

# **Social Study of Information Technology Workshop**

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## **The Everyday Experience of Virtuality**

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### **Synopsis:**

We have been asked to reflect on how the social sciences have shaped the study of information systems and to speculate on directions it might take us in the future. In that spirit, I will briefly review how the information systems field emerged as part of an intellectual climate inspired by cybernetics, information theory and general systems theory. I will then discuss how more recent social studies have led to a softening of the overly rationalistic view of information systems associated with that early period. This softening involved an increasing emphasis on the importance of understanding users of information systems in their local communities of practice. This growing emphasis on users and the meanings they make with information is associated with a progressively shrinking sphere in which we imagine true communication and shared meaning of information to be possible.

In the early, cybernetics period of information systems, it was assumed that all meanings were shared by all actors in society. In today's more user-centered period it is assumed that shared understandings are an achievement of well functioning face to face social settings only. We identify face to face communities as sites where "tacit" understandings develop among actors that allow for shared meaning and mutual understanding. As the sphere of interaction in modern society expands beyond the local face to face community into the virtual teams and virtual organizations of cyber space, we progressively lower our assumptions that tacit understandings are held in common and that shared meaning is to be expected. If our social world is thought of as a series of concentric circles radiating out from the individual, the move from an early, cybernetic and information theoretic view to a user centered view has been associated with a progressive shrinking of the size of the concentric sphere in which shared meaning and shared understandings are assumed to exist.

In this workshop I want to argue that the assumed sphere in which shared understanding is possible will continue to shrink, until we see that each individual stands alone and isolated in the unique meanings she gives to information systems. I will then explore the implications of realizing that all of our groups, teams, organizations and communities are virtual. We will not be able to rely on shared meaning or its absence to explain their success or failure. Our normal vocabulary for thinking about information system use will have to change from one based on space, observing and decision making to one based on temporal flow, narration and designing. We are headed toward a radical user-centered view of information systems in which the individual actor will be seen as more potent in inventing the world they inhabit, but at the same time more isolated and alone, without the comfort of assuming that their meanings are shared or their understandings are held in common.

Herbert Simon was a central figure in the initial development of information system thinking, contributing important ideas about organization theory, humans as information processors, decision theory, and human problem solving. In the face of over-stated claims for early cybernetic control views of information systems and the possibility of creating a comprehensive and coherent 'total information system' for an organization, Simon argued persuasively for the limits of economic calculation and our inevitable 'bounded rationality'. But, Simon also brought us the idea of a "problem space" in which human cognition took place. In his earliest writings, the act of thinking our way through a problem situation was an active process of creating a "problem space" as we went. As we engaged with information and thought about a problem, he portrayed a dynamic unfolding of the

"problem space" as the trace of where our explorations in thought had taken us. Very soon in his writings, however, his notion of a "problem space" became a pre-existing set of all possible alternatives associated with a problem situation. That shift, I argue, had the effect of making the assumption of shared understanding an integral part of our assumptions about communication and organization. It took us away from an image of an actor who moved improvisationally in a space with an approaching horizon and toward an image of the actor as an observer of a whole space, capable of a special kind of understanding that could be shared in an isomorphic way with others.

In the early cybernetic world of information systems research, the user was thus presumed to face a world presented in whole and to be an observer in overview of that world. The user made choices among alternatives that she and others saw in the presented world they faced by processing information. In that early cybernetic world, the sphere of that presumed mutual understanding extended to all rational social actors. In the more recent user-centered world, we see that sphere extending only to the local community of face to face practice. In the local group we are thought to see the same whole "problem space" and be capable of sharing understandings and meanings in a strong sense. The virtual sphere, in contrast, is seen as that limit in the concentric circles where shared meaning is no longer expected. In the virtual world we see the individual facing an invented world in which meanings emerge from reading an unfolding situation as if it were a text. Each individual narrates the flow of experience in this invented world differently. Each is continuously designing their worlds and themselves as they go. In the virtual world, the actor is a lonely traveler, isolated and alone.

So what is communication if not the representation of a well-formed understanding? I propose that communication and our own understanding of the world around us and our place in it is better understood as a continuous narration we make to ourselves of our experience of duration. Our narrative capacity is our ability to see ourselves in situations populated by agents in which things happen. We understand our experience of duration as an unfolding sequence of events into which we are able to read a meaningful plot. One thing happens after another and we are able to make sense of the sequence because we "get the story" that is being played out. Our self narrations of the stream of experience are not based on well understood "scripts" that we read as we encounter the world, but are fragmentary and incomplete narrative threads that we weave together in an extemporaneous, improvisational sense making accomplishment.

In localized work, it isn't a shared meaning enabled by body language or tacit understandings that explain the difference between success and failure in getting things done, it is more like a community resonance in the narrative threads that we employ in our sense making. Narrative conventions are what characterize the localized sense of place in which we make our home in the world. A sense of the local narrative conventions in which we participate is a part of our language games in our forms of life. It is the basis of our culture and the source of our sense of self and canonicity. In the language games of our forms of life, I can hear you and see you drawing on a narrative thread that has a family resemblance to ones I have used, so I am able to fill in the missing pieces and get a sense that we are communicating because I can construct for myself a stream of self narrated meaning. My ability to do this self-narrativizing and your ability to do it are about all we have in common. The narratives we construct need not coincide. And even if by chance they did, the language of our narratives is through and through a symbolic, equivocal set of multiple meanings.

A good narrative production allows a sense of communication in that each party to the exchange senses adequate meaning is being made. Things are working. What people do does not surprise us too badly. Our expectations of what will happen next and what events must have happened even though they haven't been mentioned are the ways we fill in the gaps of the narrative threads we encounter. We experience interesting work and successful communication when we are able to anticipate what will happen next most of the time and are surprised by what happens a small but interesting proportion of the time. Humor is one way to bring surprise to our narratives and in so doing we affirm that multiple narrative threads apply to an unfolding situation. In telling a joke we are saying to each other: "not only are we able to narrate this situation, we are able to narrate it in many ways." We are saying that meaning is always "up for grabs" and unsettled even (and especially) in situations where things seem to be working well.

Dispersed teams and virtual work suffer breakdowns in the ability to sustain multiple narrative productions because they allow for conditions in which narrative conventions are no longer easy to anticipate. The language game is different and we have to learn how to play it, or more precisely, we have to construct one that can be played adequately in this new form of life. Virtuality is an occasion to be confronted with our dependence on knowing how to go on in language games. It isn't an occasion to experience lack of shared meaning, because we have that all the time. But it is an opportunity to feel what it's like when the narrative threads that we successfully juggle in co-presence get, as it were, dropped.

The future impact that I see for social science on information systems is to continue shrinking the concentric circle in which we presume shared meaning to exist, until the individual user is left standing alone. We will come to see the everyday experience of virtuality, and will be better able to appreciate the dynamic, potent singular capacity of each user to create there own worlds and selves. That will be a radical user-centered view, and will allow information systems research to be more inventive, open and respectful of human agency.