Science, technology and society: the social representations approach

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The present special issue explores the role that science and technology play in modern common sense and daily practices. The modern techno-sciences introduce new systems of production, regulation, opinion, knowledge and know-how. They propose new dieting rules at the crossroads of private and public health, research and nutrition. Techno-science makes available new technologies of reproduction; in changing ecological practices climate science impacts our lifestyles. Dieting habits, gender relations, bio-medical ethics, our relationship to the natural world, the wish for a child, projection, transmission and identification within the family are re-defined, acquire legal acceptance, upset language, and disturb traditions and religious codes, foster political debates and mass fears (Kalampalikis, Haas, Fieulaine, Doumergue, & Deschamps, 2013). We witness the opening of a new era of societal representations. These novelties afford new practices and forge new thinking that invite social sciences – in particular social psychology – to question their theoretical models and approaches with respect to new political, legal, psychological and societal realities. The aim of this special issue

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is to present empirical research that illustrates the contributions of a way of doing social psychology to approaching these challenges outside the simple expectations of fostering acceptance of innovations. Social psychology has more to offer 'than a ride on the back of technocratic dreams' (Bauer, 2007).

The reader will notice in this collection of papers the authors base their research on the social representations approach as theoretical, methodological, and above all open and reflective paradigm. This is no coincidence, but demonstrates the pertinence and vivacity of this paradigm and its heuristic value for the investigation of changing science-society relations in different sociocultural contexts. This adds to an emerging interdisciplinary research field of public understanding of science (PUS) with evident long-term fertility and renewing creativity (Suerdem, Bauer, Howard, & Ruby, 2013). This also goes back to Moscovici's original purpose in proposing the concept of 'social representa- tions' some 50 years ago, which he recently formulated as follows: "I must admit that originally I did not aim at introducing into social psychology a concept derivative of Durkheim or Lévy-Bruhl, nor trying to differentiate it in order to adapt it later to the social *Zeitgeist*. To the contrary, it is the problem of the transformation of science while spreading and the emergence of a post-scientific common sense, the one of our social psychology, which have lead me there" (Moscovici, 2013, p. 108, our translation). In this original impetus, the social representation approach is an early anti-thesis to the still going diffusion paradigm, which assumes that new ideas and techniques are ready-made and fixed as they spread, the only variables being the speed and reach of diffusion. The evidence continues to show that diffusion is more wishful thinking than reality; it occurs in the very special case of a somnambulant public.

In this issue, our purpose is to investigate this circulation of new scientific insights in the production of knowledge and social practices and in their direct repercussion on reality and daily life. Life incorporates more and more scientific knowledge and technique in the design of objects directly linked with our projects (with permanence and variation), in our relationship with nature and culture through environmental stakes and scientific controver-

sies, in the new parenthood technically assisted, in our relationship to fashion, in the definition of professions and the representa- tions of how science works. Social communication also plays a key source of data for this research work. Papers also analyze mass media materials as rhetorical resources or the interlocutory process of dynamic expression of ideas. This formal and informal communication constitutes the force and the framework of the modern mentality which characterizes our thinking societies.

Our special issue is divided into three thematic sections: environment, bioethics and science and daily life. The first three papers address environmental issues. Peta Callaghan and Martha Augoustinos (University of Adelaide) investigate the controversy over climate change in Australia. Their reflections shed light on the complexity and pertinence of preoccupations through the repercussions these controversies have within the scientific sphere. They analyze the protagonists' harsh rhetoric and polemic that is manifest in the Australian press. Their analyses evidence the effects of the style of communication and the type of knowledge used by both parties as rhetorical resources in order to forge the social representation of a changing climate in both the sciences and in public.

Sabine Caillaud (Paris-Descartes University) and Uwe Flick (Freie Universität Berlin) compare new environmental practices in two European socio-cultural contexts: France and Germany. Their design involves triangulation methodology of non-experts in each context. They show how the relationship with nature and culture affects daily practices and environmental knowledge differently. Acquaintance with the causes of climate change, risk perception and the anchoring in categories, moral or political, illustrate the underlying tensions in these two socio-culturally different contexts.

Carla Mouro (ISCTE – University Institute of Lisbon), Paula Castro (ISCTE), Nicole Kronberger (University of Linz) and Patricia Duarte (ISCTE) examine the 'clean energy' frame in European countries as a way of linking environmental matters, technolog- ical innovations and legal regulations. Their analysis makes use of the 2010 Eurobarometer (life sciences and public understanding of science). The survey was carried

out in 32 European countries.

The analysis evidences the significance of a country's timing of entry into the European Union as a factor for forming consent on different forms of energy (solar versus nuclear).

Two papers focus on bioethical challenges. Sophie Zadeh, Tabitha Freeman and Susan Golombok (University of Cambridge) discuss a rarely explored question, the experience of sperm donation, by talking to single mothers, a rare and sensitive group with access to new reproductive technology. With a qualitative approach the authors reveal the forms of parentage identity negotiations that these new technique of reproduction afford for single women. Identity negotiation is a dynamically constructed process in balancing ambivalence between personal choice and traditional family pattern. Caroline Léchot (University of Lausanne) and Vlad-Petre Glâveanu (Aalborg University) address the issue of late pregnancy in the Swiss press. They show the weight of culture as morality and medical ethics of reproductive technologies burdening the effort of building a normative commons.

Finally, three more papers explore relationship of science and daily life. Nelly Courvoisier (University of Lausanne-Unil), Eva Green (Unil), Mira Canciu (Unil) and Alain Clémence (Unil) conducted two field studies involving participants before and after a guided tour of the ATLAS particle detector at the European Organization of Nuclear Research (CERN). The results show how science becomes part of daily conversations on the visit experience in function of previous attitude toward science (more or less positive or nega- tive) and the extent of debriefing and comprehension.

Lucile Salesses (Aix-Marseille University-AMU) and Deborah Romain (AMU) examine the ethical fashion. Questioning both fashion and ethical consumption historically, they focus on the representations of a new composite object and take a critical look at its relative autonomy.

Chloé Eyssartier (CETE de l'Ouest/Center of technical studies of the equipment of the West) and Fabrice Hamelin (Ifsttar – French Institute of science and technology for transports, development and networks) discuss the impact of a technological device, auto- matic radars for reporting traffic offence in France, on the social representation of the professions involved in the implementa-

tion, professional drivers and police constables. Their results evidence a gradual transformation of the profession of drivers and a more radical institutional reorganization of the police force in function of this new technology.

Our thematically focused special issue of the journal brings together eight texts and presents a panorama of research of twenty-one social psychologists from eight different countries (Australia, Austria, Denmark, France, Germany, Great Britain, Portugal, Switzerland). This demonstrates the richness, diversity and vivacity of a social psychology that is open to cultural and societal challenges, and testifies the necessity to study social cognition as knowledge-in-context using mixed methodologies. Furthermore, these developments illustrate the heuristic value of the social representations paradigm in the study of objects in engagement with issues raised by scientific and technological changes and its impact on the social life of contemporary societies (Alessio, Apostolidis, Santos, & Dany, 2011).

References

Alessio, R., Apostolidis, T., Santos, M.-F., & Dany, L. (2011). Représentations sociales et embryon humain : une étude comparative Brésil/France. *Cahiers Internationaux de Psychologie Sociale*, 92, 371-395.

Bauer, M. W. (2007). Le fait accompli et son influence sociale. *Diogène*, 217(1), 79-101.

Kalampalikis, N., Haas, V., Fieulaine, N., Doumergue, M., & Deschamps, G. (2013). Giving or giving back: New psychosocial insights from sperm donors in France. *Psychology, Health & Medicine*, 18(1), 1-9.

Moscovici, S. (2013). *Le scandale de la pensée sociale*. Paris: Editions de l'EHESS.

Suerdem, A. Bauer, M.W., Howard, S., & Ruby, L. (2013). PUS in turbulent times II – A shifting vocabulary that brokers interdisciplinary knowledge. *Public Understanding of Science*, 22(1), 2-15. doi:10.1177/0963662512471911.