Article – Theme section

Investigating communication networks contextually
Qualitative network analysis as cross-media research

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Abstract

This article introduces the approach of contextualised communication network analysis as a qualitative procedure for researching communicative relationships realised through the media. It combines qualitative interviews on media appropriation, egocentric network maps, and media diaries. Through the triangulation of these methods of data collection, it is possible to gain a differentiated insight into the specific meanings, structures and processes of communication networks across a variety of media. The approach is illustrated using a recent study dealing with the mediatisation of community building among young people. In this context, the qualitative communication network analysis has been applied to distinguish "localists" from "centrists", "multilocalists", and "pluralists". These different "horizons of mediatised communitisation" are connected to distinct communication networks. Since this involves today a variety of different media, the contextual analysis of communication networks necessarily has to imply a cross-media perspective.

Introduction

The idea of a "network" has become a commonplace in work on media and communication, one that goes beyond the idea of the internet as a "network of networks". For example, it also involves the "networking" of digital media. The use of this concept of "network" has

also developed extremely rapidly in qualitative studies in media and communication; there is hardly a single article dealing with current phenomena in this area that does not allude in one way or another to the idea of "network". This is also the case with so-called "cross-medial media research" in which the reconstruction of "polymedia" (Madianou, 2014) networks is repeatedly treated as a way to analyse human communicative relationships across a variety of media.

By contrast, it has to be said that there is very little in the way of network *analysis* in qualitative work on media and communication if, by this, one understands an enterprise possessing its own qualitative instruments that can deal with network structures and practices. This becomes even clearer if we move beyond qualitative studies devoted to the social networks formed by media actors and consider communication networks that arise through the media.

On this basis, we wish to present here our approach to contextualised communication network analysis, using a recent study we made of the communication networks and mediatised conceptions of social community among young people. We develop our argument in four steps. First, we will present the current state of discussion on qualitative network analysis in studies of communication and media. Then, we will present a general outline of our approach to contextualised communication network analysis. Following this, we will elaborate the potential of this approach as well as the challenges that it faces. We conclude by stating the reasons for our belief that qualitative (communication) network analysis represents an approach that offers a promising, but neglected, avenue for work in communication and media.

Qualitative network analysis in the study of media and communication

If reference is made to a "network" in the course of discussing the methods used in media and communication research, one seldom thinks first of qualitative approaches. Instead, the term primarily indicates the visualisation of networks or quantitative network analysis.

Network visualisation has become especially prominent with the spread of what Richard Rogers (2013) has called "digital methods". This primarily involves the large-scale collection and processing of data that digital media make possible, such as crawler analysis. The techniques linked to this – the visual representation of data, for example – derive from a long tradition of "tree" analysis, which has morphed into the representation of networks (Lima, 2013, p. 23). In this kind of representational framework, networks are a "catch-all concept" (Bommes & Tacke, 2012, p. 178) that link all manner of (cross-media) relationships to individual "nodes" (see Hepp, 2008 with respect to globalisation). In a more restricted sense, these "digital methods" involve computer-based "network visualisation" (Krempel, 2009; see also Freeman, 2000), which only very rarely deals directly with social network analysis. All the same, the visualisation of, for example, the structure of internet links or the

mutual relationship of speakers in blogs has become much more frequent in the study of media and communication.

Quantitative network analysis takes up ideas and conceptions from "social network analysis" (SNA), or structural network analysis (White, 2008, p. 358), and transfers them to the phenomena studied by media and communication studies. In this way, links are established with classical work on the use and impact of media. One example is the "Two-Step Flow of Communication" (Katz & Lazarsfeld, 1955) in which it is not the relationship of the individual to a media source that is the object of attention but, rather, the way in which this process is doubled by interpersonal or group communication regarding such sources. Interpersonal communication of this kind can be traced through networks of opinion leaders and their followers. Another instance is that of diffusion studies. Here, research is directed to the diffusion of specific media content or innovations among particular population groups, treated as a "total network" (Rogers, 1983,p. 56). Even if the conception of a network plays only a marginal role in these "classical" studies (Schenk, 2010), they are open to reformulation in terms of network analysis and have, as such, played a part in the diffusion of network analysis in the study of media and communication (Friemel, 2015). There is a direct connection here to current social network analysis involving various kinds of media and communication phenomena – such as processes of co-operation in social software (Stegbauer, 2009), opinion leadership in the social web (Schenk, 2011), or the relationship between media use and interpersonal communication (Friemel, 2012). These studies make use of established mathematical or statistical models of standardised social network analysis – calculating, for example, the position of the actor in the network, the relationship between actors, or network dynamics.

Qualitative network analysis differs in its use of the concept "network" from both the foregoing approaches. The majority of network visualisations here involve computer-based "analyses of networks". Nevertheless, "network analyses", in the proper sense, would be defined by the presence of specific methodological instruments for the identification of networks (Engelbrecht, 2006, p. 244). Network analysis in this more specific sense is certainly the norm in communication and media research, but it is not conducted on a qualitative basis and even less so as an approach used in cross-media research. Hence, we define qualitative network analysis as those forms of network research that render network structures and practices visible, using their own qualitative instruments (see Hollstein, 2011, pp. 404-406; Straus, 2006, p. 483). Qualitative network research is, thus, not simply the interpretation of network visualisations or standardised network data. It represents an independent approach within the general framework of qualitative methods in social research. And qualitative analysis of communication networks is a highly promising approach for cross-media research: As the contemporary emphasis on "polymedia" (Madianou, 2014, p. 323) and "media manifold" (Couldry, 2012, p. 16) suggests, we build up our networks across a variety of different media.

While clarifications of this kind are important in establishing the part played by quali-
tative network analysis within communication and qualitative cross-media research, it is
nonetheless important that we do not lose sight of connections to network visualisations
and to standardised network analysis. Qualitative network analysis – especially if it becomes
cross-medial – also attaches great importance to the kind of visualising procedures it
employs both in the generation of data (network maps) and in its evaluation (network rep-
resentation). The relationship to standardised network analysis derives, in part, from their
shared historical development in the social sciences. But both quantitative and qualitative
network analysis also aspire to the aim of "bringing society back in" (Schenk, 2010, p. 773)
to the study of media and communication (see Rogers & Kincaid, 1981, pp. 38-39). Both
approaches seek "to extend the psychological and causal conceptions currently prevailing
in media research through the introduction of a 'social perspective'." (Schenk, 2010, p. 773).

In addition to the two basic types of egocentric network analysis and total network
analysis, work in the area of media and communication involves two other forms of quali-
tative network analysis. In the first case, there are *qualitative analyses of medially relevant
actors*. This involves the qualitative analysis of social networks in which the actors have a
particular significance for issues arising in media and communication research. One exam-
ple is the study by Maria Löblich and Senta Pfaff-Rüdiger (2011). This qualitative study uses
interviews with experts and network maps to reconstruct the network of actors involved
in youth media protection. Therefore, the study is not directed at (cross-media) commu-
nication networks but toward a "policy network" (Baumgarten & Lahusen, 2006) that has
a special relationship to media and communication policy. Other examples with a compa-
rable orientation investigate career networks in the creative industries (Kröger et al., 2013)
or journalists' networks of sources (Hepp et al., 2015).

The *qualitative analysis of communication networks* is distinct from this. Many different
kinds of actors may be involved here: people in everyday life, experts, but also politicians
and other "elite" actors. The link to media and communication research comes from the
fact that the object of qualitative network analysis is formed by the communicative rela-
tionships realised through the media: the medial or communicative mediation of network
relations. Since this occurs today not with the help of one medium but with a variety of dif-
ferent media, the qualitative analysis of communication networks becomes an important
approach for cross-media research. We have ourselves worked on mediated communica-
tion networks in the context of migrant identity (Hepp et al., 2012), and our current project
concerns the communicative networking and communitisation of people from different
media generations (Hepp et al., 2014a). Here, there are certain links to Actor-Network
Theory (ANT) (Latour, 2007) since, in our data collection, we treat communicative net-
working as deeply interwoven with the materiality of the media used for this. However, in
the light of criticisms of ANT (Couldry, 2008), we make a clear distinction between human
agency (communicative networking as a form of practice) and the media technologies

used for this. The latter "mould" (Hepp, 2013, p. 29; Couldry & Hepp 2016, chapters 2 and 3) our communicative networking, but they do not network on their own.

Contextualised communication network analysis as an approach to qualitative research in media and communication

With this general presentation of the place of qualitative network analysis in communication cross-media research, we will now outline this approach in terms of our own current research practice. This particular approach has been developed in a number of projects funded by the German Research Foundation (DFG) (Hepp et al., 2012; Hepp et al., 2015). Here, we will focus on our research into the mediatisation of community building among young people (Hepp et al., 2014a) as a means of highlighting the methodological potential of contextualised communication network analysis.

There are two reasons we call our approach *contextualised communication network analysis*. First of all, we talk about *communication* network analysis because we do not intend to deal with social relationships as a whole. We are interested in the communicative relationships of men and women that are created through both direct and mediated communication. Of course, communicative relationships do relate to social relationships, which are ultimately created through communication. But social relationships and communicative relationships are not the same thing. One might, for instance, have a "close" or "intensive" relationship with someone with whom one is only sporadically in communication – in particular, when decisions have to be made or during crises. Second, we talk about *contextualised* communication network analysis because we are not only interested in the networks themselves but the meaning ascribed to them or the practices and processes of their communicative formation.

In our approach, the data is composed of media-ethnographic "miniatures" (Bachmann & Wittel, 2006, p. 191) of the human appropriation of media. These "miniatures", wherein the qualitative network analysis is embedded, do not aim to provide an "ethnography proper" as with the "thick description" (Geertz, 1994) of life spheres resulting from lengthy fieldwork. They aim more at a "multi-sited ethnography" (Marcus, 1995), translated into questions related to the study of media and communication. The purpose is, therefore, to use a variety of qualitative methods to gain (chronologically limited) access to the media appropriation of individuals and, so, gain insight into the various ways in which media are used.

For our purposes here, this means that the way in which data is gathered and processed has no parallel in "virtual ethnography" (Hine, 2000) or "netnography" (Kozinets, 2015) in which the internet is analysed as an "ethnographic field" or in "network ethnography" (Howard, 2002), which uses fieldwork techniques to describe social networks. Instead, we are more concerned with a reconstruction of (mediatised) communication networks and practices of communicative networking from an egocentric perspective, taking proper

account of the dimension of subjective meaning. With respect to the mediatisation of community building among young people, this means rendering accessible the meaning young people attach to their sense of "us", something that rests upon a subjectively-felt sense of belonging together. Our method uses three instruments to deal with the material relating to the meaning, structure, and process of communication networks.

1. *Qualitative interviews: The dimension of meaning*. Young people between the ages of 16 and 30 were questioned about their understanding of meaning and significance in interviews lasting, on average, 140 minutes. We employed a thematic outline listing the themes with which we wished to deal. First, we established the media biography of the interviewee, so that we might better understand media appropriation from the point of view of the individual person. Second, given the overall objective of establishing the role of media in forming a sense of community, we asked about membership in particular social groups or associations. These social groups, then, provided the basis for approaching the way in which these social groups and associations appropriate different media. In this way, we were able to register the communicative networking of young people as a whole and judge its relevance for these social groups and associations. Here, we used a broad concept of cross-media communicative networking: in addition to direct personal communication, we were interested in the variety of media of mutual communication (telephone, email, chatrooms), and we also included professionally-produced media and their content (TV, print, streaming) since social groups relate to these indirectly in their direct communication with each other. There were no set questions for the interviews or any particular sequences in which issues were raised. They varied according to the person and the situation of the interviewee. The aim was to create in this way an interview situation that was close to everyday conversation and in which we were able to react to any special features that arose.

2. *Sketching network maps: The structural dimension*. Interviewees were asked to sketch out and annotate two maps that, from their point of view, represented their own communication networks (see Fig. 2). One of the maps emphasised mutual communication relationships (media of personal communication) while the other emphasised communication relationships conducted via produced media content (mass media). This approach sought to establish how the interviewees "see" their cross-media communicative connectivity and how they, then, make sense of their own visualisation. In the process, we established that network maps "do not hinder narration, but provide a narrative impulse" (Straus, 2013, p. 41), a general finding in qualitative network analysis. These sketched network maps provided us with an egocentric overview of the interviewees' network structures that we could, then, relate to the "stories" they told (White, 2008, p. 20).

3. *Media diaries: The processual dimension*. We were also interested in the processual perspective on communication networks, the way in which they are created in ongoing communicative practice. This is where our third instrument comes in: the media diary. We asked the interviewees to keep a semi-standardised diary for seven days, recording all forms of mediatised communication, the media used, the situation in which they used it, the partner in communication (in the case of personal communication), and the purpose or content of the communication (Berg & Düvel, 2012). A diary of this kind offers cross-media access to the processes of communicative networking and its situative contexts and, so, shows networking practices as they take place. Depending on the desire of the interviewee, we either worked with an app that can be used on a mobile phone (MedTagApp) or a printed version of the media diary.[1]

We also concluded a case record for each interview and collected additional material. This includes sketches, images and photographs of the domestic locations at which the interviewees made use of media and (if available) personal profile archives from social network sites (Facebook, Twitter). In addition, at the end of the interview, we completed with the interviewee a semi-standardised questionnaire relating to their socio-demographic data and their estimate of the relative importance of the social groups that they had mentioned in the course of the interviews.

Our approach, thus, focusses on mediatised communication relationships in their overall processual context. This was framed by "grounded theory" (Glaser & Strauss, 1999; Clarke, 2003) both with reference to the gathering of data and its processing. The selection of interviewees was done through "theoretical sampling" (Glaser & Strauss, 1999, pp. 45-78; Corbin & Strauss, 2015, pp. 134-152) on which data is collected incrementally at the same time it is processed and evaluated. In the early phases of the study, there is a focus on strongly contrasting cases; as the work progresses, the system of categories is refined, and cases are, then, selected that contrast with or contradict the provisional findings. After this, there is a selection of similar cases to test the reliability of the findings. The sampling process is treated as completed when the addition of new cases no longer alters the principles established by the provisional findings and the particular features of any one case are elucidated by these principles.

Proceeding in this manner calls for the greatest possible variety in the selection of cases. In our case, this involves the ages of the young people, their social situation, their educational status, and their income (for details, see Hepp et al., 2014a, p. 264). In particular, the criterion of variance also applies to media appropriation on the part of the interviewees: the degree to which there are differences in media repertoire or communicative networking.

The *evaluation* of this data borrows from the procedures used in grounded theory for qualitative coding, aiming to develop these procedures empirically with respect to the aims of the given project. To achieve this, the data have to be processed in a suitable manner

(Flick, 2014, pp. 388-392): by transcribing interviews and assessing interview records, digitising sketched network maps and media diaries, and the digitisation of related documentation. In the coding process, we are interested in the following patterns:

· patterns of processes of communitisation
· patterns of structures, processes, and ascriptions of meaning to communicative networking or the practices of media appropriation underlying them
· patterns of contextual factors
· patterns in media biography and media generations

This last step involves a triangulation of the results, adding material to individual cases; this involves, for instance, our own observational notes and photographs of the locations in which media are used or screenshots of the social network site profile at the time of the interview.

Dealing with the material in this way, we progressively "construct a type" (Kelle & Kluge, 2009), which, then, serves as a basis for our theoretical work. Types are constructed comparatively using the cases we have studied; and, through ongoing comparison with the system of categories that we have developed – including the network maps and the evaluation of the media diaries, we have been able to construct groups of cases that share a high degree of similarity with respect to communicative networking and mediatised communitisation. From this, we have been able to identify distinct perspectives on mediatised communities in the form of young localists, centralists, multilocalists, and pluralists. The following section elaborates these perspectives with regard to their methodological potential and challenges.

Perspectives on mediatised communitisation and cross-media communicative networking

As already outlined, our contextualised communication network analysis approach serves to develop a typology of young people's 'horizons of mediatised communitisation' (mediatisierter Vergemeinschaftungshorizont) – that is, the set of all communities to which they feel they belong. This 'horizon of mediatised communitisation' is formed by a subjective positioning within all the social associations in which a young person is involved. To clarify our cross-media methodological approach, we will make use of two cases (for the complete results of the study, see Hepp et al., 2014b).

The first case is Kerstin Faber,[2] a 26-year-old kindergarten teacher whom we have categorised as a religious centrist since her 'horizon of communitisation' revolves around religion. The second is Claas Kuhnert, a 29-year-old who, at the time of the interview, was retraining to work in private health management. Claas can be categorised as a pluralist whose 'horizon of communitisation' is diverse, extending from the local to the translocal. Using these two cases, we want to clarify meaning, structure, and process as the dimensions

of our contextualised communication network analysis. Based on these three instruments a form of "triangulation" (Flick 1992, 2014, pp. 182-192) is developed along the progressive stages of data evaluation.

The meaning of mediatised communitisation: Qualitative interviews

The first task is to code the record of the interview with HyperResearch software. The material is, then, evaluated in a process of qualitative content analysis according to the "open, axial, and selective" coding of grounded theory (Corbin & Strauss, 2015, p. 373), enabling the development of theoretical constructs in the study of communication and media (Hepp, 2013, pp. 128-132). Following the progression of early grounded theory, in a coding process of this kind and its "abduction" (Reichertz, 2010) – a rule-governed and replicable production of new and valid knowledge – it is important to take account of theoretical insights from other studies, including preliminary studies. In these terms, coding is not a linear but a circular process, aimed at creating categories and subcategories with specific dimensions, systematising their relation to each other, and identifying key categories.

The categories relating to the mediatised perspectives that we have identified – localist, centrist, multilocalist and pluralist – group themselves around two key categories: (mediatised) communitisation and communicative networking.

Categories relating to *mediatised communitisation* refer to statements made by interviewees on communitisation via relationships (partners, family, friends), space (village, city, nation, world), or theme (politics, popular culture, religion).

Categories relating to *communicative networking* relate to media appropriation and communicative networks that arise from this. Central here are appropriated media, including produced media as well as reciprocal and virtual communication. In addition to appropriated media, categories of communicative networking cover reflective statements on mediatised communication, which we call "reflection on communication": sections of interviews with media-biographical aspects as well as the appropriation of media in the course of the day or the week. One part of this reflection is also the "network representation" of the interviewee, which includes the part of the interview in which the interviewee visualises and explains from his or her subjective perspective his or her own communication network, using freehand sketches of network maps.

The evaluation of interview material provides insight into the meaning of communication networks. A passage from the interview with Kerstin Faber makes this clear, indicating the manner in which her 'mediatised horizon of communitisation' clarifies her sense of belonging to a Bremen religious community (Fig. 1) that we can assign to thematically-defined social groupings.

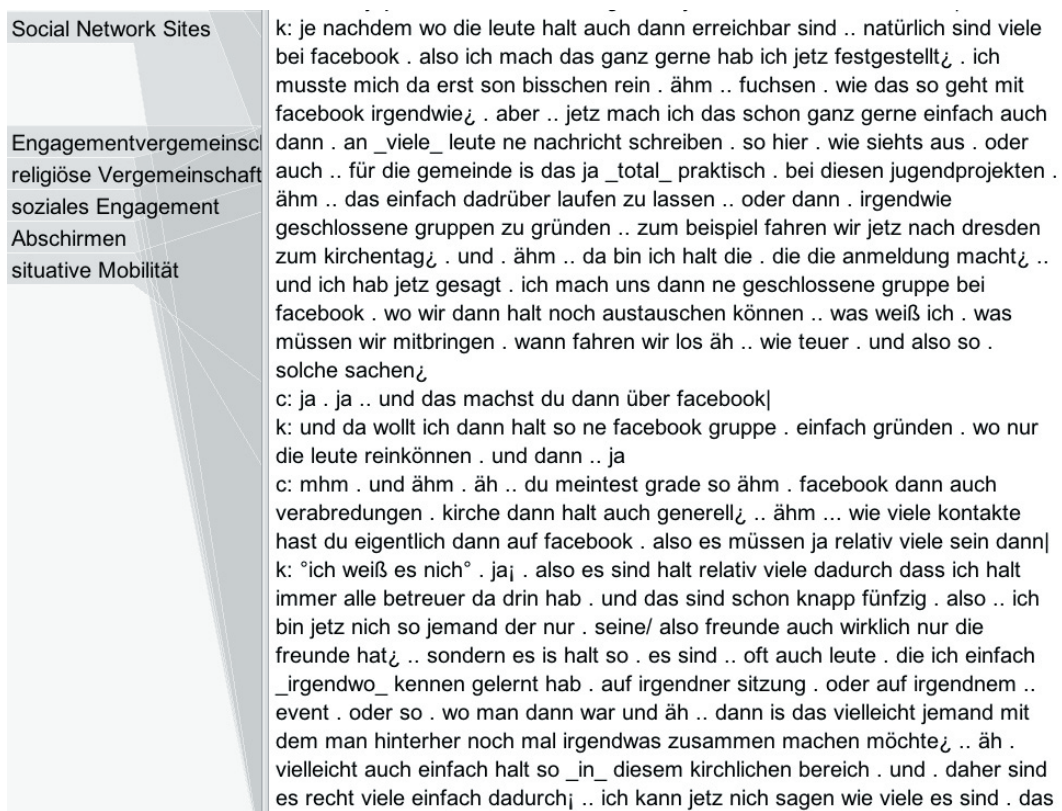| Social Network Sites	k: je nachdem wo die leute halt auch dann erreichbar sind .. natürlich sind viele bei facebook . also ich mach das ganz gerne hab ich jetz festgestellt¿ . ich musste mich da erst son bisschen rein . ähm .. fuchsen . wie das so geht mit facebook irgendwie¿ . aber .. jetz mach ich das schon ganz gerne einfach auch
Engagementvergemeinscl religiöse Vergemeinschaft soziales Engagement Abschirmen situative Mobilität	dann . an _viele_ leute ne nachricht schreiben . so hier . wie sihts aus . oder auch .. für die gemeinde is das ja _total_ praktisch . bei diesen jugendprojekten . ähm .. das einfach dadrüber laufen zu lassen .. oder dann . irgendwie geschlossene gruppen zu gründen .. zum beispiel fahren wir jetz nach dresden zum kirchentag¿ . und . ähm .. da bin ich halt die . die die anmeldung macht¿ .. und ich hab jetz gesagt . ich mach uns dann ne geschlossene gruppe bei facebook . wo wir dann halt noch austauschen können .. was weiß ich . was müssen wir mitbringen . wann fahren wir los äh .. wie teuer . und also so . solche sachen¿
	c: ja . ja .. und das machst du dann über facebook|
	k: und da wollt ich dann halt so ne facebook gruppe . einfach gründen . wo nur die leute reinkönnen . und dann .. ja
	c: mhm . und ähm . äh .. du meintest grade so ähm . facebook dann auch verabredungen . kirche dann halt auch generell¿ .. ähm ... wie viele kontakte hast du eigentlich dann auf facebook . also es müssen ja relativ viele sein dann|
	k: °ich weiß es nich° . ja¡ . also es sind halt relativ viele dadurch dass ich halt immer alle betreuer da drin hab . und das sind schon knapp fünfzig . also .. ich bin jetz nich so jemand der nur . seine/ also freunde auch wirklich nur die freunde hat¿ .. sondern es is halt so . es sind .. oft auch leute . die ich einfach _irgendwo_ kennen gelernt hab . auf irgendner sitzung . oder auf irgendnem .. event . oder so . wo man dann war und äh .. dann is das vielleicht jemand mit dem man hinterher noch mal irgendwas zusammen machen möchte¿ .. äh . vielleicht auch einfach halt so _in_ diesem kirchlichen bereich . und . daher sind es recht viele einfach dadurch¡ .. ich kann jetz nich sagen wie viele es sind . das

Fig. 1: Coded passage from the interview with Kerstin Faber

Two things stand out in this passage and its coding: first, Kerstin feels that she belongs with the "liberal and undogmatic" Protestant community of her church, something that is also linked to her involvement with various projects as a Youth Leader. Second, it is evident how much this commitment can be made visible in Kerstin's communicative network. For instance, this centrist explains how she resorted to social network sites such as Facebook to organise a trip to Dresden for a group preparing for their confirmation since these sites were "useful" ("praktisch") for her.

There is a similar instance from the interview with Claas Kuhnert that makes clear the significance of social connectivity and how this is maintained through communicative networking. Claas, who can be regarded as a pluralist, explained in his interview that his volunteer work for an association engaged in promoting international study programmes had brought him a wide circle of "international acquaintances. And some of these have developed into real friendship". He maintained friendly contacts all over the world – including Turkey, Russia, Jordan, Romania, and New Zealand, and he concluded that "[w]herever I am in the world, I soon feel quite at home." Claas's translocal orientation is not simply a matter of the group of friends he has developed; he also feels himself to be part of a European or even global social community that is maintained by communication networks. In respect of significance and meaning, an orientation of this kind exemplifies the pluralist type. We

will show in the following how these kinds of connections can also be seen at work in the structure and process of Kerstin's and Claas's communicative networking.

The structure of mediatised communitisation: Network maps

In the second stage of data analysis, we draw upon network maps. Starting with the coding of statements made in interviews and comparing them with other network maps, our visual analysis identifies the specific nature of network visualisation in each particular case. In our experience, all network maps have distinct similarities. Network maps for personal communication are mostly organised in terms of reference groups or communities such as families. On this basis, then, the mode of communication via media can be distinguished (for the family: landline telephone, mobile, face to face). By contrast, network maps for produced media communication are mostly sorted according to media (TV, radio, internet). Then, particular aspects relating to themes or reference groups are added. On the basis of these common features, it is possible to distinguish network maps according to the kind of everyday orientation to (cross-media) communication networks that the interviewee has. Here, network maps have a great deal to tell us, and this is integrated into our general interpretation of the data.
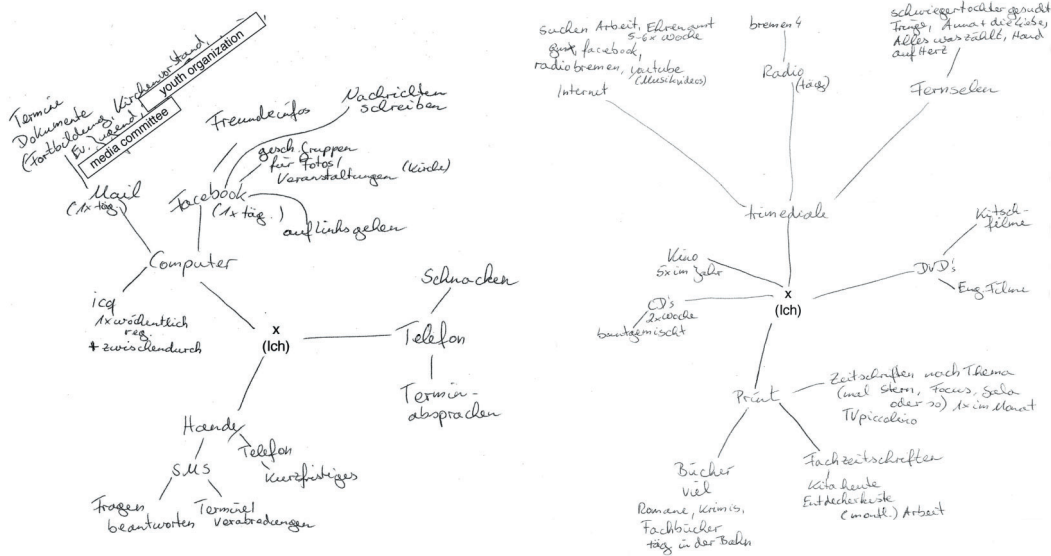

Fig. 2: Kerstin's network maps for reciprocal media communication (left) and produced media communication (right)

Just a quick look at Kerstin's and Claas's network maps shows that their communicative networking differs, focussed as it is on different subjectively-relevant media technologies to which they, then, relate reference groups or themes relevant to communitisation. As

figure 2a indicates, Kerstin's reciprocal media communication turns more or less entirely on the PC ("Computer" with "icq", "Mail" and "Facebook"), landline telephone ("Telefon") and mobile phone ("Handy"). In her network map the centrist's dominant religious orientation is for example represented by the parish council ("Kirchenvorstand"), the young protestants ("Ev. Jugend"), a "media committee" and various groups on Facebook related to church ("gesch. Gruppen für Fotos/Veranstaltungen (Kirche)"). Kerstin characterises her produced media communication (Fig. 2b) as tri-medial ("trimediale") – internet, radio, and TV ("Fernsehen") – with cinema ("Kino"), CDs, DVDs and print media on top.

For Claas, the three important means of reciprocal media communication (Fig. 3a) are "Facebook", telephone and "chat" (including "Skype" and the social network site "Gayromeo"). While online media serve especially for his widespread translocal friendship connections, the pluralist mainly uses the telephone for staying in contact with his family ("Familie") and some closer friends in Bremen and Germany ("wenige Freunde, haupt. in HB, wichtige Freunde in D"). As it comes to his produced media communication (Fig. 3b), Claas names internet, music, books and magazines ("Sonstige Bücher, Zeitschriften"), radio, and TV ("Fernsehen"). Unlike Kerstin, however, Claas sorts these media according to their importance for his networking – this can be seen in the network maps, in the different magnitudes given to the network map for reciprocal communication, and in the numbers in the network map for produced media communication – or according to the frequency of his use. In his interview, he remarked, "Facebook [is] the most important group; really, I use Facebook on a daily basis. I would say that I use chat three or four times a week. And telephone would be something like that but a lot less than chat."

There are also obvious differences in the sketches. One difference concerns the thematic centralisation of both network maps: for Kerstin, religion is a theme that crops up in different forms. She orders differing media according to their purpose in relation to religion, while her network map for reciprocal media communication makes clear that she uses Facebook in relation to particular events, or to exchange photos of specific groups; she also uses email in connection with her work as a member of the church committee. Whereas the location of her communication partners remains unstated, they are of far greater importance for the pluralist Claas. In conformity with his interview statement that he has "friends in every corner of the world", he classifies his Facebook friends and those with whom he chats according to their location or origin as "HB" (Bremen), "D" (Deutschland), and "Intl." (international). This translocal orientation of his involvement in the net is replicated in the network map for his produced media communication: here, we find his weekly reading divided up under international newspapers ("intl. Zeitungen") as the Swiss "NZZ", the Austrian "Standard", the British "Times", and the "Guardian". The lion's share of produced media communication is taken up by the internet since, as he explains, "I really use the internet the most". The clear emergence here of a diversity of interests and themes
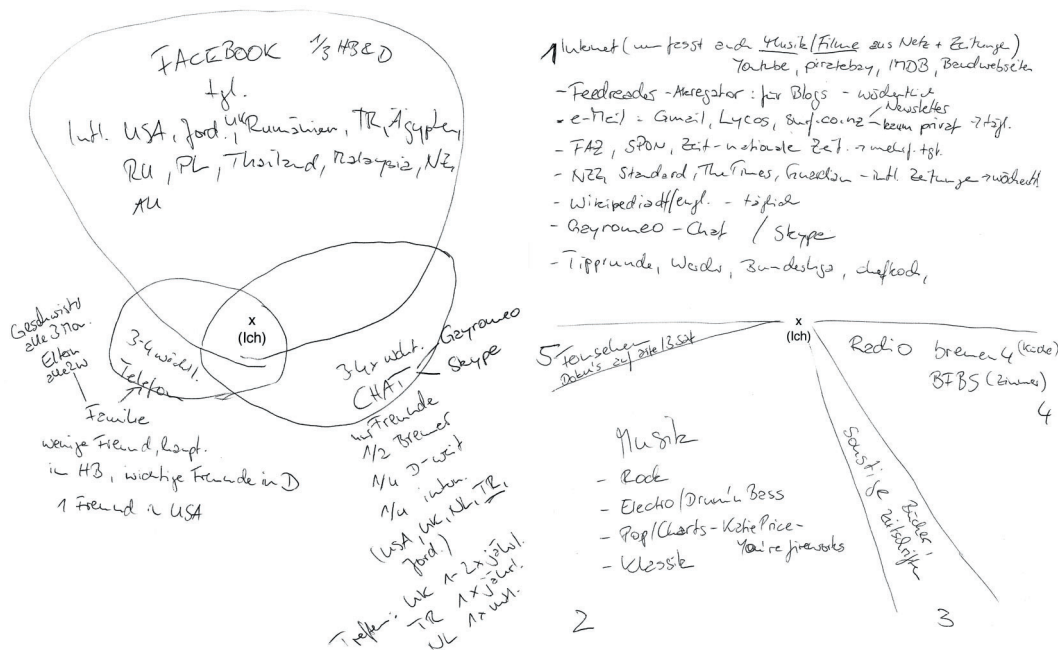
Fig. 3: Claas's network maps for reciprocal media communication (left) and produced media
      communication (right)

is typical for a pluralist's 'horizon of communitisation', and Claas's translocal orientation is
also evident in the way he visualises his network.

An analysis of the structural dimension specific to particular cases presents something
of a challenge for case-by-case comparison. As with other approaches to the visual analysis
of data (for example, Lobinger & Brantner, 2015), one is confronted with the need to make
a structural comparison of quite diverse material. The ordering, sorting, and weighting of
social communities and themes related to our own data are very expressive but can be rela-
tively heterogeneous. It has, therefore, proved helpful in comparing cases to link the data
from the network sketches to the interviews. The connection can be made *for each case*
since adding the network maps to the corresponding data from the material gathered in
the interview (meaning dimension) creates a networking profile. *For all cases*, the connec-
tion of network maps to the categories developed from the mass of interviews – regard-
ing appropriated media, communicative networking, and the social relations formed from
them – offers the possibility of modifying the system of categories. This all becomes part of
supplementary comparison and contrast from case to case and across diverse data forms
in the spirit of the grounded theory approach.

Mediatised communitisation as process: Media diaries

The third step in evaluation relates to the media diaries. We developed the MedTagAnal-
yse software to facilitate a process-directed evaluation of the diaries, making it possible to

understand and visualise data from the processual perspective. Diary entries – we again draw here on the example of Kerstin Faber (Fig. 4) – were evaluated by cross-referencing particular categories that had previously emerged in the analysis of qualitative interviews (meaning dimension) and the network maps (structural dimension). In our case, we were mostly concerned with the various categories related to communitisation of different kinds and for the communicative networking of appropriated media. Therefore, Kerstin's final entry in the page illustrated below, "contribution written in the Dresden trip group" ("Beitrag in Gruppe Kirchentag Dresden geschrieben"), was assigned to the appropriated media category SNS (Facebook) as well as "religious social grouping". The way in which digital media increasingly converge and the evident practice of our interviewees made it necessary for us to record and take account of the joint use at any one point in time of a variety of media. This can, once again, be shown in the case of Kerstin Faber's media diary: she recorded the use of her laptop for six and a half hours. During that period she chatted with a friend, visited Facebook, and checked her emails.
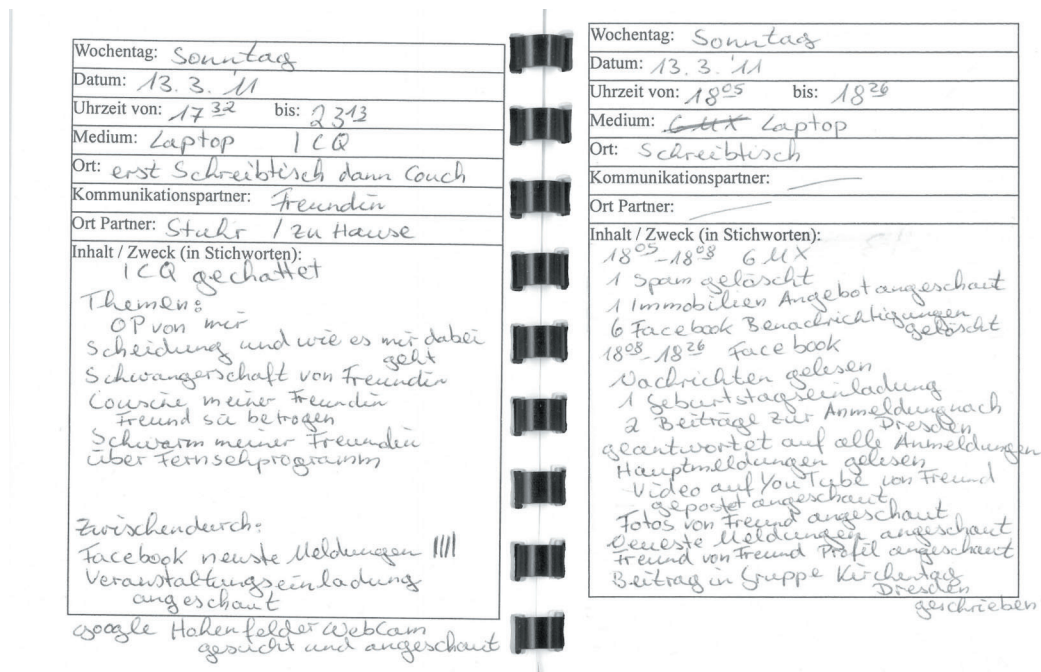

Fig. 4: Excerpt from Kerstin Faber's media diary

Once all entries have been extracted and ordered, MedTagAnalyse makes possible the visualisation of media usage throughout a period of seven days. As we see with the visualisation of Claas Kuhnert's media diary (Fig. 5), we have groups of particular media on one page (left-hand column) while, on the other, and we have social groupings that are relevant to Claas (legend). The numbers in the columns indicate the days of the week, while those with a grey background indicate the weekend. This makes plain the temporal and proces-

sual pattern in which communicative networking occurs, this activity serving to reinforce and reproduce any one social grouping.

The translocal orientation of the pluralist Claas Kuhnert is made quite clear here. He has many international friends (coded here as "Friendship Communitisation" and "European Communitisation" or "World Communitisation") and maintains his contacts via a range of media such as SNS and chatrooms. This processual perspective shows specific features that are important for the evaluation of the data as a whole and which could not be identified in any other way. For example, the evaluation of Claas's media diary shows that a pluralistic mediatised perspective involves diverse social groupings from the local to the translocal. With Claas, this runs from his communal domestic living arrangements to the urban social aspects of his home city, Bremen, and, at the European level, involves his attitude to Europe and being a European – all this is recorded in his diary. This also makes clear that, from such a pluralist perspective, it is not individual social groupings that dominate – as is the case, for instance, with the centralist Kerstin Faber – but a variety of groupings and themes that exist alongside each other without any necessary hierarchy or connection and that this is maintained communicatively on a more or less ongoing basis. Claas's management of these parallel mediatised elements is apparent in the dualism of communitisation. This is, in turn, in line with the simultaneous use of differing media technologies, as outlined above.

Like network maps drawn freehand, partially-structured media diaries have their own problems and methodological limits as a source of data (Berg & Düvel, 2012, pp. 84ff.). Whereas our interview material and the linked network maps represented a complete source of data,
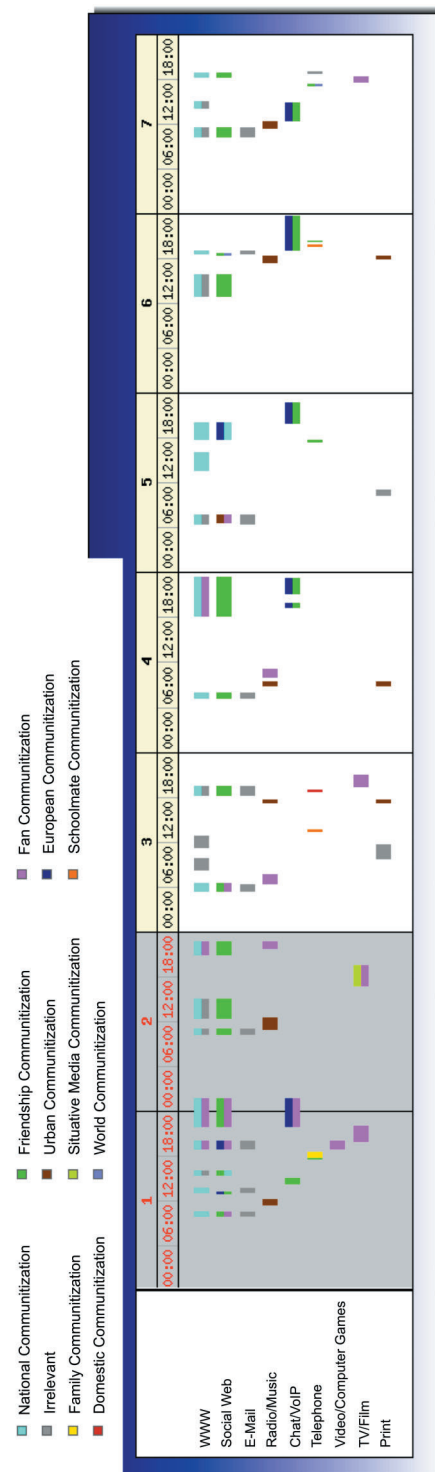

Fig. 5: Visualisation of Claas Kuhnert's media diary

the response rate for the media diaries was only 45%. This can be explained by the effort required to keep such a diary consistently over seven days, and it was for this reason that we developed an app capable of recording media usage throughout the day. Moreover, the completed media diaries show a degree of uncertainty on the part of the interviewees about what they should record – which activities were media relevant and which were not. Such uncertainties arose despite the preliminary provision of the diaries' structure, dummy entries as examples, and any familiarity with the topic gained through the interview. In addition to the low response rate, the diaries that were returned showed signs of being incomplete; in many cases, they had not been written over the course of the day but retrospectively from memory. It was for this reason that we eventually developed the app MedTagApp, so that it was easier to record media usage.

All the same, despite these difficulties, the analysis of media diaries opens up a great deal about the processes of media networking. In particular, it makes it possible to supplement and elaborate existing findings about the dimensions of structure and meaning with information deriving from communicative activity in the course of the day and week. Moreover, the purely visual evaluation of the diaries makes it possible to render visible type differences as *processual patterns* and discriminate between them. This, in turn, permits the characteristics of a particular type to be further differentiated.

Perspectives for qualitative network analysis in cross-media research

The point of departure for this contribution was a particular understanding of qualitative network analysis that did not assume that all qualitative studies using the concept of network should be treated as instances of qualitative network analysis. Instead, this conception was limited to those approaches in which analysis and evaluation were specifically aimed at the identification of networks. In the case of the study of communication and media, we can distinguish two kinds of qualitative networks: first, those that aim to describe the media-relevant actors engaging in a social network (for instance, media politicians or those involved in the media business) and, second, those that describe communication networks and their facilitation through a variety of media. For this kind of qualitative network analysis, we introduced the procedure of contextualised communication network analysis as applied to the 'mediatised horizons' of young people's communitisation.

We consider this procedure to be suited to qualitative network analysis concerning "cross media use" (Bjur et al., 2014): Through the triangulation of various methods of data collection and evaluation, it is possible to gain a differentiated insight into the specific structures and processes of communication networks across a variety of media. The procedure can be adapted to very different issues and phenomena. Its specific character arises from the way it involves a differentiated description of (mediated) communication networks while, on the other hand, making the object of study the prominence of these communication networks for communicative processes of construction.

This procedure has proved itself by rendering a variety of diverse data usable for practical ends, which has led to productive results. Drawing upon more general social science discussions (Hollstein, 2011) and their use in the study of communication and media, we consider there to be three particular points requiring emphasis in contextualised communication network analysis. These three points highlight the promise of approaching our problems from the perspective of cross-media research:

· *Openness*: As with other qualitative approaches, one major advantage of the procedure outlined here is its (exploratory) openness. It makes possible the understanding of emergent phenomena. Here, we have focussed on communicative relationships and their associated communicative constructions (and, in our case, mediatised perspectives of communitisation). We believe that this openness suits the procedure to the study of new phenomena in media and communication, as the cross-media approach does.

· *Reconstruction of meaning*: A second feature of our analytical approach is that it becomes possible through the interviews to reconstruct the meanings and ascriptions that individual actors associate with particular communication networks. In the examples introduced here, this relates to the meaning imputed by the particular interviewee to their communication network and the mediatised social perspective thereby constructed. This is of relevance for cross-media research since it puts emphasis on the contextualised sense-marking of the variety of different media.

· *A processual perspective*: Our analysis opens up a dual processual perspective on communication networks conducted through media. First, this involves the "process of networking as social practice" (Wittel, 2008,: p. 168). We not only identify network structures (from the freehand network sketches) but also the cross-media practices establishing these networks (though the qualitative interviews) or the cross-media process of networking as such (through the media diaries). Through this, we can gain access to the dynamics of cross-media communication.

Given these three particular features – which, in turn, relate to features of qualitative network analysis – our procedure is especially suited to the phenomena arising from changing media and communication; it not only reveals the presence of "new" phenomena but also that of "emergent" phenomena. This makes it possible to identify situations and processes of transformation.

Nevertheless, despite all the existing discussions of "cross-media research" (Bjur et al., 2014), these possibilities have up to now been relatively neglected. In cross-media research so far, studies have tended to focus on the reconstruction of a specific repertoire of media usage, using q-sort techniques (Schrøder & Kobbernagel, 2010) or questionnaires and their analysis (Hasebrink & Domeyer, 2012). We hope that our paper will prompt more widespread use of qualitative network analysis in this field of study.

Notes

1   See the following website for additional information about the software, MedTag, mentioned in this article: http://www.zemki/uni-bremen.de/de/forschung/forschungs-app.medtag.html

2   All names used here are pseudonyms.

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