

Cooperative Work and Coordinative Practices

Computer Supported Cooperative Work

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Cooperative Work and Coordinative Practices

Contributions to the Conceptual Foundations
of Computer-Supported Cooperative Work
(CSCW)

 Springer

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For Irene

Preface

This book is about cooperative work and the coordinative practices through which order in cooperative work is accomplished.

The development of computing technologies have from the very beginning been tightly interwoven with the development of cooperative work. Indeed, in important respects the challenges facing cooperative work in different domains have at various points been decisive in motivating and shaping crucial computing technologies such as interactive computing and networking. Over the last couple of decades computing technologies are also and increasingly being developed and used for *coordinative* purposes, as means of regulating complex activities involving multiple professional actors, in factories and hospitals, in pharmaceutical laboratories and architectural offices, and so on. The economic importance of the applications of these coordination technologies is enormous but their design often inadequate. The problem is that our understanding of the coordinative practices, for which these coordination technologies are being developed, is quite deficient, leaving systems designers and software engineers to base their system designs on rudimentary technologies. The result is that these vitally important systems, though technically sound, typically are experienced as cumbersome, inefficient, rigid, crude.

The research reflected in this book addresses these very practical problems and is concerned with trying to establish—in the *intermundia* between the social sciences and computer science—a conceptual foundation for the research area of Computer-Supported Cooperative Work (CSCW). What is cooperative work in the first place? Is it something of which we can talk and reason sensibly? Is it a category of practice that can be observed, described, and analyzed in anything like a rigorous manner? How do the many actors engaged in this kind of practice accomplish their tasks in an orderly fashion, without succumbing to chaos? Can we distinguish classes of practices, coordinative practices, by means of which they do so? Can they be observed, described, and analyzed? How are these coordinative practices organized? How do they evolve? How do actors manage to organize routine cooperative activities? What difficulties do they face and how do they cope with them? By means of which conventions, procedures, techniques, etc. do they regulate their joint work? How are these practices facilitated by traditional technologies, from paper and pencil,

forms and binders, to time tables and archives? What are the costs and benefits of such technologies? Which issues arise when such practices are computerized, when control and execution of routines and schemes are transferred to computational artifacts? Can we devise computational facilities by means of which ordinary actors themselves can develop their coordinative practices, devise methods and tools for improved coordination?

Those are the kinds of questions I have been trying to answer in the course of the last twenty-five years. They are not questions for which sociology has answers, because they are not questions sociology has raised. They are questions raised by the diffusion of computing technologies in cooperative work settings.

The book comprises three rather different bodies of text. The bulk of the book—Part II—consists of articles written from 1991 to 2004 in which I have addressed and explored the issues and problems of cooperative work and coordinative practices in different directions. What unites these studies is a conception of cooperative work that makes it a researchable phenomenon, amenable to a technological research program. Instead of the ideological notion of ‘cooperation’ as an ethical imperative or the sociological notion of ‘cooperative work’ as coextensive with the notion of social nature of human conduct, these studies are based on a conception of cooperative work as observable relations of interdependence that are formed in response to practical exigencies but which then in turn require the development a family of equally observable coordinative practices.

The purpose of assembling these articles, of which some have reached a large audience and some not, is to place them together, back to back, and thereby highlight their connectedness. In other words, the aim is to present a set of contributions to the conceptual foundations of the field of CSCW that, although it is unfinished business as far as a unified conceptual framework is concerned, is nevertheless sufficiently elaborated and tested as an ensemble to be taken on: applied, extended, amended, challenged. . .

The articles are reprinted without substantive changes. What changes I have made are these. I have deleted ‘abstracts’ from articles that had any: they are useful in journals or conference proceedings, as announcements to the busy reader, but would here be more of a distraction. I have also removed the usual but often terse acknowledgment statements. Typographical and other minor technical faults have been corrected without notice. Similarly, incomplete or faulty citations and references have been corrected, and citations and references have been reformatted to a common standard.

However, although based on a common approach, these studies were not in a strong sense conducted in a planned and goal-directed manner and the resulting ensemble of articles evidently exhibits inconsistencies, false starts, in addition to the inevitable repetitions. To provide the reader with an initial overview of the meandering argument, Part I contains an introduction in the form of a ‘progress report’. It gives a sketch of the development of the conception of cooperative work and coordinative practices and, by making the underlying research strategy explicit, serves to show how the different contributions are somehow connected.

Finally, since the research represented by these articles has had, in part at least, a distinctly programmatic character—the subtitle is intended to indicate just that—the book is also an occasion to revert to where the journey started, to the issue of what CSCW is all about. Not for the sake of whipping a dead horse, but simply because the discussion is as topical as ever. In fact, as a research area CSCW is in disarray, and it is time to reconsider CSCW's research program. This is the aim of Part III.

Copenhagen, Denmark
1 May 2010

Kjeld Schmidt

Acknowledgments

The history of my research, as reflected in this book, is a clear demonstration of how tricky the concept of cooperative work can be. Some articles were obviously written in close collaboration with colleagues, while others, the majority, were written by myself. But even these could not have been written had I not been collaborating, in different ways, with a large number of colleagues. In fact, irrespective of the formal authorship of the individual articles, the general framework developed in the articles collected here has evolved over many years in more or less continual debates with colleagues and students with whom I have discussed my work and who have offered opposition, often staunch but always stimulating opposition, to my notions and contentions. I should mention, at the very least, Hans Andersen, Liam Bannon, Jørgen Bansler, Susanne Bødker, John Bowers, Geof Bowker, Giorgio De Michelis, Peter Carstensen, Eli Gerson, Christine Halverson, Christian Heath, Erling Havn, Betty Hewitt, Thomas Hildebrandt, John Hughes, Rachel Israël, Bjarne Kaavé, Finn Kensing, Kristian Kreiner, Jacques Leplat, Paul Luff, Gloria Mark, Morten Nielsen, Irene Odgaard, Wolfgang Prinz, Dave Randall, Jens Rasmussen, Mike Robinson, Tom Rodden, Yvonne Rogers, Pascal Salembier, Dan Shapiro, Wes Sharrock, Carla Simone, Susan Leigh Star, Lucy Suchman, Carsten Sørensen, Halina Tomaszewska, and Ina Wagner.

As is typical of research work these days, my work has been carried out in collaboration with countless partners and coworkers in a number of European and Danish research projects such as, to name but the most important, FAOR, TIA, CoTech, MOHAWC, COMIC, COTCOS, DMM, DIWA, FASIT, IDAK, HIT, CITH, Cosmobiz. . . Those who were involved too will recognize the acronyms and will know my debt. It also so happens that the research reflected in this volume has been carried out while I was working for a string of institutions: Dansk Datamatik Center, the research center of the Danish Trade Union Federation (LO), Risø National Laboratory, the Technical University of Denmark, the IT University of Copenhagen, the University of Siegen, and Copenhagen Business School. Without the support of these institutions, none of this could have been accomplished.

An early version of the present book, carrying the same title, was submitted to the IT University of Copenhagen for the *dr.scient.soc.* degree. The two official opponents, Wes Sharrock and Yrjö Engeström, were gracious and the degree was awarded me in June 2007.

The present book differs from the dissertation in many respects. Most importantly, it contains new chapters in which I, at the instigation of the anonymous reviewers, undertake a critical discussion of CSCW. The new chapters are the three that make up Part III. On the other hand, in order to prevent the book from becoming excessively large, two articles have been omitted from Part II.

A couple of sojourns as visiting professor with Volker Wulf's group at the University of Siegen, Germany, in 2007 and 2008 gave me the welcome opportunity to begin drafting the new chapters. A version of the account of the formation and fragmentation of the CSCW (in [Chapter 11](#)) was used as a basis for an article published as a discussion paper ('Divided by a common acronym') at ECSCW 2009. A planned chapter on 'The concept of work in CSCW' was taken out and used as a basis for another article and submitted for COOP 2010. Readers who want to inspect those aspects of my critique of the state of CSCW are referred to these articles.

I was fortunate that a number of colleagues, among them Liam Bannon, Susanne Bødker, Lars Rune Christensen, Lise Justensen, Dave Randall, Satu Reijonen, Signe Vikkelsø, and Volker Wulf, have commented on versions of Part III (or, rather, fragments thereof), directing my attention to all kinds of shortcomings, not least points where the argument was acutely in need of clarification. I thank them all, hasting to add that the responsibility for remaining shortcomings in terms of style, grammar, logic, clarity, judgment, and plain good sense is mine alone.

Contents

Part I Progress Report	
1 Cooperative Work and Coordinative Practices	3
Part II Surveying the Connections	
2 Riding a Tiger, or Computer-Supported Cooperative Work (1991)	31
3 Taking CSCW Seriously: Supporting Articulation Work (1992) . .	45
4 The Organization of Cooperative Work (1994)	73
5 Coordination Mechanisms (1996)	93
6 Of Maps and Scripts (1997)	133
7 The Critical Role of Workplace Studies in CSCW (2000)	149
8 The Problem with ‘Awareness’ (2002)	157
9 Remarks on the Complexity of Cooperative Work (2002)	167
10 Ordering Systems (2004)	201
Part III CSCW Reconsidered	
11 Formation and Fragmentation	255
12 Frail Foundations	359
13 Dispelling the Mythology of Computational Artifacts	391
References	415
Index	459