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# Technological Materiality and Assumptions About ‘Active’ Human Agency

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## Abstract

*One of the most notable challenges to emerge from the materialist turn in media studies is the rejection of the ‘active audience’ paradigm of British cultural studies. And yet, in spite of the increasing attention to materiality, many of the problems associated with the split between German media studies traditions and those derived from cultural studies persist today. While no longer concerned with representation, privilege is nonetheless often granted to the material agency of ‘real people’ as that which shapes and determines the materiality of technology. This article is primarily a theoretical and methodological reflection on how materiality challenges – but sometimes relies on – long standing and often veiled traditions from cultural studies, especially as they move out of academic discussion and into the popular imaginary of social media and its ‘user-generated content.’ I focus on some deliberate attempts at excluding materiality found in cultural studies’ history, arguing that an emphasis on the agency of ‘real people’ can only happen through the deliberate erasure of the materiality of technology. Drawing on Ien Ang’s *Desperately Seeking the Audience* (1991), which argued that television ‘audiences’ must themselves be understood as produced in relation to the demands and interests of broadcasting institutions, I suggest that digital media ‘audiences’ are produced in relationship to the infrastructural power of servers, algorithms, and software. This demonstrates that any attempt to identify ‘human agency’ must also look at how this agency is co-produced with and by technological materiality.*

## Introduction

‘Materiality’ orients us to the physicality of technology, and how that physicality matters in the determination of social relation and cultural form. More than an isolated property, materiality “can be discerned as an expanded approach to analyzing neglected questions and areas in computation and culture” (Munster 2014: 328); it acknowledges the role hardware and software play in affecting whatever it is called ‘culture’ and requires an awareness of how media are not transparent channels used by human beings for communication with other

human beings. Today's turn to materiality follows from the work of Friedrich Kittler and the so-called 'German media theory' that emerged in his wake, combined with a renewed interest in Canadian media studies traditions associated with Marshall McLuhan and Harold Innis. These authors all stress the foundational, material role of the medium in shaping human experience, questioning the absolute centrality of 'the human' in accounts of historical change. When one considers the materiality of media, the human becomes an effect of technological storage and information transmission, a product of a semi-anonymous history in which technologies structure possibilities for perception, knowledge, and politics. The human is consequentially embedded in and emerges from a field of material relations; it is not a self-determined actor whose will calls the world into being.

Though this perspective has been embraced in a great deal of media theory, an emphasis on media content and the sovereignty of the human haunts much work on the cultural importance of digital media, in both research and teaching (Kember/Zylinska 2012: 3-8). Even in perspectives that position materiality as central to any understanding of media, the material nonetheless remains secondary to "narratives and the people who tell them" (Brunton/Coleman 2014: 80). While the limited focus on media representation has been successfully challenged, the determining agency of 'humanity' nonetheless remains central for many attempts to theorise media. Yet the turn to materiality is often understood as a general rejection of this overt humanism, associated with strains of media studies derived from British cultural studies (cf. Peters 2010; Winthrop-Young 2006). This is usually (and reductively) framed with the following: where cultural studies has stressed the active negotiation of ideology by audience members in constructing shared culture, advancing a politics that relies on the contestation of meaning and the affinities and differences produced through imaginaries and abstractions, Kittler and his followers have emphasised the role of inscription and technique in shaping just whatever it is that we can define as 'human,' prior to any active agency of that 'human.' Thus different forms of media studies are produced in opposition, one humanist and the other anti-humanist, one culturally determinist and one technologically determinist, one celebratory of 'active audiences' and the other uncertain if humans have agency. How these lines are drawn remains contingent and forever negotiated – and yet, as I want to argue, they nonetheless influence various attachments that continue to shape how 'materiality' is understood today.

The desire for materiality is not a self-evident one, even among those who are generally sympathetic towards this materialist turn. Whether or not materiality advances media theory or is a reactionary, dialectical response to the trends of the past decades is debatable. Cultural studies scholar Jeremy Packer has argued that this move is necessary as "digital media power is first and foremost epistemological, not ideological" (2013: 295). Today's media shape knowledge and bodies prior to any 'interpretation' or 'meaning' consciously negotiated by humans. Similarly, Geoffrey Winthrop-Young, who has done much to popularise German media theory in English, has noted that while "Kittler may have gone overboard" with his anti-humanism, "this was inevitable given that, prior

to his arrival, the boat was threatening to capsize on the other side" (2014: 377). Cultural studies, certainly, has had a tendency to neglect the material role of technology in favour of the 'resistant' creativity of interpretation. In contrast to Packer and Winthrop-Young, however, Jonathan Sterne has suggested that the "ever-receding horizon of materiality" is something that media scholars now believe "will fill a void we feel around us" (2014: 119), as if the desire for materiality – like any other intellectual trend – is akin to a neurotic searching for *das Ding* but only finding another *objet petit a* in the intellectual pursuit of truth.

We may like to imagine our theories as dispassionate statements evaluated through critical assessment, identifying false dichotomies and invented binaries in a gradual uncovering of something that may resemble 'truth'. Yet they often also serve as identities that carry with them affective investments. Theory does more than theorise; theory is an abstraction that labels a way of acting and intervening in the world. Arguments over the value of theory should come as no surprise, but like any other (modern) identity formed through the creation of a constitutive exterior, these categories can only be sustained through the invention of an enemy, an enemy that is dispatched as wrong, as reductive, as backwards and incapable of grasping the urgency of the present. As Meaghan Morris once noted about cultural studies scholars' rejection of another strain of German theory (and another, intertwined rejection of cultural studies): "To discredit a voice is something very different from displacing an analysis which has become outdated, or revising a strategy which no longer serves its purpose. It is to character-ize [sic] a fictive position from which anything said can be dismissed as already heard" (1990: 25).

In producing theoretical identities we often characterise the other as representing something specific and defined, and then complain about how our own self-identified tradition is misrepresented since it cannot be reduced to something specific and defined – it is more fragmentary and diverse than characterised; the label contains and constrains; someone else, beyond the boundaries of 'we theorists,' probably invented the name, anyway. What goes for identity categories elsewhere also goes for labels that define theoretical traditions. Labels have a performative force, producing an imagined consensus (where one may not actually exist), either to create a seemingly unified voice with intuitional power, or to group a number of different positions together to dismiss a range of voices as finished and irrelevant. These two functions are intertwined, and the invention of a new paradigm (and its 'coherence' as a paradigm) is only enabled through the distorted identification of that which is to be dismissed, yet repeatedly invoked to assure coherence.

This essay is a response to the materialist turn and the rejection of the assumed humanism of cultural studies, especially embodied by the 'active audience' paradigm. I do not intend to defend the creative power of audiences, as if the study of active audiences is as important and vital as it was in the 1980s. But the encounter between cultural studies' past and today's theories of media materiality needs a bit more nuance, or else these two forms of media studies do little more than name fabricated exteriors each uses to define their difference from the other. Cultural studies cannot be reduced to the interpretive

practices of audiences. German media theory and materiality cannot be reduced to an emphasis on the physicality of storage devices and media-technological infrastructure. A strict divide between materialist theories and cultural studies tends to reify these boundaries – as if cultural studies is devoted entirely to images and interpretations when its foundations emerged out of the production of a conjunctural and contextual model of ‘cultural materialism,’ as if Kittler were only interested in information processing and did not discuss at length the works of Kafka, Pynchon, and Pink Floyd through methods that are, ultimately, hermeneutic. If we assume there to be something ‘cultural’ that grounds the study of digital culture, then we should think about the competing ways we have of defining just what culture and materiality are without assuming some sort of rigid divide to characterise these different paradigms.

Thus, even though I’ve begun by discussing the bifurcation between materialist approaches and cultural studies, this essay follows attempts to undermine a rigid distinction between ‘culture’ (as made up of and by ‘humans’) and ‘materiality’ (as made up of and by ‘technologies’). As this perspective seems more commonly held by those who follow the traditions of cultural studies and how it has embraced anthropological methods associated with ethnography, I focus on some deliberate attempts at excluding materiality found in cultural studies’ history. I discuss how an emphasis on ‘people’ as agents requires the active exclusion of technological materiality from any analysis of how ‘people’ actually exist, relate, and perform ‘culture.’ Consequentially, there is a tendency to inflate the activity of ‘real people’ as somehow being intrinsically resistant. To avoid these simplistic claims about resistance and bridging these perspectives requires not a rejection of cultural studies in favour of materiality, but a rereading of cultural studies’ history to examine how materiality has often been central to its analyses of media – even if this materiality has been buried or dismissed as irrelevant. I begin with foundational debates that resulted in privileging ‘real people’ as the site of analysis in the history of cultural studies.

## Fans, Ethnography, and ‘Real People’

In 1992, Routledge published the massive volume *Cultural Studies* (Grossberg/Nelson/Treichler 1992), essentially the proceedings of the 1990 conference “Cultural Studies Now and in the Future” at the University of Illinois Urbana-Champaign. Unlike many books derived from conferences, it includes transcripts of the question and answer portion of a number of presentations. One of the most notable exchanges occurred between Andrew Ross and Jennifer Daryl Slack after Ross delivered his paper on the role of ‘New Age’ ideologies in the shaping of science and technology:

*Jennifer Slack:* I’m concerned that in using the term “New Age” you seem to have reduced this to a relatively homogenous movement. I see it far more complexly than that [...] To put this another way, you don’t sound like a fan [...]

Ross: [...] For the sake of polemical efficiency, I certainly assumed a coherence to the New Age movement that any larger, and more ethnographic, study would probably contest. There are reasons for this, however, some of which I have tried to suggest, and some of which you invoke when you say that I don't "sound like a fan." Some of the most exciting work being done in cultural studies, as you know, is ethnographic, and positions the critic in some respects as a "fan." (in Grossberg/Nelson/Treichler 1992: 553)

This exchange reveals a number of fragmentary points about the role of the researcher and 'appropriate' methods in cultural studies. It implies veiled questions that serve to differentiate the practices of cultural studies from other intellectual fields elsewhere, especially cultural criticism derived from the traditions of the Frankfurt School and forms of German *Kulturkritik*. Should the role of the critic necessarily dovetail with that of fan? The practice of the fan, after all, is here defined as supposedly more 'complex' than that of the 'reductive' polemicist. Should the critic emphasise the ethnographic study of people involved with the consumption and production of cultural goods, reflecting on his or her status as an observer *and* as a member of the audience or community being studied? Or should there be a kind of distance from one's object of study, reducing reality in a way that making a critical argument (supposedly) requires? These questions were formative for the specific paradigm referred to as 'active audience' criticism, in which ethnographic methods were employed to study fans and audiences – often with whom the researcher shared some affinity. The critic was to self-reflexively accede authority to the voices of 'the people,' embracing a kind of lived complexity and deferring argumentative force towards the voices studied.

Whether or not these ideals were ever actually accomplished, active audience research was a contextual response to a very specific problem in media studies, positioned at the front lines of battles between cultural studies and Anglophone media effects research, a number of Marxist-inflected versions of media criticism (which were often reduced with a dismissive invocation of 'Frankfurt School'), and generalised attacks on media audiences as 'couch potatoes' duped by narcotising, lowest-common-denominator culture propagated through television networks. If cultural studies was interested in questions of popular politics, then it would be a massive problem to assume that people were simply mindless, as if controlled by the images they consume. Early active audience criticism took to talking with and observing everyday people to question these assumptions about ideology and the mindlessness of everyday audiences – often with a great deal of ambivalence.

For example, in her classic work *Reading the Romance*, Janice Radway (1984) studied a group of Midwestern American romance novel readers, arguing that they were not mindlessly embracing patriarchal norms encoded into the books they read, as feminist critiques of romance novels suggested. The women Radway studied were using romance novels to form a community in which the banal disappointments of daily life were negotiated with a fantasy of sexual and romantic fulfilment unavailable to them otherwise. The novels enabled the women to cope with hardships produced by the patriarchal relationships that

they had to live with. Yet, as Radway makes clear, this did not mean that these readers were subverting the patriarchal message of the novels. Through the novels, readers would consent to patriarchy actively, both as a community and through scenarios where the failures of patriarchy are saved through fantasies of emotional satisfaction and 'empowered' heroines in idealized heterosexual relationships. As Radway concludes:

"In summary, when the act of romance reading is viewed as it is by the readers themselves, from within a belief system that accepts as given the institutions of heterosexuality and monogamous marriage, it can be conceived as an activity of mild protest and longing for reform necessitated by those institutions' failure to satisfy the emotional needs of women [...] At the same time, however, when viewed from the vantage point of a feminism that would like to see the women's oppositional impulse lead to real social change, romance reading can also be seen as an activity that could potentially disarm that impulse. It might do so because it supplies vicariously those very needs and requirements that might otherwise be formulated as demands in the real world and lead to the potential restructuring of sexual relations." (ibid.: 213)

Where Radway was ambivalent, most active audience research would overstate the political power of pleasure as a kind of unqualified resistance. As a result, it tended to provide a single, general answer for a wide variety of behaviour: people interpret things differently and therefore audiences are active; people are not 'cultural dupes' and resistance is everywhere. Pleasure is, in and of itself, political. If someone feels empowered, then surely they must be. The sheer popularity of this perspective led Meaghan Morris to remark "I get the feeling that somewhere in some English publisher's vault there is a master disk from which thousands of versions of the same article about pleasure, resistance, and the politics of consumption are being run off under different names with minor variations" (1990: 21).

While the questions that motivated active audience research certainly are not settled, it is hard to imagine them provoking any new insight for contemporary theory about media culture without serious revision – especially since this perspective has become so popular that online audiences are now assumed to be intrinsically active. But these debates emerged out of an intellectual moment that has long passed. Asking these questions today – even asking them in 1990, when Morris was complaining of the sheer preponderance of writings celebrating the active audience – is to wallow in an intellectual swampland that has no clear exit. It is – and this is a point I will return to later – a perspective that denies any real possibility for historical and contextual change, instead celebrating 'the audience' as a sovereign agent that exists outside of historical, cultural, and technological structures. That this perspective is associated with cultural studies, which is supposed to be a radically contextual intellectual practice, is thus particularly ironic.

## The Persistence of – and Problems with – Active Audiences

And yet, these celebrations of the active audience persist. In spite of a massive amount of criticism from within cultural studies (e.g. Grossberg 1997: 305-342), assumptions about the necessity of 'being a fan' and the privilege given to a kind of ethnography in understanding the complexity and diversity of the everyday lives of 'real people' endure in a surprisingly large amount of research on digital culture. 'Media Ethnography' has emerged as a distinct field within anthropology and media studies, generalising ethnography as an analysis of the 'actual system or site' and other forms of analysis as underdeveloped simplification (Fish/Srinivasan 2011: 137). These assumptions, even when they are no longer explicitly stated, have become sedimented into the practices of specific subfields of media studies, ensuring that the emphasis on audiences, fans, and ethnographic methods persists, especially in research on digital culture. And they exist beyond academic literature, as well. The internet is widely thought to 'empower' members of the audience through personal creativity and user-generated content, transforming passive consumers into active producers, an assumption that mirrors the legacy of active audience research, superficially reinvented as the axiomatic truth of Web 2.0 and user-generated content.

Research on digital culture has followed this privileging of the 'fan' through to the present most likely because of the massive impact of Henry Jenkins (2006; Jenkins/Ford/Green 2013), though it certainly surpasses his direct influence. For instance, in a series of studies on social media, Catherine Driscoll, Melissa Gregg, and Rebecca Brown have attempted to develop a model for the study of social media that they term "sympathetic online cultural studies," a method that "acknowledges that as researchers we are also active participants in online cultures and have personal investments in these sites no less than the 'native users' we seek to understand" (Brown/Gregg 2012: 358). One of the most well-known researchers of social media, danah boyd (2014), ethnographically examines what teenagers do with social media, concluding that there is little significantly different today than what teens did years ago, at least in terms of their social behaviour. And beyond social media, a great deal of research on videogames has increasingly examined active audiences and fans rather than platforms or games themselves (Behrenshausen 2012). In short, a debate that was already tiresome in 1990 persists in defining the theoretical limits and stakes of today's media criticism – a debate that reveals its increasing limitations in understanding media as we pay more attention to materiality in media studies.

There is nothing wrong with studying what people do online, and a self-reflexive understanding of where one stands as an observer is necessary for this kind of research. But a problem emerges when this quasi-anthropological perspective associated with fans and audiences begins to stand in for the *only* way of approaching media, as if other methods somehow fail at addressing 'reality' because they look somewhere else than self-reported and observed actions of human beings. For instance, "We assert the value of getting closer to the metal, and understanding in depth the technical architectures and processes

that underlie online phenomena,” claim anthropologists Finn Brunton and Gabriella Coleman, “but also assert that this dive into hardware is not a simple revelation of some true, foundational reality. When we peel back that deepest layer of materiality, we find people and practices underneath” (2014: 77). For Brunton and Coleman, media’s materiality is a distraction that obscures our real object of study: active audiences, producers, and internet users; materiality only matters insofar as people develop and hack the technological systems they have been given. While we need to address materiality so we can appreciate just what these people are doing – for instance, we cannot understand what a DDoS attack is without understanding the code and information architecture that enable it to happen – the materiality of software and hardware are nothing other than tools used by humans for pursuits that are ultimately about human desires and conflicts.

The ghosts of media theory past return with this understanding of ‘materiality.’ Materiality is acknowledged as central to contemporary media culture (and far more important than representation), but nonetheless is secondary to the active agency of creative and ‘resistant’ humans. This sets up a frustrating binary that differentiates ‘people’ from technologies and functionally erases the materiality of the latter for a series of unquestioned assumptions about the former. While we should agree with Brunton and Coleman that the technical materiality of computers may not be ‘true, foundational reality,’ it should not be assumed that the ‘people and practices underneath’ are, either – or, it should not be assumed that the two can be neatly differentiated. This attention paid to fans and audiences (and producers) implicitly carries with it a series of other binaries that privilege the creativity of human meaning-making practices over the formal, computational materiality of computers. This legitimates a worldview in which technologies only act insofar as they are agents of human will, and human subjectivity is stable and universal, as it exists unaffected by the contextual power of the technological.

There are a number of reasons for the persistent deferral to human agents – not the least that the actual, material capacities of technologies and software are simply invisible for most people, hidden by proprietary regulations and requirements that functionally exclude infrastructure from popular understandings of social media. The ethnographic methods employed in media studies, with the possible exception of those influenced by Actor-Network-Theory (Latour 2005), are simply unequipped to deal with the materiality of media. While classical ethnography regularly invested in material culture, as employed in media studies it tends to only observe what humans do or believe – and often so-called ‘ethnographies’ in media studies only describe survey or focus group research, or rely on field research limited to a relatively brief amount of time rather than actual ethnographic research practices (Perterra/Turner 2013). Even if one attempts to move beyond the human, the materiality of most contemporary media is ‘black boxed,’ from the software on which it relies to the specific pathways its networked infrastructure follows. The people are the only parts that are easy to observe. Much of today’s technology can merely be “reverse engineered” (Gehl 2014) if one wants to even begin to approach it in its materiality.

Most humanities and social science researchers are not trained to comprehend how, for instance, Facebook's data architecture actually operates. It is impossible for humans to chart the totality of today's technological systems because of their massive scale, even if one may possess access to these infrastructures and have the knowledge to interpret them (cf. Chow et al. 2014). This does not mean that this task cannot or should not be performed. In spite of the seemingly asymptotic relationship to materiality as it withdraws into the distance, black boxed from conscious access, any deferral to the innate sovereignty of human intention in the face of these technical infrastructures is either anti-intellectual or a wilful distortion that erases from 'culture' the entirety of the world that is not made up of human beings.

The willingness to dismiss the role of technology in shaping culture is a blockade, in which the term 'technological determinism' can be trotted out to perform the dismissal of materialist arguments as irrelevant or blinded to the 'reality' of 'real people.' I want to propose a different way of looking at audiences (and people) than as fans we study ethnographically, as communities with the 'real agency' in producing culture. I argue instead that the 'people' online are literally invented by technological systems, produced through the material infrastructures of today's technologies. 'Users' or 'audiences' are not things that exist separate from the systems in which they are embedded. Thus, the materiality of technology challenges the persistence of ethnographic and fan-centred methods in media studies discussed above because categories like 'audiences,' 'users,' and 'fans' must be understood as contingent labels that exist entirely – and only – in relation to a technical apparatus that produces 'audiences,' 'users,' or 'fans.'

This is a view often espoused by media theorists who follow the insights of Kittler. However, rather than embracing the divide between cultural studies and materialist arguments about technology, to make this argument I am going to return to Jen Ang's *Desperately Seeking the Audience* (1991), often considered a classic of the active audience paradigm of media studies. Ang traces the ways that television broadcasting institutions produce audiences through statistical and technological methods. But, she concludes, these methods never get at the 'real' audience of people watching television, the meanings they make together, and their interests and motivations. While Ang optimistically suggests that audiences resist, or at least challenge, the statistical and technical metrics designed to determine television viewership, I argue that the move from television to digital media can be identified, in part, as a move from audiences to users, in which individual identity is more fully associated with the metrics that media institutions use to produce individuals as users, rather than as undifferentiated members of an audience. This happens to have historical precedents in the technologies Ang describes – and ultimately dismisses because of her adherence to the belief that audiences are active and escape colonisation by technologies designed to predict and control.

An ethnography of digital culture cannot be performed without an interrogation into the technical materialities that produce so-called 'human' subjectivities. Through Ang, I intend to push Anglophone research on active audiences

in the direction with which it is usually contrasted – the anti-humanistic media theory developed after Kittler – in order to more productively engage with themes of technological and humanistic agency than are often developed in theoretical and popular accounts of audience creativity and ‘user-generated content’ in today’s research on digital culture.

## Inventing ‘The Audience’

*Desperately Seeking the Audience* begins with a conversation between Ang and Jo Holz, a News Department researcher for the American broadcasting network NBC. According to Holz, “industry people are much more inclined to see the audience as active than critics who worry so much about the effects of television from an outside perspective. We just cannot afford to sit back and think of the audience as a passive bunch that takes anything they’re served” (Ang 1991: ix). Ang uses this conversation to introduce the primary insight that motivates much of the television industry, yet, as she sees it, has been ignored by countless academics who study television: the audience is active, as evidenced by the inability of television networks to actually get people to watch TV in a predictable way. “Ultimately, then, the problem of (lack of) control amounts to one thing: the impossibility of knowing the audience – in the sense of knowing ahead of time exactly how to ‘get’ it” (ibid.: 19). Television broadcasters are “desperately seeking the audience” because they simply cannot control what people watch on TV.

Ang’s book is considered to be a classic of active audience research because it begins with the active audience as a simple fact and concludes that any deviation from the active audience paradigm is a fundamental distortion of what ‘real’ audiences are actually doing. It thus implicitly makes a case for the ethnographic study of audiences as the only real way to know just what ‘audiences’ are doing at all. But Ang makes these claims in a strange way, as her book is not about audiences but about broadcasters and the technologies they use to define, produce, and predict the viewing behaviours of audiences. I want to suggest that Ang deviates seriously from the active audience tradition since she ceases to follow members of the audience and instead examines how broadcasters *correct* for the *problem* of the active audience. While she states that the ‘institutional view’ of broadcasters is effectively a misrepresentation of the ‘real’ audience watching television, her book is devoted towards the examination of how this knowledge “is produced as a result of the symbolic travels that are initiated and orchestrated by the institutions into the obscure territory of the audience; they lead to a capturing of ‘television audience’ as an object of knowledge, object of scrutiny, object of control” (ibid.: 24). And this is performed primarily through the use of techniques that materially control and monitor how people engage with the medium of television. While her argument is about the agency of *people*, the evidence she relies on examines *the material agency of technology to shape subjectivity*.

The television industry primarily manages viewers through various rating technologies. These technologies change over time in relation with the increasing scale of the technological assemblage identified by the term 'television,' correcting for numerous problems with rating accuracy as the medium itself changes. Ratings agencies, the most well-known American agency being Nielsen, would historically employ techniques such as diaries, in which specially selected 'Nielsen families' would write down what they watched. The popularisation of cable television and the VCR created fairly obvious problems for these agencies and their methods, as "the more 'freedom of movement' viewers have, the more intricate and perplexing the situation for the industry becomes" (ibid.: 72). In writing down their television viewing, families would often exaggerate their viewing, or state that they were watching programmes with an assumed level of cultural value, programmes that they were 'supposed' to be watching because of educational or informative content. With the wealth of possibilities to consume enabled by cable and the VCR, "Viewers could no longer be trusted to report their viewing with sufficient accuracy: they lack perfect memory, they may be too careless. In short, their subjectivity has become too problematic!" (ibid.: 73) Different technologies were introduced that were more 'objective,' such as the electronic setmeter, which would automatically note what was being screened on the television set but could not account for demographic information about specific viewers, tastes, and interests – this demographic data could only be accounted for by diaries which were, again, notoriously inaccurate.

The problems of diaries and setmeters were supposedly solved through the creation of the 'PeopleMeter,' a device introduced in Boston in 1983 by British research firm AGB (or Audits of Great Britain). Nielsen invented its own version of the PeopleMeter soon after, named the Homeunit. Ang describes these devices as follows:

"A people meter is an electronic monitoring device that can record individual viewing rather than just sets tuned in, as the traditional setmeter does. When a viewer begins to watch a programme, he or she must press a numbered button on a portable keypad, which looks like the well-known television remote control device. When the viewer stops watching, the button must be pressed again. A monitor attached to the TV set lights up regularly to remind the viewer of the button pushing task. All members of a sample family have their own individual buttons, while there are also some extra buttons for guests. Linked to the home by telephone lines, the systems' central computer correlates each viewer's number with demographic data about them stored in its memory. The AGB people meter for example was capable of continuously monitoring the activity of up to four sets in each household, including VCRs, and monitors 97 channels." (ibid.: 79)

But there are limits to this system – it does, after all, require the active input and cooperation of television viewers. In response, different forms of passive television people meters were proposed, some serious, some clearly jokes. These passive meters included the implantation of electronic microchips in the navels of family members and 'the whoopee sofa,' a couch designed to electrically measure the posteriors of family members, identifying who is watching TV at

a specific moment in time. In June of 1989 Nielsen even developed a plan with Princeton University's David Sarnoff Research Center, proposing a system that would use facial recognition to get rid of the need for viewers to correctly to push their corresponding button on their home people meter.

"Institutional knowledge does not only offer us limited insight into the concrete practices and experiences of television audiencehood; it is also ultimately unable to supply the institutions with the definitive guarantee of control they so eagerly seek" (ibid.: 154). The longstanding attempts of broadcasters to produce and capture 'the audience' seem to inevitably fail, as the meanings and affects that ground television viewing are missed as different technologies are invented to more accurately measure and monitor audiences. Where there is power there is resistance, and if the apparatus of power does not seem to work particularly well then one may conclude, as Ang does, that the audience is inevitably one that 'resists' the institutions designed to monitor and control for the purposes of political economic regulation.

But this is a bizarre conclusion to make given the emphasis on how technologies produce audiences throughout her book. After outlining the history of these technologies and metrics – technologies that have very real effects in determining what gets on television, how advertising is distributed, what gets funded, how current events are covered, and so on – Ang seems to dismiss the entire economic, technological, and institutional apparatus that is 'television' in favour of the unexamined agency of 'real people' who she does not really discuss. While 'the audience' may be a fiction produced by the television industry through technologies, ratings, and metrics, *it is still a fiction that structures the empirical reality of the television industry*. It is still 'true' and has a massive amount of force in shaping what television is, how people engage with TV viewing, and how people come to matter as part of the assemblage of 'television.' And this has only intensified in the years between Ang's book and the present. The innovations in monitoring that Ang mentions seem to be invoked as science fictional fantasies too outlandish to ever become reality, inviting the reader to chuckle along at a litany of absurd devices invented to capture the audience. But today, Microsoft's Kinect for their Xbox gaming and media platform uses a thermal camera to – as has been proposed – identify who people are, their gestures, and their television interaction habits, including heart rate and whether or not one's eyes are open, effectively solving many of the problems that long characterised people meters. As quoted in *Advertising Age*, Yusuf Mehdi, the corporate vice president of marketing and strategy for Microsoft, has suggested that the data gathered by the Kinect is

"a little bit of a holy grail in terms of how you understand the consumer in that 360 degrees of their life. We have a pretty unique position at Microsoft because of what we do with digital, as well as more and more with television because of Xbox. It's early days, but we're starting to put that together in more of a unifying way, and hopefully at some point we can start to offer that to advertisers broadly." (Neff 2013)

In reading her book today, Ang is actually tracing the longstanding industry desires that have shaped today's turn to 'big data' in digital culture, demonstrating how technologies produce audiences as subjects that have economic value for entertainment and media industries. Television ratings are important historical developments that shape today's desires for big data analytics over social media. The limits of television ratings were defined as problems that could be potentially solved through the accumulation of increasingly large amounts of data, a 'solution' that directed the commodification of social technologies from their initial development. However, in stressing how this 'audience' is a fictional distortion that will never lead to 'real' knowledge about 'real' audiences, Ang claims that these technological developments are *ultimately meaningless*, as if technological changes do nothing in the face of a semi-eternal creative agency of everyday people. Her emphasis on the divide between the audiences produced by industry and technology and 'actual audiences' positions the former as a contingent falsehood and the latter as an object that exists outside of history, in which historical context does little to nothing to challenge the existence of a kind of creativity that can always, inevitably, stand up to institutional power. We should be clear when stating the crux of this argument: the only way that these ratings technologies can be dismissed is by positing something – a 'real audience' – that exists as an authentic source of culture beyond any specificity of context.

This is, needless to say, a problem. Technologies, while they serve as institutional means to produce specific figures that have cultural, economic, and social value, are understood as inevitable failures. Because the subjects invented by a specific technological apparatus (be it 'audience' or, as we will turn to momentarily, the 'user') do not perfectly correspond to 'real human beings,' it is assumed that they do not actually matter. At the same time, 'real people' are somehow positioned as *outside of culture*, as makers and inventors of culture who exist fundamentally unaffected by culture itself, as if culture is nothing other than an expression of the authenticity of ordinary individuals that – simultaneously – has no effect on those individuals. This same relation can thus be transposed onto any new technological development. The role of technology in controlling and producing subjects is something that fails because it can never fully capture the 'reality' expressed in everyday creativity. It may produce some sort of subject or object, be it the 'audience' or, today, the 'user,' but this entity has no relation to 'real people' and therefore does not matter. This argument can be repeated in countless variations, for every new technology, positioning technological change as something that has no real effect on the rest of culture since it does little to change the everyday acts of humans.

## Desperately Seeking the 'User'

To conclude, I want to suggest that bridging the perspective offered by Ang and today's materialist theories of media is simple: one must avoid positioning the 'human' or 'audience' (or any other creative agent) as somehow divorced

from or independent of larger socio-technical systems. Raymond Williams once remarked, “There are in fact no masses, but only ways of seeing people as masses” (2013: 10). This is a phrase often interpreted as an early celebration of the creative agency of the people. Where ‘masses’ are depicted as mindless dupes, the object of ‘the mass’ is an obscuring veil covering over the creative practices of everyday people. We could replace ‘masses’ with ‘audiences’ and have a motivating claim of the active audience paradigm. But the *problem* for institutional audience research in the 1980s was seeing people as *audiences*, rather than as *individuals* – the technologies invented by television broadcasters were not about identifying ‘audiences,’ but identifying individuals, and controlling individuals not as members of a larger group, but as *individuals*.

But, of course, this individual – today positioned as ‘user’ of social media – is equally a construction produced not socially, but through the materiality of hardware and software. The actively generated content of participatory media uses algorithms to sort and predict, “an expression of power, not of someone having power over someone else, but of the software making choices and connections in complex and unpredictable ways in order to shape the everyday experiences of the user” (Beer 2009: 997). And this user identity is something that people online actively negotiate – not as an affirmation of agency beyond technology, but through the frustrations and anxieties that come from having ones’ body and identity inherently integrated into a massive technological system (Paasonen 2014). The ‘user’ is a category that only exists within a specific technical apparatus, but it likewise labels how human bodies are understood and shaped within that apparatus. It therefore cannot be dismissed because it does not identify ‘real people,’ because a deferral to ‘real people’ suggests an equally imaginary category that exists prior to and outside of any instance of media or communication, or any formation that can be thought of as ‘culture.’

Ang thought that broadcasters were “desperately seeking the audience” because their technologies produced, rather than identified, the phenomenon they posited to study. We can suggest that today we “desperately seek the user,” or even “desperately seek ‘real people,’” because we act as if there are ‘real people’ that exist unmediated. Methods derived from active audience research assumes the power of ‘users’ that are in control of technologies, rather than subjects whose existence is mediated and shaped through the materialities that enable, organize, and make sensible any possibility of a ‘human’ with ‘agency’ online. If materiality is an asymptote that will never arrive, then we must conclude with a supplementary claim: ‘real people’ are equally a fiction, and their presence will equally never arrive. ‘Real people’ are the product of a fantasy that exists on the horizon, an imaginary world in which technologies, communication, and culture do not exist, a possibility which ethnographic (and, perhaps, ethnocentric) methods will never unearth outside of the technologies that call ‘humans’ into being. ‘Real people,’ ‘users,’ ‘human agents,’ and ‘audiences’ are all entities produced by methods that look for real people, users, human agents, and audiences – and, unsurprisingly, these methods find the thing they were looking for as they call their object of study into existence. This does not mean that an emphasis on materiality inevitably takes us closer to ‘the truth’ (or ‘the

metal'). 'Materiality' is not harder or more real than other approaches because it contains the word 'material' in its name. It means that 'materiality' is an examination of *how matter comes to matter*, of how specific bodies *materialise* (Barad 2007; Butler 1993). It means that materiality involves a self-reflexive examination of the specific conditions of existence and the specific forms of relation that produce entities we can call 'people' or 'humans' or 'agents.' To fail to do so posits that these categories and objects are without history, without contingency, without politics, eternal and unchangeable.

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