Imagining Technicities: Projections of Taste and Skill in the Use of Virtual Worlds in Architectural Design

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1. Introduction

The implementation of 3D-modelling into the design of architecture changed the relationships between it's primary actors (architects, clients, engineers, contractors) profoundly. Since the software and hardware for 3D-modelling is still undergoing tremendous developments, no stabilisation of those relationships are in sight. Yet in order to carry out their work, actors rely on temporary configurations of the socio-technical networks they are part of. Firstly, we will show how ANT provides a dynamic theoretical framework fitting the unsettled interplay of various entities involved in architectural design. Secondly, we will introduce the concept of "technicity" to account more precisely for the ways in which actors configure new technology, their own role in its use, the roles played by other actors, and how they imagine future, radically different kinds of 3D-models with radically different users and uses. Thirdly, and very briefly, we will reflect on the role played by architectural discourse in the shaping of technicities.

This extended abstract is empirically based in interviews and other textual material from a multi-sited study of the uses of advanced ICTs in architectural work. Due to space considerations, proper introduction of the empirical material is omitted and respondents only alluded to in passing.

2. ANT

Within the tradition of Science and Technology Studies, it has been proposed that we think of technological change as a product of interaction between a large number of heterogeneous actors (Callon, 1991); human actors, technical elements, discourses, etc. We wish to draw on this understanding of technology as neither a neutral thing marked by human intentions, nor a determining force in relation to the social, but as socio-technical networks. As Grint and Woolgar have written,

> we need to find a way of "taking the technology seriously" without having to depend upon uninterrogated notions of technical capacity, and to account for the intermingling of technical and social without merely nurturing the view that these are essentially independent variables conjoined through 'interaction'. We want to avoid, in other words, the impression that either the technical or the social has a discrete

impact (Grint and Woolgar, 1997: 25).

In particular Actor-Network-Theory has had an analytical interest in exploring how socio-technical networks come into being through translations, whereby the different identities and projects of various elements are aligned so that they converge. Translation implies definition, as when architects and engineers agree over technical standards or aesthetic representations, and each professional's hardware agrees to run particular types of software, and various software agrees to be translated into new formats. If translation processes are successful, networks become strong, or convergent. A convergent network with distinct borders only develops after long periods of translation and co-ordination (Callon, 1991: 148), where complementary actors fit together despite their heterogeneity. We are interested in exploring how architects and other actors attempt to align interests so as to create convergent networks around their work with, and development of, 3D-modelling. Current attempts have not yet resulted in socio-technical networks with fixed borders, and therefore the elements still stand out as singular and remarkable, and looking at them allows a glimpse of how communication technologies have no inherent properties, but are made up of non-necessary elements that have to be made useful and relevant.

Part of creating allies in relation to technologies consist of configuring users of them, i.e., defining the identity of future users by performing boundary work around them. Their character, capacities, and possible future actions are structured and defined in relation to the technology. We will focus on this configuration of users, in particular how technical elements become constructed as interwoven with technical abilities and taste, two elements that we will elaborate more on by introducing the concept of *technicity* into the vocabulary of our ANT-inspired analysis. We believe that the coupling of ANT and this concept is particularly productive in relation to analyses of the use ICTs, e.g., 3D-modelling, in architectural work.

3. Technicity

Motivated by its firm anti-essentialist stance, ANT traditionally avoids speculation on the attitudes and dispositions of individuals. However, negotiations of taste and skill emerge as crucial in the ongoing configuration of the socio-technical network in which we find ICTs implemented in architectural work. Jon Dovey and Helen W. Kennedy offer the term technicity

> to encapsulate, in conceptual terms, the connections between an identity based on certain types of attitude, practices, preferences and so on and the importance of technology as a critical aspect of the construction of that identity. To be subjects within the privileged twenty-first-century first world is to be increasingly caught up in a network of technically and mechanically mediated relationships with others who share, to varying degrees, the same attitudes/tastes, pleasures and preferences (Dovey and Kennedy, 2006: 17).

In the case of architectural use of ICTs, taste and skill become crucial elements in the configuration of socio-technical networks as actors repeatedly explicate their own technicity and/or that of the professional group they belong to, and project the technicity of other groups. Translation always involve others, and a translation can be a definition of the ideal other (user of ICT). Technicities can,

in other words, be "dominant" (Dovey and Kennedy, 2006: 69ff), an important point in Dovey and Kennedy's original, critical cultural studies-based used of the concept. Thus the successful explication of one technicity entails that

> there are other stories, identities and creative processes that get written out of the discourse of dominance – "technicities" are never fixed, never completely determined, but are contested and negotiated, technicities are a "becoming" in themselves produced through our daily encounters with technology and our ever shifting tastes, desires, pleasures and competencies (Dovey, 2007: 5).

Or seen from the highly congruent perspective of ANT, power comes about when actors succeed in enrolling many actors in a given scheme (Latour, 1986), but the cost of being aligned in a new network is to give up attachment to other networks. Going, e.g., from vector-based to object-based 3D-modelling, swapping one means of aesthetic representation with another, or exchanging non-interactive fly-throughs with interactive, avatar-based presence in 3D models require hard work, including the configuring of new technicities (i.e., constellations of taste and skills).

We will take a brief look at three instances of technicity work, namely, architects explicating their own technicity, architects projecting the technicity of engineers and clients, and architects projecting the technicity of end-users (i.e., end-users of both virtual worlds and of cities).

A. Architects imagining architects. Our architect respondents had a very strong sense of professional identity hinging on their highly trained spatial imagination. Unlike non-architects, an architect can imagine the organisation of 3D spaces from 2D props, i.e., drawings (floor plans, elevations etc.). The introduction of 3D-modelling is handled following two strategies. Firstly, to hold on to already established technicity and label the 3D-model a new tool of an age-old trade (Bo Boje Larsen, 3XN). Secondly, to use the 3D-model as a trigger for dramatic redefinition of the architect's role: from master-builder to a guide of collaborative processes including other architects but also engineers and maybe even clients.

In following the second strategy, the architect taps into currently dominant technicity found in the role model of the social media virtuoso (e.g., the blogger, the elite Facebooker or Twitterer). That technicity consists of an increasing urge to, and ability to, share, link, co-create, and network. It is a technicity heavily promoted and invested in by a company such as Google who is given power by users through their adherence to that technicity (rather than Google simply exercising its power over users, cf. Latour, 1986).

Another technicity finding its way into the technicity of architects is that of the computer gamer (to be exact: the highly-skilled player of high-end games (excluding lower-graphics virtual worlds such as "Second Life"). Some architects experiment with allowing 3D-models to become high-quality, avatar-based virtual worlds, arguing for the benefits of the more immersive and interactive experience they provide. In the case of one architect respondent, a technicity including taste for immersion and interaction can be traced to the architect's professional involvement in the game design industry and personal taste. The same taste is projected onto end-users (Jacob Østergaard, Utopian City Scapes). The introduction of game engine technology into architectural work is, in other words, not only a question of transferring technological features (the high-end computer game's capacity to trigger a sense of immersion and interactivity in its user) from computer game to architectural tool, but also of

configuring user technicity in a fitting way.

B. Architects imagining engineers and clients. [Left out due to space considerations].

C. Architects imagining end-users. [Left out due to space considerations].

4. Digital Morphogensis

[Left out due to space considerations. Indicative references: Kolarevic, 2003 and Leach, 2009].

5. Conclusion

According to ANT, the ongoing development of ICTs for use in architectural work can be understood as the convergence of a socio-technical network. Configurations of IT skill and taste play an important part in that convergence. The concept of technicity allows us to zoom in on such issues of skill and taste. This move allows us to highlight issues of power and identity. Dominant technicities influence the convergence of ICTs, encapsulated in two ideal users: the social media virtuoso (sharing, linking, co-creating, networking) and the computer gamer (favouring immersion and interaction). Also architectural discourse influence the formation of technicities. E.g., the “bottom-up” technicity entailed in digital morphogenesis (the architect’s fascination with digital technology and willingness to delegate power over the design process to more or less unpredictable simulations), which resonate with ideals of architectural design as a collaborative process open to end-users.

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