The End of Media – Reconstructing Media Studies on the Basis of Actor-Network Theory

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Media studies are usually concerned with the economic, social, and political conditions of the *production* of media, the analysis of media *content*, the reception and consumption of media products including the characteristics of *users* of media, and finally, the *critique* of media in general from a cultural and historical perspective. Often a particular form of media, such as print media or broadcast media, TV, or film becomes the focus of study with regard to the four aspects of production, content analysis, consumption, and critique. Equally often, a particular genre or format, such as newspapers, documentary, boulevard, comics, reality, or advertising takes center stage. Media content, furthermore, can be classified into text, graphic, audio, und video, each of which has its own themes, genres, and formats. Audience studies for their part focus on the characteristics of media consumers and consumption patterns. Generally, the theoretical as well as ideological positions of media critique reflect major schools of modern social theory, liberal, Marxist, and postmodern. Despite that fact that many different disciplines are involved and the object of study is admittedly complex, media studies seems to be a well-defined terrain, mapped onto different domains and jurisdictions, with relatively clear boundaries, and many taken for granted assumptions about what media are and how they are to be studied.

With the advent of "new media," most of the foundational distinctions upon which media studies had been built disappear. In the network society and the age of media convergence, media production can no longer be isolated into channels, formats, technologies, and organizations. There is only one all-encompassing technical infrastructure. Participatory culture opens up content analysis and critique to all equally. The crowd has become smart (Surowiecki, 2004) and the cloud is inclusive, non-hierarchical, public, unlimited, and connected (Weinberger, 2012). Active prosumers take the place occupied by passive consumers. Marketing hype becomes a naked conversation (Levine et al, 2011; Scobel & Israel, 2006). The virtual world of media representation mixes inextricably with the so-called real world of physical presence, such that we no longer live "with" media, but "in" media (Deuze, 2011). Interaction moves beyond face-to-face, embodied presence into a many-to-many communication (Shirky, 2008) principally independent of temporal and spatial limitations (Castells, 1996). If all this were not enough to raise questions about the traditional assumptions of what media are and how they are to be studied, we can expect that the internet of things, ambient computing, and pervasive digital media will expand the concept of communication and information exchange way beyond human interaction and make it increasingly difficult to distinguish between media and non-media. Everything is becoming smart, connected, interactive, and media-like. Not just phones, glasses, and watches, but automobiles and refrigerators, entire homes, workplaces, schools, hospitals, transportation hubs etc. are joining the network. It is becoming increasingly difficult to find a situation that is not in some way a computer-mediated environment. These trends raise important questions for media studies. Can new media find a place on the traditional map of media studies that pre-digital cartographers have left us? Are algorithms media? Or do they merely simulate media? Can 3D printing be considered a medium in the same way as printing a book, newspaper, or magazine? Are a printed gun or biological tissue and organs media products? In what sense can "social media" be considered media? Are Facebook and Google media? If so, *all* of them or only certain services, such as YouTube or certain contents such as images, video, and text? What about friendships? Are answers to search queries media products? Are Siri and Cortana media? What about AI, big data, learning analytics, and personalized services? Perhaps new media are not "media" at all in the traditional sense. Perhaps media studies is facing the challenge to reconceptualize its foundations.

Once media could be defined in opposition to voice and gesture. Voice and gesture characterized communication in situations of human co-presence, situations which sociologists have termed

"interaction." It is a platitude of modern social theory to assume that society consists of interactions on the micro level and organizations, institutions, and functional subsystems such as politics, law, business, education, and media on the macro level. On the micro level, social interaction is defined as face-to-face conversations between a few people in a narrowly circumscribed space and time. Macro society is built on the basis of micro communication episodes (Weick, 1979; Taylor, 2011; Cooren, 2010). Where do media come in? If one writes or draws something on paper, records voice, images, or gestures and sends this per either currier, post, wire, broadcast, or even the Internet 1.0, then we apparently have to do with media. Communication is no longer the result of immediate bodily co-presence. There is an artifact or a product of technical construction that comes between sender and receiver and "mediates" communication. Something material and in most cases non-human is involved; something that is neither bound by the spatial and temporal limits of conversation nor completely independent of meaning and communication. This is the birth of media.

If information is conveyed face-to-face by voice or gesture, there is apparently nothing in between the people communicating with each other. There is no need for anything to do the mediating, and therefore no need to speak of media. This corresponds to the usual definition of media as "the set of institutions and technical apparata that we humans employ to communicate across space and time" (Hepp 2013, p. 4). Media, so it seems, come into play the moment spatial/temporal co-presence is not possible or is not needed. It is no secret that spatial/temporal co-presence may not only enable communication, but also hinder it. This is the case in situations where there are simply too many people gathered together to allow effective face-to-face communication. When everybody is trying to talk to everybody and the space they are occupying is getting large and larger as more people join in nobody understands what is going on. Turn taking in large groups means that the discussion never comes to an end. This is why face-to-face communication is usually relegated to small talk and casual encounters. When large groups must reach a consensus on cooperative action, face-to-face communication breaks down and media come into play. Another reason why we need media is that people have important things to do that require durable, repeatable, binding structures. Information must be delegated to material, durable, and mobile carriers. For these reasons, media can also be defined as "socially realized structures of communication, where structures include both technological forms and their associated protocols…" (Gitelman, 2006, p. 7). As soon as small talk does not get the job done and information beyond the present moment is needed, communication must be extended in space and time. Media must take their place "in-between" and bridge the gaps. This is what media do. Media are the condition of the possibility of communication and cooperative action beyond the *hic et nunc* of interaction. Without artefacts and technologies that carry information there would be no history, no culture, and no society and we would find ourselves on the same level as baboons who only have their bodies to negotiate their social relations (Sturm & Latour, 1987). In much the same way as society arises from a chaotic and barbarous state of nature by means of the social contract, media are said to arise from ephemeral, episodic interactions by means of fixing information in material, movable objects that carry messages. This, at least, is the myth that lies at the foundations of media studies. Media are defined against the background of the immediate. We know what media are, because we know what they are not. The idea of immediacy, however, postulates ontological individuality "between" which something can "mediate." There has to be an empty "in-between" before mediation is possible. Mediation, and therefore, much later, media, are not a condition of being, but an add-on made possible and necessary by the ontology of substance.

At least since Goffman and Garfinkel, however, we know that face-to-face interaction is not immediate. On the contrary, it is mediated by settings, scripts, props, clothes, standardized gestures, dramaturgical structures, accounts and contracts. Studies in the "communicative constitution of organization" (Taylor, 2011; Cooren, 2010) have shown that cooperative action of any kind depends on the involvement of many non-present actors, some of whom at least are not human. It is difficult to imagine or empirically verify any communication that does not always already extend beyond the *hic et nunc* of immediate presence and is not in some way mediated. This of course is a platitude, but it has nonetheless been suppressed by much of modern epistemology, ontology, and social theory. The Cartesian ego, whose existence depended on constantly thinking of itself, needed God to bridge the gap between moments of self-forgetfulness. In much the same way, Luhmann's social system (Luhmann, 1995) needs media to help bridge the gap from one communication to another and thus insure the autopoiesis of the social system; a system that consists not of humans, but of

communications. Media fill the (spatial and temporal) gaps. They provide us with something to talk about, so talk can go on and the communicative operations of the social system do not simply come to an end. The platitude that nothing is not in some way mediated could be conveniently overlooked in modern theory as long as the myth of immediacy served a useful purpose, namely, as a convenient by-product of the ontology of substance and as differentiating concept for the definition of what media are. The technologies of printing and electronic broadcasting so spectacularly overcame the age-old spatial and temporal limits of communication that God, transcendental egos, or ahistorical structures lost their purpose and no longer attracted attention. The construction of meaning could now be located in material, technical, and historical media.[1] Identifying non-mediated communication was immensely simpler when face-to-face conversations could be compared to mass media such as newspapers, phonograph, radio, and television. Media, that is, "mass" media took center stage. The foundational distinctions guiding media studies, namely, production, content analysis, consumption, and critique are based on mass media and mass media became a key to deciphering modern society. According to Bolter (2003) "we could say that the humanities in the second half of the twentieth century became media theory, that is, the study of technologies of representation and communication, beginning with but no longer limited to printed books and the literary forms of print" (p. 16).

The advent of digitally mediated information makes the myth of immediate interaction useless and misleading. Imagine, for example, what interaction looks like when those conversing are wearing smart glasses and have access to each other's personal and professional profiles from Facebook, Google +, LinkedIn, and Xing? What does "interaction" mean when we ask Siri or Cortana to read the news, send an email, or stream our playlist from Spotify? Screens are everywhere. Space has become interface and interaction has become interactivity. New media make it increasingly difficult to maintain the boundaries between immediate communication and mediated communication. At least since the new media revolution, the communicative construction of meaning cannot be classified into mediated and non-mediated forms. All cognition, as we now know, is dispersed among many different participants. Distributed cognition (Hutchins, 1995) is nothing new, but the digital revolution makes it increasingly difficult to identify media as special or privileged actors in networked communication. It is hard, perhaps impossible, to find a conversation that does not depend in some way on the intelligence of artefacts and the agency of non-humans. This raises an important question. If everything is always already mediated, what need is there of media? The discourse of (new) media studies is being constantly undermined by the disappearance of its object of study. Digital information and communication networks are not one medium among others, new media somehow added onto old media, news ways to fill old gaps, but – at least in the global network society - the condition of the possibility of communication and construction of meaning in any form whatever. The at one time obvious discontinuity between face-to-face conversations and mass media which inspired notions of a culture industry and non-distorted communication, the private and the public, and upon which media studies has been erected disappears. Of course, we are not assuming that everyone is wearing smart glasses, at least not yet, but we are claiming that information always flows in hybrid, heterogeneous networks. Meaning – and being as well for there is no being without meaning – is a network effect. In these networks the foundational concepts of media studies, such as media production, distribution, content, consumption, critique, genre, format, etc. no longer play a significant role, either to describe what media consist of, how they function, or to define their purposes. In short, there is nothing special about media. What becomes of media studies when there is no differentiating concept, no "other" from which media can be distinguished? "Media are everywhere, and therefore nowhere" (Deuze, 2011, p. 139). How are we to conceptualize what is going on all around us if the concept of media no longer does the job?[2]

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[1] See Kittler's (1990) interpretation of Foucault's discourse analysis as media network analysis.
[2] See for example Hepp's use of the concept of "Mediatisierung." Following Livingstone (2009), Hepp (2013) agrees that „ sich die Medien- und Kommunikationsforschung von einer Analyse wegbewegt, bei der Medien als eine der verschiedenen sozialen Institutionen begriffen werden, die einflussreich, aber unabhängig sind und deren Beziehung zu anderen Bereichen des menschlichen Lebens man analysieren kann. An die Stelle rückt gegenwärtig eine Betrachtung, bei der man die mediale Vermittlung von nahezu allem analysiert und sich damit befasst, dass sich zunehmend alle Institutionen in unseren heutigen Gesellschaften mit dieser medialen Vermittlung wandeln. Genau mit dieser veränderten Betrachtung verbindet Livingstone den Begriff der Mediatisierung: Mediatisierung steht – neben anderen Konzepten – dafür, dass wir uns auf neue Weise mit Medienkommunikation beschäftigen müssen und dabei stärker das Wechselverhältnis des Wandels von Medien und Kommunikation auf der einen Seite und Kultur und Gesellschaft auf der anderen Seite in den Vordergrund rücken, statt uns mit Medien als separierten Institutionen zu befassen. (Hepp 2013, p. vi) Hepp's solution for media studies uses Norbert Elias's idea

One answer to the question about the basis and scope of media studies has been to postulate a media revolution and speak of a "second media age" (Poster, 1995; Negroponte, 1995; Rheingold, 2000). The idea of a "second media age" replacing the age of mass media has become a fundamental concept in media studies. Whereas broadcast media were characterized by centralized production and distribution, one-to-many communication, corporate and government control, and an anonymous, passive mass audience of consumers subject to manipulation and censorship, the new media are characterized as decentralized, many-to-many communication, participation in production and distribution, and radical democracy. Also referred to as the "new media age," the concept of a "second media age" is a historical reconstruction based on a model of linear progress and a succession of cultural eras dominated by specific communication technologies. Just as electronic mass media superseded print media, so do digital media supersede mass media. The historical reconstruction of media revolutions leans heavily on technology as motor of social change and presupposes not only difference but also continuity. We are still talking about media, even if they are "new." New media, however, are not new in the sense of being a not yet realized form of something that already existed. There are new forms of transportation, such as the electric automobile. There are new fashions in clothes, music, art, and diet. In all these cases, there is continuity as well as difference. Transportation, fashion, music, art and so on are made up of distinct entities that can be compared. A Tesla is a thing that can be compared to an internal combustion powered Ford or VW. The Tesla is new and the VW is old. Fashion can be analyzed as a social or cultural entity. Both technical and cultural entities can be new and old. The concept of a second media age needs an entity to compare with previous media entities. For this reason it focuses on the Internet, on digital technology, and tends to ask the same questions about production, distribution, content, and audience as did mass media studies. The internet, however, has proven difficult to substantialize. What is the Net? The Net is not an entity like a printing press, a phonograph, a radio station, or a TV production unit. Perhaps it is not an artefact or an institution at all, but a new kind of being whose ontological status has yet to be defined. If everybody is always producing, distributing, consuming, and analyzing information of all kinds in scalable, flexible, and open networks - and this with the help of more and more non-humans -, the basic questions of media studies are themselves called into question and the very concept of media becomes problematic.

It could therefore be claimed that new media are the *last media*. In the case of digital versus analog, there is no continuity between new media and old media. Digital objects are not simply newer versions of analog objects. They do not fit into the categories of media production, consumption, form, and critique that were developed to conceptualize mass media. Who are the producers? Where is the audience? What is the content? Lev Manovich (2001) describes new media objects in terms of numerical representation, modularity, variability, automation, and transcoding. None of these characteristics can be applied to traditional media products, processes, structures, or institutions. New media, if we persist in speaking of media at all, are "revolutionary" not only because they are radically different, but also because they put an end to media as special kinds of technical or cultural entities. This implies that theories of social or technical determinism are not useful when it comes to understanding new media. Determinism implies causality. Once media are assumed to be things, even digital things such as raw data, they can enter into causal relations with other things. Technology can determine society or the other way round, but only if both are entities. The story is well known; on the one side, technology determines the social and on the other, the powers in control of production, distribution, information selection, and forms of representation use technology for their own, mostly selfish, purposes. Much of media studies, whether liberal, Marxist, or postmodern rely upon fundamental assumptions about media production, consumption, and content analysis and assumptions about themselves as "critical," and therefore liberating, theories of power and ideology. Media are either technological or social things that can enter into causal relations to one another. However, when media are not things at all, neither social things nor technical things, the concepts and categories that were developed on the basis of technological or social deterministic critique of mass

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of "kommunikativen Figurationen," to identify areas of social life, such as "family" as objects of media studies. Seier (2013) sees the same development in media studies on the basis of influences from poststructuralism and concludes, "Medien müssen demnach nicht den Ausgangspunkt medienwissenschaftlicher Forschungen bilden. Stattdessen verschiebt der Blick auf Prozesse der Mediatisierung bzw. Remediatisierung…." (p. 151)

media may no longer be useful. Perhaps new media make this apparent and signal the end of "media" in the specifically modern sense of the term.

Fukayama (1992) could proclaim the end of history after the fall of the Berlin Wall and end of the Cold War because there seemed to be only one worldview and one ideology left standing. Similarly, it can be claimed that after the digital revolution there is only one "medium" of knowledge, communication, and cooperative action. Already Friedrich Kittler (1999) saw that "the general digitalization of channels and information erases the differences among individual media…, sound and image, voice and text are reduced to surface effects" (p. 1). He feared that "a total media link on a digital base will erase the very concept of medium" (p. 2). Chaffee and Metzger (2001) argued that concepts like "media content," "media audiences," "media effects," and other typical characteristics of mass media are no longer clearly identifiable objects of research and that therefore media studies are coming to an end. Clemens and Nash (2015) succinctly put it, "The age of media is over, for there is now only one medium; and one medium in no medium at all" (p. 11). What is to become of media studies, if there is no such thing as media?

Gitelman (2006), as media historian, opposes the thesis of the end of media. She claims that "the introduction of new media is never entirely revolutionary: new media are less points of epistemic rupture than they are socially embedded sites for the ongoing negotiation of meaning as such" (p. 6). Although it is indisputable that research into all forms of communication is proliferating and of great value, there is no reason why the "ongoing negotiation of meaning" needs the concept of media or the academic discourse of media studies in order to be adequately theorized. Perhaps as Foucault (1970) suggested for the human sciences, media studies are a passing episode in the self-reflection of society. Perhaps what is currently being talked about under the topic of "new media" is nothing other than the slow and painful evolution of a specifically modern academic discourse into something else, something that is searching for a foundation and a name of its own.[3]

Theoretical proposals for understanding the "ongoing negotiation of meaning," Gitelman's definition of media, without reliance on the basic concepts of media studies are seldom. One solution is to expand the conceptual horizon of media studies to all forms of cultural activity. Eva Horn (2008) admits that media studies "seem to lack a consensus about its field and/or its object of study" (p, 7).

> "Doors and mirrors, computers and gramophones, electricity and newspaper, television and telescopes, archives and automobiles, water and air, information and noise, numbers and calendars, images, writing, and voice – all this highly disparate objects and phenomena fall into media studies' purview." (pp. 7-8)

Horn's review of the state of the art in media studies reveals that "scholars today are caught by the impossibility of finding common ground for what they mean by *media*" (7), which means that media studies are "more a certain type of questioning than a discipline in itself" (8). She suggests, "media theory might not be a field in itself but rather a disciplinary crossover or a transdisciplinary pursuit" (p. 10). Following Siegert (1996) and Schüttpelz (2006) she notes that "media studies do not study media, but cultural techniques" (p. 12), which include "body techniques (such as cooking or hygenics), elementary cultural practices (such as cultivating the soil), and symbolic operations (such as writing, counting, or measuring" (p. 12). To what extent an academic discourse can continue to identify itself as media studies under these circumstances is highly questionable.

Another new and promising proposal has come from German scholars who attempt the precarious balance between media theory and a general theory of mediation based on actor-network theory. Under the title of *Akteur-Medien-Theorie* (Thielmann & Schüttpelz, 2014), these thinkers attempt to reformulate the program of media studies beyond assumptions of social or technical determinism. Media of all kinds cannot be adequately understood either as primarily social institutions that use technologies within regimes of power, nor primarily as technologies that dramatically change social relations. Instead, if one looks closely at what actually is going, if one "follows the actors," the complex

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[3] Of course, many names have been suggested: cyberculture studies, digital culture studies, information society, internet studies, Web studies, networked culture studies, computer mediated communication studies. See the discussion in Reed 2014, p. 24ff).

socio-technical-assemblages that make up what media studies investigate show themselves to consist of fragile alliances of many different kinds of actors, both human and non-human, who influence (act upon) each other and in this way "mediate" unforeseeable outcomes. The theoretical foundation for this approach lies in actor-network theory or ANT for short. Actor-network theory has earned wide acceptance in many areas of the social sciences, including media studies.[4] Bruno Latour (1993) claims that most of the traditional categories of modern social theory, including the theories informing media studies, whether liberal, Marxist, or poststructuralist are obsolete. Not because they have been surpassed by another "post"-school of thought, but because, as Latour (1993) provocatively puts it, "we have never been modern." Following the actors who participate in science and the development of technologies shows that the fundamental epistemological and ontological assumptions of modernity do not permit an adequate description of what actually goes on. In order to understand how human and non-human actors construct meaning by making associations ANT has developed a unique theoretical framework that claims to stand outside the what Latour calls the "constitution of modernity" (1993, pp. 13-15).

Replacing actor-network theory with actor-media theory (*Akteur-Medien-Theorie*) raises the question of whether exchanging the concept of "network" for the concept of "media" is methodologically and theoretically advantageous. At first glance, there would appear to be some problems on both levels. Empirically, the studies that have been grouped together under the title of actor-media theory (Thielmann & Schüttpelz, 2013) are not in any significant way distinguishable from any other ANT-inspired investigations of socio-technical assemblages. What traditionally has been identified as media dissolve into complex networks of associations among many different kinds of actors, both social and technical. For this reason, following the actors, for example in TV production settings, shows that there is no specific media institutions or media technologies. Heuristically, there seems little to be gained by putting media in the place of networks, or talking about "agencies" (*Agenturen)* (Schüttpelz, 2013, p. 13) instead of actors or actants. In all cases, we have to do with the associations of human and non-human actors in hybrid, heterogeneous assemblages. Why is ANT interesting for media studies, if it explicitly gives media no theoretically significant place? What "following the actors" reveals on the empirical level is that all actors in some way "mediate," that is, participate in associations, influence outcomes and processes. In ANT everything is in this sense media, which is why ANT, as often noted, does very well without the concept of "media."

This is also why Latour (1993) built ANT on an ontology of mediation. The principle of "irreduction" states that "nothing is, by itself, either reducible or irreducible to anything else" (p. 158). In other words, everything is a mediator, or being is mediation. If something appears to be subsumed under or contained within something else, then this is merely a black box that can in principle be opened up. If something seems entirely independent of associations as the ontology of substance supposes, this is an illusory effect of the kind of associations that are being created and maintained in a certain situation. The ontology of irreduction replaces the ontology of substance and consequently eliminates the possibility of the "in-between." If everything is always already in-between, and there is no other place to exist in, since being is relational, the ontological basis for identifiable entities whose function is to bridge the gaps between individuals disappears. Without an "in-between" there can be no mediation in the sense of the term that became foundational for media studies. There is no need for a special kind of entity, artefact, technology, or institution that transports information from one entity to another, whether it be writing, print, photography, audio/video recording, or broadcast. Networks are all there is. As we noted above, if everything is media, nothing is media. ANT can only with great difficulty be construed as a theory of media in the traditional sense of media studies. For this reason ANT tends to resist attempts to interpret mediation as a characteristic in any way specific to traditional media or identifiable apart from activities of mediation, that is, activities of networking.[5]

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[4] See as representative sample the articles in Engell & Siegert (2013). Also Grampp's title, „Die Akteur-Netzwerk-Theorie als neues Paradigma der Medientheorie" cited in Spöhrer (2014, p. 374). Following Schüttpelz (2013) Spöhrer locates the attractiveness of ANT for media studies in three points: the idea of agency as applicable symmetrically to humans and non-humans, the idea that media cannot be defined independently of their role in an actor-network, and finally, the fact that many empirical studies rely on methods and terminology of ANT.

[5] As Seier (2013) points out, "Eine Entgrenzung des Medienbegriffs, in der sämtliche Prozesse der Re- und Destabilisierung von Handlungsmacht als Mediatisierungsprozess erfasst werden können, erscheint – wenn auch epistemologisch mit Akteur-Netzwerk-Theorie machbar oder sogar naheliegend – aus der Sicht der Medienwissenschaft unbrauchbar" (p. 149).

In actor-media theory, the concept of "media" operates on two different levels or in two different senses. On the one hand, it carries the meaning of a specific kind of mediating entity in the usual sense of media studies.[6] On the other hand, the concept of media defines a general condition of being as fundamentally relational. According to Latour's ontology of irreduction, being is mediation and no actor participates in a chain of operations (i.e. network) without mediating, even if this is not apparent because of temporary black-boxing.[7] This double, if not contradictory, meaning of the concept of media in actor-media theory allows it to function as a bridge or "leverage point" (*Hebelpunkt*) (Schüttpelz, 2013, p.18) to move from a theory of networks characterized by actors who are always mediators to a theory of media in which only certain media-actors come to the fore. What is gained by replacing an admittedly confusing "network" concept with an equally equivocal, if not contradictory, concept of "media"? Apart from the obvious purpose of providing a much needed theoretical foundation for media studies, it can be asked if the proposal of an actor-media theory does not leave the questions currently disturbing the self-understanding of the discipline unanswered. What are media, when everything seems to be constantly mediating everything else in some way or another? What are media studies, when cultural techniques, that is, activities, processes, and fields that on the face of it have little to do with media can become an object of investigation under the title of media studies? Finally, to return to our starting point of the disruptive effect of digitalization on all forms of communication, what concepts of communication, association, and the construction of order and meaning are methodologically and heuristically useful in a digital world.

Perhaps we should not give up the idea of networks so quickly. The concept of "network" could be helpful after all. Networks are complex forms of associations and order in all domains of reality, physical, biological, and social, and can therefore claim universal scope in much the same way as the concept of "system," which founded a general systems theory.[8] At least since Castells (1996), theories of a "network society" have gained considerable acceptance. José van Dijck (2013), following Foucault's insight into the fundamental importance of norms in the construction of social order, analyzes media in terms of emerging norms. Norms influence the "ongoing negotiation of meaning" (Gitelman's definition of media), that is, all forms of association and construction of meaning. According to van Dijck new media, above all the so-called social media are a privileged access point for attempting to understand the present day "culture of connectivity." Within these broad cultural changes, "new norms for sociality and values of connectivity are not the outcome but the very *stakes* in the battle to conquer the vast new territory of connective media and its fertile grounds" (p. 20). If we follow van Dijck's suggestion, actor-networks can be investigated proceeding from the question of the norms that guide activities of mediating and not primarily based on a search, even when after the fact, for those artifacts and institutions that stand "in-between" actors and convey information in the traditional sense of media. As van Dijck puts it:

> "Normalization occurs detectably, through various levels of adjustments, including technology features and terms of use. But it mostly happens imperceptible, through gradual transformation of user habits and changing levels of acceptance." (van Dijck, 2013, p.19)

Concrete research into the norms emerging from practices of mediation in networks can also be a fruitful path for the future of media studies.[9] We therefore propose considering a reconstruction of media studies on the basis not of the concept of media, but on the basis of the concept of networking. Networking is the process of mediating. Studies based on networking attempt to describe how mediating is being done. Interaction, socialization, education, cooperation, organization, politics,

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[6] Schüttpelz (2013) proceeds from the typically ANT symmetry of humans and non-humans that are associated in "Operationsketten" (p. 15) in order to single out material, personal, as well as "medialen Verknüpfungen" (15) which can then become objects of media studies, since "alle technischen, aber auch alle sozialen Abläufe [sind] an ihre Medien gebunden." And he concludes, "Die Attraktivität einer solchen Analyse besteht darin, auf die Median in der modernen Welt und in allen ihren Tätigkeitsbereiche zu stossen, ohne sie von vorneherein aussortieren oder einsortieren zu müssen" (15).

[7] Schüttpelz admits, "das es wenig Sinn macht und oft auch kontraproduktiv ist, den Anteil ‚der Median' an der Verkettung von Handlungsinitiativen zu fixieren. Eine disjunktive Gliederung in materielle Techniken, Medien und Sozialbeziehungen und jede feste Grenzziehung zwischen materiellen, medialen und personalisierten Abläufen – eine Gegenüberstellung: das sind die Medien einer Organisation, das sind ihre materiellen Werkzeuge, und dort sind ihre Personen erweist sich für eine solche Darstellung nur als vorläufig, und sollte mit Misstrauen betrachtet werden" (15).

[8] See the discussion in Giessmann (2005) on networks as object of media studies, and in Krieger & Belliger (2014) on the concept of network compared to that of system.

[9] See Spöhrer (2014. p. 382): „Eine Medienwissenschaft der Zukunft wäre eine Wissenschaft von der Vermittlung, Vernetzung und der wechselseitigen Übersetzung von menschlichen wie nicht-menschlichen Akteuren gleichermassen."

science, technology, art, social order, and the construction of meaning in general are perhaps best understood as "modes" of networking. Artefacts, technologies, structures, and processes that we once identified as media can be thought of as "actors" among others in processes of mutual mediation. TV, newspapers, magazines, radio, ebooks, streaming services are all media entities, but so are any form of having a voice, of making a difference, and of coming to being in a network society. Networking is a process that is neither old or new, but constantly evolving, extending and retracting, flowing in many directions at once, and taking on unforeseeable forms. Does this mean that we need not speak about media at all any more? Is the very concept of media no longer useful? Perhaps the theory of the global network society could do without the concept of "media." Undoubtedly, the challenge coming from digitalization could be formulated in this way. If everything we can know and do is mediated by digital information and communication systems, there is nothing special or interesting about print, TV, film, radio, or anything else that can be identified as media. Behind every channel and – following McLuhan – every message, there is digital, networked communication. From this perspective, networking, not surprisingly, can be said to be the basic form of order in the network society. Networking need not be classified into micro or macro social levels, structure and agency, technologies, organizations, contents, products, or users. Doing away with these typically modern categories is recognized by all to be a desideratum. Instead, it might be helpful to speak of actors, translations, enrollments, programs of action, mediaries, and mediation as ANT proposes. The focus on networking implies a fundamental shift from entities to processes. As many valuable and important empirical studies illustrate, the concepts that ANT offers as replacements for modern categories can indeed be helpful for reconstructing media studies after the end of media. Nonetheless, the theoretical implications of a relational ontology such as ANT proposes for media studies are not yet clearly visible.

Latour himself is irritated by the leveling effect of ANT. If everything is an actor-network, and everything is mediation, how can individual areas of reality be identified and studied? What makes the description of networks into a description of law, science, politics, art, organizations, or religion? If there are only networks, then studying networks amounts to studying everything in the same way and "saying almost the *same thing* about all" (Latour 2013, p. 35), and thus overlooking what differences distinguish networks into science, law, religion, politics, art, etc. In keeping with ANT's critique of modernity, Latour claims,

> "…there is no such thing as the domain of Science, or Law, or Religion, or The Economy, but … there are indeed networks that *associate* – according to segments that are always new, and that only empirical investigation can discover – elements of practice that are borrowed from all the old domains and reattributed in a different way each time" (2013, p. 31).

Does this mean , however, that all we can talk about is networks? Latour the ethnologist cannot overlook that his informants constantly talk about other things than networks. They talk about science, law, religion, art, and many other things that for them at least are very important. The program of an "anthropology of the moderns" leads inevitably to a further development of ANT under the title of AIME (*An Inquiry into Modes of Existence*, 2013). AIME begins from the assumption that the concept of "network" must be understood in a double sense. In one sense of the term, networks are all the same. They are "composed in a heterogeneous fashion of unexpected elements revealed by the investigation" (p. 35). However, the term "network" can mean something else. Latour states clearly that "under the word 'network' we must be careful not to confuse what circulates *once everything is in place* with the *setups* involving the heterogeneous set of elements that allow circulation to occur" (p. 32). On the one hand, all networks are alike in that they are made up of associations among heterogeneous, hybrid actors. This is the setup. But once the network is up and running, what flows through it? Networks are different in that they solve different problems, have different trajectories, are guided by different conditions of truth and falsity, institute different beings, and follow different purposes and functions.

The distinction between connectivity and flow, that is, between networks as setups and networks according to what and how beings flow within them has led Latour to move beyond ANT to AIME. He asks, "Is there another system of coordinates that can replace the one we have lost, now that the modernist parenthesis is closing" (2013, p. 10). Instead of ontological monism, even of the relational kind, Latour proposes ontological pluralism. There is no being as such. Metaphysics is indeed dead. There are instead different modes of existence, or different beings, sometimes also called values.

Where ANT admonished us to follow the actors, we are admonished by AIME to "follow the various types of experience step-by-step, tracking down truth and falsity in each mode…" (p. 19). Interestingly, media and communication find no place in the current list of beings that AIME has compiled. Latour has discovered to date fifteen different modes of existence: reproduction, metamorphosis, habit, technology, fiction, reference, politics, law, religion, attachment, organization, morality, network, preposition, and double click.[10]

Nowhere are media to be found among the list of beings that the *Inquiry into Modes of Existence* has so far discovered. Even the concept of "communication" does not belong to the metalanguage of Latour's pluralistic ontology. It would seem that these basic concepts of modern social theory are subsumed under the ideas of "association" and "mediation" and thus not a suitable matter for differentiation into networks of their own. However, the list is not complete. The door is open. The inquiry into modes of existence is explicitly an "open source" project in which all can participate. It is BYOB; bring your own beings. But the threshold is high. The master himself does not make it easy to get through the door. In order to be acknowledged as a mode of existence, a network must have its own kind of crisis, hiatus, rupture, or breach, that is, there must be some reason, why actors make efforts to associate in a particular way. Furthermore, a network must have its own trajectory or direction of establishing continuity and jumping over the gaps. Legal associations are different from scientific associations, and these again are different from religious associations. Third, a network must also meet certain conditions of felicity or infelicity regarding what counts as "truth" for it. Quite obviously, legal truth conditions are different from religious, political, scientific, or artistic truth conditions. Fourth, networks "institute" beings of a certain mode and they do this for a certain purpose, function, or what Latour calls "alteration." If a mode of existence, or a being, cannot be identified by these criteria, then it has no place in the list of modes of existence that the AIME project is assembling. Despite these hurdles, we ask if media and communication do not demand to be considered as modes of existence in their own right. Can a future media studies be based upon communication and media as a specific mode of existence?

For readers familiar with Luhmann's theory of modernity as the differentiation of functional subsystems much of what Latour proposes in AIME will seem old hat, indeed, a step back into the ontology of domains that ANT so thoroughly disposed of. Whatever the relation between networks and systems might be, we plead for assessing AIME on its own terms. This implies subjecting media to the four question test that Latour has proposed for modes of existence.[11] It is important to note at this point that we are no longer talking about traditional mass media. When we try to walk through the door of AIME with media in our hands we do not take the newspaper with us, but the tablet. The first question we have to answer is whether or not media have their own problem, breach, disruption, or hiatus. All work, including networking, always begins with a job to do, a problem to be solved, a question to be answered. We suggest that media arise when connectivity and flow are disrupted, when spatial and temporal gaps block the flow of information in all forms. This does not require an ontology of substance. The gaps we are talking about are those between different programs of action and different setups. They are blockages of flow. The ontology of irreduction implies that existence or coming to be depends on attaining a voice of one's own, with the help of others of course, by which one can demonstrate what one can do. Disconnection, isolation, blockages of all kinds that hinder the associations and thus the recognition and acceptance of any entity could be considered the hiatus specific to media networks. This is what must be bridged if entities are to receive their own voice and appear in the world. This leads to the next question. What trajectory do media follow? Corresponding to the specific problem that gives rise to associations of the media sort, the trajectory of media is to connect actors, to enable flows of information of all kinds, and to guarantee the flexibility of networks by accommodating new voices and new actors. The trajectory of media can therefore be termed connectivity, flow, and flexibility. The next question concerns the specific conditions of truth that a network has. The specific conditions of felicity or infelicity in media can be found in values such as transparency, participation, and authenticity. Misrepresentation, exclusion, closed systems, barriers to access and use of media, all these things amount to negating media, acting against the inherent

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[10] See the table at the end of the book in which the fifteen different modes of existence together with their hiatus, trajectory, felicity and infelicity conditions, kinds of beings they institute as well as their alteration. See also the Website of the AIME project http://www.modesofexistence.org/ for an ongoing development of the inquiry involving many participants.
[11] We are interpreting in the following discussion the network norms that are described in Krieger & Belliger, 2014, from the point of view of AIME.

trajectory of media. A final question must be answered if something is to be acknowledged as a mode of existence in its own right. What beings does a network institute? What specific kinds of beings do media institute? The mode of existence that arise in media networks might be thought of as actors, actants, or agents of all kinds, in general mediators. These beings are, of course, in all networks. There are actors in legal, scientific, religious, political, artistic, and legal networks. But where actors are, there are media as well. The tension we noted above in the concept of media between a general condition of the construction of meaning on the one hand and a specific technology, institution, or practice on the other surfaces within AIME as the question of the specific mode of being of media. In AIME there is no question of going back to the ontological and epistemological domains of modernity. If something is everything, this does not imply that it is nothing. Quite the opposite. Only if media are everything, do media become something, namely, a specific mode of existence that characterize a network with its own "alteration," its own function and purpose. What then are the specific beings that flow through the media network? And what is the purpose of media?

We propose considering the specific being of mediation under the regime of the digital to be "information." Information has come to the fore in discussions of being with regard to digital media. Information has a being of its own that is neither matter nor energy, as Norbert Wiener put it. Information is not data. Information is instituted the moment data are communicated. Communication enables a difference to make a difference. Communication is inscription and interpretation. Communication can be considered the specific "alteration" of media networks, that is, the specific kind of movement of information from one form to another. In science, for example, this happens by means of immutable mobiles and chains of reference. The alteration of networks of "fiction" is to "multiply worlds" (Latour, 2013, pp. 233-258). The specific purpose of "politics" is to "circumscribe and regroup" (pp. 327-356). Legal networks are designed to "ensure the continuity of actions and actors" (pp. 357-380). Organizations "change the size or extension of frames" (pp. 381-412). What about media? Communication opens up a "socio-sphere" in which the construction of meaning follows "network norms" that tend to give every actor a voice of their own.[12] As all forms of agency in the digital age are inscripted in information, it becomes increasingly difficult to overlook, disguise, forget, or suppress what an actor does and can do (performance and competence). On the contrary, we find ourselves fighting in the courts for a right to forget. At the same time, informational actors break out of their silos and enter into unforeseeable associations of their own. Following these actors and their many different transformations, translations, enrollments, and programs is a task for which ANT has well prepared us. Despite Latour's claims to have left ANT behind, for AIME networks are everywhere. Networks are that mode of being whose purpose is to "extend" associations" (pp. 47-68). And which network, despite its specific mode of being, does not do this? The study of how associations are made and extended such that information is instituted for the sake of communication, which opens up the socio-sphere, could become a program for media studies. Understanding media as a mode of existence and investigating their mode of being in the world of networks might prove to be useful for theorizing media studies after the end of media.

Andréa Belliger & David J. Krieger
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[12] See Krieger & Belliger, 2014, pp. 157-159 for a discussion of the concept "socio-sphere. "

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