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REPORT

Technology and work

New sociological approaches?

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From 15–21 July 2018, the World Congress of Sociology, organized by the International Sociological Association (ISA), took place in Toronto, Canada. Historically, the first steps toward establishing this association were taken in 1949 on the initiative of the Social Science Department of UNESCO. Today, it is the world's largest association of sociologists. The general topic of this year's congress was "Power, Violence and Justice: Reflections, Responses and Responsibilities", focusing on increasing processes of (anti-female) violence, social inequality, and tremendous poverty in many parts of the world. The presentations on these topics provided insights into the reality of daily life in many countries – a reality that was often thought to have been overcome in highly industrialized countries. As implicitly or explicitly formulated in many sessions during the congress, sociology as a scientific discipline should be (more) aware about these realities and become more knowledgeable in order to address these social conflicts more actively and globally. However, sociology should transcend established boundaries not only from a spatial perspective. Margaret Abraham, parting president of ISA, pointed out in her welcome address that "the sociologist's understanding of the world is incomplete without the perspective of other disciplines. An important aspect of this conference is to also point to the synergy and better comprehension of issues that we hope to achieve through our sustained interaction with other fields and engagement with civil society. Together, we hope to deepen our insights of the complex social, economic, and political challenges of our troubled world and find effective ways of countering the forces perpetrating violence and subverting equality and justice."

Many of the presentations given by sociologists, political scientists, anthropologists, or philosophers addressed the need of contemporary sociology to increase interdisciplinarity and public engagement and to develop new conceptual approaches that enable and promote justice and peace in modern societies. Around six thousand participants from more than 100 countries attended the congress, with a majority of women (58 %) and around 21 % students. From a country perspective, Canada, USA, and Germany (the latter with around 500 participants) were most strongly represented.
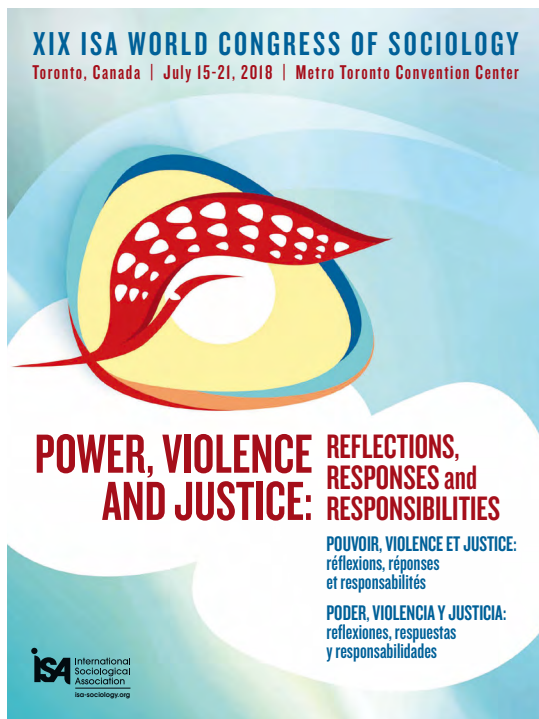
Debating technology and work

This report focuses on the session on technology and work, organized by the Institute for Technology Assessment and Systems Analysis (ITAS). In 2014, ITAS had taken the initiative to introduce a session on Technology Assessment (TA) at the World Congress of Sociology in Yokohama, Japan. TA as a scientific field had never been a relevant topic in the ISA before. Four years later, in Canada, TA research continued to feature prominently at ISA, this time focusing on conceptual approaches to the relation of technology and work. These approaches refer to the interaction between humans and technology in work environments, address employment impacts, conflicts, labor market issues, etc. The session on "Technology and Work"[1] was accepted as part of the activities of the Resarch Committee 23 (Sociology of Science and Technology) and was based on an open call for papers. The call not only underlined the sociological relevance of the papers to be presented but also explicitly strengthened the technological focus and impact. Contributions addressed sociological approaches to analyzing the tension between technology and work and the widespread unquestioned acceptance of technological innovation in labor spheres. The session also addressed new problems related to the adoption of automated surveillance, digitalization in manufacturing, and the emergence of new competencies with the adoption of Industry 4.0 concepts.

The relationship between technical change and labor structures has always been complex and is still being discussed and interpreted today. The use of information and communication technologies (ICTs) has had an enormous impact not only on the manufacturing sector but also on the reorganization of the service sector in the last decades. Worldwide integration of ICT has also created new forms of global value chains, leading to substantial changes in the mode of work. Today, a causal model can no longer explain these changes, but new theoretical approaches are required to integrate the technological dimension into the new globalization debate, into new forms of work organization, and into the debate about the "subjectivization" of work. Taking these fundamental technological impacts into consideration, these developments are integrated into a conceptual

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[1] The session was organized by António Moniz (ITAS / KIT and UNL, Portugal) and co-chaired by Delphine Mercier (CNRS – LEST-UMR, France).

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re-evaluation of the relationship between work *and* technology. In the long run, these changes will also bring about significant shifts in the relationship between technology and society, as already indicated by the debate on digitalization.

Since this ISA World Congress placed emphasis on urgent social issues such as poverty, new forms of violence and/or racism on a global scale, the relationship of technology to society, in particular to work, featured less prominently than in past ISA congresses. Nonetheless, the consequences of technical change have obviously been addressed in a number of conceptual approaches, and many renowned sociologists – among them T. Pinch, B. Latour, K. Knorr-Cetina, A. Rip, H. Nowotny, and L. Sanz-Menéndez, who are all former members of the RC23 board – continue to make important inputs.

Session on "Technology and Work"

The session on "Technology and Work: New Sociological Approaches?" provided perspectives from several countries and regions as well as from different disciplinary approaches.

B.-J. Krings, A. Moniz, and P. Frey (KIT) opened and introduced the session by underlining that current technological advances are mobilizing fears, doubts, and hopes around future working conditions in highly industrialized societies. The paper argued that, despite a varied debate on the future impact of automation, there is little conceptual knowledge about the impact of advanced technologies on work environments, work organi-

zation, and work settings in different branches and sectors. Human-machine interaction (HMI) has been rarely assessed empirically with respect to the shifts in work in concrete work environments, such as administrative, care, machine, or management work. While Frey and Osborne's work on the impact of computerization on future employment has sparked fruitful debate, there is further demand for interdisciplinary knowledge about HMI based on approaches of science and technology studies, case study research, job observation, etc. Furthermore, the paper argued that it is necessary to implement employees' needs in technology design in order to bridge the gap between work and technology.

Further papers were presented by A. Kumar (Netaji Subhas Institute of Technology, India) on textile printing, by J. Buchholz and S. Schaupp (TU Munich) on the concept of Industry 4.0, by L. Ostronoff (USP, Brazil) on the technology control culture, and by G. Volkova and N. Shmatko (HSE, Russia) on digital competencies resulting from robotization. Discussion on the relationship between work and technology continued with a paper on the sociotechnical imaginaries of the post-work movement presented by P. Frey (KIT) at the panel "Social Movements and Mobilizations for Alternative Futures".

As both the papers and the following discussion showed, the contribution of sociology to the analysis of the relation between work and technology seems relevant especially with regard to the sociocultural shifts associated with technological innovations. Dialogue among researchers should not be limited to Europe or the US, but – as the international perspective presented by the papers in this panel showed – is also relevant in other regions of the world. Different perspectives were presented and discussed in different sessions, reflecting on the contribution of sociology to understanding the function of (new) technologies in our societies. It seems there are global patterns of technology dissemination in the fundamental spheres of social life, which should become a major topic in the discussion about the function of technology in work environments. It is useful to develop this debate in international sociological forums, where it is possible to confront experiences and approaches of experts from all continents. Discussions on the relationship between work and technology definitely have a place in ISA and its world congresses. In particular, the ISA World Congress of Sociology can provide an important forum on work and technology in the RC23 sessions. The next opportunity will be the ISA Forum of Sociology in Porto Alegre (Brazil) in 2020.

Further information

Congress website https://www.isa-sociology.org/en/
    conferences/world-congress/toronto-2018
Abstracts from session "Technology and Work:
    New Sociological Approaches?" https://isaconf.confex.
    com/isaconf/wc2018/webprogram/Session9067.html