



# SOCIO-TECH: WHAT IS IT (AND WHY SHOULD WE CARE)

Moderator: Dick Pew, Principal Scientist and Manager, Experimental Psychology Department, Bolt, Beranek, and Newman

Panelists: James C. Taylor, Principle Sociotechnical Design Consultant, Member STS International Consortium  
 Susan Dray, Manager, Human-Technology Impacts Program, Corporate Information Management, Honeywell  
 Karen Assunto, Consultant, People/Technology Programs, Aetna Life & Casualty  
 Walter Baker, Director, Human Factors/Ergonomics, IBM (Corporate)

## BACKGROUND

At a time when more and different people are using more and different computer systems, there is growing awareness that if technology is to give companies the "competitive edge" they are seeking, it must be used to support business goals. This means that systems must work within the existing organization to improve and extend its functioning. This also means that the design of these systems must enhance the organization, not disrupt it. Yet technology is, by its very nature, a stimulus for change. The question then becomes: How can this intrinsically de-stabilizing technology be designed and implemented in a way which supports the organization, without destroying it? It is the purpose of this panel to explore this basic question.

Sociotechnical systems theory is a method to deal with this dilemma. At its core is the assumption that to be successful, technology must be designed in tandem with the receiving organization. So-called socio-tech focuses on how the organization can use technology, in an attempt to establish a "best fit" between the technical and the social aspects of the workplace. This is in contrast both to "old style" systems design, which concentrates on technical aspects only and to the "traditional" Human Factors approach, which considers how to design for "typical" users and how they think and perceive. (Some people have dubbed this new approach "Macroergonomics" as a way of distinguishing it from this more traditional Human Factors approach.)

## THE PANEL FORMAT

After introductions by Dick Pew, this panel will begin with James Taylor giving a brief overview of socio-tech and why it is important to look beyond individual users when designing computer systems. Then, Karen Assunto will discuss how the design of computer systems helps (or hinders) implementation into a large organization, specifically Aetna Life & Casualty. She will touch on issues which will be discussed more fully in the large discussion, such as job design, etc. Following this, Susan Dray will discuss ways in which a modified Sociotech approach can be used to design and implement a large system, based on work of her department at Honeywell. Then, Walter Baker will discuss what the implications of this are to a large user and producer of technology, IBM. He will bring up some of the systems design implications, along with questions as to what this might mean in terms of organizational structuring of the Human Factors function itself.

Following this introduction, we will have a discussion of the issues, with participation from the audience. Some of the questions which we hope to raise include:

- How do you actually "design technology in tandem with an organization"? What does that mean? What skills does it take?
- From a technical perspective, how can we better understand how to actually design for groups of people, and how do you get the information you need to do this? What does this say about the role of the individual?
- There are organizational implications in all this. Doesn't it all smack of trying to sustain the status quo? What if you want to make changes?
- Whose job is it, anyway? The systems designer? The Human Factors professional? The Human Resources department? Management? Who decides?
- What are the implications for producers of technology? Whose organization are you designing for when you design a product? If you make it flexible, how do you also make it easy to tailor?

-- What are the implications for the way Human Factors groups themselves are structured? What does this say about our role, and our relationship to other functional areas?

It is important to start thinking about technology and its design from a different perspective, because this shift in attention can help us see the impacts of design in a wider context. Since it is only in an organizational matrix that technology ever truly "works" (or doesn't), we believe that this shift is necessary if technology is to help us realize the goals of "increased productivity" and "improved Quality of Work Life" which we seek.