SOCIOTECHNICAL
ENVIRONMENTS

PROCEEDINGS OF THE 6TH STS ITALIA CONFERENCE 2016

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EDITORS' INTRODUCTION

Performing sociotechnical environments:
intersections of bodies, knowledge, artefacts and politics

This volume, the second edition of the STS Italia Proceedings, includes a selection of the works presented at the 6th STS Italia Conference held in Trento (Italy) from the 24th to the 26th of November 2016. The focal theme of the conference, organised by the Italian Society for the Study of Science and Technology in collaboration with the Department of Sociology and Social Research of the University of Trento, was Sociotechnical Environments. As with the previous edition, the conference – organised around twenty thematic tracks and one open track – represented a priceless interdisciplinary discussion arena that facilitated the meeting of different scientific and disciplinary perspectives interested in developing theoretical and empirical reflections on the new challenges for STS, such as the agential materiality or, from another perspective, the intimacy between human subjects and heterogeneous technological objects related to acting in situ or embedded environments (Griswold et al., 2013).

It seems crucial to recognise that the word 'environment' is ubiquitous, as it flows through a wide range of debates in social sciences. The most obvious is its common sense, the meaning that immediately recalls the essential modernistic duality between 'natural' and 'artificial'. Nonetheless, as with other ideas or innovations, the notion of 'environment' is a discursive artefact, as it is pliable enough to be interpreted and domesticated based on the specific and contingent 'needs' of various academic communities. Hence, the notion of 'environment' is currently translated and betrayed in a multiplicity of meanings and interpretative frameworks according to the discipline using it as research object, analytical device or even as a pure conceptual metaphor.

In assuming this complexity, the title of this introduction reverberates the emphasis of the present volume on the scientific debate that in recent

decades has paid increasing attention to the theme of the sociomaterial dimension of 'acting' and 'knowing'. The concept of environment, thus, represents a multi–vocal discursive device, evocative of settings of action densely populated by human and non–human actors (Bruni, 2013; Orlikowski, 2007). Its analytical interest concerns the understanding of the heterogeneous modalities through which the physical features of objects and environments recursively act upon social actors to co–define bodies, knowledge, politics and sense–making practices. Nowadays, it is a widely accepted assumption that technoscience increasingly shapes the environments of our everyday and professional activities. Nevertheless, we should not understand these environments as the mere results of top–down technocratic solutions and rational choices. Rather, they emerge from a collective, dynamic and open–ended process of intersection that directly involves social arrangements and technoscientific processes, human actors and material artefacts, natural resources, political and social movements and cultural frameworks. In this way, reflecting on the sociotechnical co–production of our everyday settings of interactions bestows centrality to the relationship between technoscientific practices and the natural environment, with environmental practices, politics and materialities as pivotal dimensions in the current research agenda in multiple fields and intellectual domains. This multiplicity emerges in the different parts of this volume that refer to the notion of environment as a polysemous entity that crosses different disciplinary fields and analytical interests. The authors did not endorse a monolithic disciplinary identity, but rather tried to establish a dialogue at the intersection of different STS sensitiveness. In spite of a focal common interest in questioning how sociotechnical environments are performed and manufactured in practices, the papers collected in this book are extremely heterogeneous as to their analytical objects.

Overall, the contributions demonstrate a wide set of topics and approaches, which span from infrastructures to political activism and from design practices to gender–technology relationships. At the same time, they share a common analytical frame, an intellectual posture that instead of refuting or adhering to recurring dichotomies such as that between Body and Mind, Nature and Culture, Work and Game, Efficiency and Sustainability, Social and Technical looks at how such dichotomies are shaped. In this way, the volume gives an account of the unavoidable multidimensionality of the sociotechnical dimension of the environments, given that they can be inhabited and co–produced by different people, different epistemic communities (Akrich, 2010; Haas, 1992) and different

technologies. In this respect, addressing the constitutive *agencement* of the 'social' and the 'technical' in everyday environments (Callon, 2008) is more than a 'situationist' or naïve attraction for the material interpellations that can shape and drive human action. On the contrary, it reflects a radical analytical posture, which is agnostic about the nature of actors (humans or not) and is oriented to understand how practices, knowledge, language and symbols are interlaced with technologies, knowledge and spatial arrangements in performing the situated environments of interactions. From this perspective, the contributions presented in this volume explore sociotechnical environments as the emerging results of a set of activities in which expert knowledge (both scientific and experiential) and technologies converge, and thus question the role of situated settings in mediating the technoscientific manufacturing of our social world, and how they relate to broader sociotechnical landscapes (Geel, 2002).

The four sections of this volume reflect the heterogeneity of the conference in terms of the topics, theoretical frameworks and methodological techniques adopted by the different authors. The published contributions are a selection of the full papers submitted to the conference. These were already a selection of the more than 150 abstracts (available as documentation on the conference's website) presented to the various tracks of the conference. The selection of abstracts for the conference was in the charge of the track convenors, while the reviewing and subsequent selection of the full papers for publication in the present proceedings was managed by the editorial team, which has collectively reviewed each paper with the aim to valorise and give a voice to the different perspectives and approaches adopted by the authors. As a result, this publication contains 50 reviewed papers that represent a multi–perspective output by interdisciplinary scholars belonging to different fields and sectors, together animated by a common analytical interest in understanding the multimodal and creative intersection of the material and immaterial objects, human subjects and politics involved in performing the meanings and materiality of different socio–technical environments.

Section 1 (*Environments in the Making. Politics, Interventions and Creativity*) provides multiple perspectives on relationships with the environment: political actions, conflicts, exploitation of natural resources and the quest for harmony. These critical perspectives and promising theoretical insights regarding heterogeneous assemblages of elements

explore the ambiguities and emerging frictions relating to the environment in terms of characterising contemporary environmental issues. Knowledge production processes regarding environments, and how they assemble with technologies, are perspectives applied to studies of different scenarios (e.g. environmental activism, rural development, energy transition, smart grids) in a variety of geographic contexts, ranging from urban areas to Arctic regions, and from Europe to Latin America and Asia.

Section 2 (*Gender, Bodies and Health in Sociotechnical Environments*) highlights how sociotechnical environments are featured in specific technologies, symbolic representations and languages strictly intertwined with the processual redefinition of bodily experiences, as well as 'doing' and 'un–doing' gender practices. Overall, the papers in this section represent case studies grounded in a critical reflection on the gender–technology relationship; some also outline organisational strategies oriented to boost a gender–sensitive culture in sociotechical environments.

Section 3 (*Enacting Objects, Infrastructures and Innovation*) focuses on the interaction between the environment and objects on two main levels. The first is methodological. In this regard, several articles engage with a range of conceptual tools of the 'old' Actor Network Theory, such as 'script', 'delegation' or 'translation', in order to show that the sociality and agency of the objects provide a (still) innovative perspective on work procedures, learning programs or design processes. Second, objects devise new interactions with the environment by representing it, recreating it or including it in, as demonstrated in the case studies presented, socio–technical infrastructures, the digital reconfiguration of care or the design of new materials.

Section 4 (*Designing Environments*) focuses on the socio–technical processes that occur in the design and re–design of artefacts, technologies and infrastructures. On the one hand, in this section technical objects, along with their material features, are represented as non–human agents that populate diverse social realms, thus influencing and orientating people and their courses of actions. On the other hand, various contributions underline how human actors, including when they are conceived in the guise of mere 'end–users', can enact discursive, material and affective practices aimed at domesticating new artefacts. Overall, this section, from both the theoretical and empirical points of view, emphasises how the social and the material are deeply interlocked and how, in particular, in the design field human and non–human actors define each other in a process of mutual constitution.

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