The Impact of Electronic Communication on Relational Systems in the Academic Field

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Abstract

In the social sciences, various notions of networks are based on simplified representations of relations and their dynamics. For all they are worth, these representations don't exhaust the issue of the texture and development of these "networks." The relational systems and dynamics connected to electronic communication in the academic world constitute a perfect opportunity to address this issue. Here, I show how academic uses of electronic communication participate in diverse modes of "networking" and various types of relational systems, and sometimes in their destruction.

Keywords: Networks, Relationships, Passive and Active Links, Electronic Communication, Academic Field.

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In the social sciences, various notions of networks are based on simplified representations of relations and their dynamics. For all they are worth, these representations don't exhaust the issue of the texture and development of these "networks."[2] The relational systems and dynamics connected to electronic communication in the academic world constitute a perfect opportunity to address this issue. Here, I would like to show how academic uses of electronic communication participate in diverse modes of "networking" and various types of relational systems, and sometimes in their destruction.

But first, what do I mean by electronic communication? The term "electronic communication" refers here to the uses of various online items, including emails, all types of electronic forums and websites.

I will focus more particularly on the results of investigations I carried out on the uses of an electronic forum in the field of artificial intelligence, called comp.ai.fuzzy. These investigations consisted mostly in a qualitative analysis of a large set of messages, combined with ethnographic observations and interviews.[3] My analysis will be also based on the results of a comparative analysis that Verena Paravel and I conducted on the uses of Usenet newsgroups in the 1990s.[4] Verena Paravel gathered data on the uses of bionet.drosophila in biology, statsci in the domain of statistics, and procedique in the field of chemistry.

Passive and active links

Talking about the texture of the relational systems to which academic fora contribute seems to be all the more relevant that interactions are of a textual and hypertextual nature. Posts on electronic fora contain virtual or passive links between individuals, institutions, publications

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[2] See Alain Degenne and Michel Forsé, *Les réseaux sociaux. Une analyse structurale en sociologie*, Paris, Armand Colin, 1994. Alexis Ferrand, "La structure des systèmes de relations," *l'Année sociologique*, 47 (1), 1997, pp. 37-54. Emmanuel Lazega, *Réseaux sociaux et structures relationnelles*, Paris, Presses Universitaires de France, 1998.

[3] See Claude Rosental, *Weaving Self-Evidence: A Sociology of Logic*, Princeton (NJ), Princeton University Press, 2008.

[4] For further developments, see Verena Paravel and Claude Rosental, "Les réseaux, des Objets Relationnels Non Identifiés? Le cas de la communication électronique dans la recherche," *Réseaux*, 118, 2003, pp. 237-270. See also Michel Grossetti, "Communication électronique et réseaux sociaux," *Flux*, 29, 1997, pp. 5-13.

and statements. Indeed, parts of the messages point to people, questions are expected to be answered, and hyperlinks lead to various sites. Readers may activate these links by sending emails, responding to previous posts, or clicking on hyperlinks. That is how virtual links may be transformed into active links.

This phenomenon can be observed for instance in discussions that dealt with the validity of a theorem on comp.ai.fuzzy. Responses to viewpoints progressively led to collective texts. These texts consisted in several levels of commentaries based on quotes of previous posts. Thus, the progressive linking of participants could be witnessed. The texture of the links matched these dynamics.

Here is a sample of these exchanges. The sign "more than" placed at the beginning of a line was used as a quotation mark by the software used in drafting the messages. Three quotation levels appear on this message:[5]

|>   >>Bzzzzt. (B or not(B)) != (TRUE) That is a fundamental property of
|>   >>fuzzy logic. It throws the Excluded Middle right out the window.
|>   >>
|> So you are saying (B or not(B)) can have a truth value of 0.5, say,
|> (if t(B)=0.5). This doesn't make sense to me. I cannot imagine
|> a scenario in which I was uncertain about the truth of (B or not(B)).

You're still thinking Boolean.

Posts composed of similar discussions, or of announcements and queries of all sorts generally represent major reservoirs of virtual or passive links. Their volume appears to be far larger than the volume of activated or active links. This phenomenon may be compared in part with the structure of the vocabulary of an individual learning a foreign language. Their passive vocabulary tends to be far larger than their active one.

As a matter of fact, responding to a message publicly is generally less easy than activating hyperlinks by clicking on them. For instance, although exchanges in an academic forum tend to be relatively informal, non-symmetrical relationships may be observed. Daring to express oneself in public is not a given in this context. Self-censorship has also to do with the fact that individuals know that their interventions may be traced back for a long time.

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[5] Y. Tanaka, comp.ai.fuzzy, message 814.

Besides, attempts to connect to people while sending queries may well fail. Existing relationships may also be deactivated temporarily or permanently by actors who decide not to respond to others for a while or to withdraw from the forum.

Pushing oneself forward

Another feature of the relational systems that develop in an electronic forum has to do with the fact that some individuals tend to push themselves forward while leading discussions on a regular basis and feeding the group with information. These leaders may thereby generate collective mobilizations in the form of discussions or gatherings that contribute to create, solidify or reconfigure clusters around themselves.

An electronic forum is also a theater in which connected people expose themselves as a group organized around a research field. This feature may be actually critical in the case of emerging fields that need to establish their legitimacy, become visible, and attract others.

Shaping links and gatherings

An electronic forum contributes to shaping links between academics given that participants share some problems, adopt a common language, and post announcements of specific events such as workshops, seminars, and job offers. Other elements play a role in this process. These include forms of conviviality and a shared memory of past discussions. This shared memory may be strengthened by a FAQ – that is, a set of Frequently Asked Questions – that keeps track of a selection of previous interaction.

As a result, the relational system that emerges in an electronic forum in a given research field may be different from those arising in other arenas in the same field, such as recurring conferences. The same is actually true for the lists of participants in each arena of the field: individuals who participate in the electronic forum are not always the same as those who regularly show up in other circles.

For instance, participants in comp.ai.fuzzy in the 1990's included consultants who actively put forward their expertise in the forum. These consultants were less present in fuzzy logic conferences. At the same time, some prominent names who were very active in fuzzy

logic conferences distanced themselves from discussions in comp.ai.fuzzy. By comparison, other prominent names tried to have a say in every tribune. Some newcomers also showed their inscription in the field of fuzzy logic while participating actively to all kinds of fora and entering into discussion with many actors. Forms of commitment and modes of disengagement thus varied from one arena to the other depending on status, individual strategies, and interests.

Electronic fora also allow some actors to engage in different circles and to contribute to bridge the gap between them while forwarding announcements and initiating cross-domain discussions on a regular basis. These dynamics contribute to expanding relational systems around a set of individuals playing the role of translator.

More fundamentally, electronic fora modify the perceptions individuals may have of belonging to one or more subfields, as well as their relationships with other members. This phenomenon may be compared to the list-effect analyzed by anthropologist Jack Goody.[6] For instance, contributing to a discussion in a forum implies exhibiting oneself as part of a research field, and showing it to others. This may have performative effects. Participating to a discussion may also change one's perception of, and relationship to, others. This may be the case for example if a disagreement arises at some point between participants. This might affect their relationships and change the ways each participant perceives their counterparts.

Building long-lasting and peaceful relationships?

This being said, electronic fora should not be equated in general with strong and stable relational systems. Some links are ephemeral. And even speaking of relationships does not appear to be relevant in all cases. Some participants prefer to post messages on a very occasional basis, instead they mostly observe interactions and look for resources that might suit their needs. A set of researchers may temporarily gather in an electronic forum to trade experimental samples, cooperate to set up an event or provide help regarding a piece of software. They may also discuss the ins and outs of a scientific result. Cooperating, exchanging goods and being in touch in order to confront viewpoints does not necessarily mean creating full-fledged relationships.

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[6] See Jack Goody, *The Domestication of the Savage Mind*, Cambridge, Cambridge University Press, 1977.

Therefore, an electronic forum may be at the same time a space for various kinds of transactions, a hotline, and a device contributing to shape more or less stable relationships between a subset of actors of a research field. Some of the participants simply cohabit in this framework. Some even prefer to avoid being in contact with some of the participants. Strategies of avoidance may assume several shapes that include ignoring certain participants and not responding to their posts. These strategies may be motivated by concerns about time, but also for instance by the rise of antagonisms and competition within a research field.

Indeed, gatherings in electronic fora are partly structured by competition. This explains why some academics develop strategies of avoidance, or on the contrary look for ways to gain ground or be center stage. For instance, being visible in an electronic forum is a way for some prominent names to bolster their reputation and impose their approach in a research domain. Since antagonisms and competition tend to be an important part of what takes place in an electronic forum, depicting relationships taking place in online fora in such terms as weak and strong links appears to be insufficient.

Destroying relationships

Finally, it is important to note that electronic fora not only contribute to building links and shaping relational systems. But they may also end up destroying relationships, due to various factors. One of them has to do with conflicts emerging from misunderstandings that develop in these arenas. For example, concise formulations and humor are important sources of ambiguities and misinterpretations.

Other sources of relationship breakdowns have to do with conflicting norms of communication. Here is for example how a participant in comp.ai.fuzzy explained why he chose not to respond to a previous post:[7]

I did not reply to [his] post since it was directed at an emotional level.

In the framework of hot debates, exchanges may indeed become very tense and lead to quite violent formulations such as this one:[8]

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[7] J. Wiegand, comp.ai.fuzzy, message 832.
[8] W. Dwinell, comp.ai.fuzzy, message 769.

I'm all for fuzzy logic, where it suits the job (the whole idea is quite fascinating to me), but get off your fuzzy high horse.

Some participants may try to play the role of pacifiers like here:[9]

Please refrain from flaming anybody, but good arguments are certainly welcome.

But this does not always suffice to preserve relationships.

To conclude, these short extracts illustrate why an electronic forum should not be simply perceived in general as a space essentially devoted to tranquil networking, peaceful cooperation and happy relationships. Participating in an electronic forum and being in contact doesn't mean forging a relationship in the deep sense of the word. More than that, an electronic forum might reveal or create antagonisms. It might be a weapon of limited destruction, if not mass destruction, of relationships.

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[9] W. Slany, comp.ai.fuzzy, cited in message 1823.