



## **Introduction to the Workshop: The Promise of Network Theory**

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In recent years, we have witnessed an increasing interest in the study of networks, both in academia and in society at large. The theme has been particularly prominent in the media. In most cases, "network" is used as a metaphor, rather than as a concept, let alone a concept to be used in research. Thus, the purpose of the network of researchers present in this seminar is to engage in a deliberate attempt to provide rigor and heuristic usefulness by developing network theory coming from various fields of research.

Scientists, including social scientists, have been working on networks for a long time. Biologists, neuroscientists, computer scientists, network engineers, physicists—they have all been working on networks all their lives. Not because they have been looking for network theory, but because the subject matter of their research, what they have been observing, have been networks of all kinds, so they have had to include theorizing about networks. Social scientists have also been working on networks for ages, starting with anthropologists (remember Clyde Mitchell?). Indeed, there is an International Network for Social Network Analysis. Geographers, including Peter Taylor and Celine Rozenblat, have been working on urban and regional networks, and have developed research on global urban networks. Communication scholars some time ago identified networks as the heart of communication, as exemplified in Peter Monge and Noshir Contractor's book, *Theories of Communication Networks*. Social scientists working on science and innovation, such as Bruno Latour, have elaborated novel network theories to make sense of social action in the contexts they were observing. I extended the realm of network theory to macro-social analysis by investigating what I finally conceptualized as the network society. I did not start with it; I ended up with it. The title of my book came only at the end of my 15 years of research, when I realized that the forms and processes that I had discovered in every realm of economy, society, and culture, were built as networks, and that this network form of organization was powered by digital networks, a distinctive technology of what I termed as the Information Age. Quite independently, in 1997, a few months after the publication of my book *The Rise of the Network Society*, the Davos meeting of the World Economic Forum selected "The Network Society" as the general theme of the meeting. The media picked

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up the word and the metaphor, which became a mantra of pseudo-analysis for the structural transformation we were experiencing around the world.

So, it appears that the time has come to elaborate slowly and rigorously a transdisciplinary network theory. In my view, it would be too ambitious to aim at the construction of a systematic theory. But we could engage in an interdisciplinary conversation to make the best possible use of network conceptualization, rather than leaving the promise of network theory to become a fading intellectual fashion.

I see much promise in network theory. For some, including myself, network theory could provide a common language, a common approach toward the understanding of nature and society through the fundamental shared networks of biological networks, neural networks, digital networks, and human communication networks. Not a unified theory; this is an old scientific dream that was limited to a time of scant scientific knowledge. Science evolves toward diversity, not unity. But diversity does not mean incommunicable findings. There is a chance of finding a common language, certainly based on mathematics as a formal instrument, but also going beyond it, to reach a certain type of conceptualization based on networks and network properties that could help to communicate across disciplines in meaningful terms. Not in my generation, maybe in Noshir Contractor's generation, but certainly in the generation of the graduate students who participate in this workshop.

For other colleagues here, I would say, for most of them, the promise of network theory is more modest. It is simply to refine it and to introduce rigor in the research we do in our own specific field of scientific endeavor; to learn from other researchers in other disciplines; and to find points of contact in the application of our concepts to a given phenomenon under observation, say digital networks and social networks, or between neural computer networks and neural brain networks, such as in the research on natural language in computer science. This is probably the most fruitful path of collaboration at this point, to avoid being lost in grand epistemological visions that will undermine the efforts of our students in finishing their dissertations. For the time being, we are developing a conversation with common interests among all those participating in it from different corners and with different interests. But still, we must do so with a common determination to open up our minds, listen to each other, and learn in the process, because learning together will pave the way for theorizing together.