
STS and Media Studies

Alternative Paths in Different Countries

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Abstract: This section presents three perspectives on the trajectories of interaction between science & technology studies and media studies in three different national contexts: Germany, France and Italy. Each of the contributions focuses on a specific country and adopts a distinctive standpoint to unfold how STS and media studies have interacted or have maintained boundaries and differences. The first contribution about Germany moves from the outcomes of two workshops on these topics and highlights how STS and media studies seem to tap into each other in a highly selective manner, filling some of their conceptual and empirical gaps, but not engaging in an actual mutual discussion. The second text assumes as fulcrum the concepts of “mediation” and “dispositif” in order to argue that, in France, these ideas have played the role of “boundary objects”, enabling a dialogue between the two different fields. Finally, the third and last input to this section reconstructs some of the trajectories that led specific groups or individuals working in communication studies and semiotics in Italy to connect with the STS framework, arguing that the concept of “mediation” emerges as a productive common ground for both communication and STS scholars.

Keywords: STS; media studies; Germany; France; Italy.

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Encounters, Lone Travellers or Productive Differences: media studies and STS in Germany

Cornelius Schubert and Estrid Sørensen

The following pages sketch out conceptual encounters as well as evasions between STS and media studies against the backdrop of meeting at and organising shared STS/media studies workshops and conferences. Both authors have a background in STS and have been collaborating with scholars in media studies over the last years. We report our experiences as personal perspectives of how STS and media studies meet, overlap and diverge in Germany as well as in broader international context.

Our mutual interest in engaging with media studies from an STS perspective began at the 2013 conference of the German media studies Association (GfM) in Lüneburg, where both authors happened to run into each other. We found that we both had recently taken up jobs associated with media studies: Estrid in Bochum and Cornelius in Siegen. We took our meeting in Lüneburg and our new jobs as circumstantial evidence, that the two fields of STS and media studies were somehow converging and we were immediately interested in what this supposed convergence might look like. Already, a convergence could be seen in several publications where German media scholars were engaging with concepts from STS and especially with ANT (Hepp et al. 2006; Schroer 2008; Thielmann et al. 2013).

From our experiences of working with media scholars, we felt that we were often talking about similar phenomena, albeit in different terms. Of course, there was an interest in issues of mediation, a central term in both fields. However, the empirical cases tend to differ: not surprisingly media studies focus primarily on media such as books, newspapers, radio, television and the internet, technology studies focus primarily on tools and machines, and science studies on scientific instruments and theories. Out of this heterogeneous mix, the internet in its broadest sense seemed to be the most promising field of conversion (see Gillespie et al. 2014). Following our brief encounter in Lüneburg, we decided to look for current research at the intersections of STS and media studies.

Our next step led us from Germany to Poland, where we organised a session titled “STS and media studies: Empirical and conceptual encounters?” at the 2014 EASST (European Association of the Study of Science and Technology) conference in Torun. The session called for presentations that would spell out the similarities and differences of between media, science and technology studies. However, we found that most presentations were concerned with enhancing media studies through various STS perspectives. This much was to be expected at a STS conference, but we both had the feeling that the connections between STS and media studies were generally not very well balanced. Most importantly,

we felt that we did not gain a deeper insight into how STS might benefit from media studies instead of the other way round.

The session in Torun, the existing literature, and the frequent exchanges with our media studies colleagues left us with the impression that there is a curious division of labour at work in the convergence of STS and media studies. In many cases, we found that when media scholars engage with STS, they tend draw on the concepts and ideas of STS, especially the notions of mediation, flows and networks found in ANT. Yet in the other direction, STS scholars rarely seem to draw conceptually on media studies – with some notable exceptions (Latour 1986). When STS scholars engage with media studies, it usually concerns the common empirical cases of information infrastructures such as the internet (Boczkowski and Lievrouw 2008), yet they keep on using the conceptual apparatus developed in STS. Put differently, STS scholars seem rather to engage with studies of media than with media studies.

All in all, we became suspicious, that there might actually not be a conversion between STS and media studies after all. Rather, the two fields seem to tap into each other in a highly selective manner, filling some of their conceptual and empirical gaps, but not engaging in a mutual discussion. Only few STS scholars talk about aesthetics or affects, mass media or media with a more playful or creative character such as movies, computer games, and art products (see however Sørensen 2016). On the other hand, less attention is paid by media studies scholars to issues of production and industrial machines or legal regulation of technological innovation.

The experience that both fields have a strong tendency to engage with the other in highly selective ways brought us to organise a workshop in which we wanted to explicitly trace more unusual connections between STS and media studies – e.g. STS scholars importing concepts from media studies and media scholars interested in laboratories and workplaces. Based on an open call for papers, we organised a workshop in Siegen early 2015 with the title “Roads less travelled: Exploring new connections between Media Research and STS”. Many of the presenters at the session in Torun reacted to the call, just as several scholars who had not yet been involved in our discussion joined the workshop in Siegen. What intrigued us over the course of this workshop was that even though we aimed at finding more connections, the presentations and discussions instead revealed significant differences between (and within) the two fields. Rather than finding hidden connections, the presentations explored how concepts, methods, perspectives and interests differed between STS and media studies. We felt that these presentations provided a very good insight into the current state of the relations (and lack thereof) of STS and media studies, and for this reason those presentations will be in the focus of the rest of our discussion.

The heterogeneity of the cases and approaches presented at the workshop highlighted the fact that media studies seem to encompass an even

more diverse field than STS. Trying to bridge the two fields is thus a difficult, if not impossible task to undertake. It would force singular identities onto polyphonic fields. Instead, the workshop revealed that STS and media research overlap in certain areas of interest, both conceptually and empirically, such as in studies of infrastructures and media technologies.

Paolo Magaudda (Padova) elegantly showed how user studies in STS and media research share a common ancestor in domestication theory (Silverstone and Hirsch 1992) and the idea that the shaping of media and technology is hardly finished after they enter the user household (e.g. Oudshoorn and Pinch 2003). Yet both sides tend to obscure this shared history in favour of purifying their respective approaches.

Somewhat unexpected by the organisers, the workshop gave in many presentations rise to discussions of relevant differences between STS and media studies. By comparing approaches of the German media theorist Friedrich Kittler with that of Bruno Latour, Judith Willkomm (Siegen) elaborated how Kittler was primarily concerned with the “logic” of media, whereas Latour is preoccupied with their “logistics”. Despite their common interest in media, processes of mediation, and inscriptions, they undertake different analyses and ask different questions.

Sergio Minniti (Milan) argued that media archaeology focuses on subaltern and artistic practices of media use rather than re-tracing the development of a successful technical or scientific innovation in STS. In a similar vein, the classic studies in STS of innovation failures, like that of Aramis (Latour 1996), usually do not take the subaltern position as a starting point, but argue from the perspective of (forestalled and unsuccessful) powerful actors.

One theme that followed from this was that STS is often seen as only following dominant actors while at the same time not taking clear political sides in favour of suppressed minorities. This critique has been levelled at STS from media studies in the tradition of Cultural Studies. STS scholars usually find such accusations tiresome feeling this critique is utterly misplaced. This is particularly the case when taking more recent studies into account (i.e. de Laet and Mol 2000) along with feminist studies in technoscience (i.e. Haraway 1991). However, the exchanges at the workshop revealed that the discussion more than anything is about what counts as political, and in what contexts STS and media studies scholars can be granted political relevancy. STS scholars mainly argue with respect to the (sometimes invisible) levels of “doing politics”, and ontological politics (Mol 1999). These are embedded in the ways in which technologies, media and scientific categories influence the ways in which we think, act and assess practices, social (and material) relations, discourses and even impact what comes to count as the political. Media studies scholars, on the other hand, tend to understand the political in a more distanced and diagnostic sense – pointing out power differences in media technological arrangements from a (media studies) scholarly informed perspective. It became clear in the course of the workshop, that if we force both

tendencies to their extremes, we risk creating the “essential” differences between STS and media studies we sought to overcome, and which are hardly warranted given the internal diversity of both fields. Yet different perspectives remain and we should be sensitive to their boundaries.

Another striking difference between STS and media studies is the engagement with issues of war. In the evening keynote Erhard Schüttpezl (Siegen) articulated two divergent positions: On the one hand media studies were primarily born out of Communication Studies occupied with propaganda related to warfare. Kittler and McLuhan shared a common interest in military media technology. In STS on the other hand we find very few empirical studies on war and on military technologies (except for some prominent cases such as MacKenzie 1993; Law 2002), but indeed military metaphors proliferate along with a strong political rhetoric in order to draw attention to the conflictual nature of science and technology. The most obvious example of this is the “science wars” rhetoric.

The preference for asymmetries in media studies and symmetries in STS was mirrored in the presentations of Adam Fish (Lancaster) and Diletta Luna Calibeo and Richard Hindmarsh (Brisbane). From a Cultural Studies background both engaged with visibilities in social media. Adam Fish analysed how *Anonymous* video producers see themselves in a war with *Scientology* and government agencies and how they are at the same time inextricably linked to commercial video platforms. Diletta Luna Calibeo elaborated how environmental activists may be framed as eco-terrorists in their struggle to create visibility for corporations’ environmentally damaging activities. These presentations also hinted at another difference between STS and media studies: the latter prefer situating their cases in a “bigger picture” of capitalism, whereas the former tend to look more closely at individual cases, and draw more modest conclusions.

That our attempt at exploring new connections between STS and media studies also brought their differences to the fore was one of the most insightful and unexpected results of the workshop. It showed that the search for novel links in many cases occasioned a re-tracing of boundaries between and homogeneity within STS and media studies. No simple equation can be made between STS and media studies. Yet, the distinction between perspectives is productive in focusing and specifying our discussions of science, technology, and media. If we look beyond the beaten tracks of collaborations between STS and media studies a plethora of new questions arise concerning media, technologies, and science, along with variations of more or less disciplinary ways of answering them. Despite the differences, common themes and ancestors of STS and media studies came to the fore. They warrant their continued engagement, among others with issues of power and subversion, materiality and meaning, mediation and cooperation, design and use.

STS and media studies undoubtedly (have to) share empirical fields and conceptual perspectives and both benefit from manifold cross-fertilisations. Mapping out our similarities and differences, we need to

simultaneously engage in the work of purification and hybridisation (cf. Latour 1993): looking for homogeneities as well as heterogeneities within and across their boundaries (some of which may be fluid), and from there to identify productive ways of collaborating and ways of productive fighting.

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Mediation as a Boundary-Object, Dispositif as a Boundary-Concept

Romain Badouard, Clément Mabi and Guillaume Sire

STS and media studies have made a pragmatic turn over the last two decades, by deciding to study what they both call “mediations”. Media studies stopped describing societal phenomena like just a problem of mass communication or an interpersonal one. They have, so to speak, given back its complexity to the social, thanks to this term, “mediation”, which “usefully highlights the artefacts and practices used to communicate” and allows to study “social and organizational arrangements through which mediation is instituted” (Livingston 2009, 10).

For their part, STS gave to the technical artefacts the status of “mediators”, i.e. that artefacts can change, alter, enhance or lower the performativity of social actions (Hennion and Latour 1993). In doing so, STS have analysed the innovation process by describing it as an encounter of different program of actions, which is achieved by the mediation of technical artefacts (Latour et al. 1991; Akrich 1993). They moved away from a classic epistemology which opposes the world of speeches and the world of things to a conception of the world where speeches and things are co-constructed; because speeches are not outside things: they circulate within these things, with and through them (Callon 2006, 269).

This shared preoccupation about the materiality of mediation has created an opportunity for dialogue between these two research fields within a same program. This is particularly encouraged by the development of a digital ecosystem that has given a central position to technical artefacts in our societies. This similar turn occurred within the two fields—for which the use of the term “mediation” is a result, not a cause—so STS and media studies have begun to share common issues. In studying information and communication technologies, the two fields need to avoid the pitfall of both social and technological determinisms, in order to take into account the socially constructed dimension of technology and the question of the effects that technical artefacts can have on social practices. It will

allow them to analyse the way technology, which results of actors' will and actions, can regulate actions and normalize social practices. Therefore, technical artefacts are not immovable and unreachable entities but results of sociotechnical processes. That's why, in the *Handbook of Science and Technology Studies*, Pablo Boczkowski and Leah A. Lievrouw (2008) advocate for bridging the gap between media studies and STS in order to analyse the materiality of medias and mediations. This concept of materiality is also at the heart of Gillespie et al.'s book that aims at opening up new ways of federating scholars, at the crossroads between STS and media studies, to question what kind of boundary-objects¹ are the mediations (Gillespie et al. 2014).

For this to be possible, it is necessary to define and operationalize key notions that will serve as boundary-concepts to these boundary-objects. These concepts would allow to mix the two approaches in a coherent and operational theoretical framework, rather than just referring to the fields of one another. This is what has been initiated during the last years in France thanks to the French concept of "dispositif"², which has been used to study mediations within the digital ecosystem. We will briefly introduce this boundary-concept, originated from Michel Foucault's work, and explain how its operationalization has allowed to mix approaches of STS and media studies to analytically deploy mediations as boundary-objects.

Philosophical Origins

The first time the word *dispositif* was used as a social concept was during an interview of Michel Foucault published in 1977 in the journal "Ornicar?". In a crucial contribution, the philosopher presented it as a

thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions—in short, the said as much as the unsaid. Such are the elements of the *dispositif*. The *dispositif* itself is the system of relations that can be established between these elements. (...) On the one hand, there is a process of *functional overdetermination*, because each effect—positive or negative, intentional or unintentional—enters into resonance or contradiction with the others and thereby calls for a readjustment or a re-working of the *heterogeneous elements that surface at various points*. On the other hand, there is a perpetual process of strategic elaboration. (Foucault 1994, 299) [our emphasis]

Several linguists and philosophers, such as Jäger, Raffnsøe, Agamben,

¹ About boundary objects, see Star and Griesemer (1989).

² In English, some scholars say "social apparatus" or "device" but we prefer to keep that word in french, because its meaning is extremely subtle and loses some of its essence in both translations.

Pasquinelli, have then given their own definition of this concept. In France, the philosopher Gilles Deleuze detailed and completed the Foucauldian approach, considering *dispositifs* as machines that make one see and talk: “The two first dimensions of a *dispositif* —or those to which Foucault draws our attention in the first instance— are curves of visibility and curves of enunciation” (Deleuze 1989, 185). From this point of view, a *dispositif* produces some speeches and acts as a “truth-telling regime”. Deleuze does not forget the fundamental dimension of Foucault’s concept: the *dispositif* is a space where power relations are visible. He stresses the importance of the idea that power results from a strategy more than a status or a property; it is exercised more than it is possessed; it comes from a way of being linked to one another (relationship) rather than of having something that the other has not (ownership) (Badouard 2012, 54). We will explain later why this reading of Foucault’s work by Deleuze is particularly interesting for the dialogue between STS and media studies.

An often Misemployed Concept that Can Make Sense through the STS Lense

For the past twenty years, the concept of *dispositif* has colonized the French social sciences (Beuscart and Peerbaye 2006) and in particular media studies (Appel et al. 2010). However, as Laurence Monnoyer-Smith has said, its use reflects the existence of an unavoidable reference from scholars who have not really thought about what it involves theoretically and methodologically (Monnoyer-Smith 2013, 172). Indeed, it seems that the porous, versatile and elastic nature of this concept has contributed to its success (Peeters and Charlier 1999, 15) but has also made it as easy to quote yet as difficult to employ properly. This has resulted in seductive but questionable uses:

Like other social sciences, media studies have overused the concept of *dispositif* and drained it of its heuristic basis. Its reinterpretations and uses have led it far from Foucault’s original thought whose purpose was to associate it to the notions of “intentionality” and “strategy” in order to make a more instrumental use of it, which will allow to understand and conceptualize the mediations and the way the *dispositif* underlies them (Gavillet 2010, 20).

Such a movement has also been noticed by Peeters and Charlier (1999, 18): “[The *dispositif*] becomes fewer and fewer panoptic, and increasingly pragmatic and interactionistic”.

STS have less suffered from these pitfalls, mainly because of the sociology of translation (Akrich et al. 2006) and because the definition of the *dispositif* was close to what Bruno Latour calls an actor-network. Indeed, the two notions refer to the same idea of sociotechnical artefacts, power relations, hypothetical subjectifications, and, more generally, to the idea

of mediation (Beuscart and Peerbaye 2006). Dispositifs make *materially possible* the phenomena of translation, through a mix of human and non-human actors where the skills and the capacities are distributed and where the different actions can be *mediated* and *coordinated*. The geography of power relationships depends on the distribution of skills and capacities. “[Dispositifs] make things. They articulate actions; they act and make other actors to take actions” (Muniesa et al. 2007). Scholars have to measure the strength of associations, to identify what can weaken or strengthen them and to figure out for each involved actor how and to what extent he can inflect or alter others’ actions and to influence their effective results.

However, even if they have used the concept of *dispositif* in order to designate the instrumental dimension of mediation more than mediation itself, STS have somehow neglected the power. According with Yochai Benkler (2016, 16) we consider the notion of power as “the capacity of an entity to alter the behaviors, beliefs, outcomes, or configurations of some other entity”. This is the reason why they could benefit from media studies, i.e. by considering all of the mediation’s purpose and not just its materiality and its social causes and involvements.

Dispositif, the Dialogue between STS and media studies and the Study of Communicational Mediations

In order to remedy the “instrumental temptation”, it seems essential to shift the focus back on the foucaldian meaning, to understand the dispositif as a tool of power. It would then be a matter of building a theoretical framework, which could allow analysing mediations with their sociotechnical complexity by unfolding the “making-say” and the “making-see” of the *dispositif*. It could also help identifying the power relations within the mediations, keeping in mind that a mediation between two parts cannot be perfectly symmetrical.

Several scholars in France have done exactly that for the past six years. They used the concept of dispositif as a *fulcrum* thanks to which they could make STS and media studies dialogue and study mediations typical of digital technologies of information and communication. This approach has been developed in particular by a research team of Université Technologique de Compiègne: in their academic work Julia Bonaccorsi and Virginie Julliard (2010) and then Laurence Monnoyer-Smith (2013) have proposed to operationalize the *dispositif* to understand the way communicational practices could structure power relationships through the mediation of technical artefacts. Romain Badouard (2012) Jean-Christophe Plantin (2012) and then Clément Mabi (2014) have extended this reflexion in their PhD thesis by using the same approach in order to study participatory devices and digital navigable maps. And Guillaume Sire (2015) has used the same notion in order to show how the actions of Google and news publishers can exercise a mutual influence,

and therefore influence the way news are told, the way they circulate and the way they are ranked within the search engine's results.

In order to avoid determinism, these scholars consider that the *dispositif* is not totally crystallised into hypothetical power relations but let the possibility for individuals to express themselves as subjects. Actors can implement strategies in order to contest existing divisions of power. By using their imagination, some of them can set up a space within the *dispositif* where they are free from the pressures that otherwise could be exerted on them. Some can also “siphon” the power of other actors. Moreover, these scholars take into account actors' creativity and consider that the *dispositif* is always moving, so that they do not lock *a priori* the social actors they study into insurmountable lines of a strategic idea of power (Monnoyer-Smith 2013). Such an approach advocates for a subtle consideration of power, which aims to help scholars to describe how mediation is operated and how the *dispositif* that allows it can rebalance or counter-balance sociotechnical relationships.

Conclusion

A dialogue between different disciplinary fields is always difficult and often disappointing. But for some social phenomena there is not other way than to look at them from various angles because they can't be understood by using just one disciplinary framework. These types of phenomenon are called “boundary-objects”. Mediation is a perfect example of it, and it could benefit in particular from a crossed perspective that would be based on both STS and media studies. In order to succeed in this dialogue, we have introduced here how the boundary-concept “dispositif” and explained why and how it is used in France by scholars interested in digital mediations.

More generally, we think that the boundary-object “mediation” is at the crossroads of human and social sciences as a whole: history, law, economics, psychology, sociology, aesthetics, and so on. And we think that the boundary-concept “dispositif” could be a good way to articulate these different approaches in a pragmatism framework, in order to study — theoretically and practically— what power relations are, do, could be and could do.

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“Decentering”: Connections between media studies and STS in Italy

Alvise Mattozzi

“Communication”, much more than “media”, has been the word and the domain around which researchers working in Italy gathered, in order to carry out researches ascribable to “media studies” (Ms). These researchers came from different disciplines like film studies, semiotics and sociology of communication, that pertain to different institutional scientific-disciplinary sectors into which Italian academia is officially partitioned. Since the ‘90s, this gathering has been also possible, thanks to the institution of graduate and undergraduate teaching programmes in “Communication sciences”, where all these disciplines, together with other ones, were taught.

“Television” is another word that has characterized Italian research into and around Ms. “Television” has of course characterized Ms more or less everywhere. However, television has remained the centre of Italian Ms for long time, even when it started to be decentered by the presence of other information and communication technologies (Ict). Such “fixation” on television –which is somewhat understandable in a country like Italy where television has had a well-known direct political relevance– has had its consequences for the establishment of connections between Ms and STS.

Nevertheless, they have been established. And, although later than in other countries, it is possible to find connections even before STS started to have an organizational structure (i.e. STS Italia – The Italian Society for Social Studies of Science and Technology) and a certain visibility in Italy. With this contribution, I want to reconstruct some of the trajectories that led specific groups, disciplines or individuals working in the field of communication in Italy to connect with STS. Thus, this article largely privileges a historical account of the emerging connections between Ms and STS and also it prevalently focuses on the way already established Italian media studies have approached STS perspectives, rather than on the way Italian STS practitioners have increasingly adopted media as their object. For this same reason, my focus here is generally on long term vectors of influences, rather than on the present situation characterised by an increasing number of STS researchers who do studies of media technologies combining from the start Ms and STS – an area that is widely represented by this double special issue of *Tecnoscienza*. As a consequence of this choice, I will not review here today Italian STS researches centred on (new) media in Italy, taking as a departure point that many of their protagonists are participating to this issue of *Tecnoscienza* as editors as well as authors and book reviews writers.

In other countries –notoriously Great Britain, but also Norway– it is through a “decentering” of television –started already at the end of the ‘80s thanks to researches on “domestication” (Silverstone and Hirsch 1992; Lie and Sorensen 1996; Berker et al. 2006)– that an overcoming of the taken-for-grantedness of the tangible, artefactual and technical features of television has been possible and, with it, also the establishment of connections with STS – especially with the Social Shaping of Technology (Sst) approach. Looked at from the viewpoint of the Vcr or of the home computer, television started to show not only what was on the screen (programmes) and in front of it (audiences), but also what was around, behind and in between them: shells, frames, interfaces, devices, other artefacts, as well as values and negotiations, not just over interpretations of what was shown on television, but also over Ict intended as goods and household appliances. All these *things*, in a way or another, *mediated* the relation between the screen and its audiences and needed to be accounted for.

Only much later, such shift has taken place in Italy. It happened when, thanks to diffuse digitalization, television has started to be “technically” decentered. Given the often taken-for-grantedness of the technical and artefactual aspects of television (Ortoleva 1995)³, its centrality for Italian studies of communication has also meant that those technical and artefactual aspects of media have tended to be disregarded⁴, thus mining the possibility of a dialogue with STS. Italian studies of communication have indeed developed within the trails of the encoding/decoding paradigm they inaugurated –as indicated by Stuart Hall, who, in his famous essay “Encoding and Decoding in the Television Discourse”, cites indirectly Eco and colleagues (1965) as ground for his proposal. They have thus tended to focus on the tension between the emission and the reception of “symbolic content” –as the preference for the word “communication” over “media” underlines.

For instance, the debate around “neotelevision” – i.e., the configuration of television shows that emerged in the ‘80s in Italy, through which television became much more self-referential and in tune with everyday domestic life – was tackled mainly in enunciations terms, looking at how Tv shows would address and engage audiences differently. As Peppino Ortoleva, historian of media who has always taken STS into consideration, has noticed, that debate has taken very little into account that such new way of doing television was based on colour transmission, a relevant

³ These aspects not only were taken for granted, but also – I would say – as a sort of doom – a framework within which it is very difficult to introduce Sts, Sts have, indeed, usually to do with possible alternative paths. Against the view of media and technological systems as forever stabilized landscapes, Italian leftist movements tried often to propose and practice alternatives (Berardi et al. 2003; Collettivo A/Traverso 1976; Faenza 1973).

⁴ For a way to consider technologies and materiality within Italian Ms, which differs from that of Sts, see Attimonelli et al. (2011).

technological change – with an explicit socio-political relevance for Italy (Ortoleva 1995)⁵.

Decentering Television: Attempted Connections

As already mentioned, a decentering of the television took place thanks to the general process of digitalization, first with the diffusion of mobile phones, then with the penetration into the everyday life of people of computer mediated communication and, finally, through the digitalization of television thanks to digital terrestrial transmissions.

On all these topics, the OssCom (Osservatorio sulla Comunicazione – Observatory on Communication) of the Catholic University of Milan has conducted researches by using “domestication” (Silverstone and Hirsch 1992) as main interpretative and methodological framework (among others, Pasquali and Scifo 2004; Scifo 2005; Pasquali et al. 2010). As it happened ten years before in Great Britain, through domestication a connection with the Sst approach has been attempted. Since these researches were mainly focused on audiences and users, what the OssCom researchers found interesting in Sst was the development of user-oriented perspective on technology that, at the time, was being developed.

What we see in these researches is, however, just a general reference to Sst, without a direct and systematic inquiry into how actually artifacts were shaped. This happened also because most of these researches were based on interviews or on narrations and discourses (intending them in verbal or visual terms), so that not much is said about how actual interactions and mediations took place not just through, but also on and around the researched artefacts – an exception being Aroldi et al. (2008, § 2.3). Thus, whereas domestication was analyzed often in a very detailed way, taking into account all the phases through which artifacts become parts of households’ routines, Sst did not get developed in a thorough and systematic way. Not surprisingly, the references to Sst have tended to fade through time.

The category of “innovation” is another way through which STS got connected with Italian Ms, still in relation to the decentering of television operated by digitalization. Framing media technologies as innovation has been possible especially thanks to the comparison proposed by Leah Lievrouw (in Lievrouw and Livingstone 2002) between the diffusionist theory of innovation and the Sst approach. For instance, a reflection on digital divide in terms of innovation has been developed by Maria Francesca Murru’s essay in Colombo (2007), by using Lievrouw’s comparison. However, also in this case a systematic use of the Sst approach has not followed – and actually within the same research project (Colombo 2007)

⁵ For a reconsideration of the debate around neotelevision that takes into account the relevance of media, however still without acknowledging the issue of colour transmission, see Colombo (2007, 16).

certain innovations have been tackled only through the diffusionist approach. Lievrouw's article is present in Lievrouw and Livingstone (2002), a book grounded in the dialogue between Ms and STS, which has been also translated in Italian in 2007, thus allowing STS to enter in Ms students' handbooks in Italy (see, for example, Sorice 2012).

Decentering Ict: a Connection in Progress

It is through a further decentering of Ict in relation to the urban space (Tarantino and Tosoni 2013a), that a move toward a more systematic and promising connection between Ms and STS is at present in progress. In order to account for the presence and role of media distributed and interacting with the urban environment, Simone Tosoni –who had already taken part to the mentioned OssCom's researches– and Marco Tarantino, are developing an approach, called the “Rpm model, an STS-informed inquiry of socio-spatial production” (among other essays, Tarantino and Tosoni 2013b) –where RPM stands for Representation/Practices/Materiality. They propose to read the social space as the outcome of the interaction among various “socio-spatial production patterns”, considered as “networks of representation of space”, “spatial practices” and “spatial morphology” in a relationship of continuous translation and co-shaping. In order to reconstruct the various chain of translations between media and spaces they use categories taken from Actor-Network Theory (Ant), in order to account for non-human actors, but also taken from the Social Construction of Technology (Scot) approach, in order to take into account relevant social human actors, through which understand which are the relevant non-human actors.

Decentering Signs and Enunciation: a Dedicated Connection

It is very likely that, if we would take into consideration only quantitative data – number of citations – the domain of Italian Ms connecting the most with STS would result to be semiotics. However, looking more closely, we would see that most of the citations would refer to Bruno Latour's works. This is the result of the close relation Bruno Latour has had with semiotics and especially with Greimasian semiotics – which is largely diffused and practiced in Italy –, since the beginning of its inquiry on sciences. Latour was introduced to semiotics by Paolo Fabbri – one of the co-authors of Eco et al. (1965) – with whom Latour also signed one of his first STS articles in 1977.

However, the present relation between Latour and Italian semiotics, though grounded on that heritage, started much later on two other grounds, related to the decentering of two basic semiotic concepts: signs and enunciation. Greimassian semiotics, and especially the way it has been practiced in Italy, has tended to overcome the concept of sign – and with it also of representation – in order to develop a semiotics of texts,

intended as complex configurations of meaning-bearing relations. Thus, texts can be the traditional objects of Ms like movies, television shows, advertisements, but also more tangible artifacts like tools, interfaces, technical objects.

Therefore, a systematic relation with Latour has been resorted within the attempt to analyze tangible artifacts as complex configurations of relations (see, among others, Deni 2002; Mangano 2009), similarly to what Akrich and Latour (1992; see also Latour 1992) did, by using semiotics too. The results of these researches, thanks also to a broader reflection on the Latourian concept of interobjectivity – intended, though, in a restricted way, only as relations among objects – have been used to analyze more traditional texts as paintings, movies or advertisements (Landowski and Marrone 2004) as well as new media (Marrone et al. 2004). Within this framework the entire reflection around the concept of script (Akrich and Latour 1992) has been connected to Eco's concept of "model reader", with which Eco intended a "system of instructions aiming at producing a possible reader whose role is designed by and within the text" which "can be extrapolated from it and described" (Eco 1994, 52) – a definition very similar to that of script. This relation between script and model reader has proven productive in order to analyze interfaces (see, for a general overview, Cosenza 2004).

Enunciation has been a very relevant concept for Italian Ms –as I said, neotelevision has been analyzed mainly in enunciations terms. Enunciation is also a concept often used by Latour, who has proposed a radical extension of it (Latour 1999), providing the basis for the subsequent reflection on the "modes of existence". As for now, such further decentering has been the ground for a reconsideration of the concept by Italian semioticians, however it has not yet given way to a more radical rethinking that Latour's proposal probably requires.

Decentering Signification and Information: a Possible Connection

Tiziana Terranova's contribution to Cultural Studies and to Internet Studies – especially through the influential essay on "Free Labour" (now part of Terranova 2004) – intersects in various ways STS, representing a possible connection between Italian Ms and STS.

"Free Labour", for instance, is the result of a British research project connecting cultural studies and STS (Wyatt et al. 2001), which is explicitly grounded on the Italian autonomists reflection, especially on its concept of "social factory". Another example can be found in her reflections on the Gramscian concept of "hegemony" (Terranova 2007) – notoriously very relevant for Cultural Studies as well as for Ms. Trying to ground such concept in a more materialist framework, she introduced issues which are shared with STS, such as ontological politics, the concept of publics (Marres 2012) and the rediscovery of Gabriel Tarde. A further example is related to her more recent reflection on the use social move-

ments do and are able to do of corporate social media (like Facebook and Twitter), which she sees as new mass media. One of the steps of this reflection (Terranova and Donovan 2013) has been the result of an encounter that has taken place at a STS Italia's conference.

However, beside these intersections, I would like to highlight what I consider a more relevant connection between her work, Ms and STS. Such connection could emerge in relation to decenterings she proposed of the concepts of signification and information. In the first chapter of *Network Culture* (Terranova 2004), she addresses information as a more productive concept than signification – a first decentering within Ms. She operates this decentering by reconsidering information within a more materialistic framework, allowing to free that concept from the tension between sender and receiver. By considering the relation between information and noise (and by giving relevance to noise), she decenters information, too, and reconceives it not as a passage between two already established positions, but as a constitutive event that contributes to create also the positions between which such event takes place. Thus, information is thought in transformative and instaurative terms. This way of thinking information is very similar to the one in which Antoine Hennion and Latour have conceived mediation, always in relation to artifacts, to translation and to enunciation.

Conclusions

At the end of this reconstruction of some of the trajectories that led specific groups, disciplines or individuals working in the field of communication in Italy to connect with STS, the concept of mediation appears to emerge as a productive common ground that could, in turn, connect the various decenterings here introduced. Mediation, however, as conceived by Ant, thus, not so much in relation to media, but within a broader framework – which encompasses also media. And mediation, for Ant, always presupposes decenterings – deviations, delegations, otherness.

Thus, recovering Hennion and Cecile Medael's (1986, 30) words – stated exactly thirties years ago in one of the few explicit Ant study of media –, I can conclude by saying: “we should rely rather on our ability to define another unit of analysis; to no longer speak of media, but of mediation” (Hennion and Meadel 1986, 301).

References

- Akrich, M. (1993) *Les formes de la médiation technique*, in “Réseaux”, 60, pp. 87-98.
- Akrich, M. (2006) *La description des objets techniques*, in M. Akrich, M. Callon and B. Latour (eds.) *Sociologie de la traduction. Textes fondateurs*, Paris, Presses des Mines de Paris, pp. 159-178.

- Akrich, M. and Latour, B. (1992) *A Summary of a Convenient Vocabulary for the Semiotics of Human and Nonhuman Assemblies*, in W.E. Bijker and J. Law (eds.), *Shaping Technology/Building Society. Studies in Sociotechnical Change*, Cambridge MA, MIT Press, pp. 259-264.
- Akrich, M., Callon, M. and Latour, B. (eds.) (2006) *Sociologie de la traduction. Textes fondateurs*, Paris, Presses des Mines de Paris.
- Appel, V., Boulanger, H. and Massou, L. (2010) *Les dispositifs d'information et de communication. Concepts, usages et objets*, Bruxelles, De Boeck.
- Aroldi, P., Pasquali, F., Scifo, B. and Vittadini, N. (2008) *Il ruolo degli spettatori: forme e significati sociali del consumo della televisione digitale terrestre*, in "Comunicazioni Sociali", XXX (1), pp. 94-125.
- Attimonelli, C., De Ruggieri, F., Pellegrino, G. and Susca, V. (2011) *Tecnomagia, o del ritorno degli oggetti*, "Tecnoscienza", 2 (1), pp. 69-84.
- Badouard, R. (2012) *Les «technologies politiques» du web. Une étude des plateformes participatives de la Commission Européenne et de leurs publics*, PhD thesis, UTC Compiègne.
- Benkler, Y. (2016) *Degrees of Freedom, Dimensions of Power*, in "Daedalus", 145 (1) pp. 18-32.
- Berardi, F.B., Jacquemet, M. and Vitali, G. (2003) *Telestreet. Macchina immaginativa non omologata*, Milano, Dalai Editore.
- Berker, T., Hartmann, M., Punie Y. and Ward K. (Eds.) (2005) *Domestication of Media and Technology*, London, McGraw-Hill.
- Beuscart J-S. and Peerbaye A. (2006), *Histoires de dispositifs (introduction)*, in "terrains&travaux", 2 (11), pp. 3-15.
- Boczkowski, P.J. and Lievrouw, L.A. (2008) *Bridging STS and communication studies. Scholarship on media and information technologies*, in E.J. Hackett, O. Amsterdamska, M. Lynch and J. Wajcman (eds.), *The Handbook of Science and Technology Studies*, Cambridge, MIT Press, pp. 949-977.
- Bonaccorsi, J. and Julliard, V. (2010) *Dispositifs de communication numériques et médiation du politique. Le cas du site web d'Ideal-Eu*, in M. Aghababaie, A. Bonjour, A. Clerc and G. Rauscher (eds.), *Usages et enjeux des dispositifs de médiation*, Nancy, Presses Universitaires de Nancy, pp. 65-78.
- Callon, M. (2006) *Sociologie de l'acteur réseau*, in M. Akrich, M. Callon and B. Latour (eds.) *Sociologie de la traduction. Textes fondateurs*, Paris, Presses des Mines de Paris, p. 267-276.
- Colletivo A/traverso (1977) *Alice è il diavolo: sulla strada di Majakovskij*, Bologna, L'erba Voglio.
- Colombo, F. (Ed.) (2007) *La digitalizzazione dei media*, Roma, Carocci.
- Cosenza, G. (2004) *Semiotica dei nuovi media*, Bari-Roma, Laterza.
- de Laet, M. and Mol, A. (2000) *The Zimbabwe Bush Pump: Mechanics of a Fluid Technology*, in "Social Studies of Science" 30 (2), pp. 225-263.
- Deleuze, G. (1989) *Qu'est-ce qu'un dispositif ?*, in idem *Michel Foucault philosophe. Rencontre internationale. Paris 9, 10, 11 janvier 1988*, Paris, Seuil, p. 185-195.
- Deni, M. (2002) *Oggetti in azione. Semiotica degli oggetti: dalla teoria all'analisi*,

- Milano, Franco Angeli.
- Eco, U. (1994) *The Limits of Interpretation*, Bloomington, Indiana University Press.
- Eco, U., Fabbri P., Giglioli, P.P., Lumachi, F., Seppilli, T. e Tinacci Mannelli, G. (1965) *Prima proposta per un modello di ricerca interdisciplinare sul rapporto televisione/pubblico*, Perugia, Istituto di Etnologia e Antropologia Culturale.
- Faenza, R. (1973) *Senza chiedere permesso: come rivoluzionare l'informazione: con un manuale sulla televisione alternativa e gli audiovisivi in Italia, Nord America e America latina*, Milano, Feltrinelli.
- Foucault, M. (1994) *Dits et écrits* (Vol. I, II and II), Paris, Gallimard.
- Gavillet, I. (2010) *Michel Foucault et le dispositif: questions sur l'usage galvaudé d'un concept*, in V. Appel, H. Boulanger and L. Massou (eds.), *Les dispositifs d'information et de communication. Concepts, usages et objets*, Bruxelles, De Boeck, p. 17-38.
- Gillespie, T., Boczkowski, P.J. and Foot, K. (2014) *Introduction*, in T. Gillespie, P.J. Boczkowski and K. Foot (eds.), *Media Technologies. Essays on Communication Materiality, and Society*, Cambridge, Mit Press, pp. 1-17.
- Gillespie, T., Boczkowski, P.J. and Foot, K.A. (Eds.) (2014) *Media Technologies. Essays on Communication, Materiality, and Society*, Cambridge, Mit Press.
- Haraway, D. (1991) *A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century*, in idem, *Simians, Cyborgs, and Women: The Reinvention of Nature*, New York, Routledge, pp. 149-182.
- Hennion, A. and Latour, B. (1993) *Objet d'art, objet de science. Note sur les limites de l'anti-fétichisme*, in "Sociologie de l'art", 6, pp. 7-24.
- Hennion, A. and Medael, C. (1986) *Programming music: radio as mediator*, in "Media, Culture & Society", 8 (3), pp. 281-303.
- Hepp, A., Krotz, F., Moores, S. and Winter, C. (eds.) (2006) *Konnektivität, Netzwerk und Fluss. Konzepte gegenwärtiger Medien-, Kommunikations- und Kulturtheorie*, Wiesbaden, VS Verlag.
- Landowski, E. and Marrone, G. (eds.) (2002) *La società degli oggetti: problemi di interoggettività*, Roma, Meltemi.
- Latour, B. (1986) *Visualization and cognition. Thinking with eyes and hands*, in H. Kuklick and E. Long (Eds.), *Knowledge and society. Studies in the sociology of cultural past and present*, New York, Jai Press inc, pp. 1-40.
- Latour, B. (1992) *Where are the missing masses? The sociology of a few mundane artifacts*, in W. E. Bijker and J. Law (eds.), *Shaping Technology/Building Society: Studies in Sociotechnical Change*, Cambridge, Mit Press, pp. 225-258.
- Latour, B. (1993) *We Have Never Been Modern*, Cambridge, Harvard University Press.
- Latour, B. (1996) *Aramis, or the Love of Technology*, Cambridge, Harvard University Press.
- Latour, B. (1999) *Piccola filosofia dell'enunciazione*, in P. Basso and L. Corrain (eds.) *Eloqui de senso. Dialoghi semiotici per Paolo Fabbri*, Genova, Costa

- & Nolan, pp. 71-94.
- Latour, B., Mauguin, P. and Teil, G. (1991) *Une méthode nouvelle de suivi des innovations : le graphe socio-technique*, in D. Vinck (ed.), *La Gestion de la recherche. Nouveaux problèmes, nouveaux outils*, Bruxelles, De Boeck, pp. 419-567.
- Law, J. (2002) *Aircraft stories. Decentering the object in technoscience*, Durham, Duke University Press.
- Lie, M. and Sørensen, K.H. (eds.) (1996) *Making Technology Our Own? Domesticating Technology Into Everyday Life*, Oslo, Scandinavian University Press.
- Lievrouw, A.L. and Livingstone, S.M. (2002) *Handbook of New Media: Social Shaping and Social Consequences of ICTs*, London, Sage.
- Livingstone, S. (2009) *On the mediation of everything: ICA presidential address 2008*, in "Journal of Communication" 59 (1), pp. 1-18.
- Mabi, C. (2014) *Le débat CNDP et ses publics à l'épreuve du numérique. Entre espoirs d'inclusion et contournement de la critique sociale*, PhD dissertation, UTC Compiègne.
- MacKenzie, D. (1993) *Inventing Accuracy. A Historical Sociology of Nuclear Missile Guidance*, Cambridge, Mit Press.
- Mangano, D. (2008) *Semiotica e design*, Roma, Carocci.
- Marres, N. (2012) *Material Participation: Technology, the Environment and Everyday Publics*, New York, Palgrave Macmillan.
- Marrone, G., Dusi, N. and Montanari, F. (2004) *C'era una volta il telefonino: un'indagine sociosemiotica*, Roma, Meltemi.
- Mol, A. (1999) *Ontological Politics: A Word and Some Questions*, in J. Law and J. Hassard (eds.) *Actor Network Theory and After*, Oxford, Blackwell, pp. 74-89.
- Monnoyer-Smith, L. (2013) *Le web comme dispositif: comment appréhender le complexe?*, in C. Barats (ed.), *Analyser le Web en sciences humaines et sociales*, Paris, Armand Colin.
- Muniesa, F., Millo, Y. and Callon, M. (2007) *An introduction to market devices*, in "Sociological Review", 55 (2), pp. 1-12.
- Ortoleva, P. (1995) *Un ventennio a colori: televisione privata e società in Italia (1975-95)*, Firenze, Giunti.
- Oudshoorn, N. and Pinch, T. (Eds.) (2003) *How users matter. The co-construction of users and technology*, Cambridge, Mit Press.
- Pasquali, F. and Scifo, B. (Eds.) (2004) *Consumare la rete: la fruizione di Internet e la navigazione del web*, Milano, Vita e Pensiero.
- Pasquali, F., Scifo, B., and Vittadini, N. (eds.) (2010) *Crossmedia cultures: giovani e pratiche di consumo digitali*, Milano, Vita e Pensiero.
- Peeters, H. and Charlier, P. (1999) *Introduction. Contribution à une théorie du dispositif*, in "Hermès", 25, pp. 15-24.
- Plantin, J.C. (2012) *Les pratiques de cartographie numérique en ligne. Expression, remédiation, circulation*, PhD dissertation, UTC Compiègne.

- Schroer, M. (2008) *Vermischen, Vermitteln, Vernetzen. Bruno Latours Soziologie der Gemenge und Gemische im Kontext*, in G. Kneer, M. Schroer and E. Schüttpelz (eds.), *Bruno Latours Kollektive. Kontroversen zur Entgrenzung des Sozialen*, Frankfurt/M., Suhrkamp, pp. 361-398.
- Scifo, B. (2005) *Culture mobili: ricerche sull'adozione giovanile della telefonia cellulare*, Milano, Vita e Pensiero.
- Silverstone, R. and Hirsch, E. (Eds.) (1992) *Consuming Technologies. Media and Information in Domestic Spaces*, London, Routledge.
- Sire, G. (2015) *Google, la presse et les journalistes. Analyse interdisciplinaire d'une situation de coopération*, Bruxelles, Institut du Droit de la Concurrence / Bruylant, coll. "Sciences Politiques".
- Sørensen, E. (2016) *Cultures of Computer Game Concerns in a Comparative View: Report of a Two-Day Workshop*, in "Forum Qualitative Social Research", 17 (2).
- Sorice, M. (2009) *Sociologia dei mass media*, Roma, Carocci.
- Star, S.L. and Griesemer, J. (1989) *Institutional Ecology, "Translations" and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39*, in "Social Studies of Science", 19 (3), pp. 387-420.
- Tarantino, M. and Tosoni, S. (2013a) *Introduction: Beyond the centrality of media and the centrality of space*, in "First Monday", 18 (11).
- Tarantino, M. and Tosoni, S. (2013b) *Media and the Social Production of Urban Space: Towards an Integrated Approach to Controversial Nature of Urban Space*, in S. Tosoni, M. Tarantino and C. Giaccardi (eds.), *Media and the City, Urbanism, Technology and Communication*, Newcastle, Cambridge Scholar, pp. 2-30.
- Terranova, T. (2004) *Network Culture: Politics For the Information Age*, Ann Arbor, MI, Pluto Press.
- Terranova, T. (2007) *Futurepublic: On Information Warfare, Bio-racism and Hegemony as Noopolitics*, in "Theory, Culture & Society", 24 (3), pp. 125-145.
- Terranova, T. and Donovan, J. (2013) *Occupy Social Networks: The Paradoxes of Using Corporate Social Media in Networked Movements* in G. Lovink and M. Rasch (eds.), *Unlike Us Reader. Social Media Monopolies and their Alternatives*, Amsterdam, Institute of Networks Cultures, pp. 296-311.
- Thielmann, T., Schüttpelz, E. and Gendolla, P. (eds.) (2013) *Akteur-Medien-Theorie*, Bielefeld, Transcript.
- Wyatt, S., Thomas, G. and Terranova, T. (2001) *They came, they surfed, They Went Back to the Beach: Conceptualizing Use and Non-Use of the Internet*, in S. Woolgar (eds.), *Virtual Society? Technology, Cyberbole, Reality*, Oxford, Oxford University Press, pp. 23-40.