

Abstract

The thesis is a reflection on a research and design project undertaken in collaboration with two industrial partners (being users and designers respectively) seeking to explore maintenance work in manufacturing and the possibilities of supporting work with (primarily) mobile information technologies. The project was carried out in the spirit of participatory design and ethnographic workplace studies. The thesis, however, is not an unproblematic contribution to either discipline; because of difficulties with implementing the protocols – assumptions, methods and techniques – stipulated by the two traditions, it is not the presentation of ‘ready-made’ research and design, but rather an exposition of research and design ‘in-the-making’. More specifically, and inspired by recent writings in STS, I describe how the ‘object of concern’, maintenance work, is ‘articulated’ as problematic, observable-reportable, manipulatable, public, scriptable-stage-able and mobile in accordance with central concerns in six phases of the project including – but not exhausted by – the attempt to impose the research and design protocols of participatory design and workplace studies. By not taking for granted the unproblematic extension of scholastic protocols into use and design practice but focusing on the practical work necessary for implementing (or failing to implement) them I attempt to make four points: First, provide *in lieu* of the originally planned contributions – methodological innovations and ethnographic accounts of maintenance work – a more comprehensive than usual account of what in practical terms is required to make real a practice based research and design project for the pleasure of researchers in similar engagements. Second, and more critically, question to what extent the principled protocols of participatory design and ethnographic workplace studies – if they require additional, unacknowledged and ‘hidden’ work to come true – are realistic. In particular, I argue that as a precondition for researching and designing according to protocol it is necessary to interest and keep interested the various participants of the project. Users and designers have no intrinsic interest in being either co-designers or informants; it takes hard work to make them so. Third, when academic research and design protocols, the very *criteria* of being, knowing and making, must be imposed, negotiated, compromised *in practice*, research is not *a priori* privileged to speak of the reality of use and design; research, use and design has not a referential but an interferential relationship and consequently the conditions of being/knowing/power cannot be resolved beforehand – as typically assumed in participatory design and ethnographic workplace studies – but must be confronted as a practical matter in each encounter. Fourth, in this light, I suggest that participatory design and ethnographic workplace studies usefully can be regarded as representational strategies/protocols aimed at managing the socio-spatial difference between use, design *and* research practice and the temporal difference between an actual present and an imagined future: in participatory design by representing users, researchers and designers in the same project, and in workplace studies by and through ethnographic representations aligning designers and researchers with the meanings of users.

Because principled protocols are compromised in the negotiated encounter between researchers, users and designers I argue that representatives – whether people partaking in participatory design or the ethnographic account – have dual loyalties, are *double agents*, being accountable both to the joint encounter and the constituencies they represent creating tensions needed to be worked out. Being a competent representative in the space where different social orders, present and future, interfere, it is therefore not sufficient to be a *stakeholder* or to be ‘vulgarly competent’ as participatory design and the tradition of workplace studies respectively suggest; a competent representative should also consider being faithful, popular, articulate, interesting and inspiring.

Framing research and design of IT as the stipulation, negotiation and compromise of representational protocols between research, use and design, and taking the joint object of concern as the articulated outcome of practicalities ‘in-here’ and not a presupposition found (or designed) ‘out-there’ go against commonsensical understandings of reality. In the final section of the thesis it is argued that such an attitude can sensitize us to the multiple practicalities necessary *for all practical purposes* to ‘have’ and to ‘make’ our object of concern – in this context IT supported maintenance work – and as such is useful in creating sustainable encounters among researchers, users and designers. However, it is a *methodological* break with commonsense and not an attempt to found practice further by way of unnoticed practicalities as sometimes attempted in the STS literature the thesis otherwise apply; in turning to practice we should not be fundamentalist pragmatists, but *pragmatic pragmatists*.