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What is This?

Social technologies: Cross-disciplinary reflections on technologies in and from the social sciences

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Abstract
In this introduction, we explore the relevance to critical psychology of the ideas about technology that have come from science and technology studies (STS), which we argue allow a new look at a classic theme in critical approaches in psychology. Rather than seeing psychical and social reality as objective realities, critical psychologists have approached them as the products of historically situated practices, intimately tied up with the circumstances of their production. We suggest that this metaphor of production can be developed in new ways by investigating tools, methods, and phenomena within psychology through the optic of STS. At the same time, STS may also gain from turning to psychology, since it has predominantly focused on the natural sciences and may be inspired to adjust its analytical approach to people and technology through this encounter. We position the notion of social technology both in relation to assumed distinctions between the natural and the social world and in relation to critiques of these assumptions. With the concept of social technology, we argue for investigating the instruments of psychology and social science with equal attention to the way so-called "technical" and "human" elements work together, and sometimes fail, to constitute particular effects.

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Social technology and psychology

History, philosophy, and sociology of science have long been a source of inspiration for critical approaches in psychology. In the work of authors like Mannheim, Quine, Hanson, and Kuhn, critics found arguments against the dominant positivism in psychology. When mainstream psychology was presented as conforming to the nature of science, their work provided a different picture of science that could be used to reveal the contingency of the discipline's development and its core assumptions. In recent years, such alternative views of science have increasingly been drawn from science and technology studies (STS), a loose confederation of empirical approaches to science and technology. Leading figures in STS, such as Karin Knorr-Cetina, Lorraine Daston, Bruno Latour, and Thomas Gieryn, are regularly cited in support of, for example, the collective rather than individual nature of knowledge, and the historical contingency of notions of objectivity. The picture of science as a situated practice that emerges from this tradition is generally congenial to critical psychology, although the purported relativism of some versions of STS is controversial, as indeed it is within STS (Derksen, 2010).

In this special issue we explore the relevance to critical psychology of the ideas about technology that have come from STS. This focus on technology allows a new look at an old theme in critical approaches in psychology: that of constitution, construction, and performance. Rather than seeing psychical and social reality as objective realities, the truth of which will be determined by science, critical psychologists have approached them as the products of historically and culturally situated practices, intimately tied up with their makers and the circumstances of their production. Psychology itself is centrally involved in the production of psychical and social realities, rather than being their modest witness. We believe that this metaphor of production can be developed in new ways by investigating "psychological" tools, methods, and phenomena with the optics of STS, taking inspiration from its many empirical studies of technology. At the same time, STS may also gain from turning to psychology. Since STS has predominantly focused on the natural sciences, the confrontation with psychology may invite critical reflection on this empirical preoccupation and also inspire important adjustments to its perspective on technology, which often tends to emphasize palpable artifacts, steely machines, and calculatory devices. How do the analytical frameworks of STS fare when science and technology revolve instead around people and intangible phenomena?

Social technology and its critics

To explain why and in what sense we use the term "social technology," it is helpful to look at how it has been used previously and the criticism it has drawn. The futurologist Olaf Helmer used it in 1966, when he urged social scientists not to strive for the level of power and certainty of physical science, but to forge ahead and meet the increasing problems in society with social technology (Helmer, 1966). Noteworthy is the explicit analogy between physical and social engineering in his argumentation. The technologies that Helmer proposed, such as the Delphi method for engineering expert consensus, were techniques for dealing with recurrent problems in social life. In other conceptions of social technology, the whole of society was the object of engineering. An early proponent was

the Welsh industrialist Robert Owen, whose utopian communities were based on the notion that people and their societies are machines that, with adequate knowledge, can be designed and engineered to perfection (Owen, 1813/1972). B.F. Skinner's utopia *Walden Two* (1948/1976) and the communities based on it (Kuhlmann, 2005) expressed the same idea. An influential critique of such social engineering was that of Karl Popper, who warned against attempts to create societies from the ground up, based on a blueprint of the ideal state. Utopian social engineering, as he called it, is likely to lead to dictatorship and violence. Yet Popper was not against social technology per se and endorsed "piecemeal social engineering," small-scale attempts to alleviate social problems. He supported his argument for the piecemeal approach with a comparison of social with "mechanical" engineering, which equally proceeds by small steps (Popper, 1945/1966, Vol.1, p. 163).

The notion of social technology and the analogy with mechanical engineering have, however, also been rejected outright. In a recent issue of *Theory & Psychology*, Ernst Schraube (following Klaus Holzkamp) argues that it is fundamentally wrong to approach people and society with the same instrumental frame of mind as we do nature (Schraube, 2009). People are not things to be dominated and controlled. Schraube (2009) echoes Holzkamp's critique of psychology as a "social technology and an instrument of control and disposition over people" (p. 301), and warns against new approaches to the study of technology that open the door to "cynically treating human beings as things" (p. 305). Although his perspective is very different, the distinction between people and things is also central to Robert Aunger's rejection of "social technology" in a recent essay on the evolution of technology (Aunger, 2010). In his definition, "[T]echnology is about interaction with artifacts in particular contexts of engagement" (p. 764). In contrast, social technologies, "the application of scientific knowledge to the design and management of social organizations" (p. 765), are purely conceptual. Similarly, Wanda Orlikowski (1992) defines technology in terms of the interaction between human agents and material artifacts, and rejects the inclusion of "social technologies" because it would obstruct "the ability to ask questions about how artifacts interact with human agents" (p. 399).

Schraube, Aunger, and Orlikowski all object to "social technology" because technology, in their view, is essentially the use of artifacts by human beings, and people are not artifacts; the domain of people and their relations (the social) is distinct from that of machines and devices (technology). In recent years, Bruno Latour, the French philosopher and anthropologist, has become an influential critic of this distinction. What is typical of human societies, he argues, is not that they consist of people and their actions and relations, but that they rest upon a heterogeneous composition of humans and non-humans, of people and things. A society held together only by "social factors" would be as volatile as that of baboons, who have no material artifacts to stabilize social relations and from sunrise to sunset have to negotiate a fragile social order (Latour, 1988, 1996). Instead, the history of human societies is one of the increasing interweaving of humans and non-humans into complex collectives, which acquire their characteristics and stability from a myriad of tools, artifacts, machines, and devices (Latour, 2005).

An important consequence drawn from this insight is that it adds little value to distinguish "hard" and "soft" technologies on the basis of some fundamental ontological premise: all technologies involve and shape the social. Electricity, the car, and the Pill are as significant for the way society is ordered as are parliamentary democracy and class distinctions.

Likewise all technologies work through both material and immaterial elements. Understood in this way, the technological and the social are fundamentally intertwined, and the term "social technology" is therefore a platitude. Instead, studies based on this perspective often use the term "sociotechnical" to denote the social aspects of technology and the deeply technological nature of society (e.g., Bijker & Law, 1992; Hommels, 2005; Mager, 2009). It is important to note that this perspective is not technocratic: society is not under pervasive technological control, as the proponents of social engineering hoped and its opponents feared. Technologies may lend stability to our collectives, but their introduction is always an event with unforeseen, unpredictable consequences. Tools and artifacts mediate social relations, rather than control them (Latour, 2002).

Back to social technology

It is not surprising, then, that the term "social technology," if it is used at all nowadays, is mostly employed as a heuristic without much theoretical baggage (see, e.g., Pinch, Ashmore, & Mulkay, 1992; Shapin & Schaffer, 1985), or in reference to social networking sites such as Facebook.[1] Whether the notion of "social technology" is criticized because it erases the ontological difference between people and things (as with Schraube, Aunger, and Orlikowski), or because it affirms that difference (Latour), the conclusion has been that it is too problematic to be helpful in the study of society and/or technology. Yet we believe this rejection is unfortunate, for two reasons. The first is that it may prevent analysis of the instruments and techniques produced by psychology and the social sciences with the conceptual resources of STS. Technologies such as human resource management and cognitive behavioral therapy are virtually absent from STS studies, and have mainly been investigated by scholars in the field of govermentality studies, focusing upon the role of tools and techniques for the disciplining and subjectification of the human (e.g., the work of Nikolas Rose and Mitchell Dean on technologies of the self and neoliberal forms of government: Dean, 1999; Rose, 1999). From this tradition, the concept of "technologies of the self" has been a very useful and analytically stimulating one (see also the contributions by Brown, 2012; Sommerlund & Strandvad, 2012) and yet we also believe that the Foucauldian perspective stands to gain by the focus that STS invites on the sociomaterial construction of such technologies, the tinkering involved, and their modes of deployment and circulation.

A second unfortunate consequence is that both Latour's rejection of the technology/society distinction as well as its affirmation by Schraube, Orlikowski, and Aunger discourage the study of these and similar categories as empirical phenomena. We seek to draw attention to the value of investigating the social and the psychological as empirically active categories. The distinctiveness of people and their interactions is still invoked, produced, repressed, and utilized in many technological assemblages, not only those stemming from the social sciences. How is the social, or the psychological, produced and singled out by technology? How does the HR manager, for instance, employ his or her humanity as a distinctive asset? Through what techniques and tools are "social influence" and "empathy" produced as distinctly psychological and social phenomena? How can we understand phenomena such as curiosity, lying, talent, and fear, not simply as "constructs," but as emerging phenomena in sociomaterial assemblages?[2] With questions like these, we suggest

that there is much more to be investigated with the analytic principles of STS than science and technology: for instance, the phenomena conventionally belonging to the fields of psychology and human behavior.

Our concept of social technology seeks to redress these two consequences of the sociotechnical approach. The kind of technologies we want to investigate is similar to what Nikolas Rose (1996) called "human technologies," by which he meant assemblages that aim at the "calculated transformation of human conduct" by "linking together, shaping, channeling, and utilizing the forces of individuals and groups in pursuit of certain objectives" (p. 121). "Conduct," however, is not the only possible product of social technologies. The articles in this issue describe, for example, the constitution of "talent" (Sommerlund & Strandvad, 2012), and the production of unnerving and potentially therapeutic experiences in a leaderless group (Vikkelsø, 2012). Moreover, the techniques involved are highly heterogeneous and include elements such as collective silence (Brown, 2012), sociograms (Mayer, 2012), and lying (Derksen, 2012). Tangible devices and artifacts may be part of them, but a central role tends to be played by human action and interaction, and by discursive techniques. What unites all the technologies analyzed in this special issue is the problematization of the assumption underlying the idea that all technology is social, and society is technological all the way through. The point is that the social sometimes emerges from technological assemblages as distinctive, and that it is sometimes performed as somehow special, or even as non-technological. The social and the technological don't always blend so seamlessly as the sociotechnical approach implies.

The articles included in this issue show how the social and the technological are intimately linked—but analyze this link as an achievement, and not always a stable, comfortable, or definitive one. In each case study, this dynamic and, at times, jarring quality comes to the fore. We refrain from defining social technology any further, preferring to consider it an invitation to explore the entwinement, unease, and even irritation in the close relationship between people's experiences, conduct, and communities, on the one hand, and technology of any sort, on the other.

The articles in this special issue

Several contributions in this special issue show the feasibility and value of addressing the categories of the human and of the material from an empirical angle. Two articles, by Stöckelová (2012) and by Mayer (2012), provide an interesting take on the normative dimension of the relation between social and material technologies. Rather than opposing them or essentializing either term, they show how the two categories should be used to highlight the effects of and on what arises as the social. The dialogue and contrast they propose between the material and the social raise important questions about the kind of "knowledge society" we are building.

Tereza Stöckelová's article, "Social Technology Transfer? Movement of Social Science Knowledge beyond the Academy," problematizes the way technology's dominant image, both in STS and in science policies, has become one of a material device or a complex procedure using machines with origins in natural science disciplines. She contrasts this view with other vehicles and forms of societal impact in the case of social

sciences. Insightfully, Stöckelová argues against the asymmetry between social and natural sciences or social and material technologies. She also suggests that the trouble the social sciences have with accounting for their societal impact is comparable to effects of critical evaluation of natural sciences and should be seriously considered as exposing more general challenges for science in knowledge society.

Katja Mayer's article, "Objectifying Social Structures: Network Visualization as Means of Social Optimization" (2012), brings together two strands of analysis. She provides a historical perspective on the development of social network visualization, and also shows how the technological support to visualizations disappears from view. Together, these dynamics lead to a particular construction of social structures, owing to the reification of social relations and to the disappearance of its technological dimension.

Rather than address whether talent should be considered an individual trait or a socially constructed attribute, Julie Sommerlund and Sara Malou Strandvad write about talent from a performative perspective in "The Promises of Talent: Performing Potentiality" (2012). Building on a sociology of expectations framework, they explore distinct moments when talent is constituted. They show how the notion of talent is a social technology that enrolls the self, and a technology that is socially situated. As such, this paper demonstrates how the study of the constitution of the social benefits from an approach that goes beyond concerns of governmentality studies, and draws on STS, while also pushing the boundaries of STS to consider other kinds of objects.

Across a number of papers, the fruitfulness of interrogating the social as technologically mediated is apparent. Rather than assume the nature of the sociality produced, Maarten Derksen, in particular, examines it as an outcome of social technologies. Derksen's article, "Control and Resistance in the Psychology of Lying" (2012), reveals dynamics of psychological research that are rarely examined. His analysis of lying as a social technology indicates the extent to which the lying becomes reified as an object of study and contextualizes the importance of "control" as an element of social/psychological research.

Signe Vikkelsø's paper, "The Fragility of a Robust Therapeutic Technique: The Case of Bion's Experience Group" (2012), shows the particular fragility of social technologies and their sensitivity to the way they are performed. She analyzes Bion's group technique as a social technology that has a particular purpose inscribed, but that is also vulnerable to specific types of risks and, hence, produces different types of group phenomena and reflexivity depending on the way it is operated. By exploring the potentially ambiguous effects of a therapeutic technique, the tensions between more optimistic and pessimistic readings of social technologies can be better understood. The notion of technology may carry connotations of hardness and reliable operation, but social technologies are often open to improvisation and require constant fine-tuning.

Finally, Steve Brown's article, "Two Minutes of Silence: Social Technologies of Public Commemoration," interrogates the practice of public commemorative silence. Describing public commemorative silence as a "technology," rather than as, say, a piece of collective social behavior, allows him to draw connections between silence and other forms of commemoration (such as architecture and photography), and to explore the kinds of experiences they afford for those who participate in or act as "users" of the technology. Brown notes that the sorts of things one might define as social technology explicitly articulate a version either of subjectivity or of community on the part of prospective users.

Exploration across disciplines: From workshop to special issue

To conclude this introduction, we would like to note that the articles published in this special issue are based on a subset of the papers discussed at a workshop on Social Technology, held on October 2, 2009, at the Virtual Knowledge Studio for the Humanities and Social Sciences (VKS), in Amsterdam. There were 15 participants, of whom 13 were presenters and 2, Paul Wouters and Bas van Heur, were reporters. The latter's observations were subsequently posted to the workshop blog.[3] Participants came from the fields of psychology, design, organization studies, environmental science, science and technology studies, and sociology—though all would probably define themselves as "hard to pin down disciplinarily." Besides the authors whose work is published in this issue, six other scholars presented papers, several of which are published elsewhere.[4] The format of the workshop, in which each participant was both an author and a respondent on another paper, heightened the engagement around the papers and topic of the workshop. From these intense discussions, each author was able to sharpen the use of the phrase "social technology" in relation to his or her own work—and these discussions also contributed to reflections on the topic in this introduction.

Part of the reason for organizing the workshop was that we felt that the concept of "social technology" pointed at several interesting and urgent issues at the intersection of STS and the social sciences, including psychology, but that it still needed to be developed and clarified. The reactions to our call for papers confirmed this: people were very enthusiastic and the participants of the workshop were clearly inspired, but the notion of "social technology" was interpreted in various ways, taken in a range of directions. To some extent, this diversity is a good thing: we proposed "social technology" in part as a call to study empirical domains that we believe have been neglected. The fact that participants readily identified a diverse range of them confirms this. We hope this special issue and other publications related to the workshop will both provoke and inform debate, and inspire others to see "social technology" as an exciting analytic possibility.

Notes

1. But see Derksen and Beaulieu (2011) for an analysis of social networking from the perspective on social technology proposed here.
2. Our interest in the social as an emergent phenomenon is similar to the performative understanding of social-scientific methods, according to which these methods enact social reality as well as describing it (Callon, 2007; Law, 2009; MacKenzie, 2006).
3. The workshop was made possible by generous support from WTMC, the national Dutch research school for Science, Technology, and Modern Culture and from the VKS. The efficient support of Anja de Haas from the VKS was also instrumental in making this event a success. As co-organizers, we thoroughly enjoyed our collaboration in preparing the workshop and editing this special issue, and would like to gratefully acknowledge all participants, authors, reviewers and the editor of this journal who made these activities possible. More details about the workshop can be found on the blog: http://socialtechnology.wordpress.com/.
4. The following authors and papers were also part of the workshop: Kathrin Braun, London School of Economics: "Governing Proper Talk" (see also Braun, Herrmann, Moore, &Könninger, 2010);

Jonna Brenninkmeijer, University of Groningen: "Brain Devices" (see also Brenninkmeijer, 2010); Anne Beaulieu, Virtual Knowledge Studio, Amsterdam: "Technologies in the Social Sciences" (co-authored with Maarten Derksen, University of Groningen); Javier Lezaun, University of Oxford: "Offshore Democracy" (see also Lezaun, 2011); Ingmar Lippert, University of Augsburg: "Dematerializing Earth" (see also Lippert, 2011); Katia Dupret Søndergaard, Aarhus University: "Intangible and Futile Changes in Psychiatric Practice."

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