‘Network Subjectivity’ in the Digital Condition: Three Theoretical Envisionings

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Abstract There are currently various academic accounts of contemporary sociality. While the concept of the ‘digital condition’ seems to lend itself to a cultural interpretation, those of ‘informationalism’ and ‘postsociality’ may be appropriate for describing, from a sociological perspective, specific phenomena of changes to sociality in the digital condition. The emergence of the term ‘knowledge economy’ appears to invite an intersection of cultural and sociological perspectives and proceeding from this starting point, this chapter identifies the shared parameters of these perspectives in relation to the conditions of subjectivity, of high relevance to education, in a networked, media-driven society. The work underlying the chapter

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examines these issues via the metaphor of ‘network subjectivity’, employing the findings of an empirical study, theory of government, and psychoanalysis.

Keywords Digitisation • Digital culture • Network society • Postsocial • Subjectivity

Post-structuralist approaches, particularly that of Michel Foucault, have become strongly influential in the exploration of socially mediated subjectivity in education studies within the last two decades. From this perspective, theories of subjectivity that rely on traditions influenced by transcendental philosophy or the philosophy of consciousness have come in for particular criticism (see, for example, the contributions in Cramer et al., 1990). More recent analyses of subjectivity tend to take a sociophilosophical or cultural starting point (cf. Reckwitz, 2008, pp. 18, 120). Losing its previous status as a transcendental, monadic-autonomous figure of thought with universal implications, the subject now appears as the result of power-shaped processes of subjectivation “under specific socio-cultural conditions” (ibid., p. 10). This said, sociology and education studies have not abandoned the concepts of subjectivity and subjectivation, indeed revisiting them in multiple variations (see Alkemeyer et al., 2018). Following Ricken et al. (2019, p. 7), these concepts appear to possess the capacity to enable empirical and analytical researchers to swerve previously dominant dichotomies (such as that between active control and passive submission) and rethink processes of social and cultural genesis and hence the traditional concepts of education and *Bildung*. In this respect, the analysis of the “entrepreneurial self” (Bröckling, 2016) as one of the currently dominant forms of subjectivity has received great attention.

Rather than following Bröckling’s focus on ‘governmentality’, with its identification of “programmes” (ibid., p. 12) and “regimes” (ibid., p. 13) of subjectification, this chapter seeks to pinpoint conceptions of subjectivity that are useful in the present age. In its exploration of ways of conceiving of and describing subjectivity in the digital condition, or, putting it differently, the digital culture, it notes the currently increasing use of the category of the ‘network’ in social theory and theories of subjectivation alike. I argue that this category could well prove productive in illuminating both the specifics of a particular sociality and one possible form of subjectivity within the digital condition.

I will commence my argument with two proposals on conceptualising society in the digital condition: the recent work by Felix Stalder from a cultural studies perspective, and the sociologically oriented account of the 'postsocial' put forward by Karin Knorr Cetina, which points towards some characteristics of an 'object-centered subjectivity'. The subsequent section of the chapter, proceeding from both theorists' use of the 'network' metaphor, will outline three approaches which also use this image to characterise the changes that subjectivity experiences within the digital condition.

1 THE DIGITAL CONDITION AND THE NETWORK AS THE 'SOCIAL MORPHOLOGY OF THE PRESENT AGE'

The terms 'digitalisation' and 'digitisation' currently serve to encompass sweeping social and societal changes and simultaneously reduce them, and the associated challenges, fundamentally to a technological common denominator. In response to a search query for the period 2015–2020 (made on 5 June 2020), Google Scholar lists approximately 4400 findings with the keyword 'digitalization' (1100 for 'digitalisation') in the title and around 45,600 (17,000) findings with this keyword in the text. 'Digitization' returns 3300 (630 for 'digitisation') results in titles and 52,400 (18,200 for 'digitisation') in texts. Most book titles—for both keywords—revolve around the changes to business and work brought about by digital information and communication technologies (ICT) or by the use of artificial intelligence (AI), i.e. learning algorithms. In the German-language discourse, 'digitalisation' or 'digitisation'—as the relatively hermetic concept *Digitalisierung*—has increasingly been appearing in the context of pedagogy and education studies, alongside other disciplines. The American Education Resources Information Center (ERIC), however, reports only 14 title hits for 'digitalization' (7 for 'digitalisation'), 55 for 'digitization' (15 for 'digitisation') and 77 (46) and 290 (55) keyword-based results respectively. This points to a distinct diversity of forms and collocations for the term in English. Indeed, changing the search term to 'digital' and rerunning the ERIC search returns approximately 6500 title- and 18,400 keyword-containing publications. The findings for the keywords "digital condition" and "digitality" contrast starkly, with very low hit rates (under 100) in both English- and German-language databases.¹ It is evident that these new discursive buzzwords cannot yet

claim the same relevance in broader discourse as they have attained in academic disciplines such as media and cultural studies. *The Digital Condition* is a book, first published in English in 2018 and tackling its subject from a cultural studies perspective, by Felix Stalder,² who works “as a professor of digital culture and network theories at the Zurich University of the Arts and as an independent researcher/organizer with groups such as the Institute for New Cultural Technologies (t0) and the technopolitics group in Vienna” (<http://felix.openflows.com/node/4>). His account of the “digital condition” (i.e. digitality) distinguishes it as a cultural quality from “digitalization”, which he associates with specific technological developments (such as the transformation of the materiality of objects by scanning; see Stalder, 2018, p. 61). The book defines the digital condition as a phenomenon that “has become quotidian and dominant. It forms a cultural constellation that determines all areas of life, and its characteristic features are clearly recognizable” (ibid., p. 57). Stalder dates the beginnings of digital culture back to nineteenth-century processes of social change (ibid., p. 41). This line of argument reverses the relevance of the technological processes of digitisation to current social changes, suggesting that it is not the invention of digital technologies or the expansion of the internet that has driven these transformations, but rather separate cultural developments that have begun to intertwine with these technologies. One of the book’s fundamental theses is that cultural and social processes—as specific structures of knowledge and action—always precede technological processes and embed these within them.

Stalder pinpoints one of the digital condition’s cultural and social sources in the erosion of patriarchal, heteronormative power relations in the course of the twentieth century’s new social movements, exemplified in the development of the gay rights movement in the Federal Republic of Germany since 1969 (cf. ibid., p. 23). He further identifies post-colonialism, with its tendency towards the increasing fluidity of collective identities and towards an emphasis on hybridity, as a complement to and amplifier of the digital condition (cf. ibid., p. 33). Third, and most significantly in relation to sociological theories, Stalder traces the expansion of the knowledge economy beginning in the early 1950s, the concomitant emergence of the consumer society from the 1960s, and the rise of flexibility in labour and terms of employment in the 1970s (cf. ibid., p. 13). Ultimately, a close connection appeared between this flexibility and technological digitisation when, around the turn of the millennium, the internet became a mass medium and the creative industries evolved into a political agenda.

The upshot of this structural change in economics and labour, manifesting through the interaction of these three lines of cultural development, has been that the social basis of cultural production expanded and gained in heterogeneity, insofar as previously excluded social groups developed their own language and began to take their part in these discourses. Alongside this is the multiplication of those directly engaged in cultural production (cf. *ibid.*, p. 12). This description of what constitutes digital culture, or the digital condition, must also encompass the effects wrought by the processes of culturalisation of the economy and of the economisation and technologisation of the world (cf. *ibid.*, p. 35): Advertising and sales promotion imbues specific 'lifestyle' products with the alleged power to transform the consumer's living environment into a distinct "experiential world", and their slogans migrate into everyday communication as personal life mottos. Digitisation, networking and new communication technologies turn consumers into self-producers, self-designers. They also generate new practices and methods relating to "how people orient themselves and act in this changed informational environment", as Stalder points out in an interview for *First Monday* (<https://firstmonday.org/ojs/index.php/fm/article/view/9409/7574>). Referentiality, community and algorithmicity as three cultural forms characterising the digital condition simultaneously bring into being shared patterns of the creation of meaning and orientation, manifest in activities—such as tweeting and retweeting, sharing and liking—that channel the individual's attention by "filtering certain things out of the chaotic information sphere" (*ibid.*) and establish a communality, undergirded by prearranged algorithmic processes.

My reading of Stalder's analysis locates it primarily in the concept of the knowledge economy, in which it holds common ground with sociological studies; this leads to the emergence of points of contact with sociological accounts of contemporary society. Stalder's borrowings from sociological considerations presumably stem from his engagement with the work of the sociologist Manuel Castells (2010),³ whose thesis of the "rise of the network society" Stalder takes up in *The Digital Condition*. Stalder (2018, p. 53) identifies one of the hallmarks of digital culture in the new space for networks created by digital technologies, an area located between the institutional or public space and the private or personal space, and constituted by digital communication. It is in this context that he explicitly endorses Castells' assertion that "[n]etworks constitute the new social morphology of our societies" (Castells, 2010, p. 500).⁴

2 POSTSOCIALITY AND SUBJECTIVITY MEDIATED VIA OBJECTS

Alongside and antecedent to Stalder's analysis of contemporary digitality, sociological studies have also taken the knowledge economy as a starting point, following older discussions around the notion of a knowledge society. Karin Knorr Cetina, a sociologist of knowledge, uses the term of the "postsocial", fusing the concept's sociological dimension with an element drawing on social psychology, to characterise the contemporary changes in forms of society and sociality in globalised information societies. The "postsocial" signifies a sociality that no longer revolves around human beings and human interactions, but instead consists in the interconnection of a material, technological and informational dimension which embraces the partial replacement of humans by objects and generates an "object-centered sociality as a social form that constitutes something like the reverse side of the coin of the contemporary experience of individualization" (Knorr Cetina, 1997, p. 9). We see here that the starting point of her sociological description of subjectivity, drawing on the characteristics of the digital culture (Stalder) and the conditions of informationalism (as Castells put it), lies, as do Stalder's and Castells', in a social theory. In her outlines of social relations in a "postsocial knowledge society" (ibid., p. 25), Knorr Cetina (2005, p. 588) assumes that, to subjects, contemporary society manifests itself primarily as a mirror of a "media, image, and knowledge culture". This assertion encompasses at least two basic implications. First, it presupposes that there is value for the temporally specific analysis of society in theories of subject genesis such as that of the 'mirror stage' proposed by the psychoanalyst Jacques Lacan, who ascribes key significance to the initiation of a sense of the self as a distinct entity in the child's self-recognition in a mirror. Second, it discounts as invalid the idea of a society in which subjectivity is primarily constituted by (human) intersubjectivity, as in the role theory of the interactionist George Herbert Mead.⁵ The act of refocusing implied in an acceptance of these premises brings a decisive shift into view as to what we regard as the preconditions of society; Knorr Cetina uses the term "postsocial" for this new dispensation, similarly noting and illuminating the associated changes in the preconditions of subjectivity. She observes that object worlds and technical infrastructures have expanded massively within the social sphere, which also means that "objects displace human beings as relationship partners and embedding environments, or [...] increasingly mediate human

relationships, making the latter dependent upon the former" (Knorr Cetina, 2005, p. 586). This analysis strikes a chord in light, *inter alia*, of the prevalence of digital technologies in our present-day communication, such as chatbots in customer services and, of course, the proliferation of email and messenger services in everyday communication across the globe.

Historically, this development has gone hand in hand with a rise in individualisation, which has precipitated the dissolution of previously dominant complex systems of social organisation in favour of networks incorporating the "socially unrelated members of the population" (*ibid.*, p. 588). We therefore find ourselves required to identify new means of analysing these "alternative forms of binding self and other, changes in the structure of the self that accommodates these forms, and forms of social imagination that subordinate sociality to new promises and concerns" (*ibid.*), which, in the context of this chapter, means the structure and the promises of network subjectivity. Knorr Cetina finds in Lacan's mirror stage a model for an object-centred self that is mediated through objects or technologies rather than through human interaction. She places emphasis on the libidinal dimension of interacting with things and, above all, with what she terms "knowledge objects", ascribing a central role to the auto-affection of subjects in their interaction with things and objects, a phenomenon perhaps best understood via Lacan's model of the dynamics of lack and desire established in the mirror stage (cf. Knorr Cetina, 1997, p. 14).⁶ The mirror stage describes the concept of desire, i.e. a permanent striving for wish fulfilment, in view of a constitutive lack or withdrawal of this fulfilment, in a manner similar to how the small child sees itself in the mirror as a whole, which clashes with its self-experience as incompetent. In adults, the 'perfect' other can be understood as a foil of the self's own desire. The constitutive lacuna between the other as the idealised self and the self's own lifelong experience of new imperfections manifests itself in a dynamic of desire: The construction and deconstruction of desired objects as soon as they are partially achieved generates a perpetual motion (see also Mayer & Schenk, 2018).

Knorr Cetina's harnessing of this model for the definition of a postsocial form of self-formation highlights the self's permanent motivation to expand its own emotional life and desire through auto-affection, rendering it suited to a society in which the "the mirror is exteriorized in a media, image, and knowledge culture", with its "professional image industries that project images and stage 'wholeness'" (Knorr Cetina, 2005, p. 588). Stalder has analysed this close intertwining of subjects

with material consumption and the culture industry as an interrelationship between the culturalisation of the economy and the economisation of culture. Along similar lines, Knorr Cetina defines the postsocial subject as part of a culture that “is centered on material, technological, and informational processes” (ibid., p. 590). In the object worlds of the culture industry, auto-affection becomes attached to objects outside the self and emotional bonds and relationships arise that overlap with, if not replace, social bonds and their significance.

In what follows, I will argue that the concept of the network encapsulates the conditions under which subjectivity comes to be in a postsocial digital culture. Knorr Cetina (2005, p. 587) asserts that in the postsocial phase, “complex organizations are dissolved into networks”; the declining significance of overarching social structures and relationships is in inverse proportion to the ascendancy of individuals’ networking activities, carried by information and communication technologies (ICT) whose primary orientations are typically towards things or objects (such as other technologies) rather than people. She argues that particularly in contexts of knowledge-based work or in the structuring of everyday life via technology, interaction with these objects creates a relationality of reciprocal claims—to attention, focus and interaction, for example—between objects and subjects, and draws the subject in auto-affectively. Knorr Cetina (ibid., p. 589) proposes the term “interspecies reciprocity” as a point of access to this relationality.⁷

3 SUBJECTIVITY IN THE DIGITAL CULTURE OF THE ‘NETWORK SOCIETY’

The rise of network theories corresponds to the increasing prominence of the phenomenon of the network “in people’s everyday practices” (Jörissen, 2016, p. 231). The sociologist Manuel Castells (2010) was one of the early proponents of the term “network society”, having devoted extensive analysis to the idea in 1996, at the beginning of the internet’s emergence into public life. While Stalder sees the ‘digital condition’ as rooted in cybernetics, Castells (2010, p. 21) uses “informationalism” as the organising principle of his analysis of contemporary society, with the “network” appearing as a concept describing the results of his observations. Castells (ibid., pp. 3, 22) contrasts the network with the (individual and collective) self and therefore does not use this term for the analysis of subjectivity in

the condition of informationalism (see also Nollmann, 2011, p. 638). One of the factors inhibiting a transfer of the concept of the network to the level of subjectivity is the fundamentally technical and material nature, within Castells' theoretical framework, of the "networking logic" (Castells, 2010, p. 52) embodied by the internet. From a sociological perspective, then, we can conceive of the network as a "structural feature of contemporary societies" (Holzer, 2006, p. 6). Further, the empirical continuations of Castells' proposal of the network as "a new dominant structure" (Winter, 2010, p. 29) emerging from cultural studies do not go as far as to apply this proposition to subjects themselves. Rainer Winter, for example, assumes that the decentralised structures of digital media are reflected in the network-like organisational form of social movements (*ibid.*, p. 65), and not in the structures of networking subjectivities themselves. Consequently, he limits the range of the network metaphor to the sphere of collective dynamics, excluding forms of subjectivity from its reach.

By contrast with these apparent limitations, Castells (2010, p. 70) himself develops the "morphology of the network" (as defined by Kelly) from the idea of "the convergence between the evolutionary topology of living matter, the open-ended nature of an increasingly complex society, and the interactive logic of new information technologies". This evident capacity of the network to connect disparate phenomena might suggest to us that the concept's use in explorations of the formation of subjectivity in the digital condition, informationalism or postsociality is no random choice. In contrast to its function in social theory as a term in the critical analysis of our time, the network appears in explorations of subjectivation as more of a heuristic and metaphorical term.⁸

What follows will outline three such explorations on an exemplary basis. Their divergent theoretical contexts notwithstanding, they share a centring of technically or materially mediated practices, processes or infrastructures and a concern with their description rather than a primary focus on a large-scale framework of social theory such as the "network society". They also share a critical perspective, which appears explicitly in the observation by Paulitz (2005, pp. 11, 268) that both the instrumentalising and rationalising view of the network's *use* and the restrictive, overly pedagogically imbued view of its *effects* fall short in terms of understanding the interactions that produce a 'network subjectivity'. Raising the question of subjectivity in analogy to the network metaphor in the digital condition thus links both "the current formation of everyday culture in increasingly networked relationships" and the effects of that culture's transformation

through “the shift in media worlds associated with digitalisation” (Hepp, 2010, p. 230).⁹ Although none of these three approaches explicitly uses the term ‘network subjectivity’, I propose that it has the capacity to encompass shared features of all three, and therefore intend in what follows to put it forward as an umbrella term covering one possible form of subjectivity in the digital condition, to which the examples I will now discuss each contribute.¹⁰

Network Subjectivities as Intersections of Hyper-Linked “Nodes and Lines”, both Multidimensional and Partial (Paulitz)

The sociologist Tanja Paulitz (2005, p. 28) proceeds from “open interpretations of the image of the net/network [*Netz*] as a diagnostic term for (current) processes of social transformation”.¹¹ Her empirical study of two research projects in the fields of e-learning and Computer Supported Collaborative Work (CSCW) analysed documents, such as presentations, minutes and working papers, and expert interviews and produced findings to which she applies the collective designation “net/work subjectivity/ies [*Netzsubjektivität/en*]”. Her use of *Netz* is explicitly as a “metaphor” (ibid., p. 23); she criticises what she perceives as its contemporary function as a “homogeneous principle for explaining the world” (ibid., p. 24) which suggests the possibility of direct access to subject areas which are supposed to be similar, but are in fact different and divergent. The pluralisation of “net/work subjectivities” seeks to resist this pull towards homogeneity.

From a methodological point of view, such “net/work subjectivities” are constructs drawn by Paulitz from her interpretations of the materials she analysed, which come about as the “result of a cultural and social practice (of designation)” (ibid., p. 13) on the part of the interviewees. In what follows, I will argue in favour of going beyond Paulitz’ approach here by distinguishing two concepts: the eponymous ‘net/work subjectivities’ and the concept of ‘networked subjectivity’. Paulitz’ analysis of “net/work subjectivities” explicitly opposes a dualistic juxtaposition of subjectivity and the net/work as found in instrumental concepts of “net use” which often entail pedagogical discourses of opportunity and risk (see ibid., p. 11). It is in this rejection of dualism that I perceive the ultimately fruitful insight of her study, and I second this perspective in this chapter. Such instrumental discourses, however, are often everyday in nature, and do not necessarily appear in connection with an “enlightened

concept of the subject” or a “model of repressive power” (ibid., p. 12), as Paulitz suspects them to do. In reinterpreting her material, I identify it partly as a collection of instances of “networked subjectivity”, i.e. the dualism of subjectivity and the net/work, particularly when she elaborates on subjects in interaction with their virtual workspaces. Paulitz asserts that “actors who engage with media” (ibid., p. 245) bring their sensory perceptions, their “physical materiality and their personal complexity” (ibid., p. 246) into play against the virtual workspaces, even perceiving themselves as “exposed to the risks of control and functional appropriation” concomitant to this interaction (ibid.). Paulitz herself speaks of “networked subjectivity” (ibid., p. 245) in this context and adjoins it as one dimension of net/work subjectivities. Instead, I propose to link this concept with the juxtaposition of subjectivity and the network and distinguish it from the concept of “net/work subjectivities”, despite Paulitz’ evaluation of the two concepts as synonymous. The primary thrust of the idea of “net/work subjectivities”, in my view, is towards an interwovenness of subjectivity and the net/work. Paulitz identifies this as taking place in the interviews she analyses via the interpretation of social and technical processes using the same descriptive categories, resulting in accounts, for instance, of the computer as a colleague. We witness the description of information technologies “in categories of the social” (ibid., p. 250); computers connected via the internet can, for example, represent a “‘society’ of heterogeneous actors who communicate with one another worldwide using common ‘languages’” (ibid., p. 250). Analogously, their ‘networking capability’ (as a technical component) appears as social potential within communicative processes. The converse instance is that of depicting social processes in terms of informational structures, describing them, for instance, via a model of “nodes and lines”¹² or in accordance with the “pattern of hyperlink procedures on the web” (ibid., p. 255). With regard to the structural logic of “net/work subjectivities”, Paulitz perceives “a reciprocal productivity between the refiguration of the technical as a social context and the refocusing of social interaction as a (technical) functional entity.” (ibid., p. 265)

The notion of “nodes and lines” as a vision of cooperative collaboration in the virtual workspace takes on a central role (cf. ibid., p. 204). The platform emerges as a space in which, via meta-information, technical and non-technical actors (files, people, projects, messages) appear as “nodes” and in which hyperlinks enable their interactive and communicative interlinking or interrelation as “lines”. This analysis identifies a

multidimensional quality of network subjectivities: “Every element in the virtual workspace becomes multidimensional in principle, a multiplied ‘node’, which is linked to others multiple times and in multiple perspectives via ‘lines’” (ibid., p. 205) and “can be represented in space in multiple ways” (ibid., p. 208). At the same time, these network subjectivities, conceived as nodes, remain partial, because the cooperation process only engages a partial function and perspective pertaining to them; here, again, the plurality of the “net/work subjectivity/ies” is in evidence:

For (human) subjectivity in particular, this means that on the one hand it appears as a point of intersection and aggregation of multiple linkages, which, for example, can be largely condensed into one point in the database entry. If, however, we take this to its logical consequence, a concept of this kind implies the fragmentation of subjectivity into a multi-layered configuration of distinct relationships. (ibid., p. 256)

Accordingly, “subjectivity” in the digital condition means the interweaving of technical and non-technical actors to form “net/work subjectivities”, which we might describe as “pluralised linkages” (ibid., p. 266). As such, it appears as a fragmented plural, reflecting multiple different loci, morphological forms, or perspectives, rather than as a singular unit. As “nodes”, network subjectivities are variably integrated into the open and expandable reference structure of the network and are just as flexible as the relational “lines” that interlink them. They therefore effectively consist in intersections; we may conceive of them in analogy to “the basic principles of the internet service World Wide Web” (ibid., p. 265), which enables “the bringing together of dimensions without centring and standardisation” (ibid., p. 266).

Alongside this, Paulitz draws our attention to another aspect of network subjectivity in digital culture. The practice of network formation, understood as “constructive processes of networking” (ibid., p. 209), is another locus of overlap between technology and sociality/subjectivity. The interviewees conceive of the cooperation of partners in a project and the advancement of their qualifications as co-constructions which complete the technical construction of the network structure (cf. ibid., p. 258). These practices, producing the net/work as “technologies of networking”, are “ultimately anchored in subjective self-relationships”; accordingly, Paulitz calls upon Foucault here in perceiving net/work subjectivities

as “technologies of the social self” (ibid., pp. 20, 269). This framing of the findings from a governmental perspective disrupts her ethnographic researcher’s point of view, but it simultaneously enhances the concept of network subjectivity by adding a processual component. From this point of view, the digital condition itself consists of incessant practices of networking, that is, the creation of networks.

We will again encounter this simultaneity of result and process in the definition of network subjectivity (cf. ibid., pp. 260, 268) in the two approaches I will go on to discuss, which likewise connect technical and non-technical actors. Tanja Paulitz’s ethnographic study thus provides resonant points of reference for the capacity of the concept of ‘network subjectivity’ to help us approach digital culture. My reading of Paulitz’ work is that it primarily draws attention to the extent to which digital technologies have become integral to everyday life, including to subjects’ communicative self-concepts. One question remains open regarding Paulitz’ research design. She professes her interest in avoiding a homogeneous representation of the various “net/work subjectivities”. However, having examined two different projects, she ultimately pulls her findings together under one overarching concept of “net/work subjectivity/ies”. It might have been more consistent, in the light of Paulitz’ objective, to have distinguished specific conceptions of “net/work subjectivity/ies”; the use of the plural, however, goes some way towards resisting any tendency towards homogeneity.

Network Subjectivity as Affect-Based, Object-Mediated Collectivity or Agencement (Wiedemann)

While the governmentality framing, which Paulitz adds to her empirical analysis of network subjectivity in digital culture, serves rather as an outlook, the approach taken by the journalist Carolin Wiedemann in her doctoral thesis of 2016 draws explicitly on Michel Foucault, whose account of power is currently of considerably greater centrality in education studies; this referentiality to his work therefore invites us to engage more closely. Supplementing Foucault’s philosophy with that of Gilles Deleuze, Wiedemann’s analysis of the “Anonymous” collective, a decentralised international association of ‘hacktivists’ that rose to notable prominence in 2010 in connection with its “Operation Payback” to support Wikileaks, conceives of this grouping as an instance of affect-based, object-mediated, interactive collectivity.

Wiedemann, alongside her interest in Foucault's "search for new forms of subjectivity" (Wiedemann, 2016, p. 36), perceives Deleuze's concept of *agencement* (agency) as a neo-materialistic refinement of Foucault's power analysis based on interactivity (cf. *ibid.*, p. 38).¹³ Attempting to understand the interaction "of various variables involved in Anonymous and their collectivisation as the emergence of a common *agency*" (*ibid.*, p. 40; italics in original), she terms this phenomenon/process "subjectivity" or "subject" (*ibid.*, p. 184), which leads me to read her contributions as a response to Foucault's search for a new subjectivity that appears in this instance as a "collectivity" that does not fit conventional concepts of "collective identity" (*ibid.*, pp. 50, 117, 147).¹⁴ Read this way, Wiedemann's analysis of Anonymous, the hacker collective that is impossible to pin down, might contribute to our understanding both of a "new form of collectivity" (*ibid.*, p. 41) and of a new type of 'network subjectivity' in digital culture.¹⁵

In the term "collectivity", the multiplicity inherent to "interspecies reciprocity" (Knorr Cetina, 2005, p. 589)—a technology-based, interactive component of this form of subjectivity that Wiedemann (2016, p. 201) calls "intraactions" (Barad)—is more explicit than in the plural "net/work subjectivities" of Paulitz' analysis. Paulitz and Wiedemann would agree, however, that technical and humanoid actors no longer merely interact, but, potentially at least, move together to form the singular of a new manifestation of subjectivity or, put differently, agency. The specific characteristic of Anonymous' form of collectivity lies in the unpredictable cooperation it embodies, "which has no purpose beyond the spontaneous experience of collectivity in the sense of a shared efficacy, beyond the pleasure of creating together—and which would not exist without the internet" (*ibid.*, p. 14). In concluding that the Anonymous phenomenon remains as mobile as the ICT-generated network structures of social media communications themselves, Wiedemann, like Paulitz, suggests that the subjective and the technical-material sides of this collectivity's network-like form are essentially of the same stuff.

Again like Paulitz, Wiedemann pays close attention to the processuality of what takes place as Anonymous continuously constitutes itself. As discussed above, Knorr Cetina had located the impulsive moment of this incessant process in the Lacanian dynamic of lack and desire—and, as I will go on to explore, Torsten Meyer places it in the concept of the Borromean link that links the real, the imaginary and the symbolic. Paulitz, by contrast, sees this process as unfolding in a correspondence of societal and

subject-related forces which she encapsulates in Foucault's term "technology of the self". Returning to Wiedemann, I note that she gives two interpretations of the processual dynamic of this collective agency as a "force". In the first of these, following Foucault, she refers to the subjectivating "force field" (ibid., p. 22) of power in the biopolitical control society, which is coupled with self-management. This governmentality-based framing exposes more explicitly the links between subjectivity and, first, more historical perspectives on changes in the conditions of production, alongside, second, the current discourse around the "economisation of the social" (ibid., p. 23). These references were fundamental to Castells' analysis and also gained relevance to the digital condition in Stalder's citation of the knowledge economy. The second interpretation of the processual dynamic of collective agency utilises Deleuze's moment of "affection, from which the transformational forces within an *agencement* emanate" (ibid., p. 38, italics added). The concept of *agencement* ("agency"; in German the term is *Gefüge*) denotes and encompasses the specific form of a collectivity acting together as a subjectivity, but not bound to a single human subject: "The concept of *agencement* enables the theorisation of subversion beyond processes of subjectivation and reference to forms of interaction beyond only interpersonal interactions, which are based on processes of non-linear reciprocal affecting and being-affected" (ibid., p. 38, italics added). Wiedemann concedes that such states of affectedness also arise through auto-affection (as proposed by Knorr Cetina). We nevertheless note, proceeding from a neo-materialist perspective (as in the actor-network theory advanced by Bruno Latour, and also in the approaches of Karen Barad and Gilles Deleuze), that this affectedness is detached from specific subjects and bound to forces that circulate as a responsive phenomenon between (material) bodies or materialities (cf. ibid., pp. 149, 218, 242). This linkage process of emerging *agencement*/agency sustained by the moment of affection appears as a crucial component of the transformation implicated in *agencement*, or as the swarm-forming "force of affects" (ibid., p. 111) unleashed by networking logics. Affects therefore institute the collectivisation of individual elements into a swarm (ibid., p. 116).

Agencement/agency likewise conceives of technical media via which networking takes place "as actors in the process of becoming different and collective" (ibid., pp. 58, 122). This view includes infrastructural "levels of solidification and crystallisation, for example of algorithmic codes" (ibid., p. 38) as parts of this process, part of the concrete expression, form

and visibility of the collective agency of Anonymous, thus structuring “the interplay of cultural practices and technical infrastructure” (ibid., p. 123). I perceive the emergence here of an incipient, temporary collective network subjectivity. The ‘birthplace’ of the Anonymous phenomenon—the message board of the social network 4chan, its anonymous users, their conversations and/or memes, and the rhizome-like structured collectivity coming forth from their interactions—temporarily become a collectively acting “subject” and form (to speak with Massumi) a network via “reciprocal affects” (ibid., p. 189).

Wiedemann’s analysis of Anonymous proceeds beyond the purely digital space, pointing to intertwinements between online and offline activities and swarm-like phenomena of assembly such as Occupy and flashmobs (cf. ibid., p. 147), planned digitally and carried out in the real world, then returned to the digital sphere via documentation, sharing and storage, there to influence further real-world actions—a continuous, reciprocal passing of action between the spheres. In this context, she goes as far as to refer to a “swarm network” (ibid., p. 162). The appeal of her account to the analysis of subjectivation processes in the digital condition/the informational network society is twofold: First, the metaphor of the network may help conceptualise technical media and human individuals as collective actor-subjects, as an *agencement*; second, Wiedemann’s interconnection of online and offline processes may offer a description of network subjectivity as a collective structure.

I conclude this section by noting an unanswered question as to the “forces of affects” with their capacity to form collectivities. Wiedemann asserts that affirmations establish the cohesive ‘power’ of the logic of networking and thus form the *agencement*, the interaction of Anonymous as a technical/humanoid collective-subject. The affectivity of human individuals, however, is bound to a sphere of bodily presences defined by visual, acoustic, and tactile phenomena. It does not seem quite clear to me how mutual affections, thus detached from subjects, can enter into a sphere of interaction and communication mediated by technical systems and governed by completely different systems of signs, be they constituted of meaning or code. How can we present a coherent idea of an affection of *agencements* as an in between that does not ultimately re-disintegrate into the distinct entities of the acting human being and the executing technical infrastructure?

The Network sujet as a Borromean Link (Meyer)

Knorr Cetina's work demonstrates that the metaphor of the network may exercise notable appeal to psychoanalytical models of subjectivity. Torsten Meyer is another theorist who eventually engages with psychoanalytical paradigms in this context. He initially embarks on his recent analysis of the "network *sujet*" (French, "network subject") from a perspective informed by art and media theory and in explicit reference to the anticipated or effected changes in technologically mediated human interactions associated with the digital age. His account draws on the concept of "mediology" as proposed by the French philosopher and activist Régis Debray, which posits the far-reaching cultural and social impact of epochal media technologies such as language, writing or books and their respective semiotic systems. Debray calls the present age, with its predominance of digital signals emitted and received by computers, the "videosphere" or "hypersphere" (Meyer, 2011, p. 15). Meyer concurs with these thoughts, asserting that "[c]hanges in mediality lead to changes in subjectivity" (ibid., p. 39).

Meyer (2018, p. 39) notes the existence in the current age of a "network-shaped mediality", affirming the analogous nature of technical/material to subjective forms which Castells rejects: "Present-day mediality is characterised by networks—by real, material networks of devices and by virtual, metaphorical networks in our thoughts" (ibid.). In this respect, Meyer's first proposal is to abandon the Cartesian model of subjectivity that determines modernity, predicated on a "dualism of I and the world, subject and object" (ibid., p. 40); he instead calls on Lacan's model, crucial to Knorr Cetina, of the psychic apparatus that underlies the dynamics of lack and desire. This model consists of the three registers of the real, the symbolic and the imaginary, intertwined to form a "Borromean link" (literally "Borromean node", originally "Borromean rings"), in which Meyer perceives a representation of "network-shaped subjectivity" (ibid., p. 40). The specific form of this linkage (e.g. of rings or loops) epitomises its essential property—that is, that none of the parts can be removed without the other parts falling apart.

Building on this, Meyer proposes visualising the altered interaction structures of the hypersphere, which Knorr Cetina had termed "interspecies reciprocity", using an installation by the artist Tomás Saraceno consisting of connected steel cables that form a walk-in net modelled on spiders' webs. The intent of this structure is the mimesis of a "vibrant net/

work of relationships, resonances and synchronous communication” (ibid., p. 55) between individuals and (technical) objects. By this analogy, media-driven subjectivities, conceived as “Borromean links”, would thus intertwine in the hypersphere to form a ‘Borromean net/work’.

As attractive and inspiring as these visions may initially appear to the analysis of subjectivity in digital culture, caveats present themselves: the core of the Borromean link seems to me to lie in its non-nodeness—rather than a fastening, it comprises and effects an indissoluble entanglement without beginning or end. It stands for itself and, unlike a node, therefore provides no support for anything but this self-relation. To return to Lacan, the real, as one of the three subject-constitutive registers alongside the symbolic and the imaginary, is not available to the subject in positive form, but only shows itself as a withholding/withdrawal within the symbolic. The productive and processual dynamic of subjectivity at which Meyer thus arrives, and as also features in Paulitz’ governmentality framing and in Wiedemann’s Deleuzian references, constitutes itself, as in Knorr Cetina’s analysis, in the negative concept of lack.

Even if a Borromean link were, in principle, infinitely extendable to a Borromean net via processes of linking,¹⁶ the somewhat ‘static’ image implies the model’s potential for use to describe both the dynamics of a structural description of our psychic set-up in this regard and the processual dynamics of media-driven interactions. Conversely, the image of the spider’s web installation seems to deprive the Borromean link of its quintessential property in the present context: Its interwovenness is precisely not that of a fabric connected by nodes (or web-like adhesions). The original Borromean rings, also representable by loops, can be moved around within their linked state, but no one ring can be removed without the entire linkage dissolving. Applied to the dynamics of subjectivity, this would mean that a subjectivity defined by the Borromean entanglement remains mobile due precisely to the negativity or deficiency caused by the real that withdraws/withholds itself within the symbolic (and ultimately cannot be brought to rest even in imaginary wish fulfilments). As a metaphor, the Borromean link seems able to transport the dynamics of an ‘intraactive’ subjectivity—but does this likewise hold for a net/work-shaped mediality? My sense is that this characteristic may potentially be lost in the visualisation of the network metaphor as a spider’s web.¹⁷

Meyer’s location of subjectivity in the hypersphere, proceeding from a media studies standpoint, corresponds with Knorr Cetina’s sociological description of postsocial subjectivity insofar as both decisively include the

relationships between people and things—which are also key to the accounts given by Paulitz and Wiedemann. This is also the reason why Meyer now abandons the “subject” for the *sujet*, the “‘theme’, ‘material’, ‘motif’, etc.” (Meyer, 2018, p. 40). The “tools of the symbolic, for example search engines, advertising algorithms, book recommendations, dating sites etc.” (ibid., p. 56) then become part of an extended network subjectivity, without the possibility of imputing to these manifestations of artificial intelligence a formation of meaning or intentional action bound to human individuality. In this way, alterity, i.e. the “radical strangeness of the *imagination* of such hyper-complex computer systems” (ibid., p. 57; italics in original), is reserved not only for human subjects and relationships, but also for things and object relations in the hypersphere. This view of the connection between digitality, mediality and alterity raises crucial and complex issues for education studies.¹⁸

4 CONCLUSION

This chapter proceeded from the assumption that approaches to describing present-day subjectivity correspond to specific frameworks from social theory. Accordingly, it examined the intersections between discrete interpretations of contemporary society, drawing on the disciplines of sociology and cultural studies, which define our current condition as “postsociality” (Knorr Cetina) or as “digital culture” (Stalder). This analysis suggests that the concept of the “network” has the capacity to combine approaches from social theory and the theory of subjectivity; in analogy to the “network society”, I therefore proposed the metaphor of ‘network subjectivity’ and generated three distinct descriptions of the concept in engagement with three studies from different areas of research.

Each of these studies detach subjectivity from its classic adherence to the single human individual. The ubiquity of informationalisation as noted by Castells urges us to take seriously the constitutive relationship between human, non-human and technical actors and to ascribe agency and interactivity to these “net/work subjectivity/ies” (Paulitz), “collectives” or *agencements* (Wiedemann), or the “network *sujet*” (Meyer). In all three studies, a paradox emerges when the concepts developed in the metaphor of ‘network subjectivity’ appear as results or ends, yet are simultaneously described as processual. I note here a parallel to the “paradox of subjectification”, which Bröckling (2016, p. 1) analyses from the perspective of

governmentality studies as a “contradiction between self-constitution and antecedent constitution”.

The affective moment takes on differing relevance in each study, attaining no independent role in Paulitz’s analysis, but occurring in Wiedemann’s work as a constitutive force of networking and in Meyer’s study as at least implied in the psychoanalytical subject theory on which the author draws. Ultimately, in all three concepts, a subjectivity conceived in this way becomes a plural singular that stands for a collective structure. It remains constitutively tied to the volatility of the affects and/or interactivities that produce it, to their processuality and productive dynamics, incapable of progressing to an identifiable, representative entity. Thus, for example, it can present itself in, and as acting in, virtual workspaces (Paulitz), appear as a swarm (Wiedemann) or in interactivity with/of responsive media (Meyer). Each of these manifestations extend beyond the online world and occur as offline phenomena.

None of the three approaches I have analysed here under the metaphorical umbrella of ‘network subjectivity’ can stand alone as conclusively elaborated theories of subjectivity in the digital condition. They do, however, share a striving to make accessible the changes that information technologies are bringing to bear on our practices of subjectivation and our conceptions of ourselves in our age. In so doing, they resist the idea, currently dominant in media literacy education and media pedagogy, that the competent, media-literate, autonomously acting computer user is in control of that computer and of internet processes. Indeed, they instead indicate that we have always been part of the technologies we use and that the influence of this use on our thoughts and actions is equal to that of the reverse. This insight tallies with many observable phenomena in technology use, in the fields, for example, of gaming and cosplay, and with the evidently libidinally charged fascination exerted by digital technologies.

This chapter does not intend to claim sole or indeed even dominant status for ‘network subjectivity’ as a concept of subjectivation in our time; if it were to do so, it would not take long for the observation to surface that the technical and social components of this metaphor find themselves often enough in opposition to one another. However, the attempt I present here to identify an appropriate concept of subjectivity may shed light on specific, frequently observed interactive media phenomena in our digitalised day-to-day, examples being experiences with communications in social media or interactions with devices such as smartphones or

wearables. As Tanja Paulitz has noted, while the incorporation of such phenomena into a discourse on the opportunities and risks of media use may seem apposite, it misses out the aspect of subjectivity. This chapter represents an experiment in placing this aspect at the heart (or hearts) of the discourse.

NOTES

1. I have chosen to use the terms 'digital condition' or 'digital culture' in this chapter rather than 'post-digital', although the latter might appear more in line with the term 'postsocial' (Knorr Cetina) that I discuss in the section that follows. 'Post-digital' is similar in emphasis to the 'digital condition' as defined by Stalder (2018, p. 9); both terms argue that digital media and technologies have migrated deep into material infrastructures, everyday life and social interactions. In contrast to 'digital condition' or 'digital culture', however, the term 'post-digital' remains, in its very structure, fixated on these technologies and carries the inevitable connotation that something has been 'left behind' (see also Jörissen, 2018, who uses 'post-digital' in a discussion of subjectivity from a perspective informed by cultural and media studies).
2. In 2011, Rob Wilkie had published a book also entitled *The Digital Condition*, which is not cited by Stalder. Providing a critique of the digital condition that draws on the theory of class, this classic Marxist approach is contrary to Stalder's cultural studies-influenced perspective. Stalder's book was first published in German in 2016 with a title that, rendered literally, would be "Culture of Digitality". This chapter uses the terms 'digital condition' and 'digital culture' synonymously.
3. On the classification of Castells as a cultural theorist, cf. Nollmann (2011).
4. This is also evident in the interview for *First Monday* (<https://firstmonday.org/ojs/index.php/fm/article/view/9409/7574>, last accessed 09.08.2020).
5. This is also the view held by Jörissen (2016, p. 232), who therefore suggests the use of the network concept in the light of a theory of difference.
6. We may also interrelate Lacan's structural description of a constant effort to maintain libidinal object relationships which incorporate power and economic interests with analysis of the consumer industry. Cf. Schenk and Hoffarth (2018) on Slavoj Žižek's reformulation of a critique of ideology using these Lacanian figures. Mayer and Schenk (2018) explore Žižek's adaptation of Lacan in greater depth.
7. Bruno Latour's term "interobjectivity" (Reckwitz, 2008, p. 166) has probably been used more widely.

8. This could also be the reason why the study of subjectivity does not amount to an established independent field of network analysis or research (cf. von Kardorff, 2019, p. 108).
9. On the relevance of network research in education studies, a discipline not focused on subjectivity and tending towards a largely instrumental view, cf. Berkemeyer and Bos (2010).
10. In the interest of education and with reference to a changing modern sociality conceived of in terms of a theory of difference, Jörissen (2016, p. 232) likewise supports this approach. I pursue this aspect elsewhere (Schenk, forthcoming).
11. The original quotations contain a number of italicised passages, which hinder legibility in the present context and are therefore omitted.
12. These are key concepts in quantitative network research. “Nodes” represent the actors in the network, “lines” their relationships (or lack thereof) to one another. These concepts enable the mathematical and graphical representation of the relationship structures governing social networks (see Brandes, 2010).
13. The shift from Foucault to Deleuze also relates to an impression I gained while reading that relates to the systematic fit of the concepts and perspectives used, and especially the analytical fuzziness of the Deleuzian concepts. The thesis was a cumulative collection of publications rather than a monograph, and so each piece reveals a different emphasis. I also perceive a shift in the author’s interests during the doctoral process, which neither the detailed introduction nor the final discussion can entirely bring under one conceptual umbrella.
14. On the issue of empirical research on collectives as identities—without reference to Wiedemann—see Schenk (2019).
15. This linkage of subjectivation and collectivization brings together sociological and educational perspectives in contemporary debates (cf. Alkemeyer et al., 2018).
16. Illustrations of different entanglements appear in The Knot Atlas (<http://katlas.math.toronto.edu/wiki/L6a4>, last accessed 09.08.2020).
17. In an earlier publication, Torsten Meyer (2015, p. 94) had proposed conceiving of the subject as a “*sujet*” in “educational practices based on collaborative and networked socio-technical processes in global, digital communication networks” (Meyer, 2015). This would be the starting point for the formation of a network subjectivity as a “*sujet*” in relation to “the network itself and the communities that *form within* it” (ibid., p. 114).

18. Knorr Cetina's (1997, p. 16) analysis of how the biologist McClintock describes her relationship to the organisms under study, or how objects themselves appear as processual and integrated into the dynamics of lack and desire (cf. Knorr Cetina, 2005, p. 589), also leads to this insight of alterity. Accordingly, both Knorr Cetina (2005, p. 590) and Meyer (2018, p. 61)—likewise Wiedemann (2016, p. 62)—link their observations, rather by the by, with post-humanism, currently just as central a concept to education studies as is the associated idea of alterity as an imperative of justice (cf. Wimmer, 2019).

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