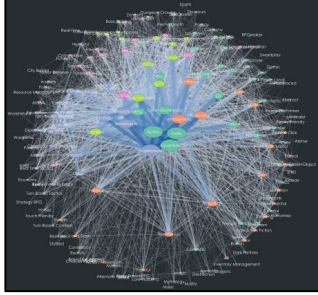


- Weighted ties
  - Max. tie capacity = 9
  - Max. tie strength = 6
  - Avg. 1.95
- Network density = 18%
- Tie weighting-measures (e.g. Brainer-Robinson coefficient)

“Coke-can design” similarity network

Network Density 100%



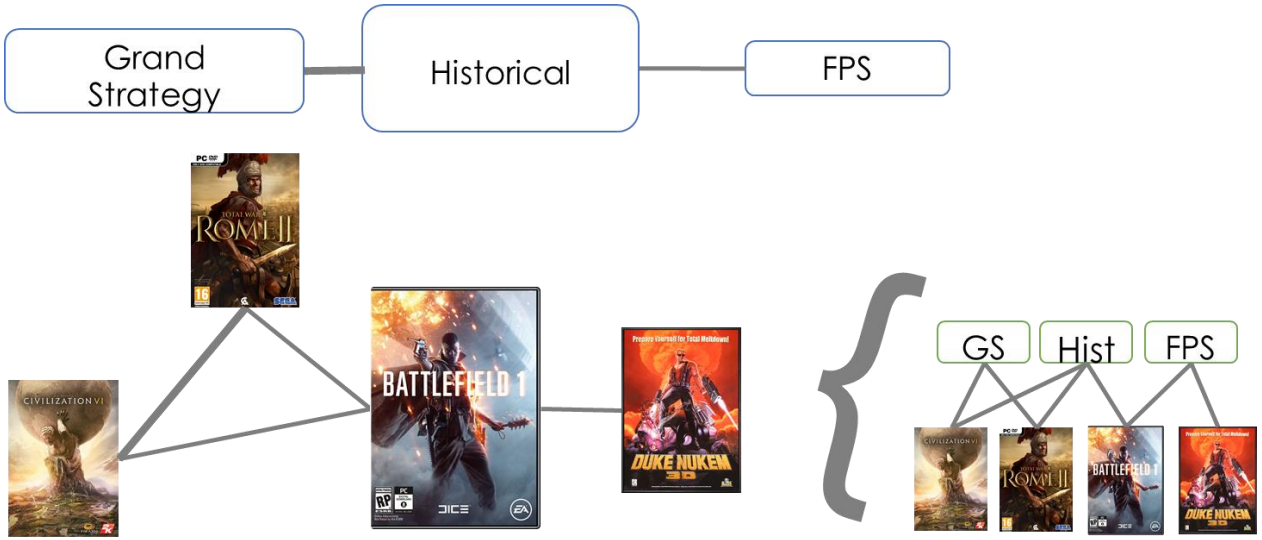


Tag networks as game families

"[T]he result of this examination is: we see a complicated ***network of similarities*** *overlapping and criss-crossing: sometimes* ***overall similarities****, sometimes* ***similarities of detail****. I can think of no better expression to characterize these similarities than* ***'family resemblances'****; for the various resemblances between members of a family: build, features, colour of eyes, gait, temperament, etc. etc.* ***overlap and criss-cross*** *in the same way."*

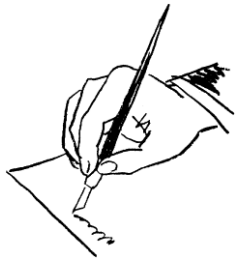
~Ludwig Wittgenstein

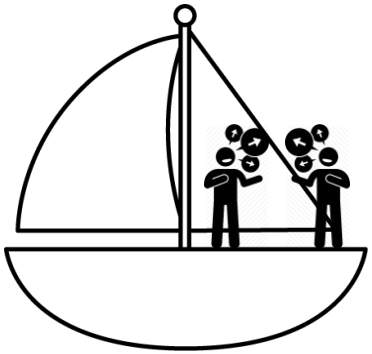
Statement 67, *Philosophical Investigations, 1953*

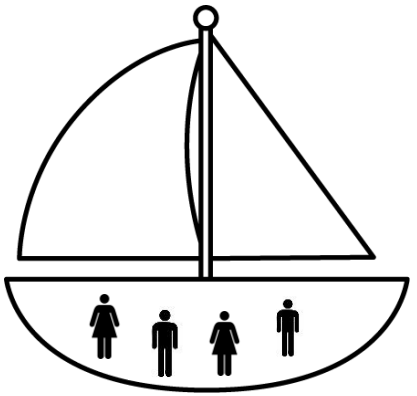


2-mode networks, bi-partite graphs, co-occurrence networks

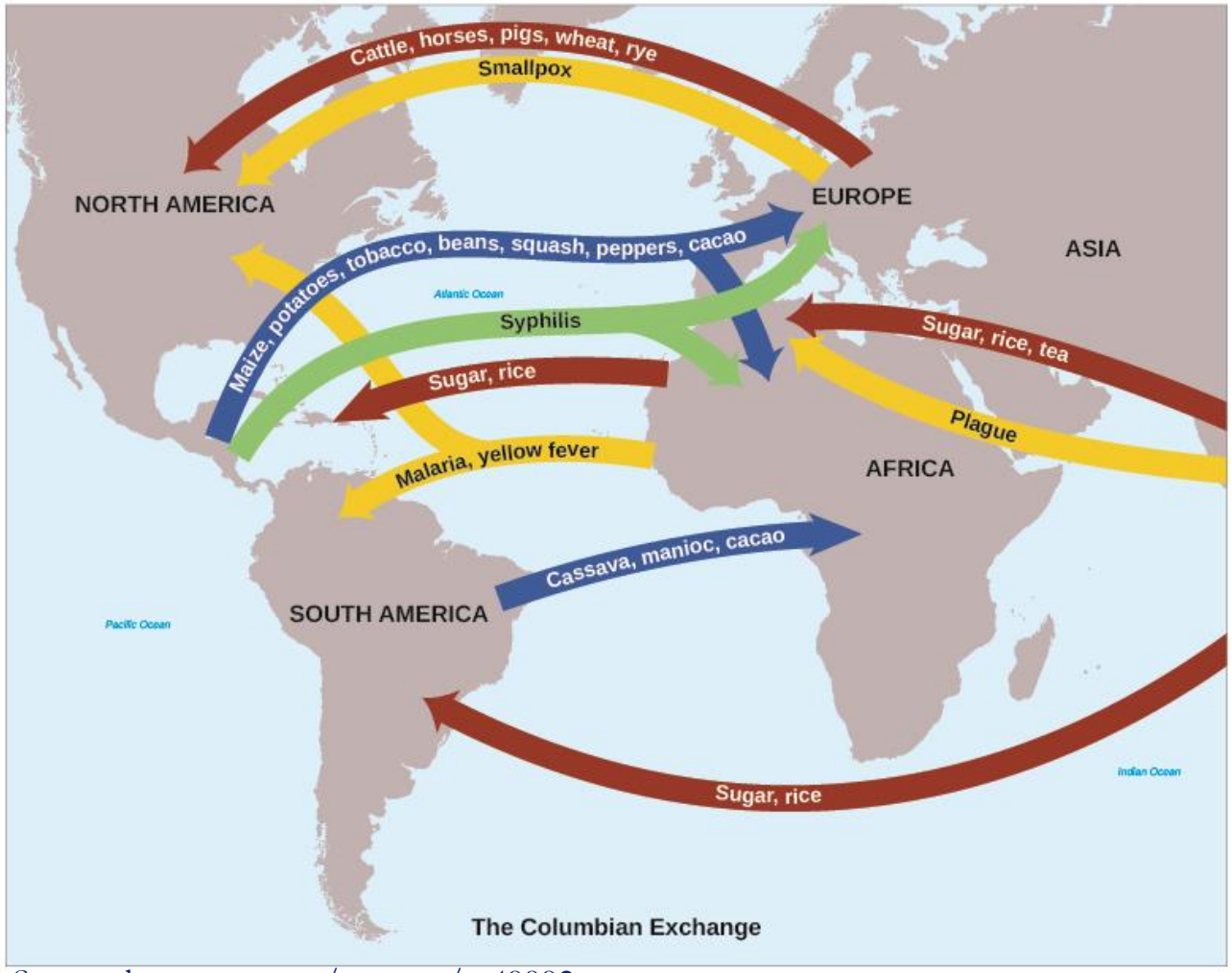
- Formal discussion by Borgatti, here!
- Indirect vs. direct data
  - Nodal properties
  - Can perhaps be much more simply captured with correspondence analysis.
  - Incidence structure is "warped"
- Frequently builds in one extra level of abstraction (From social phenomena → material culture → style network → incidence of similarity)
- But can be used leverage a much wider range of data to represent networked phenomena!
  - Specifically in historical cases!







The Phenomenon: The Columbian Exchange



Source: legacy.cnx.org/content/m49992

The Concept:
The things at the roots of the Columbian Exchange

Columbus arrives in the Americas, magnificently welcomed by the natives
Theodor de Bry, Johann Theodor de Bry. 1594

Network concept: if items are transacted in the same encounter events, they are connected (are part of one assemblage)

Interpersonal and interobject dynamics in 21 primary or early secondary sources (Chronicles, diaries, accounts)
Covers 1492-1516

The Data

Step 1: Coding

"I gave **red caps [capsD1: event D1, caps]**, and **glass beads [beadsD1]** which they put on their chests, and many **other things of small value [goodsD1]**, in which they took so much pleasure and became so much our friends that it was a marvel. Later [start of event D2] they came swimming to the ships' launches where we were and brought us **parrots [parrotsD2]** and **cotton thread [cottonD2]** in balls and **javelins [javelinsD2]** and **many other things [goodsD2.1; event D2, goods #1]**, and they traded them to us for **other things [goodsD2.2]** which we gave them, such as small **glass beads [beadsD2]** and **bells [bellsD2]**."

Step 2: Database

Event	Code	Type	Material	Sic	Cultural affiliation	Date	Location
D1	capsD1	caps	fabric	*bonetes colorados*	European	1492-10-12	San Salvador
D1	beadsD1	beads	glass	*cuentas de vidro*	European	1492-10-12	San Salvador
D1	goodsD1	goods	unspecified	*otras cosas muchas de poco vc*	European	1492-10-12	San Salvador
D2	parrotsD2	parrots	living being	*papagayos*	Amerindian	1492-10-12	San Salvador
D2	cottonD2	cotton	cotton	*hylo de algodon en ovillos*	Amerindian	1492-10-12	San Salvador
D2	javelinsD2	spears	wood	*azagayas*	Amerindian	1492-10-12	San Salvador
D2	goodsD2.1	goods	unspecified	*otras cosas muchas*	Amerindian	1492-10-12	San Salvador
D2	goodsD2.2	goods	unspecified	*otras cosas*	European	1492-10-12	San Salvador
D2	beadsD2	beads	glass	*cuentezillas de vidro*	European	1492-10-12	San Salvador
D2	bellsD2	bells	metal	*cascaveles*	European	1492-10-12	San Salvador

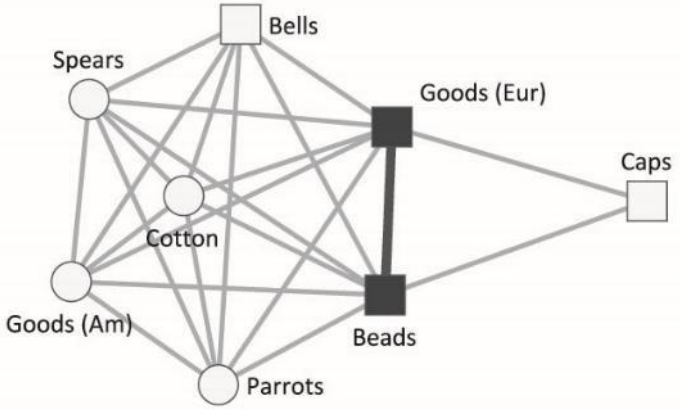
Step 3: Type-type matrix

The Concept:

	Beads	Bells	Caps	Cotton	Goods (Am)	Goods (Eur)	Spears	Parrots
Beads		1	1	1	1	2	1	1
Bells	1		0	1	1	1	1	1
Caps	1	0		0	0	1	0	0
Cotton	1	1	0		1	1	1	1
Goods (Am)	1	1	0	1		1	1	1
Goods (Eur)	2	1	1	1	1		1	1
Spears	1	1	0	1	1	1		1
Parrots	1	1	0	1	1	1	1	

The values in the cells of the matrix reflect co-occurence in the same transaction event, which means in this example:
0: not transacted together
1: transacted together once (D1 or D2)
2: transacted together twice (D1 and D2)

Step 4: Network visualization



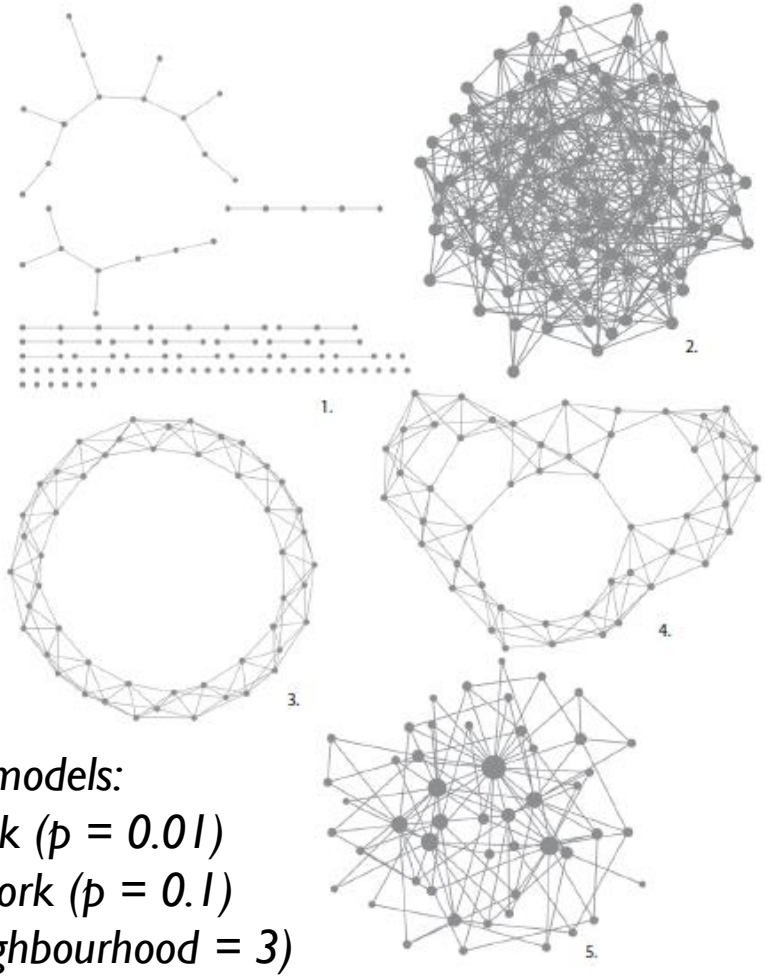
Nodes in the network correspond to object types transacted during encounter events D1 and D2. Square nodes are object types transacted by Europeans. Circles are object types transacted by Amerindians.
Ties indicate co-occurence of object types in the same transaction event and correspond to the values in the matrix above. Light grey ties have strength 1. The dark grey tie has strength 2.

The Representation
(in visone!; data-set in the schedule of the syllabus)

What did we do?

What lies beyond?
(Longitudinal) network modelling!

- Network exploration/visualization vs. network modelling
- Models
  - What effects create the topology of this network?
  - Exponential Random Graph Models
- Longitudinal modelling:
  - Sienna
  - (ABM)

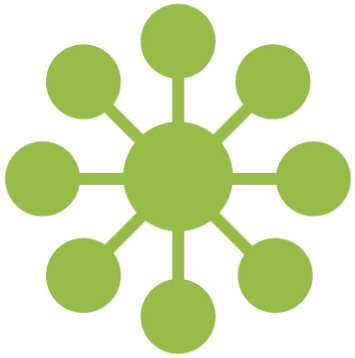


Five examples of network models:

1. *Sparse random network (p = 0.01)*
2. *2. Dense random network (p = 0.1)*
3. *3. Lattice network (neighbourhood = 3)*
4. *4. Small world network (neighbourhood = 3, edge re-wiring p = 0.1)*
5. *5 Scale-free network (node size relative to node degree).*

How Everything Is Connected to Everything Else and What It Means for Business, Science, and Everyday Life

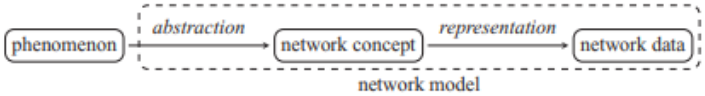
Linked



"Remarkable.... A sweeping look at a new and exciting science." —*Science*

Albert-László Barabási

Network analysis is not a "black box"



- Selection of data should be contingent on the phenomenon to representation "pipeline"
  - If phenomenon is not social, you are not doing social network analysis!
- Measures are part of a formal/mathematical, but also "explorative and interpretative" process
  - Know what a measure does, if you use it (ideally, you will understand the algorithm)
- Visualization is about patterns, but there is also a rhetorical move

These principles can and *should* be extended to other digital approaches!

See you next week!

Survey is sent out.

Please take the time to fill it out before next class.

Next week:

- Open Office!