

Intersecting audience activities: An audience studies perspective on the materiality of design, platforms and interfaces

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Abstract:

With the advent of software-based digital media, aspects of materiality have come to the fore in media-related strands of research. The leading question for our analysis lies on how the materiality of design, platforms and interfaces is being discussed theoretically and researched empirically in contemporary audience studies. We portray materiality as a perspective on audience intersections with digital media and ground it within classical approaches, such as those of Marshall McLuhan and Raymond Williams, and within more contemporary approaches from actor-network theory (ANT) to software studies. Our analysis then shows three understandings of user-audiences in studies on the design of software, platforms and interfaces: the appropriating, implied and embedded user-audiences. Although we specifically focus on materiality, we do not lose our focus on people's relationship with digital media. On the contrary, our approach helps us to acknowledge the dynamics of the variously contested fields in which media technologies emerge as relevant to people's everyday lives. Finally, we take up recent critiques about the on-going hesitance to cross disciplinary boundaries. We aim to demonstrate the relevance of audience research in a cross-disciplinary area of research.

Keywords: Audience research, materiality, user, audiences, design, platform, interfaces, software

Introduction: The complex intersections of audiences with digital media

In August 2014, under economic pressure to become more profitable, Twitter overrated its power to steer users into communicating in new ways. The company changed some of its basic functions. It altered its timeline, letting it show tweets and retweets from the accounts that a user follows as well as tweets that other users marked as favourites. This upset many long-term users who had established certain practices within their daily use of Twitter. They perceived the new functions as working against how they wanted to and already were using Twitter, leading to widely publicised disapproval.¹ In fact, Twitter's on-going struggle with user growth numbers continues to result in such controversies.² Their on-going attempts to change how people use Twitter reflect current discussions in media and communication studies on how technologies shape people's media practices. But while media technologies certainly exert some sort of structuring influence on people's communicative behaviour, we should be aware not to neglect audience potential for resistance and alternative readings (cf. Best and Tozer, 2012; boyd, 2008; Livingstone, 2007). Audience intersections with media technologies are much more complex than these simple assumptions of cause and effect, as Twitter's failed attempt demonstrates.

Audience studies has a long-standing tradition of analysing audience activities, people's everyday media practices and the interpretations and meanings that people ascribe to media and their content. However, when looking at current literature within audience studies, we can also see that in the case of digital media, the question of media technologies' materiality has become pertinent in new ways—for instance concerning user interpretations of platforms or the workings of software. Good examples can be found in Livingstone's (2007) study of the appeal of web interface design to teenagers or in Das and Pavlíčková's (2013) study of children's understandings of authors behind the interface and software of social networking sites. Research from the field of audience studies has consequently started to draw from various fields, including science and technology studies and software studies, in order to gain an understanding of a hitherto often black-boxed perspective on media technologies. In order to come to a comprehensive understanding of people's intersections with media technologies, we argue that there is a need to juxtapose micro and macro level questions in research (cf. Berg, 2012; Boczowski and Siles, 2014; Couldry and van Dijck, 2015). First, we believe it is relevant to consider the materiality of technology and software when studying audience and user practices, interpretations and intersections with these technologies. Second, it is equally important to maintain a micro perspective on user and audience practices when looking at macro questions of media technologies, software functioning and questions of political economy. As we will show, we can see those perspectives reflected in three understandings of users and audiences that we deduced from current audience studies literature on the design of software, platforms and

interfaces. Our systematisation is based upon a qualitative inductive analysis of audience studies-related articles on design, platforms and interfaces from the last ten years (2005-2015). We focused on the exact terms 'design', 'platforms' and 'interfaces' in our search because of their closeness to the actual media phenomena in which we were interested. Our approach is thus a first step in the analysis of materiality within audience studies. Starting with the Web of Science database, we searched for these initial keywords within the social sciences and the research areas of cultural studies, communication and sociology. From the results, we assessed whether an article was coherent from an audience studies perspective, based on the criteria of the overall approach within the CEDAR network (cf. Das and Ytre-Arne's editorial to this Themed Section). Overall, we assembled 33 articles, which were then systematically assessed based on the object of study (phenomena), theories, main concepts, understandings of audience, technology and materiality, description of audience activity, as well as social and cultural implications and actor constellation.

Before presenting our results, we are going to briefly recapitulate classical as well as more recent approaches that deal with people's agency and media technologies. It is a discussion that mirrors long-standing debates on the role of technology within societies. As demonstrated above, our primary interest herein is not to solely focus on people's everyday contexts of agency and their media practices but to look at the same time at the materiality of digital media. There is an established wealth of insights, theories, concepts and methods for audience practices and appropriations, but technology and especially software have only recently become matters of interest in audience research and other communication disciplines (cf. Lievrouw, 2014, for an overview). By demonstrating how users and audiences are being conceptualised in current literature on the design of software, platforms and interfaces, we will point out how each of these understandings often implies a specific perspective on the materiality of digital media. At this point, we see potential for a continued endeavour into the mutually enriching analysis of the materiality of digital media combined with an analysis of audience and user activities.

Materiality as a perspective on audience intersections with digital media

In recent years, studies from a critical cultural perspective have started embracing questions concerning software-based media. Their focus has been on specific aspects of new digital media technologies, such as the creation of new connected spaces in which people now communicate (van Dijck, 2012), the so-called Web 2.0 that has allowed user involvement in content creation (Harrison and Barthel, 2009) or analyses of specific functions in digital media, such as social media buttons (Geiß et al., 2013; Gerlitz and Helmond, 2013). Some studies have raised the question of the role of audiences within such software-enabled media environments and the relevance of the concept of audiences in times when people's activities with digital media are described as 'using' rather than 'audiencing' (Livingstone, 2004; Livingstone and Das, 2013; Ridell, 2012; see Ridder et al. in this issue). More directly informed by audience studies are discussions around the multiplication and pervasiveness of platforms and interfaces through which people now communicate (Couldry, 2009;

Livingstone, 2007). This comes with observations on a shift from centralised to more interpersonal communication and changing relationships between producers and consumers with new hybrid roles for audiences (Couldry, 2009; Kalmus et al., 2009; Sundar and Limperos, 2013; van Dijck, 2009; Wright and Street, 2007; see Pavlíčková and Kleut in this issue). Despite a general focus on transformations, there are studies that explicitly highlight continuities in people's communication (Harrison and Barthel, 2009; Ibrus, 2014, Carpentier, 2011).

These studies stress the complex actor-constellation when it comes to digital media, including people in their multiple roles as users, audiences, consumers and producers as well as media companies, platform providers, designers and sometimes technology as a non-human actor (Gillespie, 2010; Goggin, 2014; Graham and Whalen, 2008; van Dijck, 2012; 2013). Media technologies seem to either exert an impact on these diverse actors, i.e. they are seen in constellation with these actors, or they are seen as being shaped by them. Much discussion, therefore, starts from an observation of the dynamics between the many different actors involved in the production and consumption of platforms, interfaces and designs. These new constellations, in combination with newly configured media and communication systems, have led to calls for theoretical and conceptual developments and reassessment, stressing on the one hand the importance of refining existing theories or concepts and highlighting on the other hand the relevance of crossing disciplinary boundaries in order to develop adequate approaches to studying software-based media (Boczkowski and Siles, 2014; Graham and Whalen, 2008; MacKenzie, 2006a; Sundar and Limperos, 2013; van Doorn, 2011). In this context, the diversely defined concept of materiality is often applied in order to assess the role that technological components play within the actor constellations surrounding digital media.

In her encompassing overview, Leah Lievrouw (2014: 25) defines 'materiality as the physical character and existence of objects and artifacts that makes them useful and usable for certain purposes under particular conditions'. She further argues that these physical objects of media and communication technologies are closely connected with articulations of practices and social arrangements (Lievrouw, 2014; Lievrouw and Livingstone, 2006). This close connection, then, points towards two questions that have historically been linked with the discussion not only of media technologies and people's media practices, but more broadly with the relationship between technology and society. First, the question of direction of influence, which revolves around the attributed importance of the materiality of media for constituting social arrangements (macro-level) and communicative practices (micro-level). Second, there is the question of the relationship between content and materiality and the focus placed on the role of each in studying communication. These two questions are asked anew in the context of digital, software enabled technologies, but they resonate with classical communication debates between technological determinism and cultural determinism. In the following sections, we will touch briefly upon theories and concepts that, at least in part, inform studies of audience intersections with digital media technology.

Within critical cultural scholarship, the two questions outlined above are often viewed through the foundational debate between Raymond Williams and Marshall McLuhan on the intertwining between the concepts of medium and technology. McLuhan (1964) was predominantly concerned with the technological nature of the media, claiming that all media – regardless of the messages they communicate – exert influence on individuals and society. In his historical analysis of the interrelations among people, technologies and social practices, McLuhan concentrates on the underlying structures of transmission and message creation, on the technological environments that are ‘not merely passive containers of people but active processes that reshape people and other technologies alike’ (1962: 7). Williams argues for a two-way direction of influence: media can be seen as cultural technologies whose specific formation can be explained from overall societal, cultural, economic, political and technological transformations. They constitute the context for newly emerging forms of agency, practice and eventually lead to new cultural forms and technologies. At the same time, they are always based on and therefore reflect already existing cultural and societal forms of communication (Williams, 1975). Form emerges both from and within specific technologies as well as from specific practices and intentions. At the risk of oversimplification, we can agree with Federica Frabetti (2015, xiii–xiv) that media and cultural studies has been informed by Williams’s approach, focusing attention on the cultural and social formations surrounding technology and dismissing McLuhan’s approach for fear of technological determinism. Yet, it is pivotal to acknowledge that the question on technology has entered media and cultural studies precisely thanks to McLuhan’s persistent emphasis on it.

Contemporary thinking about media technologies is partly derived from Williams’s and McLuhan’s writing, but it is equally informed by new theories. The list—of course indefinite, with sometimes large variations between approaches and with different claims to the status of theories—encompasses media ecology (Postman, 1992; Kittler, 2010; Fuller, 2005); software studies (Fuller, 2008; Manovich, 2008); cultural technology (technological culture) approach (Slack and Wise, 2005; Bolin, 2012); social construction of technology (SCOT) (Oudshoorn and Pinch, 2003; Pinch and Bijker, 1984); actor-network theory (ANT) (Latour, 2005) and domestication theory (Silverstone, Hirsch and Morley, 1992). In terms of examining the role of users regarding information and communication technologies, the last three frameworks seem to be dominant (Haddon et al., 2005: 3-5). Interested in the ‘co-construction of users and technologies’ (Oudshoorn and Pinch, 2003), SCOT studies accentuate innovative use, creativity, user criticism and, to a lesser degree, the role of technology in configuring users (Woolgar, 1991). An ANT framework is usually employed within studies that allow for some workings (agency) of technology, i.e. technological actors (actants) within a network. ANT’s relevance to media studies is debated (Couldry, 2008), but ‘its antifunctionalism and its general skepticism about essentialized notions of the social, the technical, the cultural’ (Couldry, 2008: 99) are praised. ANT has also influenced Slack and Wise’s (2005) conceptualisation of cultural technologies that are formed by articulations

among the physical arrangements of matter, typically labelled technologies and a range of contingently related practices, representations, experiences and affects (p. 128).

Contemporary media ecology approaches, derived from Innis (1986) and McLuhan (1962; 1964), concentrate on media structures with a view of environments constituted by 'massive and dynamic interrelation of processes and objects, beings and things, patterns and matter' (Fuller, 2005: 2). In the vocabulary of media ecology, the study of materiality is even more important when media structures are immaterial and affordances are based on algorithms and codes. They give rise to 'the language of new media' (Manovich, 2001) marked by numeric representations, modularity, automation, variability and transcoding. Developed to a large extent from media ecology, software studies question the neutrality of software and its interfaces and provide accounts of cultural embeddedness of the codes (Mackenzie, 2006b). As an actant, to use ANT terminology, software enables and guides practices with certain cultures and ideologies of production inscribed in them. However, 'software-informed audience research' is still underdeveloped (Hight, 2015: 63).

These snapshots of theories and concepts are already indicative of diverse handlings of the intersection of audiences with media technologies, exemplifying the different understandings of the relationship between agency and structure, as well as new conceptualisations of this classical question. When taking a closer look at how audiences and users are conceptualised in contemporary literature on audiences and media technologies, these differences become even more prominent.

Three understandings of audiences at the intersection with technology: appropriating, implied, embedded

Although the materiality of technology in its different forms has been significant in media and cultural studies for a long time, its presence in studies on media audiences has varied. Generally, studies on new media have been concerned either with user practices or material-structural aspects, but only rarely has the micro-perspective of audiences or users been combined with the macro-level questions of operational logic or political economy. However, this perspective increasingly emerges within the field, as our analysis demonstrates. We deduced three understandings of people's roles as audiences and users emerging from studies on the design of software, platforms and interfaces in digital media: appropriating, implied and embedded user-audiences. These understandings are not mutually exclusive. On the contrary, they complement each other. Their differences rather lie grounded in a distinctive analytical and theoretical focus on audiences and digital media. Our distinction is in large part compatible with previous systematisations of audiences from non-digital contexts, so that even in times of the user, audience studies contributions still prove more than viable (cf. Livingstone and Das, 2013). Each of these understandings of audiences then comes with a specific view of audience intersection with media technologies. Our systematisation highlights this close connection between the materiality of media technologies with people's media practices and their communicative agency. By explicating these implicit understandings of technology within current audience studies

research, we want to make an argument for the intersections of audiences with media technology and for a combined perspective on both as a fruitful field for future research.

Appropriating user-audiences

The first perspective on user-audiences that we derived from the material conceptualises the user-audience in their active appropriation of the design of software, platforms and interfaces. These studies approach the appropriating user-audiences from different perspectives, among other media practices, SCOT or domestication. Decoding and domestication practices are, for example, being analysed in order to answer how people make sense of digital media (Livingstone, 2007; Bakardjieva, 2006). Some studies introduce the concept of affordances (Gibson, 1977; Hutchby, 2001) to stress the interdependence of technological opportunities offered by the software-based environment of a specific interface and the active forms of decoding, interpreting and appropriating from the audience side (Kaun and Stierstedt, 2014; Kavada, 2009). The understanding of technology associated with these approaches sees technology – often from a social constructivist understanding – as interpretable and transformable and, therefore, tends to conceptualise technology and more specifically software as text (Grint and Woolgar, 1997; Woolgar, 1991). On the one hand, it is media practices that user-audiences are developing and applying. On the other hand, it is the technological components that together account for the ways in which digital media are being constructed. The methodological focus, therefore, lies on the analysis of audience media practices as well as on their interpretations of interfaces while at the same time – as exemplified by the affordance concept – acknowledging the formative role that the materiality of media technologies can take as part of the equation. In this understanding, it is central to see that audience media practices are also habitual in moments of transgressing from old to new media environments (Couldry, 2009; Ibrus, 2014). People with their habitualised media practices are then co-constructing the form that media are taking. But, at the same time, in accordance with ANT, technologies in their materiality are coming to be seen as agents/actants or, put less drastically, as formative in the overall actor-constellation surrounding digital media.

While the affordance concept acknowledges that the production side plays a prominent role in grasping the significance of the materiality of media technologies, it does not prominently highlight the agency behind it. In classical applications of Stuart Hall's (1973) decoding/encoding model, the way people actively associate meaning with a text is analysed for both sides – for producers and receivers. Just as with other media content, studies also show that the constructed meanings associated with a text in online content can differ immensely between the two sides, sometimes leading to resistant readings of technology as text (Best and Tozer, 2013; boyd, 2008; Livingstone, 2007; Saariketo, 2015). While the appropriating user-audience already hints at the wider actor-constellation in which audiences find themselves, the following two understandings of user-audiences focus on this aspect more specifically.

Implied user-audiences

The production side is more explicitly addressed in studies which, for example, analyse how web designers go about designing a website or complex interface thereby contributing and actively designing their material form. User-audiences are still crucial here in their role as implied user-audiences. This understanding reflects the classical concept of the implied reader in audience studies with some adaptation to the environment of digital media (Booth, 1961; Eco, 1979; Iser, 1974; Liebes and Katz, 1990; Livingstone and Das, 2013). The focus in such studies lies on the question of what kind of implied uses web designers, website providers or media companies anticipate for and project onto future audiences and users, while addressing the processes underlying the production of software-based media (Alby and Zucchermaglio, 2007; Gerlitz and Helmond, 2013; Graham and Whalen, 2008). Media technologies are then designed to serve specific purposes and to solve specific problems. Audience interpretations are sometimes only conceptualised as further stabilising these predetermined purposes (Colbjørnsen, 2015; Gordon and Baldwin-Phillipi, 2014).

Studies starting from this understanding concentrate on the inscription of form into the technology, which often implies questions of how producers contribute and co-construct the materiality of media technologies in the production process, be it their materiality as physical artefacts or their materiality as software-based media. The form that a media technology then takes enables it to shape and structure audience media practices. This understanding resonates with the idea of technologies as articulations and assemblages by Slack and Wise (2005), which is a current example from the technological culture approach. While articulations refer to ‘physical arrangements of matter and a range of contingently related practices, representations, experiences and affects’ (p. 128), assemblages indicate the way in which these elements create ‘a particular dynamic form’ (p. 129). People’s agency in appropriating media in the role of audiences is still generally acknowledged, but the analytical focus does not lie upon these practices.

The idea of implied user-audiences and the idea of an actively appropriating audience are, therefore, not mutually exclusive. In studies on implied user-audiences, the analysis is, however, centred on how affordances or assemblages are being established in practices of production. At the same time, the way audiences are already using and appropriating specific media influences how new designs are being anticipated in the production process (Harrison and Barthel, 2009; Ibrus, 2014). This mirrors Williams’ ideas of cultural materialism and his concept of a two-way-direction of influence (1975).

Embedded user-audiences

The third understanding of user-audiences moves away from a micro-perspective on audiences and their either appropriating or implied practices. Audience studies has always been concerned with the overall actor and power constellations into which audiences are embedded. This strand of research is mostly associated with critical approaches as, for example, in a political economy perspective on audiences. Such a macro-perspective can at the same time still recognise people’s media practices on a micro-scale as relevant to

overarching societal structures. Audiences in this context may be adopters and appropriators of technology (Best and Tozer, 2012; Goggin 2014). However, while people's activities of appropriation, decoding and consumption are acknowledged, this does not necessarily equal a powerful position in the overall actor-constellation. In this context, Christian Fuchs calls for a critical internet theory. From a political economy perspective, he describes users as being degraded to a commodity on social networking platforms, which is being sold to advertisers (Fuchs, 2009). Others criticise the metrification of user practices in order to serve companies, platform providers or advertisers' interests (Gerlitz and Helmond, 2013). Gillespie (2010) critically discusses how the alleged neutrality and givenness that the term 'platform' implies is overlooking the complex processes and interests behind the emergence of a digital medium and therefore manifests the technologically-enabled medium as a black box. In a similar way, van Dijck (2009) rejects using 'web service' as a term to describe digital media. For her, talking of 'services' is one form of the persuasive logic used by digital media companies and a way to hide their commercial data gathering logic.

What these approaches have in common is that they take into account both the production as well as the consumption, usage and appropriation of digital media. The material dimension of media technologies is conceptualised as formative for people's media practices, which are implemented to serve economic interests. Instead of being a neutral platform in relation to which people establish certain practices, digital media are purposefully designed to afford and assemble certain types of communicative behaviour. Media technologies can then be understood as a material, formative and institutionalised element in overall actor and power constellations in which user-audiences take one (active) role.

Conclusion: The intersection of material form and everyday practices

From an audience studies perspective, the role of the people who are using and consuming digital media is central. Just like for audiences of non-digital media, audiences and users today can be seen as appropriating or domesticating digital media. Such research is central for a communication sociological endeavour in order 'to identify not just the possible, but the *likely* dynamics of change' (Couldry, 2009: 439, italics in original) that come with new technologies. We have shown with our distinction between three understandings of user-audiences in contemporary audience studies literature on the design of software, platforms and interfaces that taking the materiality of digital media into account opens up further perspectives on audience intersections with media technologies. Our focus herein was to explicate the underlying conceptualisation of media technologies that are connected with a specific understanding of audiences and the role that materiality plays for the intersections of audiences with such technologies. First, the understanding of user-audiences as appropriating media technologies focuses on how people's media practices shape the material form of media technologies and, consequently, the emerging forms of communication connected with these digital media. Second, research on implied user-

audiences concentrates on how media technologies are produced and created in their material form, enabling them to exert a formative potential on people's media practices and vice versa. Third, studies conceptualizing user-audiences as embedded implies an exchange of a micro for a macro-perspective. This articulates how the formative potential stemming from the materiality of media technologies is purposefully installed to serve specific interests and to reinforce the power dynamics among the actors that are jointly involved in the emergence of digital media.

Despite their differences, we can see overlaps between the three understandings of user-audiences. Their differences mostly stem from their distinct focus on specific actors within the overall actor-constellation and their respective relationship with questions of materiality. The appropriating audiences deal with audience practices, the implied audiences cover the production side and the embedded audiences are informed by a macro-perspective with a focus on economic or political actors. Their connection with materiality is expressed in the question of either how materiality comes to be or how the material dimension of digital media shapes audiences and their practices. However, the question of how materiality emerges and what role it plays in audience intersections with digital media does not have to be a question of either/or. Thus, we argue for a combined perspective, which might transcend the three understandings deduced from the current literature on the design of software, platforms and interfaces. Instead, it might be worthwhile to leave an actor-specific perspective behind and concentrate on the circularity of audience intersections with digital media.

As exemplified in the Twitter case from the introduction, people are not only decoding Twitter and its functions, but their decoding practices are closely connected with the encoding and production side. Their practices of appropriation can then shape how Twitter's functions are being developed and implemented. Hence, we support an approach in audience studies that not only looks at the analysis of everyday contexts of agency and practices but one that equally acknowledges the material form of the media that stands in close relation to these contexts and practices. Taking such an appeal seriously requires us to think about circularity, as expressed in Hall's encoding/decoding model (1973). Although it seems that decoding is more prominently addressed in contemporary research, the encoding dimension is just as important and proves valuable for an analysis of the materiality of digital media. The complexity of digital media requires more encompassing approaches, which on the one hand take circularity into account and on the other hand acknowledge that audience and user agency is much more complex if we bring the materiality of media into the equation. That is why van Dijck states that 'user agency can hardly be assessed from a mono-disciplinary angle, as the technological, social and cultural aspects of SNS and UGC sites are inextricably intertwined' (van Dijck, 2009). This means leaving traditional analytical distinctions behind and applying what Bozckowski and Siles (2014) have labelled 'a cosmopolitan approach'. On the audience side, audience studies have much to contribute. On the technology side, looking at and benefiting from other

disciplines is a tendency that is already emerging in contemporary audience literature, and this is worthwhile pursuing in future research.

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Notes:

¹ See <http://mashable.com/2014/08/20/twitter-timeline-changes-confirmed/> and <http://mashable.com/2014/08/22/twitter-users-timeline-changes/>.

² <http://mashable.com/2015/11/03/twitter-broke-my-heart/>.