

Categories, Disciplines, and Social Coordination

TERRY WINOGRAD

Stanford University and Interval Research, Palo Alto

(Received 31 August 1993; in final form 9 September 1993)

Abstract. Lucy Suchman's paper, "Do categories have politics," challenges the validity of speech act theory as a basis for computer systems for workflow support. Suchman fears that the explicitness of the theory leads to undue discipline when it is applied in practice. Her fear is grounded in a misunderstanding of what it means to use such a theory, and this paper clarifies the difference between formal comprehensive *models* of behavior and formal *structures* used in communication and recording. Explicit speech act theory, like explicit accounting procedures, enforces a kind of uniformity that is necessary in any communication situation where ambiguity and vagueness cannot be routinely resolved through direct personal contact and knowledge. The practicalities of large geographically distributed organizations makes the appropriate use of shared structuring a precondition for effective cooperation.

Key words. Speech act theory, The Coordinator, discipline, coordination, language/action perspective

Lucy Suchman's paper "Do categories have politics?" is an interesting text on which to reflect. Although it is couched in academic sociological arguments and citations, it clearly conveys a deeply felt political concern of the author, which evokes a strong response. The text deals with the validity of speech act theory and the categories it proposes for characterizing communication in organizations. The subtext is a sociopolitical drama, in which the villains (corporate managers and their accomplices: organizational development consultants and computer scientists) attempt to impose their designs on the innocent victims (the workers whom the managers want to "tame and domesticate"). The pre-eminent word in the text is "discipline", not in the sense of an academic discipline, but in the sense that one disciplines an unruly child. In fact, teenage hotrodders are one of Suchman's favorably cited examples of "resistance to externally imposed regimes of institutional control."*

In a way, it's an appealing story. We all feel acutely the unpleasant constraints of modern bureaucratic society, with its powerful impersonal organizations and lack of concern for the individual. More and more we feel that our lives are controlled by institutional forces that we cannot control or even clearly identify. In this social

* This quotation and others in this paper are based on the version of Suchman's paper that was originally published in the ECSCW'93 conference, (De Michelis, Simone and Schmidt, 1993). Suchman has made some minor modifications to the ECSCW'93 paper for the final journal version. In two places in this critique, Winograd has retained the wording from the original version of the paper. In these cases, the original form is quoted and both citations given.

environment, every new technology or theory deserves to be approached with suspicion. But in her desire to cast *The Coordinator* and its attendant language/action theory into the role of the oppressor, Suchman ends up making simplistic dichotomies and assumptions that do not do justice to the richness of social interactions.

Suchman's key dichotomy places the language/action perspective as "an agenda of discipline and control over organization members' actions" in stark opposition to her preferred "appreciation for and engagement within the specificity, heterogeneity and practicality of organizational life." (p. 178) The starting point from which she posits this distinction is accurate. Speech act theory (which Suchman refers to as "speech act doctrine") starts out with the goal of finding categories that can be applied to recurrent patterns of social action through language. As such it is concerned with what is common across individual situations and actions rather than what is specific and heterogeneous.

However, this search for generality becomes a doctrine (in the implied negative sense) only when it is taken to be a full account, rather than a basis for building objects for people to use. Suchman is absolutely correct in observing that no systematic account can fully capture the richness of mental life or social interaction. In spite of our extensive writing to the contrary (Winograd and Flores, 1986) she mistakenly takes that to be the goal of our work. Flores and I work from a practical rather than a disengaged analytical stance — the guiding question is not "How do you account for all of human behavior?" but "How do you design to augment people's capacity to act?"

Suchman hints at a more realistic understanding when she includes a parenthetical hedge in her statement that "Rather than opening up the boundaries of linguistic studies . . . the language-as-action perspective has been taken to mean that action is, *or can be theorized as*, the use of language *qua* system to get things done." (p. 3, ECSCW'93, p. 43) [emphasis added] I would strongly reject the "is" and stand by the "can be theorized as." That is, I start from the perspective that no rationalized theory can fully account for any human mental or social phenomenon. The validity of "can be theorized as" is inevitably pragmatic — if the resulting structure is of demonstrable operative use, then one has a (but not *the*) valid theory of the phenomenon. Whether your theorizing focuses on determinancy or indeterminacy depends on what you are trying to accomplish.

The goal of *The Coordinator* (and more recent systems based on the same fundamental concepts, as described in Medina-Mora *et al.*, 1992) is to enable a structure of interactions that is effective for coordination within an organization. It uses a formal structure in which regular patterns of language acts are associated with the content and times of requests, commitments and declarations of completion. It is based on the fact that these elements are implicit in all interactions where actions are being coordinated among people, whether or not they are stated explicitly.

Suchman is right in noting that “once encapsulated and reduced to the homogeneous black circles and arrows of the diagram, the ‘conversation’ is findable anywhere.” (p. 185). But she is wrong in saying that “specific occasions of conversation are no longer open to investigation, or at least not in any other terms.” (p. 185). This is like saying that once Laban invented and applied a systematic dance notation, “specific occasions of dance are no longer open to investigation, or at least not in any other terms.” Only the most narrowminded application of such a tool would blind one to further investigations and dimensions of the phenomena.

Suchman asks rhetorically “Why do computer scientists go about making up all these typologies of interaction?” (p. 182). The answer is relatively simple — computer programs that we know how to construct can only work with fully-rationalized typologies (be they bits and bytes or knowledge bases). It is a bit like asking “Why do civil engineers go about making up all these typologies of construction materials and methods?” There may be much more to understanding architecture or homelessness, but one is bound to work with the materials at hand. Unless we question the whole enterprise and doubt whether anything built with computational materials is suited to human purposes, we are left with the question of “To what purposes and with what limits are the formal system manipulating capacities of computers well suited?” Our answer has been the development of systems for coordination of workflow, and Suchman disagrees about the appropriateness to this domain.

Let us first look at Suchman’s key contention that “the categorization devices of speech act theory [are] a discipline for organizational communications . . . displacing earlier mechanical devices with electronic ones, this regime is to be administered technologically . . . by providing a discipline enforced through the technology.” All this sounds quite ominous, and her references to Foucault evoke sinister images from his work on modern society as a prison with its regimes of enforced discipline.

But it doesn’t look quite the same if we take a more homely practical example, which Suchman suggests in describing *The Coordinator* as a “technology of accountability . . . aimed at the inscription and documentation of actions to which parties are accountable . . . in the sense represented by the bookkeeper’s ledger.” (p. 188). The analogy is quite apt. Suchman’s objection to the “imposition of standardized regimes of action” (p. 188) might well have been applied to the imposition of explicit accounting procedures as economic practices developed over history.

My grandfather started a small business early in this century. The structure was simple and informal. When he bought something, he took money out of his pocket to pay for it. When he sold something he took the customer’s money and put it into his pocket. That was a perfectly adequate system for the size of the organization and it worked pretty well when there was an employee or two (although he began being a little more cautious about people putting money in their pockets).

As the organization got bigger, unstructured transactions turned out not to be a very good way of organizing things. He needed to keep track of how much money had come in for what, and how much went out for what. Systematic records were required for a variety of reasons, some internal and others external. At a minimum, the Internal Revenue Service wanted more than someone's memory of how much went in and out of a pocket over the year.

Within any social organization there is always this kind of mixture of internal and external clients and interactions. There is a web of conversations and commitments among the people inside and outside the organization. All this needs to be kept track of, and the problem becomes worse as the organization becomes larger and less physically coupled. When people interact face to face on a regular day to day basis, things can be done in a very different way than when an organization is spread over the world, with 10,000 employees and thousands of suppliers. You can run a tiny company out of your pocket. You cannot run even a moderately small company without regularized (disciplined) accounting procedures, which enable people to follow what is happening in situations far removed in space and time from their personal setting.

Imagine a world in which every business invented its own accounting procedures, or in which each person in an office adapted them in arbitrary ways. In some sense this would be good in that it could provide flexibility and the potential to respond creatively to the specificity and heterogeneity of situations. But overall it would create unbearable chaos in all of those areas where people need to interact. For my accounts to be matched up against yours, for us to make a deal and carry it through, there must be a standard structure or discipline. Accounting procedures are regularized because they support coordination.

Just as conventional bookkeeping is a generic way of keeping track of finances, the conversation structure in the language/action theory provides a basic framework within which each application adds the specifics relevant to the situation. Human action is always played out within a game, a language game, a set of rules, using the judgement that comes from the larger background. The language game does not determine a person's actions, it provides the space of actions in which one can move.

It is conceivable that one might hold on to an idealized view of free and undisciplined human interchange, in which the rigidity of modern bookkeeping serves authoritarian purposes because it is, in Suchman's words, "a tool for the reproduction of an established social order" rather than "a tool for the collaborative production of social action." (p. 186). Or one could take the contrary view — that the regularity provided by explicit categories and disciplines of bookkeeping make possible whole realms of collaborative production of social action that would not exist without a regularized structure that is mutually understood and obeyed.

My view of the language/action perspective is analogous. The use of explicitness makes possible coordination of kinds that could not be effectively carried out without it. This is especially true in a large modern organization with its

global economic integration and tremendous capacity for distributed communications. As with my grandfather's business, the increasing size and complexity of the operation leads to breakdowns in the less formalized and more personalized ways of going about business. Structure is not an imposition of control for authoritarian motives, but a necessity of continued operation. The question is not whether to impose standardized regimes, but how to do so appropriately.

Of course, the salient word in that last sentence is "appropriately" and it is in regard to appropriateness that Suchman has some important observations to offer, once they are extracted from the drama of oppressor and oppressed. Rephrasing them briefly:

1) Explicit representation of intentions and commitments is more appropriate in some social/organizational situations than others.

As Suchman points out, it would be foolish to see The Coordinator as a cure-all "technological solution" to breakdowns in communication. It helps people cope with and prevent some classes of breakdowns, and it can create others. The essence of using a tool well is knowing where, when, and how to apply it. We have learned a lot in our years of experience with people using The Coordinator and subsequent technologies for workflow enablement (see Medina-Mora *et al.*, 1992). There has been much greater success in applying them in the management of engineering change orders in a large manufacturing division, than in structuring the interaction among researchers in a telecommunications research laboratory. As a rule of thumb, explicit structure is more likely to be seen as an imposition in those cases where organizational activity has been relatively unstructured (e.g., in the communities and domains that have historically been served by email) and as a valuable augmentation in areas that are relatively structured and have previously been served by a hodgepodge of paper forms and inflexible task-specific data processing applications.

A number of successful applications have been developed on a platform of workflow-enabled Lotus Notes, focussing on regularized activities, such as the flow of documents and coordination of meetings surrounding hiring in a large organization. Here the need for regularization and accountability ("discipline") has long been established by legal and organizational policy. Language/action based workflow technology offers a means for dealing with it.

2) The generation of representations can only be done successfully with the participation of the people who live the situations being represented.

Suchman inveighs against the authoritarian application of the "strong, knowledgeable hand that orders them [organization members], integrates them, and brings them effectively into use." (p. 187). Aside from her implied denigration of extrinsic organizational expertise, she is making an important point. Organizational design succeeds when it is grounded in the context and experience of those who live in the situation. One of the main elements in the suite of current products being offered

by Action Technologies is a graphical workflow design tool, which is explicitly designed to use concrete visual representations of the work that can be understood without abstruse understanding of computer technologies. The attendant methodologies for structuring the workflows within an organization are centered on methods for involving the participants in the description and composition of the workflow structure. This may not be participatory design in all of its senses (see Muller and Kuhn, 1993), but is strongly influenced by the kinds of experiences with workgroups that have led Suchman and others in that direction.

3) It is a dangerous form of blindness to believe that any representation captures what is meaningful to people in a situation.

It is plausible to imagine that someone working in a setting with technologies based on language/action structure could have a false belief that somehow all the coordination and communication problems are taken care of. That would be like a bookkeeper believing that because spreadsheets don't make arithmetic errors, all accounting problems were taken care of. Suchman correctly points out that "our sense of artistry in any field is precisely the ability to move, in more or less articulatable ways, gracefully and effectively through the circumstances in which one finds oneself . . . bring[ing] past experience to bear in creative ways on an unfolding situation." (p. 186). Coordination of people in organizations is an activity that demands artistry as much as any other field, and Suchman accurately describes the nature of that artistry. An accountant can display financial artistry with or without a spreadsheet, but the spreadsheet helps keep things straight. A composer can display artistry with or without a formal notation for musical scores, but it would be foolish to complain that Mozart's music suffered from his compliance to a rigid discipline of tonal conventions.

And that leads me to the conclusion I would like to draw from this discussion. Not that there is an epic struggle between the forces of discipline and the forces of resistance, but that in the end we are dealing with interactions among people. People will adapt and reinterpret whatever they find in their environment, and they will do so in ways that simultaneously reproduce the existing social structure and create a clearing for social innovation. Suchman weaves a dramatic tale by lumping together speech act theory, The Coordinator, military discipline, authoritarian social control, and the banning of native names by colonial missionaries. But we will be better off to embrace an appreciation for and engagement within the specificity, heterogeneity and practicality of organizational life.

References

- De Michelis, G., Simone, C., and Schmidt, K. (eds.) (1993): *Proceedings of the Third European Conference on Computer Supported Cooperative Work (ECSCW'93)*. Milan, Italy. Dordrecht: Kluwer Academic Publishers.

- Medina Mora, Raul, Terry Winograd, Rodrigo Flores and Fernando Flores. (1992): The Action Workflow Approach to Workflow Management Technology, CSCW 92.
- Michael Muller and Sara Kuhn (editors). (1993): Special issue on Participatory Design, Communications of the ACM, vol. 36, no. 4