

Chapter 9

The Cochlear Implant as an Epistemic Thing: Translations of a Technical Object in Social and Scientific Contexts

Markus Spöhrer
University of Konstanz, Germany

ABSTRACT

This chapter examines the translations and (de)stabilizations of the cochlear implant, a subcutaneous prosthesis that is subject to ethical and judicial controversies. By looking at medical, social, and scientific contexts, the CI will be described as a technical object ascribed with certain attributes providing technical stability in those contexts that treat it and practice it as a scientific fact, a “technical thing.” Scientific communities stabilize technical things by rigorously excluding attributes of the “social.” However, the CI is designed to enable participation, to “gap” the supposed “disability” of not being able to hear, attributing a certain instability to it. The chapter will theoretically and methodologically approach such processes of (de)stabilization and transformation by making use of ANT and Hans-Jörg Rheinbergers concept of technical and epistemic things. This will be illustrated by analyzing certain discourses used as illustrations for the successful communication between implanted children and their parents in practical guides for parents with deaf children.

INTRODUCTION¹

Disability and disabling practices (cf. Schillmeier, 2007) are tightly related to specific forms of knowledge and the way this knowledge is conditioned by the context it is produced in. Different discourses, though relating to the same topic, concern or situation, can be diverse and not seldom contradictory or incommensurable. As I showed and argued in an article on a disputation about the cochlear implants (cf. Spöhrer, 2013) – led by deaf communities on the one hand and medical experts on the other hand-, the incongruity of such discourses can generate a range of both socially, medically and politically charged debates and controversies. In this case, I argued, the controversy was generated by the fact that stabi-

DOI: 10.4018/978-1-5225-8933-4.ch009

lized forms of knowledge (medical/scientific ‘facts’ and deaf-cultural concerns), were supposed to be transferred (or even: applied) ‘seamlessly’ to other contexts.

The following refers to this question from a techno-philosophical or Actor-Network Theory-inspired approach by (re)considering one of the central questions of techno-social and philosophical studies of science related to knowledge transfer: How does knowledge act “if it leaves its laboratory context and is adapted into science and society” (Hoof et al., 2011, p.7, trans. MS). Already when objects of knowledge (epistemic things) – the central objects of the research process (Rheinberger, 1997, p.28) – are assembled, they are fabricated, marked and stabilized as either scientific or social things in relation to specific media environments (Hörl, 2017) and discursive practices (cf. Lösch et al., 2001, p.7). However, this does not mean that technical objects are necessarily permanent or unchangeable as far as their use or attributes are concerned once they leave their laboratory context – they are rather metastable, which means that they are stable in relation to the specific networks, events or situations they are linked with and enrolled in. Just as any other non-human and human entity, technical objects are *processual* and *relational* (cf. for example Spöhrer, 2017a), they change and (de)stabilize in relation to the elements they are interwoven with and in relation to their discursive arrangement and framing as well as the usage and their users’ sensory conditions (cf. Gibson, 1986, pp.127-146). Following this theoretical framing of “technical objects” allows for describing “technical things” as defined by Rheinberger (1997) or as Latourian “Black Boxes” (1999). Rheinberger, referring to Latour, describes technical things (also in the sense of ‘facts’) as ‘entities’ in the research process, whose stability or “identity” (cf. Callon, 1986) significantly depends on their technical, discursive and medial conditions. Rheinberger’s perspective allows for on the one hand to inquire about the processes of stabilization of such technical objects and fields of knowledge and on the other hand about the “[...] interfaces between different kinds of fields of knowledge and the processes of transformation, which knowledge experiences while passing through these different fields of knowledge” (Hoof et al., 2011, p.7, trans. MS). Such processes of transformation are the object of investigation of this paper. However, in this case an effort is made to describe transformations of fields of knowledge / discourses on the basis of a specific case study: The (re-)socialization of the otolaryngologic-technical object called

‘Cochlear Implant (CI)’. As an acoustic prosthesis for hearing impaired, the CI was developed to function as a means of eliminating social hardships – mainly the supposed disabling consequences of the ‘lack’ of hearing. The need for the development of an implant for the improvement (or restoration) of physiological hearing is based on the discourses on psychosocial, emotional or pedagogical disadvantage that arise for hearing impaired (cf. Hermann-Röttgen, 2010; Arndt, 2010, p.3). Such medical discourses construct the situation of deaf or hearing-impaired persons as a divide between social activities (or the entirety of the ‘sounding world’) and the respective individual. Thus, in a sense, the CI is supposed to act as a socio-technical “mediator” or “medium” between the ‘disabled’ individual and the social world they are excluded from (cf. Ochsner & Stock, 2014, p. 423; Ochsner, 2013). During the process of its technical stabilization in an experimental system² the implant is translated from an uncertain, vaguely defined and partially contradictory epistemic thing into a well-defined, technical thing, a technical component or device (cf. Rheinberger, 1997, pp. 28-29) that is supposed to fulfil the distinct function of bridging the gap between the ‘social world’ and the deaf individual. However, ‘the social’ as well as the broad spectrum of individual subjective, communicational and everyday situations can impossibly be summarized or generalized and additionally, the need for an enabling technology such as the CI is subject to a multitude of (political) controversies (cf. Spöhrer, 2013), the CI appears to be an indistinct, paradox and oftentimes vague network of discourses. It is inscribed with contradictory and incommen-

15 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/the-cochlear-implant-as-an-epistemic-thing/234541

Related Content

Business Plan and Industrial Development: The Case of Family-Owned Food Processing SMEs in Tanzania

Galinoma Gahele Lubawa (2022). *Research Anthology on Strategies for Maintaining Successful Family Firms* (pp. 245-267).

www.irma-international.org/chapter/business-plan-and-industrial-development/288261

Leverage and Family Firms: A Multi-Theoretical Approach

Sergio Camisón-Haba, José Antonio Clemente, Beatriz Forésand Melanie Grueso-Gala (2020). *Competitiveness, Organizational Management, and Governance in Family Firms* (pp. 191-208).

www.irma-international.org/chapter/leverage-and-family-firms/241142

E-Business Standardization in the Automotive Sector: Role and Situation of SMEs

Martina Gerstand Kai Jakobs (2007). *Small Business Clustering Technologies: Applications in Marketing, Management, IT and Economics* (pp. 281-314).

www.irma-international.org/chapter/business-standardization-automotive-sector/29023

Unlocking the Potential: Exploring the Synergy Between Tourism and SMEs for Sustainable Economic Growth

Bindu Aggarwal, Ranjeet Vermaand Pawan Kumar (2024). *Drivers of SME Growth and Sustainability in Emerging Markets* (pp. 183-204).

www.irma-international.org/chapter/unlocking-the-potential/342507

Challenges for Adoption of e-Procurement: An SME Perspective

Kelly Liljemoand Andreas Prinz (2013). *Small and Medium Enterprises: Concepts, Methodologies, Tools, and Applications* (pp. 1873-1899).

www.irma-international.org/chapter/challenges-adoption-procurement/76049