

..... Social Networks, Class, Visualization and Change

Descriptions, and official proclamations about the organization of society, are often at odds with the lived relations of the participants. This is true of society as a whole as well as of smaller sub-components of states, institutions, families, etc. Many organizations function despite the best efforts of those officially in charge. I have certainly worked in a few situations (which I shall not name here) where co-workers cooperated to circumvent potential damage caused by a boss's "bright idea." Official decision-making structures and people's official roles and responsibilities often have little in common with the actual interactions that take place between people, or if they do it may well be to the detriment of the task at hand. Jacob Moreno sought to uncover the underlying social relations that bind people together and adjust the corresponding official hierarchies to reflect this reality. Moreno (1889-1974) grew up in Vienna and moved to New York in 1925. He was an eccentric psychiatrist with a passion for creation who developed many methods for both social and psychological development and understanding. Many of his techniques, such as "psychodance", or the "living newspaper" did not catch on, and can only be found in his many writings. Other developments of his have become respectable elements of modern practice, such as group psychotherapy, and psychodramatic techniques including role reversal, doubling and mirroring—all used by psychotherapists today. In the field of social network analysis, his sociometric techniques are also still in use—including sociograms, visual maps of social networks.

According to Linton C. Freeman, in his essay on the history of visualizing social networks,¹ Moreno may have been the first to person to use lines connecting points, to graphically display social relations.² For Moreno the criterion chosen for a particular mapping was as important as the way it was actually shown. For example, if you ask a group of people to each put their left hand on the shoulder of the person whose shoes they like the best, you will get a real life three-dimensional sociogram of the group—but it won't necessarily tell you much about the group dynamics.

Moreno coined the term "sociometry" meaning the measurement of social relations. He devised some guidelines for creating sociometric experiments. One general principle was that the participants in the study should be warmed up to the process and adequately motivated.³ "Every participant should feel about the experiment that it is in his [or her] own cause that it is an opportunity for him [or her] to become an active agent in matters concerning his [or her] life situation."⁴ People will give more to a study if they feel like they stand to benefit from it. Today, marketing companies pay for people to participate in focus groups, which may give them enough motivation to participate—but it is qualitatively different from believing that the purpose of the experiment is in their own interest. They are not sociometric.

Another guideline is that every participant in a group is also a researcher, and the lead researcher is also a group member. The formation of the direction of the research itself should come from the participants in the group. The sociometrist should facilitate this. The shoe example above may be a good way to get a group familiar with the method, but further criteria should emerge from the group. One time at a design school I led an evening of small experiments using another form of sociogram, in which people form a line based upon where they stand on a certain continuum. In this example, one end of the room might have represented really loving dogs, and the other end of the room really

hating them. I would ask everyone to find their position in the continuum and stand in it, and talk to those on either side of their position to ensure that they were in the right place relative to others' feelings on the matter. After exploring the form, people came up with their own criteria—which were much more relevant to their group. The best questions came from the students themselves and some of the continui were quite moving. I think the evening fell short of Moreno's criteria for being sociometric however because the room was not locked and staff members occasionally came in. This meant that the group did not necessarily trust it was going to be totally in their interest to participate fully.

Visualizing social networks is fraught with complications. Today much emphasis is put on resolving the best mathematical algorithms for revealing the structures of the network data, so that it is apparent which actors have the most links, who is isolated, and what are the parameters of subgroups, etc. This work is undeniably interesting and much progress is being made, but the questions that Moreno raised are still vitally important. Any group may have any number of connections and substructures depending upon which questions are asked and who is asking them! The question of the form of measurement and the visualization of that measurement are not unrelated. With Moreno's techniques of using the positioning of people in a space to explore a social network, the measurement and the visualization may be one and the same thing.

The advent of the World Wide Web has opened up many possibilities for the simultaneous exploration and presentation of social networks and social interactions. As we link to other sites we create a sociometric space, which can and has been visualized. In much less overt ways our participation in the Internet as a whole is measured as we participate. Our bank transactions, emails, and web browsing all leave trails of data, which are instantaneously incorporated into visualizations of our social networks. We are often warmed up and willing participants in these transactions, but not always conscious of the visualizations that we are shaping.

The Radical Software Group's *Carnivore* project makes this point well. *Carnivore* was the code name for a US state run network surveillance operation, which tracks users' Internet activity. The Radical Software Group's *Carnivore* let people run a simulated version on their home network and invited artists to create visualizations of the data of the network traffic. The different, often beautiful and clever, visual representations of the data gave instant feedback on your network activity not just to you, but all others monitoring the system. These sociograms are critical reminders not just of our own social networks but also of their visibility to others.

While social network visualizations are employed daily to explore our behaviors, they have also been used critically to explore the connections of ruling cliques and high level connections. Written or verbal descriptions often fall short of conveying the complexity of relations involved in the world of international politics and economics. Mark Lombardi's critical art sociograms gracefully illustrate the shady dealings of international actors in corporate scandals, cartels and coups. While the actors are not willingly involved in the construction of the sociograms, he traces their actions through careful, cataloged research, and empirically reconstructs their key actions and choices. He uncovers a world in which the official relations between states, banks, and international institutions is shown to be at odds with the official explanations.

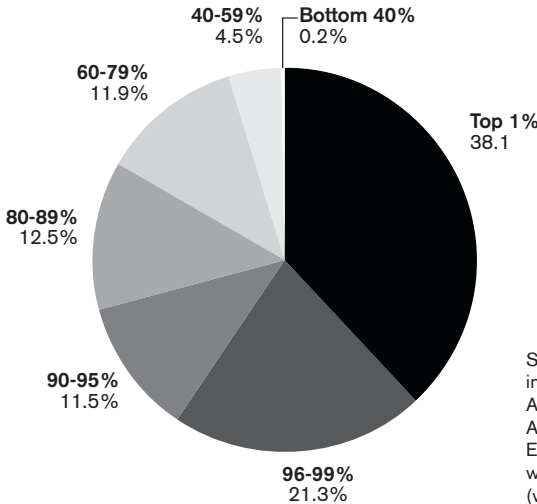
It is self-evident that the immediate function of social network visualization is to reveal connections, patterns, and subgroups—information about a group that might otherwise not be apparent. What should also be obvious is that when a social network is visualized it necessarily raises questions about whether that is how the network actually is, whether this matches official descriptions of the network and whether things need to be

changed. Moreno was quite explicit about this aspect of sociograms; they were one tool in a larger program of revolutionary social change. He first came to the idea of using them after working in a refugee camp in Austria during the First World War. He was appalled by the haphazard housing and job placement of the refugees, in which important social aspects such as cultural identity and religion were not taken into account. He thought that the housing placement should be on the basis of the refugees' choice—i.e. by asking them who they would like to live near and making a sociogram to help with the housing layout.

Moreno had an optimistic outlook for the revolutionary potential of sociometry. He wanted to unlock the connections between people and adjust the world to better fit the social reality. Today, supermarket chains use similar social data that they collect through people's consumer choices in order to help layout their products and decide where to place stores, not to help make the world a better place, but to increase their takings. In the case of Lombardi's visualizations, the official relations do not seem any worse than the hidden reality he exposes. Lombardi's work suggests that the onus of change lies beyond the specific group of people he is looking at, whereas Moreno saw change coming from through the self activity of the groups that he was studying. He saw the external structure (official structure) of groups becoming more aligned with their "sociometric matrix," (actual structure), despite the fact it is often the case that those external structures are beyond the control of the groups themselves.

Our social networks are constantly shifting and overlapping. No group is completely isolated from any other group. We may be able to effect some change in isolation but larger forces and structures often limit our agency. A sociometric study of an office scenario might produce a sociogram that clearly shows that the boss is an isolate and basically a hindrance to the workflow, but he owns the company and that relationship may trump any conclusions of the study. We have to look at these larger structures if we are to come to understand and effect change in our lives. What would happen if we zoomed out to a social network visualization of society? What would a map of all these overlapping and inter-

Distribution of Net Worth, 1998



Source: Edward N. Wolff, "Recent Trends in Wealth Ownership, 1983-1998," April 2000. Table 2. Available on the website of the Jerome Levy Economics Institute at www.levy.org/docs/wrkpap/papers/300.html (via: <http://www.inequality.org/facts.html>)

connected groups look like? There would be such a chaotic crisscrossing of lines and nodes it would be impossible to make much sense of it. We would be forced, as Moreno stressed, to choose a criterion upon which to organize the data.

What criterion should we use to best understand human relationships? If we were all active participants in creating a sociogram of the world what would be a useful question to ask? Karl Marx identified class as a central set of relations with which to understand society. The question is: What relation to the means of production does a person have? Class is central to all our relations because all people rely on the production of goods and services to survive. The relations of the most fundamental activities necessarily shape and influence all of our other social interactions. In capitalist society these relations are organized through the competitive accumulation of capital. The traditional line and point structure of the classic sociogram may not suffice to bring clarity to these basic relations. A simple pie chart may reveal more about social relations than the most complex network diagram. This pie chart from www.inequality.org shows that around 2/3 of the net wealth of the US is owned by 10% of the population, while 40% of the population only controls 0.2% of the net wealth.

Imagine the smaller sociograms swimming in the pool of this pie chart—getting pulled and squeezed by its tides. If we are to become agents of change we must keep our eye on this larger picture and take hope from the fact that a large majority of us have a common interest in rectifying the dynamics of this social matrix.

The way that we describe society, whether through words or graphics, reflects and shapes our understanding of how the society works. Both Moreno and Marx insisted that our descriptions of society should be a result and part of the primary goal of transforming society. They both thought that this should be achieved through the self-activity of the members. In my opinion Moreno underestimated the degree to which the class divide across society as a whole inhibits people from resolving the contradictions between the way they would like their lives to be and the way they are. The description of society as a series of overlapping networks does not help us see the fundamental divide between the ruling class and the working class. Many in the ruling class are conscious of their position in society. Warren Buffet recently wrote: “If class warfare is being waged in America, my class is clearly winning.”⁵ Marx argued that the working class needed this degree of class-consciousness. In the struggle to create a world without class, it will be a challenge for visualizers of social networks to incorporate its present effects in our sociograms. We can do better than a pie chart!



- 1 Freeman, Linton C. “Visualizing Social Networks,” in: *Journal of Social Structure*. <http://zeeb.library.cmu.edu:7850/JoSS/article.html>
- 2 Perhaps family trees preceded this, but the diagrams, or sociograms, that Moreno produced showed relations of groups based on various criteria, not just those of family connections.
- 3 Moreno lists these separately but they are similar enough that in this article I will combine them.
- 4 From, “Sociometry, Experimental Method and the Science of Society,” Beacon House, Beacon, NY, 1951. Quoted from a personal essay by Walter Logeman—you can see some of his writings on Moreno at <http://www.psybernet.co.nz/moreno.htm>
- 5 C.E.O. Warren Buffett, in his annual letter to shareholders of Berkshire Hathaway Corp as quoted at <http://www.inequality.com>