**Imaginaries**

**A proposal for the STS Handbook, 4th Edition**

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This chapter traces and reflects on the emergence of the concept of imaginaries in STS towards the end of the twentieth-century, identifying distinct deployments of the concept and their particular genealogies. This charting sustains our argument about the diversity in the versions of imaginaries circulating within STS and about the importance of registering the specific perspectives and resources entailed in this variety of usages, as well as their consequent lacunae and limits.

While the first part of this article concerns heterogeneity and detail, the second part analyses the pursuit of imaginaries in STS through broader perspectives. Here we ask what has triggered and sustained the interest in imaginaries in STS and how this relates to other developments both inside and beyond the field. We characterize the turn to imaginaries as a reforming and re-orientating movement within STS. We note how the lens of imaginaries has become part of the tool-kit of critical STS, often informed by strains of Marxist political theory or through the influence of postcolonial and feminist movements. We argue that the use of the concept registers the interest in and enabling of the exploration of non-cognitive aspects of science and technology -- particularly their affective, emotional, aesthetic and subjective dimensions. We also highlight that this reorientation of the field, in some notable instances, has come directly from the problematisation of Western science through encounters with indigenous (Verran 1998) and other non-Western traditions and modes of knowing. This leads to our final argument about the potential expansion of senses and meanings of imaginaries – the imaginaries yet-to-be-imagined -- as STS becomes more genuinely world-wide.

The chapter begins with an examination of the term itself – considering some useful definitions and proffering some key aspects of its etymology. This is followed by the survey and analysis of recent exemplars of STS research on imaginaries, characterising clusters of distinctive approaches. This leads directly into a section on the various genealogies and intellectual resources that STS research on imaginaries has drawn on. The last section appraises the significance of the STS turn to imaginaries, asking what is at stake and where this may take us.

*Definitions and etymology*

There is no agreed definition of the term imaginaries, so this chapter explores the variety of meanings attributed to it and it investigates how understandings of it vary within different contexts. Nevertheless, Catherine Waldby’s definition (citing Michelle Le Doeuff (1985)) is a useful starting point: ‘the deployment of, and unacknowledged reliance on, culturally intelligible fantasies and mythologies within the terms of what claims to be a system of pure logic’ (Waldby 2000: 137). Another definition was offered by a group from the Center for Transcultural Research which formed to explore the concept: ‘an enabling but not fully explicable symbolic matrix within which people imagine and act as world-making collective agents’ (Gaonkar 2002: 1). There is a much more specific offering on the website of the Harvard University STS project on the concept of ‘sociotechnical imaginaries’ as a tool for STS: ‘imagined forms of social life and social order that center on the development or fulfillment of innovative scientific or technological projects’ (Harvard University National Science Foundation Project 2013). While we find these definitions useful, we will also examine the discordances between them and consider how understandings and usage of the term vary in different contexts. Questions of definition are linked to the etymology of the term imaginaries and this is handled briefly here. Amongst the features of the term’s development directly pertinent to STS considered here is the shift from its use as an adjective to its deployment as a complex noun.

*Varieties of the Imaginary in STS*

In this part of the article we offer a brief review of uses of imaginaries within STS. This section compiles and characterises articles which have appeared in core STS journals (e.g. *Social Studies of Science*, *Science, Technology and Human Values*, etc.), and other key journal publications (e.g. *Configurations*). This charting will extend to notable book chapters and volumes which deploy and develop the concept of imaginaries within STS research projects. Amongst these, George Marcus’s collection – *Technoscientific Imaginaries* (1996) -- most obviously announces its conceptual orientation. This survey will also consider Sarah Franklin’s (2000) chapter on the popular Hollywood film, *Jurassic Park*, in which she introduces the notion of the ‘genetic imaginary’. An important cluster of texts which work with the notion by feminist STS scholars examining recent developments in the biosciences will also be highlighted. These include: Catherine Waldby’s (2000) *The Visible Human Project,* Susan Squier’s (2005) *Liminal Lives*, and Jackie Stacey’s (2010) *The Cinematic Life of the Gene* .

This review notes other important sites in the development and use of the concept. These include two projects which have investigated the notion of imaginaries as a resource for STS: the Harvard University National Science Foundation Project on ‘sociotechnical imaginaries’ (mentioned above) and the UK Centre for Economic and Social Aspects of Genomics (Cesagen’s) Imaginaries group project (authors of this chapter). Of course this section will register that the interest in imaginaries emerges in other crucial locations for the making of STS: conferences, lectures, seminars, and other presentations, as well as workshops, teaching, etc.

This mapping will enable the identification of six distinctive approaches within this recent STS work. These are labelled as follows:

* anthropological/ethnographic
* socio-political/institutional
* symbolic–interactionist
* critical design
* historical
* feminist

Here the concern will be to tease out methodological and theoretical links and diversities.

*Genealogical trajectories: resources and lacunae*

A further extension of this analysis will be the nomination of four key genealogical streams which have influenced and sustained the charted STS work on imaginaries. The genealogical trajectories which will be highlighted are:

* classical Western philosophy: particularly Kant’s work and early C20 existential philosophy
* psychoanalysis
* science fiction
* late C20 political philosophy

Each of these traditions will be briefly considered, noting its distinctive features and its contribution—realized and potential-- to STS research. In this regard we suggest that, with some notable exceptions, STS has made limited use of the resources of science fiction and psychoanalysis in pursuing the imaginaries of science and technology.

*The STS Turn to the Imaginaries: What Does it Mean?*

In the second part of this article we turn our attention to what is involved in the turn to the imaginaries within STS research and scholarship. The preceding review demonstrates that this entails strategic, methodological, ethical, as well as more obvious conceptual, re-orientations of the field. However, the pursuit of imaginaries is often presented more explicitly as the vehicle for potential re-orientations of STS. Hence, for example, Marcus regarded use of the notion as a pivot for moving towards ‘distinctly cultural stud[ies] of science’ (Marcus 1995: 3; see also Fujimura 2003; Fortune and Fortune 2005; Hyysalo 2006). More generally, the deployment of imaginaries signals that STS’s earlier preoccupation with logic and epistemology have given way to a much broader agenda, incorporating research on aesthetics, values and emotions. Whereas science and technology were formerly generally regarded as the domains of facts and artefacts, they have recently become associated with storytelling, imaging, and imagining.

We observe how STS has been transformed by strands of Marxist, feminist and postcolonial scholarship—linked to movements that have challenged assumptions about science as a value neutral domain. This section will also evaluate usage of imaginaries as an indication of the growth in attention to issues of subjectivity in STS, and as a marker of dissatisfactions with the cognitive underpinnings of concepts such as ideology and interests. This reflective section will consider the relationship between STS imaginaries work and the related, but distinct, investigations under the rubric of ’the sociology of expectations’ and ‘the political economy of hope’ (Brown and Michael 2003 ; Hedgecoe and Martin 2008; Pieri 2009). In addition, we will explore how encounters with indigenous and non-Western cultures have been a stimulus encouraging investigations of the imaginaries of Western science (Verran 1998). We will end on a reflective but speculative note by considering how fresh perspectives on imaginaries within STS may demand more world-wide perspectives.

Note:

The authors making this proposal have been involved in a long-term group project examining the concept of imaginaries and its resonance and significance for STS. The project derives from research which began as part of the second phase of the programme of the ESRC Centre for Economic and Social Aspects of Genomics, which ran 2007-2013 at Cardiff and Lancaster Universities, in the UK.

1,412 words

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