

Sociological Rob: How Rob Kling Brought Computing and Sociology Together

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CLOSE ENCOUNTERS OF A KLINGIAN KIND

We all have special moments that we remember vividly: marriage, 9/11, the first time we saw the Rolling Stones. For both of us, our first encounter with Rob Kling was one of those moments. Barry Wellman recalls:

I was giving a talk about communication networks and social networks at the Sunbelt Social Network conference. This was well before the Internet. No one cared about this except for this rather big, red-headed guy who was leaning forward with interest, nodding and frowning as I went on. I immediately knew that he would be Questioner #1. I was right. Rob eagerly asked good, sharp questions about the extent to which telephone communication (that's all we used then) was substitutable for—or complementary to—face-to-face contact. It was a dialogue, rather than a one-shot Q&A.

After the talk, Rob introduced himself as a computer scientist interested in sociology. Not only that, he had read Max Weber. "Rob Kling is my name," he said with a smile, deep voice, and a handshake. "I'm part of a computing group at Irvine that's interested in how society affects computing and information systems. Let's keep in touch."

In this short article, we discuss "Sociological Rob" in his early 1970s–1980s days, when a bright young computer scientist brought his knowledge of sociology to bear on understanding the organization of computing, work, and science. Rob was a key founder of social analyses of computing. He was a leader among that most rare of species: the sociologically acute computer scientist. More

personally, he was a long-time friend and colleague whose work strongly influenced our own.

THE LONGEST WAR

Once upon a time, computer scientists and information systems specialists thought that they were value-free. They saw themselves as designing and operating optimal computer systems. Sociology, power, institutional interests had nothing to do with this, of course.

Sociologists would immediately know that this is nonsense, but only a half-dozen sociologists took computing seriously in those days. Rob Kling had the credibility as a computer scientist, and as a guy who took sociology seriously, he also had the tools. Rob was no pontificating pundit, but a guy who went out and did real studies. He was a card-carrying member of the American Sociological Association and active in its Communication and Information Technologies section. His early influential work emphasized "person-centered" (Kling, 1973) and organizational contexts (Kling, 1977) for computer system design, and analyzed the social impacts of systems in such areas as government (Kling, 1978a) and electronic funds transfer (Kling, 1978b).

Not only was Rob among the earliest to do research on the (often unintended and sometimes unrecognized) social impacts of computer systems, he also showed how sociological concepts and research methods could improve the success of computer applications in organizations. His "Social Analyses of Computing: Theoretical Perspectives in Recent Empirical Research" (Kling, 1980) influentially lent a sociological perspective to the study of computing. It compared "systems rationalists" with "segmented institutionalists." Systems rationalists typically emphasize the positive roles of computer technology and assume that

Received and accepted 9 December 2003.

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there is a consensus on major social goals relevant to computing use. They treat economic or organizational efficiency as the predominant values. Most importantly, they typically focus on a narrowly bounded world of computer use.

In contrast, “segmented institutionalists” look for mixed and negative impacts of computers and assume that intergroup conflict is as likely as consensus on important goals and values related to computer systems. They identify as dominant values the sovereignty of individuals and groups over critical aspects of their lives, the integrity of individuals, and social equity. Moreover, they

identify settings of computer use as broad in scope, and they are likely to emphasize parties other than the computer user (e.g., clients, regulators, suppliers, competitors, or controllers of critical resources). (p. 65)

In other words, they bring a sociological perspective to the study of computing.

This article was a key part of Rob’s work in analyzing the longest continuing war in computing: the conflict between centralization and decentralization. In convincing detail, Rob showed how the operators of centralized computing systems used Weberian bureaucratic rationality (without having ever heard of Max) to justify maintaining a single centralized system for an organization (Kling & Iacono, 1984a, 1984b, 1988¹; Kling, 1995, 1996a). They pointed out the need for standards, the need for security, the greater cost savings in people and equipment, and the need to conserve the energy of scarce technicians.

With big iron ruling computing from the 1940s through the 1960s, the centralizers were effortlessly and unconsciously dominant. Their way seemed to be the natural order of computational things. One of us (Wellman) still remembers making noon and midnight runs to “the computer center”—there was only one at Harvard in 1965—to deposit his control cards and return 12 hours later for output. As late as 1986, social scientists at the Indian Statistical Institute had to queue for many days in order to get the high priests of the mainframe to run their statistical jobs. The priestly computer-running caste controlled the pace of research at this mainframe-bound institute, and not the scholars (Wellman, 1998).

Minicomputers came along in 1965, especially the Digital Equipment Corporation’s PDP series.

By late 1973, the PDP-8 family was the best selling computer in the world. The PDP-8 has been described as the model-T of the computer industry because it was the first computer to be mass produced at a cost that just about anyone could afford (at least with company money). (Gesswein, 2003)

Minis led to micros, which led to the multitude of personal computers that could fit not only on desks, but in laps and palms. Armed with tiny gigabytes of CPU and

memory, the decentralizers were able to right the formerly lopsided balance of power. Throughout the 1990s, a million computing flowers bloomed, as hardware and software designers found eager audiences ready to try anything, inside and outside of large organizations. The center is reasserting itself in the 21st century, with server-based technology and the ever-present cry of “standards,” “security,” and “ease of maintenance” (along with the whisper of “control”).

Rob Kling had it figured out even before the personal computing revolution flourished. Organizations do not want to let their employees have free choice in how they use computing and information technology. There would be administrative chaos with lack of standardization, there would be security leaks, technicians would have to understand too many pieces of hardware and software, and people would freelance instead of following corporate mandates. Most importantly, there would be loss of control. Rob showed how insistence on centralized computing fit nicely with the organizational approach to building centralized management information systems rather than having decentralized middle managers make their own decisions. As Rob and Suzanne Iacono (1989) wrote:

It is ironic that we invoke institutional analyses to understand computerization in action. The images of computerization—new technologies, innovative practices, and a patina of “revolution”—are diametrically opposed to the stodgy images of institutionalization. The rhetorics of innovation, transformation and revolution emphasize possibilities. These rhetorics deny that historical patterns will continue to shape the future. In fact, computerization has not transformed many organizations as rapidly as some advocates hoped. We argue that innovation need not fail only because of powerful organized resistance. A history of complex social and technical commitments may structure the social organization of computing to make innovation relatively expensive and complex. (p. 7)

Here, as elsewhere, Rob Kling and Suzanne Iacono not only talked the talk, they walked the walk. Their argument is nicely backed up “with a case study of a failed attempt to convert a complex inventory control system in a medium-sized manufacturing firm” (1989, p. 7).

Rob was prescient, writing at the dawn of the personal computing era. He clearly stated that the centralizing–decentralizing war would never have an ultimate winner or even reach a stable balance. As long as organizations have interests and individuals have autonomy, the war will continue. Indeed, Rob’s work suggests that this war does not stand alone. It is part of the control–autonomy conflict that kings and local rulers have waged since antiquity, with various forms of centralizing inspectors-general and decentralizing Potemkin villages.

As Rob showed, the tensions are inherent in the nature of organizations. Yet some (perhaps many) “systems

rationalists” still have not realized this. After all, they have “rationality” on their side. After all these years, one recent article in the influential *Communications of the ACM* still believes that

Historically, information technology departments have cycled between centralized and decentralized application software distribution, although modular program design and enterprise management software may break that cycle. Meanwhile, IT departments that want to manage the distribution and configuration of software across their networks are searching for an acceptable balance of control, reliability, and speed. Distributing application files on individual PCs maximizes network performance, but makes it much more difficult to enforce configuration standards and maintain control. Placing application files in a few central locations gives an IT department significant control over software configuration but may degrade network performance and lead to user dissatisfaction. (Schuff & St. Louis, 2001, p. 88)

O Rob, where art thou? Unfortunately, not in the article’s references.

COMPUTER NETWORKS AS SOCIAL NETWORKS

Rob’s interest in decentralized computing helped both of us think about computing networks as social networks. While decentralized computing could be stand-alone—it was only a decade ago that computers were predominantly isolated processors of words and spreadsheets—the advent of the Internet afforded peer-to-peer communication. People could talk to each other without limit of time, space, or organizational hierarchy. Not only could they communicate, they could play together (through online games, music files, web cams, etc.) and work together by exchanging files.

Although both authors had already begun to think about networks (Craven & Wellman, 1973; Hiltz & Turoff, 1978), Rob reinforced our work, broadcast it to others, and alerted us to its implications for organizational analysis. In formal writing and informal conversations, Rob and associates showed the power of computing networks to subvert centralizing tendencies and promote lateral communication (Kling & Saachi, 1982; Kling & Iacono, 1984b, 1995; Kling & Jewitt, 1994; Kling, 1996b; Kling & Courtright, 2002). Ever the good sociologist, Rob showed how Weberian thinking was relevant to thinking about how computer networks were affecting society. Such networks were causing a new form of tension in the mainframe-dominated, hierarchically bureaucratic computer world. Their proliferation opened another front in the centralizing–decentralizing war: The decentralizers were no more isolated people at stand-alone computers, but woven together in a peer-to-peer web.

Long before it became fashionable, Rob and associates were delving into one of the highest forms of peer-to-

peer communication, scholarly networks (e.g., Kling & Gerson, 1978a, 1978b; Kling & Covi, 1995). Rob was the only computer scientist to be an early member of the International Network for Social Network Analysis. Of course, when Rob was a member, he was an *active* member, whose curiosity, enthusiasm, and communication helped social networkers to realize how computer networks foster social networks. Rob preached what he practiced.

MENTORING AND ORGANIZING ROB

Rob was much more than the sum of his articles. As a key member of the “Irvine Group”; as a meeting organizer, speaker, and commentator; and as a journal editor, Rob mentored and encouraged many young scholars in doing research in this interdisciplinary area. As Blaise Cronin put it (2003), Rob was “infectiously curious, playfully serious, razor sharp, generous of spirit, and wonderfully open-minded.”

These qualities were evident throughout Rob’s career, at the workshops and meetings that he helped organize and energize in the late 1970s and early 1980s, including the 1977 Conference on EFT Research and Public Policy in Boston in 1977 (where Roxanne Hiltz first met Rob) and the Irvine Research Conference on the Social Issues and Impacts of Computing at Lake Arrowhead in 1979, whose invitees would help to shape the field in the following decades.

The shaping ideas kept coming. Wellman remembers a seminal “social informatics” conference at Indiana University in 1997 that helped to define a field (Kling et al., 1998; Kling, 1999). A month before his death, Rob hosted Wellman at Indiana to talk about what was to be done in the short term and the long term. Rob was always looking forward and involving others in his plans. He was always weaving a wide range of scholars into a common intellectual and social network.

At conferences, a certain amount of trepidation was experienced by presenters when they saw Rob’s hand go up to make a comment. If there was a weakness, he surely would point it out in a collegial way! But much more prominent was the encouragement Rob gave to others. For example, Sherry Turkle attended the 1979 Lake Arrowhead workshop. She writes:

Rob was one of the first people to encourage me to pursue my work on the social and psychological impacts of computing. He was there right from my very earliest efforts to situate myself in this field. He told me that he didn’t expect I would get a lot of encouragement, but that I should tough it out, that there was a place in the field for someone trained as a humanist and psychodynamic psychologist. He said that he had seen things that would profit from the interpretive stance I could offer. His support was crucial at a time when I was deciding on a major career change. I shall always be grateful. (personal communication, 30 September 2003)

EDITING ROB

Well before assuming the editorship of *The Information Society*, Rob was an influential journal editor and program committee member who nurtured the emerging body of literature on the social aspects of computing. Among many editorial contributions, he served as an editor, associate editor, or board member for *Computers and Society* (the bulletin of ACM SIG-CAS from 1974 to 1980), and for *Communications of the ACM* from 1975 to 1996. Diane Crawford, the current editor of *Communications of the ACM*, recalls:

Rob Kling's contribution to *Communications of the ACM* was invaluable and bountiful. As the editor (and bellwether) for CACM's coverage of the social aspects of computing, he was instrumental in bringing readers a side of technology that had heretofore been missing in industry publications.

Because of his efforts, CACM was one of the first technical journals to address such issues as ethics and social responsibility. He encouraged us to explore the burgeoning legal issues associated with computing in the mid 1980s; years before other publications caught on to the professional significance of this topic, but one most industry publications would eventually follow. Dr. Kling always insisted on excellence and accuracy from authors and editors, and managed to bring the best out of both sides; always making us feel like it "our" idea in the first place. CACM—and its readers—are indebted to Dr. Kling's efforts and tireless enthusiasm for the cause. (personal communication, July 2003)

As an editor, Rob not only encouraged submissions in the area of social impacts of computers, but also made extensive and incisive comments to the authors, helping them to strengthen their articles before publication. A tireless promoter of the concept of "social informatics," he nevertheless broadly encouraged a wide range of ideas—as long as they were clearly thought out and backed by sound research.

REMEMBERING SOCIOLOGICAL ROB

For the more than 25 years that we knew him, Rob had a puppy-dog-like enthusiasm—for his own work, to be sure, but just as much for your own work. He took you and your ideas seriously, and he linked you and your ideas to the many others he took seriously. The result was to spur us to better and more joyful effort.

Once met, Rob Kling was never forgotten—as a person, as an editor, as a mentor, and as a thinker and scholar. His presence loomed large in our lives and in our field. Although his absence leaves a large hole in our personal and scholarly lives, his work and message ensure that his presence will be felt for as long as social studies of computing continue.

NOTE

1. Rob Kling coauthored often and well with young colleagues. For example, Suzanne Iacono has gone on to be the U.S. National Science Foundation's Program Director for Information Technology Research, where she applies a Klingian breadth to fostering research at the intersection of information technology and the social sciences. Although we focus on Rob here, these colleagues were often major contributors to coauthored papers.

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