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Political objects: Prescriptions, injustices and promises of material agents

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That objects have politics has been one of the major concerns of science and technology studies (STS) for decades. Feminist scholarship in this field highlights and makes visible the gender politics of artefacts through case studies, notable examples being: microwaves (Cockburn & Ormrod, 1993); cockpits (Weber, 1997); and shavers (van Oost, 2003). In order to further this tradition of thought the papers of this special issue explore how prescriptions and injustices, through gender norms and hierarchies, are deeply entangled with science and engineering. The authors discuss how diversely situated material agents also carry the promise to challenge this situation.

Theoretical considerations and early case studies have already taught us that we cannot conceptualize the politics of objects unidirectionally and simply as an embodiment of the political interests or intentions of their makers and designers. Rather, gender and artefacts co-materialize one another. This special issue explores how new materialist approaches (e.g. Alaimo & Hekman, 2008; Barad, 2007; Haraway, 2008; Suchman, 2007) can increase our understanding of both knowledge and artifacts, and the gendering processes to which they become subject in scientific research and technological development.

The articles strive for a new understanding of political objects and in particular their entanglements with gender. They consider intersectionality, as expressed through anti-classist, postcolonial and queer approaches. The investigations show how gender relations are shaped through material-discursive practices in which humans relate to non-human species as well as inorganic matter. Diverse phenomena are discussed as political objects: anabolic steroid risks; musical objects; drone mediated activism; algorithms; food; and user-machine-designer interactions.

Feminist materialist scholars conceive of phenomena as especially relevant entities for empirical analyses (Barad, 2007, Åsberg, Thiele & van der Tuin, 2015). How are phenomena as political objects constituted within material-semiotic networks of biopower? How do they materialize through methodological innovations and technoscientific devices? What potential for alternative movements such as feminism, transnationalism, class, and even gender transgressions do they hold?

This special issue contains research papers that encompass empirical, methodological and theoretical studies of political objects in, and of, science and technology from the perspective of feminist new materialism. It is a result of many encounters and exchanges at conferences and meetings within the EU COST Action IS1307 New Materialism: Networking European Scholarship on "How Matter Comes to Matter." The editors and a number of the authors have been active participants in Working Group 2: "New Materialisms on the Crossroads of the Natural and Human Sciences" within this network for the last four years. The issue also benefits from encounters and interactions at the joint 4S / EASST conference on "Science and Technology by Other Means" in Barcelona, Spain in 2016.

The papers are linked on many levels. Sari Irni's paper "[On fatal chemistry and sexed human boundaries: Negotiating steroid risks in high-performance sport in Finland \(1950-1976\)](#)" opens the forum. It argues, via an analysis of sports magazines, newspapers and medical journals, that the problems with anabolic steroids articulated by sport physicians and other actors consist, not only of their health risks or their questionable performance enhancement, but also of their sex-transforming and other effects on bodies that set in motion the very boundaries of the "human." It suggests

understanding the phenomenon of steroid use as a political object in order to make sense of the differing weight of risk afforded to the use of some steroids over others.

The political ambivalence of material agents is also demonstrated in the paper "[Feminist politics, drones and the fight against the 'Femicide State' in Mexico](#)" by Marcela Suárez Estrada. Here, the author investigates the performative agencies of feminist activism entangled with specific new digital technologies, specifically, the Internet and drones. Re-conceptualizing the interface between humans and machines, Estrada shows how the dominant politics of vision are counteracted by using drone technology—specifically through distributed agencies as enacted by "Droncita" and the collective project *Rexiste*.

Continuing the research on feminist activism, Kjetil Klette Bøhler's paper "[Theorizing musical politics through case studies: Feminist grooves against the Temer Government in today's Brazil](#)" takes the reader to the streets of Rio de Janeiro and Brasilia. Powerful musical enactments that contest the new Brazilian government are presented as a series of complex material relationships between sounds, texts and politics. The author develops a theory of musical politics, in which complex political convictions are condensed into catchy melodies, rhythmic phrases, and grooves that produce pleasure, engagement, and emotional commitment for feminist critique and emancipation.

The question of how understandings of the gendered, material human body are configured by theoretical investments is also the topic of Pat Treusch's paper on "[Naturecultures of immunological principles: A discussion of the politics of the CLONALG algorithm from a feminist materialist perspective.](#)" The paper maps the politics of algorithms as sorting techniques and immunity as an organizing principle in Artificial Intelligence research. The author concludes by asking for the development of algorithms that break free from traditional immunological principles such as detection, defense and memory.

The entanglements between humans and non-humans are also discussed by Marja Vehviläinen in her paper "[Practices of modest recuperation: Food, situated knowledge and politics of respect.](#)" The author shows how composting food leftovers utilizes networks of companion species and their bio-socio-technical apparatuses across the globe, including—but not limited to—soil, worms, and waste management companies. Via empirical research on two women's groups—one Finnish and one British—the paper demonstrates how situated knowledge is produced by connecting both research and experience based knowledge generated through material practices of food production and use. The methodological use of the theories of companion species and situated knowledge come together in the politics of respect as applied to food as a political object.

In the final paper "[Emancipatory interferences with machines?](#)" Waltraud Ernst challenges the powerful entanglements of, and meanings of difference between, machines and humans, designers and users, and women and men as enacted through their engagements with technology. Establishing a feminist new materialist perspective on phenomena as political objects, machines as material agents, and gender as a material-discursive practice, she investigates emancipatory interferences with industrial machinery. By discussing the process and findings of an interdisciplinary research project in Austria, she asks if research could serve as the realization of an emancipatory space of experience by shifting the injustices, prescriptions, and promises of material-semiotic networks.

Two books are reviewed in this issue. The first is the recently published prize winning book [Testosterone rex by Cordelia Fine](#) (2017). The review by Holly Hedgeland highlights how Fine eloquently disentangles the way in which gender stereotypes are naturalized by simplifying and misinterpreting findings from evolutionary theory as well as hormonal and genetic research on sexual behavior and social relations in general. The second review by Christine Heading outlines [Gendered drugs and medicine: Historical and socio-cultural perspectives](#), an edited volume by Teresa Ortiz-Gomez and Maria Jesus Santesmases (2014). The book is comprised of three main sections, focusing on women in pharmaceutical research, consumption and industry; contraceptives for women; and users and abusers of drugs. The book is well-informed and expresses wide historical and comparative international perspectives.

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