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The Second Screen: Convergence as Crisis[1]

Markus Stauff

Since at least around 2010, the companies which dominate the online ecology, particularly social network sites, have strongly dealt with television, thereby changing this medium and their own platforms' affordances and business models. They now offer hardware that connects to television sets (Amazon's Fire TV, Google's Chromecast, Apple's Apple TV); they offer apps that run on television sets (Google, Yahoo); get involved in the business of distributing and even producing television footage (Netflix, Apple, Amazon); and cooperate with TV networks to include highlights of and to incite online conversation about TV shows (Facebook, Twitter).

This can be taken as both a sign of television's (somewhat surprising) persistence in the digital era and a sign of yet another fundamental transformation of the medium—the TV set, the forms of distribution, the textual forms of television, etc.—in an increasingly cross-media assemblage. If television continues to exist—and possibly to thrive—this is due to its partially indistinguishable entanglement with mobile media, social networks, apps, and platforms. Industrial rhetoric celebrates these developments as technical innovations and economic »disruptions« of allegedly outdated business models. Regarding the shape of the medium and its cultural potentials, this might far better be described as a somewhat uncanny process of morphing, whose »conceptual coherence as a figure of transformation is dependent on its literal incoherence as a ›fixed‹ figure.«[2] The constant re-articulation of connections between considerably different media forms and media technologies, more generally, is one of the conceptually most challenging aspects of current media transformations—it puts into crisis established strategies of the industry and established categories of media theory. How can we analyze the media landscape if it is less shaped by a number of (more or less dominant) media than

1 Work on this paper benefitted from feedback by the IKKM fellows and faculty in Weimar as well as from ongoing conversations with Judith Keilbach, Sebastian Scholz, Hanna Surma, and especially Karin van Es, who shared her second screen research and helped me to avoid some factual errors.

2 Vivian Sobchack: »At the Still Point of the Turning World.« Meta-Morphing and Meta-Stasis, in: Vivian Sobchack (ed.): Meta-Morphing. Visual Transformation and the Culture of Quick-Change, Minneapolis 1999, p. 137.

Stauff, Markus. "The Second Screen: Convergence as Crisis." Zeitschrift für Medien- und Kulturforschung 6.2 (2015): 123–144.

by constantly changing interrelations between competing media forms and media technologies?

In the following, I will focus on the example of the second screen—television-related use of smart phones and tablet computers—to discuss how the ever more heterogeneous connections between multiple devices, texts, and platforms form unstable assemblages that simultaneously highlight and undermine the specific affordances of its elements. Focusing first on technical and industrial and then on practical and domestic procedures of creating connections, I will argue that the current media landscape can best be described as »convergence as crisis«: While media indeed become increasingly more interconnected, the connections themselves and the shape of the assemblage in its entirety are ephemeral, unstable, and vague. Convergence, I want to suggest, mainly exists and is generated through being in crisis.

The second screen and crisis historiography

In September 2013 selected cinemas in the US were running a revamped, »second-screen« version of Disney's animated movie, The little Mermaid (USA, 1989). The film viewing experience was supplemented with an iPad app which, amongst other things, encouraged sing-alongs and offered online competitions with fellow audience members. Disney promoted this second-screen version of the movie with the tag line: »Break the rules—bring your iPad to the movies!«[3] By entangling formerly separated and partly contradictory media practices and technologies, the »second screen« questions the established modes of use and the basic aesthetic and technical characteristics of a medium.

This is especially true in the case of television, whose default mode of use gradually seems to have become equipped with a second screen. Compared to cinema, television's more flexible setting and more distractive mode of consumption always allowed for the simultaneous use of multiple media: reading the newspaper, playing board games, ironing shirts, etc. Accordingly, television's second-screen practices range from more spontaneous and informal referencing—looking up the name of an actor on Wikipedia, or mentioning a TV show in a tweet—to more systematic, technically and economically incited connections between the action on the TV screen and related content on webpages or apps. Especially during media events (be it the Academy Awards ceremony or a live sport competition), apps on tablets or smart phones offer additional camera perspectives (e.g., backstage

3 http://gigaom.com/2013/09/29/little-mermaid-second-screen-live-makes-ipads-part-of-the-movie-world/?utm_source=dlvr.it&utm_medium=twitter (01 November 2013).

views or a camera following one player of a football team) and factual information (e.g., real-time statistics); fiction dramas are supplemented with additional story lines, games, or commercial tie-ins on the second screen; actors or producers of a show tweet while the show is on. Finally, by enabling and fostering communication with other audiences members (be they friends or perfect strangers) about the show one is watching, the second screen also supports the transformation of broadcast TV into so-called »Social TV,« based on the pretension that being connected to other communicating individuals while watching is more social than the one-to-many communication of traditional television.[4]

While taking advantage of the combination of different media's affordances, these multiple endeavors to systematically—technically, economically, textually—entangle the second with the first screen (without completely merging them into one coherent ensemble) question the established shapes of and ideas about media. The closer the second screen is connected to the first screen (the TV set), the more it contributes to its crisis, since most encounters with media (production and reception, practice and theory) do still rely on distinct media with identifiable affordances.

With respect to film history, Rick Altman introduced the notion of crisis to focus on particular moments in the medium's development, moments in which the identity of the entire medium was put into question—the introduction of sound being the most prevalent example.[5] New technologies and cultural changes, he argues, lead to categorical and jurisdictional conflicts over the properties, the functions, and even the appropriate name for a medium which is simultaneously articulated in separate (and sometimes contradictory) practices within each specific conceptual framework. Concerning its theoretical fallout, »crisis historiography« more generally aims to question »the assumption of a single stable object of study« developing in a linear progression—and it is telling that Altman, writing about film sound, references television to stress the status of a medium as »a cultural product, not a natural entity.«[6]

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4 Karin van Es and Eggo Müller: The Voice: Über das »Soziale« des Sozialen Fernsehens, in: Montage AV 21/2 (2012), pp. 63–84; Markus Stauff: Zuschauern Zuschauen. Fernsehen als Social Medium, in: Andrea Seier and Thomas Waitz (eds.): Klassenproduktion. Fernsehen als Agentur des Sozialen, Münster/Hamburg/London 2014, pp. 111–129.

5 Rick Altman: Silent Film Sound. Film and Culture, New York 2004; Michael Wedel: Universal, Germany, and »All Quiet on the Western Front«: A Case Study in Crisis Historiography, in: Necsus. European Journal of Media Studies 1/1 (2012), under: http://www.necsus-ejms.org/universal-germany-and-all-quiet-on-the-western-front-a-case-study-in-crisis-historiography/.

6 Altman: Silent Film Sound (as note 5), p. 16.

Taking his lead from Altman, Max Dawson has shown how, in the early 2000s, the possibility of receiving television on mobile devices, especially on mobile phones, very much fueled a destabilization of television's major characteristics already initiated in the late 1990s through DVD distribution, satellite- or in-car television, all of which made watching television temporally and spatially more flexible and therefore more ambivalent. The entanglement of two (technically and symbolically) different media—TV and cell phone—intensified the conflicts over economic strategies, regulatory models, technological standards, and appropriate forms of use and created a severe crisis not only for television (which increasingly was thought to have no future at all) but also for the mobile phone. In an era of heterogeneous media assemblages, »the consequences of any one medium's identity crisis will ripple outward, affecting our understandings of all of the various media to which its identity is indexed.«[7]

The second screen might be conceived of as a further intensification of this ongoing crisis. It not only puts into question what to watch and where to watch but, even more substantially, whether »watching« is still the prevalent characteristic of visual mass media like film and television. Conceptually, however, the second screen might help to more radically rethink the relevance of »crisis« for media history and especially for the interconnection between different media—be it sound and image or first and second screen: Altman's analysis of crisis is interested in how a medium gets a new, dominant identity through a process of struggle and negotiation; a crisis, therefore, triggers the (re-)emergence of a distinctive shape. In an attempt to sharpen the crisis historiography of Altman and Dawson, I will argue that an analysis of the second screen urges us to think of the crisis not as a particular moment, but as a constant and highly productive feature of media change and especially of media convergence. Similar to Joshua Braun's analysis of systems of online television distribution—another cross-media crisis of television preceding the second screen by a few years—the second-screen assemblage can be conceived of a case of »heterogeneous engineering« (John Law): the bridging of different elements and the appropriation of emerging practices produces temporally provisional—though, in its entirety, highly productive—connections across media.[8] The second screen is driven by crisis not only because it involves television (and other media) in cross-media relations, undermining its presumably clear characteristics, but also because it undermines the desire for a stable assemblage replacing that of television.

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7 Max Dawson: Defining Mobile Television: The Social Construction and Deconstruction of New and Old Media, in: Popular Communication 10/4 (2012), p. 256.

8 Joshua Braun: Going Over the Top: Online Television Distribution as Sociotechnical System, in: Communication, Culture & Critique 6/3 (2013), pp. 432–458.

The crisis of connection

In its constant oscillation between the poles of, on the one hand, the mere co-existence of different media, each used for discreet purposes, and, on the other, the seamless unification into a digital meta-medium, the second screen is one of the most conspicuous driving forces for what I would like to call a crisis of convergence. In contrast to broader terms like »screen stacking«—referring to the combination of even more than two screens—, »second screen« implies a certain rigidity of the constellation and also a certain hierarchy between the »main screen« (e.g. the TV set) and the »second screen«.[9] »Second screen« therefore points at a not only simultaneous, but also interrelated and supplementary use of different screens, thereby undermining the clear distinction between separate media. Instead of delivering interactive television (one of the hopes and promises of the 1990s), for example, the second screen achieves interactivity by connecting the still reasonably non-interactive television set and non-interactive television shows to other, more interactive gadgets and infrastructures: »Television producers are, in other words, coming to realize that convergence does not necessarily converge on one device.«[10]

As I want to show in the following pages, the articulations of *first* and *second* screen result both from planned strategies and spontaneous discoveries; they are based on practices of the industry as well as the audience and they can alternatively or complimentarily be realized through technical, textual, pragmatic, or economic means of connecting. The second screen, therefore, is characteristic of a much broader ambivalence between convergence and divergence: the promise of a seamless experience is approached through the crisis-prone connection of ever more heterogeneous materialities with conflicting technical standards and highly different affordances.[11] The second screen's provocation to television's identity is articulated to this broader crisis of how to connect, combine, or merge the continuously increasing selection of devices and platforms.

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9 One can easily imagine the addition of a laptop, a portable computer game or an e-book reader to the ensemble of TV set and smart phone. Screen stacking is parodied in David Eggers' novel *The Circle* in which the protagonist, who just started a new job at a social media company, gets an additional screen on the office desk with each new task assigned to her. Dave Eggers: The Circle: A Novel, London 2014.

10 Hye Jin Lee and Mark Andrejevic: Second-Screen Theory: From the Democratic Surround to the Digital Enclosure, in: Jennifer Holt and Kevin Sanson (eds.): Connected Viewing: Selling, Streaming & Sharing Media in the Digital Era, New York/London 2014, p. 41.

11 Jack Bratich: Affective Convergence in Reality Television: A Case Study in Divergence Culture, in: Michael Kackman, et al. (eds.): Flow TV: Television in the Age of Media Convergence, New York 2011, pp. 55–74.

In the late 1990s, the commercialization of the internet was often undertaken with textual and economic strategies of addressing and tying in target groups that were imported from television.[12] In an attempt to use online culture to counter this competition, television networks deliberately extended their commercial strategies to the web and thereby created connections between their considerably different communication infrastructures: TV-dramas offered additional story lines on the internet;[13] Reality TV, based on the premise that it accompanies and intervenes into daily life, extended its lifestyle advice and self-help tools to the internet.[14] Here, the assumption was that in the time the audience was using other media rather than watching television it might at least be guided to content that was produced by the same company, that advertised the same products as the TV show, or—in the best case—that would lead the audience back to the television, since at the time the chances of making money through clicks and page views seemed marginal. The objective was to create a controllable »audience/user flow« from television to online media and back again.[15]

However, particularly with the growing accessibility of the Web 2.0, broadcasting and the Internet quickly became connected through cultural practices rather than industrial ones. Television, not unlike other branches of the cultural industries, turned out to be an important topic of online communication and of user-generated content. Whether strategically harvested by the industry or not, these online activities added to a critical discourse about the medium, increased attention for television, and allowed media practices formerly specific to fan culture to become more common and mainstream.[16] With the introduction of social network sites, especially with the near monopolistic success of Facebook and Twitter which allow for real-time exchange, this became a practice often accompanying the *simultaneous* act of watching television: TV spectators converse online with friends about the content they are watching; thanks to hashtags and other features, they can additionally connect to people they do not know but who do watch (or at least comment on) the same television show they are watching at the same time.[17]

12 John T. Caldwell: Second-Shift Media Aesthetics: Programming, Interactivity, and User Flows, in: Anna Everett and John T. Caldwell (eds.): New Media. Theories and Practices of Digitextuality, London/New York 2003, pp. 127–144.

13 Will Brooker: Living on Dawson's Creek: Teen Viewers, Cultural Convergence, and Television Overflow, in: International Journal of Cultural Studies 4/4 (2001), pp. 456–472.

14 Laurie Ouellette and James Hay: Makeover Television, Governmentality and the Good Citizen, in: Continuum: Journal of Media & Cultural Studies 22/4 (2008), pp. 471–484.

15 Caldwell: Second-Shift Media Aesthetics (as note 12), p. 136.

16 Marc Andrejevic: Watching Television Without Pity: The Productivity of Online Fans, in: Television & New Media 9/1 (2008), pp. 24–46; Jennifer Gillan: Television and New Media: Must-Click TV, London/New York 2010.

17 Karin van Es describes this practice as »enveloping« of TV content through social media

Broadcast television turned out to be one of the most regular and most synchronizing topics of conversation on social media. The top ten list of most-tweets-per-second events is full of TV-related tweeting—from, of course, sports events to the TV screening of the animated cult movie CASTLE IN THE SKY in Japan.[18] It was these sorts of events that already in 2010 provoked Twitter to reorganize its infrastructure to cope with intensive peaks of simultaneous tweeting.[19]

Though in hindsight hardly surprising, this was a partly unexpected and unplanned connection between media that were more or less considered economic competitors and opposing cultural forms. Both television networks and social network sites adapted to these second-screen practices incrementally, shaping and transforming the articulation of television with other media. On the one hand, television shows now regularly stimulate second-screen use by, for example, displaying hashtags to make sure that the multiple conversations about a show on social media become connected to each other and unambiguously refer back to the show. News, reality, and live television shows often also display tweets and sometimes comment on them—supported by companies that offer special tools to filter and sort the tweets algorithmically for that particular purpose. On the other hand, social media adapted to the affordances of television, added TV-related features and started to cooperate with television networks. In 2013, Twitter (taking over from telephone, SMS, and other older media forms of »participation«) was used »as a real-time public platform in conjunction with a live TV broadcast« for the so-called Instant Safe—an audience vote during the reality show THE VOICE.[20] Both Facebook and Twitter introduced sponsored replays of sports highlights and offered their TV-related user data to TV companies. *The New York Times* even saw Twitter and Facebook engaging in an »escalating battle […] to claim the title of the nation's digital water cooler as they woo networks and advertisers.«[21]

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in contrast to the (older) practice of non-simultaneous »extension« of storylines through online content. Karin van Es: The Paradox of Liveness. From the Broadcast Media Era to the Social Media Era, PhD thesis, Universiteit Utrecht, 2014.

18 E.g.: http://www.theguardian.com/technology/2014/jul/09/germany-brazil-world-cup-twitter-sami-khedira; http://techcrunch.com/2014/07/09/germanys-stunning-world-cup-win-over-brazil-is-the-most-tweeted-sports-game-ever/ (15 July 2014).

19 https://blog.twitter.com/2013/new-tweets-per-second-record-and-how (15 September 2014).

20 https://blog.twitter.com/2013/tweet-to-save-contenders-on-nbc-the-voice; see also: http://www.usatoday.com/story/life/tv/2013/11/08/the-voice-nbc-twitter-fan-save/3467355/ (15 September 2014).

21 Vindu Goel and Brian Stelter: Social Networks in a Battle for the Second Screen, in: The New York Times (October 2, 2013), under: http://www.nytimes.com/2013/10/03/technology/social-networks-in-a-battle-for-the-second-screen.html (15 January 2015).

Considering that Rick Altman developed his model of crisis historiography with respect to the introduction of sound, it might be more than a coincidence that in spring 2014, Twitter's chief media scientist, Deb Roy, called Twitter the »synchronized social soundtrack« of television watching and explicitly compared Twitter's impact on television to the impact of sound on watching a film.[22] The analogy underlines how Twitter is supposed to »naturally« accompany watching television and, even more, add a conspicuously missing feature to TV, thereby finally making the medium complete. Yet, similar to the soundtrack in film history, Twitter's second-screen strategy first of all contributes not to a new, more perfect medium but to an explicit questioning of the affordances, the economic and technical structures, and especially the appropriate connection between television and the other media involved.[23]

The endeavor to establish a technically and textually tighter connection between mobile devices and television was also articulated in new media forms such as, for example, second-screen apps or »companion apps«: Since around 2008 (with the introduction of Apple's iPhone), mobile apps have supported television-related online activities either by offering additional footage or interactive features for one particular program (a news program, reality show, or a particular media event), or by facilitating online and »social« activities for a broad variety of genres. Often these apps are introduced with the pretension that they mainly facilitate and automatize the existing practices and desires of the TV audience: »people were already on their phones while they watched TV, so why not try to hook them on a new, TV-based social network?«[24] Yahoo's IntoNow app, similarly, was said to offer »the kind of material people were already looking for, but in a much easier and more delightful way.«[25]

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22 http://www.theguardian.com/technology/2014/apr/09/twitter-social-soundtrack-tv-deb-roy (08 August 2014).

23 It might be interesting here to remember the fact that quite a number of people—critics, theorists and filmmakers alike—criticized the soundtrack for destroying the specific visual qualities and the universality of film. Now there are similar voices that complain about the loss of the pleasure to just passively watch a television show without any additional social activity (e. g. Tobias Kreutzer: »Mono« als Lebensphilosophie. Stereo und Multitasking kommen uns nicht mehr ins Haus, in: Frankfurter Allgemeine Zeitung (October 3, 2014), under: http://www.faz.net/aktuell/feuilleton/pop/mono-ist-die-neue-lebensphilosophie-13182327.html (15 October 2014).

24 http://techcrunch.com/2013/11/05/i-tv-getglue/ (01 June 2014). This is a statement by the founders of GetGlue, an app that incites users to »check in« to a show and thereby enables social media communication and background information. Launched in 2010, it was bought by another company in 2013, and changed its name into tvtag in 2014.

25 http://www.fastcompany.com/1792364/how-yahoo%E2%80%99s-intonow-listens-and-revolutionizes-way-we-watch-tv (15 September 2014).

Commercially, the second screen is harnessed to »glue« viewers to linear content and thereby to cope with the crisis provoked by the increasing fragmentation of audiences. Additionally, of course, the connection of TV and second screen—and especially the invitation to »participate«—facilitates the TV industry's urge to »generate and provide real-time raw data to marketers and advertisers.«[26] Lee and Andrejevic therefore conclude that second-screen devices first of all »fold television viewing into the monitored embrace of a digital enclosure.«[27] Yet, as much as this folding is driven by crisis it is also producing new ones; instead of establishing a unified and unifying field, the digital enclosure creates connections that question and transform the affordances of the involved media while simultaneously highlighting differences and frictions. The textual, aesthetic, and commercial connections constituting the new assemblage have turned out to be a fragile, temporary, heterogeneous, and often failing endeavor.

In order to successfully connect first and second screen, the industry is dependent on shared tools for measuring the impact of TV on social media (and the other way round). Multiple projects have started, but so far not one is shared by all competitors—an element which is paramount for the advertising industry. At the start of 2013, Twitter acquired Blue Fin, a company that uses software-based language recognition to measure the relationship between social media messages and television.[28] From the opposite direction, in 2006, Nielsen, the dominant TV rating company in the US, started an »Anytime Anywhere Media Measurement« initiative across different screens, and in recent years has also developed tools to gauge the amount of conversation about specific programs and the amount of attention these conversations receive.[29] Already, the »tweetability« of a show is considered to be an important alternative to the sheer size of its audience, which can have notable consequences for, among other things, the selection of actors and storylines.[30]

Concerning technology, frictions also result from the temporalities of innovation specific to the devices involved: second-screen gadgets and their operating systems and apps are highly flexible and adaptable, while TV sets continue to be replaced only once in a decade and their basic software is not regularly updated. For this reason, additional devices are introduced for connecting the television set and mobile devices such as the Apple TV set-top box or Google's Chromecast

26 Lee and Andrejevic: Second-Screen Theory (as note 10), p. 43.

27 Ibid., p. 53.

28 The company started as a project for automatized, software-based analysis of sport commentary on blogs and in newspapers.

29 Dan Hassoun: Tracing attentions: toward an analysis of simultaneous media use, in: Television & New Media 15/4 (2014), pp. 271–288: 278.

30 http://www.wired.com/2013/03/nielsen-family-is-dead/ (15 September 2014).

dongle, both of which aim at a smoother interconnection between second and first screen. The second screen's crisis of connection is thus also fed by the older lock-in dynamic of competing technological systems: the connection between the TV set and the mobile phone, between the music one listens to and the videos one wants to watch, is much easier (and sometimes only possible) if one buys into the ecology—or rather the »walled garden«—of one brand. In digital cross-media culture, the specific affordances of each device or platform only unfold through interconnection with others; seamless connection, however, is guaranteed only by the »walled garden« (the market power and proprietary technical standards) of one brand strongly constraining interoperability.

According to Sheila Murphy, the history of convergence is appropriately represented by the box full of (mostly outdated) wires every contemporary media user now seems to have in a drawer: »For one thing, the box of wires demonstrates how both knowledge and connectivity are key to the ›trans‹ part of trans-media and convergence: without the ability to connect machines to each other and the Radio Shack parts to do it, there is no way for media to jump from platform to platform.«[31] Additionally, each individual assemblage, while aiming to combine the specific qualities of different devices and infrastructures, does not exhaust their affordances. It selectively connects (and transforms) some of them, thereby already questioning the pertinence of the connection.

The second screen is neither a well-defined term nor a clearly delineated object and is surely not a »new medium.« Instead, it is a contested field of economic strategies and technological inventions, of heterogeneous knowledge production, and multiple agency. The morphing dynamic of the second-screen assemblage cannot be described as a technological evolution (in the sense of Gilbert Simondon): There is no process of technical convergence, no increasing integration of different technical elements into something that could easily be identified as a »technical individual« or even as a coherent technical ensemble.[32] In place of a concretization—integrating different parts into a whole—there are rather »temporary coalescences in fields of conflicting and cooperating forces.«[33]

The crisis of connection consists in many intense, yet often ephemeral, surprising, and short-lived rearticulations of different media, in which even the character

31 Sheila C. Murphy: How Television Invented New Media, New Brunswick, NJ 2011, p. 88.

32 Gilbert Simondon: On the Mode of Existence of Technical Objects (1958), University of Western Ontario 1980, under: https://english.duke.edu/uploads/assets/Simondon_MEOT_part_1.pdf.

33 Katherine Hayles: Tech-TOC: Complex Temporalities in Living and Technical Beings, in: Electronic Book Review (June 28, 2012), under: http://www.electronicbookreview.com/thread/fictionspresent/inspective (11 May 2014).

of the connection—technical, economic, aesthetic, etc.—is structurally ambivalent and vague. It denaturalizes the coexistence of different media and undermines any clear idea of either the specific role of each in the assemblage or the character of the connections. The crisis thus results not only from the clash, overlap, and non-convergence of different modes of communication, aesthetics, and infrastructures, but also from the constantly changing relations between the elements of this network.

One could argue that what I describe here are only the frantic and contradictory strategies of an industry trying to cope with a changed media landscape; the viewers and users, in contrast, spontaneously create connections between the most heterogeneous devices by using them according to their day-to-day habits and their individual needs and preferences. In the second part of this paper I want to argue, however, that in everyday media use—and especially with respect to the embodied practices—convergence also is achieved in a mode of crisis.

The crisis of body posture

Tellingly, the social media platform Twitter has not only been described as adding a soundtrack to television (see above), but also as a spatial supplement to the older medium. When Dan Biddle, head of Twitter UK's broadcast partnerships, announced in November 2013 that »in peak hours, 40% of all [UK-] tweets sent are about television,« he entangled Twitter and television by reconsidering a spatial metaphor: »I've called Twitter the world's biggest sofa in the past, but I'm starting to think of it more as the world's biggest living room.«[34]

From sofa to living room doesn't seem like such a dramatic shift of metaphor, yet it is symptomatic of the second screen's spatial tensions and the related crisis of body posture: On the one hand, it »revolutionizes« the practice of watching TV, allegedly liberating it from the passivity of the couch potato. When commenting on the revamping of Zeebox (one of the earliest companion apps) into the new platform Beamly, one of its co-founders stated: »We had a dream which was to create participation TV: instead of just sitting and watching, you would interact with the show.«[35] On the other hand, the second screen's connection between social media and scheduled television programs also supports the persistence of domesticity as a relevant element of the new media ecology.

34 http://www.digitaltveurope.net/125441/twitter-reveals-tv-stats-one-billion-sent-on-the-network-every-two-days/ (08 August 2014).

35 http://www.theguardian.com/technology/2014/apr/14/zeebox-beamly-social-tv-app (15 September 2014).

The couch and the living room have long been central features of TV, yet they have also been ambivalent and highly manufactured and mediated entities. As Matthias Thiele has shown, the couch, while also connoting sexuality and therapy, is one of the key tropes structuring the imagination and the reality of television. Additionally, it is a material object that organizes conversation and community not only in some key genres of TV (especially the talk show and the sitcom) and in much communication about TV (e.g. most commercials for TV sets), but also in millions of living rooms where people watch television and socialize by coming to or leaving the piece of furniture. The couch figures as a joint between community and society, between intimate contact with friends and family, as well as the possible encounter and conversation with strangers.[36] If the second screen is an (extended) living room, and if it is a living room that claims to be different from the sofa and the notorious couch potato, it necessarily becomes entangled with a complex spatial constellation connecting, confronting, or combining contradictory spatial arrangements and body postures of media use. The connection between first and second screen implies the tricky task of combining mobility and domesticity, participating and watching.

Comparing the second-screen assemblage with other (and partly older) forms of multiple images helps to outline why it might make sense to speak of a crisis of body posture. Consider multipanel paintings, split screens in film and television, banks of monitors, and especially the windows of computer- (and video game-) interfaces: media history is full of cultural technologies provoking a »collapse of the single viewpoint.«[37] Each of them, in different ways, have contributed to a »dissolution of a fixed spectatorial position«[38] characterizing the central perspective dominant since the Renaissance. Additionally, text-image combinations, graphic overlays, and breaking news inserts that became the trademark of the digital video image are increasingly »multi-purposing the image field,«[39] often simulating (or premediating) interactive interfaces in non-interactive media. Eventually, the multiple »windows« of human-computer interfaces from the 1980s onwards have allowed for multitasking and the »simultaneity of different activities in parallel

36 Matthias Thiele: Die Couch der Gesellschaft, in: Andrea Seier and Thomas Waitz (eds.): Klassenproduktion. Fernsehen als Agentur des Sozialen, Münster/Hamburg/London 2014, pp. 131 – 150.

37 Anne Friedberg: The Virtual Window: From Alberti to Microsoft, Cambridge, MA 2006, p. 229.

38 Malte Hagener: The Aesthetics of Displays: How the Split Screen Remediates Other Media, in: Refractory, under: http://refractory.unimelb.edu.au/2008/12/24/the-aesthetics-of-displays-how-the-split-screen-remediates-other-media-%e2%80%93-malte-hagener/ (10 July 2014).

39 Karen Orr Vered: Televisual Aesthetics in Y2K: From Windows on the World to a Windows Interface, in: Convergence 8 (2002), p. 44.

spaces.«[40] Most of these mixed and multiple media however are still related to one coherent embodiment of media use—multitasking being more a perceptional and cognitive phenomenon than a simultaneity of different body positions and practices. The second screen, in contrast, provokes a crisis of body posture by combining watching and communicating, seeing and touching, leaning back and leaning forward. If cinema (as well as other forms of entertainment) has a complex history of modifying, refining, and adapting the position of the spectator, the second screen asks for different embodiments at the same time.[41]

In the 1990s, usability experts coined the terms »lean back« and »lean forward« to describe what then seemed to be strictly alternative forms of media use: On one side, television was supposed to be watched by an anonymous mass audience in a passive mode on its couch in a living room where the television set was positioned at a fixed distance that made viewing / listening the dominant mode of experience; adjusting volume or switching channels with a remote control were considered to be marginal activities in an otherwise passive attitude. On the other side, the personal computer and the nascent internet were considered to create a more or less oppositional mode of experience—one in which the user sits on a chair, leaning forward to actively and haptically manipulate the content on the screen. Usability expert Jakob Nielsen summarized this perspective with reference to the developing Web: »On the Web, users are engaged and want to go places and get things done. The Web is an active medium. While watching TV, viewers want to be entertained. They are in relaxation mode and vegging out; they don't want to make choices. TV is a passive medium.«[42]

Whatever the accuracy of these 1990s accounts, the incompatibility of television and digital media for quite some time was »naturalized« and symbolized with respect to the distinct body posture of each: Convergence was imagined by either expecting the internet to become popular only as a lean-back medium (dominated by entertainment and being accessed through the TV set) or by expecting television to completely dissolve into an interactive, lean-forward media culture. In the late 1990s and early 2000s, the clashing embodiments were combined in somewhat paradoxical commercials for interactive television: Often, user-viewers are depicted on a couch, immersed by surround sound and visual content blasting the

40 Nanna Verhoeff: Theoretical Consoles: Concepts for Gadget Analysis, in: Journal of Visual Culture 8/3 (2009), p. 293.

41 Jocelyn Szczepaniak-Gillece: In the House, In the Picture: Distance and Proximity in the American Mid-Century Neutralized Theater, in: World Picture 7/1 (2012), under: http://www.worldpicturejournal.com/WP_7/PDFs/Szczepaniak-Gillece.pdf (10 October 2014).

42 http://www.nngroup.com/articles/writing-style-for-print-vs-web/ June 9, 2008, referencing back to blog entries from 1997.

frames of the screen but simultaneously leaning somewhat forward and pointing a remote control at the screen to signify the option of individual intervention.[43] The tension is even heightened by the fact that many of these commercials display a domestic setting with friends and family next to the person holding the remote—people are often standing behind the couch or sitting casually on the arm- or backrest to signal non-passivity. These tropes continue to be used today in the context of home cinema or smart TV. In a critical perspective, Tim Wu coined the term »sofalarity« in scathing reference to the tendency to orient digital technologies only towards increasing comfort (and thereby decreasing the evolutionary advantage of cognitive and somatic challenges). [44]

On January 27, 2010, Steve Jobs' public presentation of the iPad seemed to be the event that finally removed this tension by fusing the contradicting embodiments of TV and computer, of sofa and office chair in one gadget: he reclined comfortably in an armchair, yet reached forward with his arms to touch the tablet computer lying on his lap. At the presentation, the iPad was explicitly introduced as bridging the gap between two other devices in Apple's range of goods: »more intimate than a laptop, and so much more capable than a smartphone.«[45] It quickly became connected to the television as well, notably without replacing this medium's postures and attitudes. With the introduction of the iPad, the US television network ABC experimented with a (not very successful) app for its show MY GENERATION; in early 2011 it offered a (much more successful) companion app to the Academy Awards ceremony.[46]

More or less contemporaneously with Apple's introduction of the iPad, Google introduced Google TV (adding web functions to TV screens)[47] and a new service for its online video platform YouTube with the telling name YouTube Leanback.[48]

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43 Markus Stauff: ›Das Neue Fernsehen‹. Machtanalyse, Gouvernementalität und Digitale Medien, Münster 2005, pp. 222–227.

44 »Our will-to-comfort, combined with our technological powers, creates a stark possibility. If we're not careful, our technological evolution will take us toward not a singularity but a sofalarity. That's a future defined not by an evolution toward superintelligence but by the absence of discomforts.« Tim Wu: As Technology Gets Better, Will Society Get Worse?, in: The New Yorker (February 6, 2014), under:http://www.newyorker.com/tech/elements/as-technology-gets-better-will-society-get-worse (10 February 2014).

45 Gizmodo.com, Matt Buchanan: How Steve Jobs Made the iPad Succeed When All Other Tablets Failed, in: *WIRED* (2 November, 2013), under: http://www.wired.com/2013/11/one-ipad-to-rule-them-all-all-those-who-dream-big-are-not-lost/ (10 February 2014).

46 Lee and Andrejevic: Second-Screen Theory (as note 10).

47 The commercial for Google TV e.g. asks »a pretty big question«: »if the web is so smart and our TV's are so fun to watch why do we have to choose why don't they work together?«, under: mashable.com/2010/05/20/google-tv-3/ (10 October 2014).

48 http://www.youtube.com/t/leanback?hl=de&gl=DE (10 February 2014).

YouTube Leanback automatically starts (and continues) playing a personalized feed of clips in full-screen mode and in the highest available resolution; the official blog of YouTube announced: »There's no need to click, search, or browse, unless you want to, of course. Watching YouTube becomes as easy as watching TV.«[49] The YouTube clip introducing the new feature combines pieces of user-generated content and an explanation of the sharing options with images of a user's feet bonded by Lego bricks, thereby ironically displaying the comforts of passivity. The clip ends quite predictably with the words »so lean back, relax and enjoy the show,« accompanied by several shots of five friends sitting on a couch and two armchairs, laughing and talking with each other while one of the group has a full-sized computer keyboard on his lap. »The idea is that users watch TV and YouTube as part of the same routine. This fluidity also shows in audience and content strategies.«[50] YouTube Leanback transforms the formerly lean-forward assemblage into a background medium offering the user the ability to multitask without having to actively click, search, and decide every time a short clip is ending.[51]

Amazon's Kindle Fire TV, introduced in April 2014, valorizes the couch and living room as the center of media consumption even more by combining several media functions and connecting them to the television screen. At the start of Amazon's commercial, a family sits comfortably reclined on a couch sharing a bowl of popcorn. Shots of couples, individuals and groups of friends follow, most of them also leaning back on armchairs, while conspicuously holding a remote control. Some of the imagery shows people leaning forward while using the much highlighted voice control function of Fire TV's allegedly »revolutionary« remote. When the device's capability to play »all the music you love« is outlined, a woman is shown dancing in the room; the gaming function is presented first with shots of users on the couch and thereafter sitting on the floor in front of the couch. Finally, the focus of the commercial turns to the second-screen function: while still sitting on the couch and watching a movie, a woman touches the tablet on her lap and looks up information on the actor in the film she is watching. The voice-over explains the possibility of using the tablet as a substitute TV screen that allows you to continue watching a show while being mobile—here the clip only briefly presents shots of a woman standing at a (presumably kitchen-) table who then, returning to the couch, sits down next to her partner and, with a swipe of her finger,

49 http://youtube-global.blogspot.nl/2010/07/youtube-leanback-offers-effortless.html (20 October 2014).

50 José van Dijck: The Culture of Connectivity: A Critical History of Social Media, New York 2013, p. 121.

51 http://www.makeuseof.com/tag/3-youtube-tools-create-easy-leanback-tv-experience/ (20 October 2014).

Fig. 1–4: The various body positions suggested in a commercial for Kindle Fire TV

transfers the film image from her tablet back to the bigger screen in front of them.[52]

Quite similar to the way in which the second-screen assemblage harvests traditional television's »liveness« to trigger online conversation, it also takes advantage of television's entanglement with the living room as a resource that becomes valorized and modified in that process. The embodiment of second-screen practices is framed and structured by the strategic supplementation of the lean-back couch position with additional movements, positions, and gestures. Social media's connection to television extends the living room into online space (conversation with friends) and into other »real« spaces (the mobility of the screen), yet it simultaneously anchors the spatial heterogeneity of social and mobile media. While movement of the user (leaning back and forward, touching the screen, moving from kitchen to living room) is much incited, mobility is partly tamed through the connection to the living room.[53]

If second-screen apps, as discussed above, involve the otherwise still unknown televi-

52 http://www.amazon.com/Fire-TV-streaming-media-player/dp/B00CX5P8FC; http://images.bestbuy.com/BestBuy_US/en_US/images/global/on/VideoPopUp.html?widgetId=1566941360&accountId=80&playerId=1313 (20 October 2014).

53 Nanna Verhoeff makes a similar observation in relation to computer games: »In the case of the DS the spectator is a player, a user, and is physically engaged when using the console. The touch screen is screen and controller in one, requires physical action, and such action entails movement. But movement is not mobility; moving one's hand is not the same as moving around. This brings me, once more, to the ›old‹ aspect of this gadget. The immobility of the spectator is required for the classical screen,

sion viewer in the realm of dataveillance, in contrast, television entangles the mobility of new media back to the commercially exploited domestic sphere. Ethan Tussey therefore conceives of the second screen's connection to the television schedule and the living room setting as »simply the latest example of a ›digital enclosure,‹ where emergent audience practices are identified and repackaged in ways that affirm the traditions of the entertainment industry instead of transforming them.«[54] The »disruptive potential« of mobile technology gets curbed by television, which predetermines »the terms of interactivity« and limits »the mobility of these connected viewing devices.«[55] While it directs attention to important dynamics of a cross-media ecology, this argument is built on the problematic assumption that devices have specific potential in isolation. Mobile devices, however, are only disruptive because there are multiple possible connections to television that are transformative as well; on the other hand, locational functions of mobile devices quickly became immersed in a field of commercial initiatives and intensified dataveillance even without connection to traditional media.[56]

Concerning the couch and the living room, the history of computer games offers an interesting piece of genealogy for the second screen. In the 1970s, early video games had to be connected to a television set as their visual interface. On the one hand, this allowed computer games to become »domesticated« (Sheila Murphy). On the other hand, game culture often also explicitly expressed »the fantasy of transforming the television set, long identified with network broadcasting and commercial mass media, and remaking it as a participatory rather than one-way technology.«[57] Commercials for games invited the customer: »Don't watch TV, play it.« To this day, computer games contribute to the crisis of (domestic) media postures. The mobile computer game Nintendo DS, in 2004, was one of the early dual screen media. One of the two screens is a touchscreen (that can be used with a stylus or a finger) thereby multiplying the ways of connecting the body to a medium: »Using the screen of the DS is a physical and performative activity. Viewing is no longer a matter of looking alone, nor of perceptually receiving images; it entails movements with the hand that holds the stylus. This

of which the film screen is the paradigmatic.« Verhoeff: Theoretical Consoles (as note 40), p. 291.

54 Ethan Tussey: Connected Viewing on the Second Screen: The Limitations of the Living Room, in: Jennifer Holt and Kevin Sanson (eds.): Connected Viewing: Selling, Streaming, & Sharing Media in the Digital Era, New York/London 2014, p. 204.

55 Ibid., p. 208.

56 Marc Tuters: From Mannerist Situationism to Situated Media, in: Convergence. The International Journal of Research into New Media Technologies 18/3 (2012), pp 267–282.

57 Michael Z. Newman: When Television Marries Computer, under: http://flowtv.org/2013/11/when-television-marries-computer/ (20 October 2014).

Fig. 5: The office chair Steelcase Gesture promises to be developed for different media-related body positions

simultaneity of touching, making, and viewing connects the viewing experience of the cinematic, to the television viewing as live, to the installation-art experience of performativity, and to the physical experience of drawing.«[58]

More recently, the succeeding generations of console games, working in connection to a television screen, articulate several variants of the lean-back/lean-forward tension. In 2006, Nintendo's game console Wii, with its motion-sensitive controller, famously made the gamer into an at least standing, more often moving, subject with the capability of monitoring his/her body shape and fitness. Characteristically, its successor Wii U, presented in November 2012, reorganized the relationship once more by offering a new touch screen controller, which tends to position the user somewhat more on the couch and which can also be used as a remote control for watching television. Even if coming from a different starting point, it combines, similarly to Amazon Fire TV, the actions of watching and touching, and of moving and reclining by offering possible connections with the TV set.

58 Verhoeff: Theoretical Consoles (as note 40), p. 289.

This dynamic goes far beyond the realm of television and of mass media's second screen: In 2013 the renowned office furniture manufacturer, Steelcase, presented a new chair, the Steelcase Gesture, which the company thought to be especially adapted to contemporary, multiscreen activities. The result of global research on body positions, the office chair allows for most different embodiments of media use. A scheme details nine different positions that are easily supported by the chair. All of them are defined by a particular use of media: besides positions called »the text« (texting on a smart phone), »the strunch« (leaning forward to write on a laptop—a combination of stretching and hunching), and »the draw« (leaning far back to read on a tablet), there also exists a position identified as »the multi-device.«[59]

Of course this is presented as increased flexibility, thus solving the problems created by traditional office chairs, which don't fit the requirements of the contemporary media ecology. Passing the task of adapting to and moderating between the different media to the users who are asked to continuously adjust their body position, the chair is a tool for continuing the convergence as crisis.

The second-screen assemblage can thus be conceived of as the intensification of an already existing field of heterogeneous postures, gestures, and movements that are connected to (and co-constitute) different media. Neither the iPad, nor the endeavors of Google and Amazon actually create a seamless integration of lean back and lean forward. The second screen frames and tames the use of mobile screens and social media, yet it doesn't mitigate the tensions between the respective postures. On one hand, it makes the tensions productive for the introduction of incessantly new apps, devices, and practices. On the other, it continues the crisis of body posture: Historically, media come to be defined by the way they position, address, or activate the viewer/user, and new media devices are still often introduced in correspondence with a particular embodiment. The second-screen assemblage, however, cannot be appropriately described by a set of distinctive embodiments or a characteristic mode of experience.

Crisis without Conclusion

The second-screen assemblage reorders and rearticulates the affordances of different devices and their effects on perception and embodiment. It thereby challenges all considerations of media specificity and the more recent discussion of affordances characterizing different platforms, devices, or operating systems. The second screen's recombination of contrasting affordances—taking advantage of

59 http://www.theverge.com/2013/11/25/5142664/how-do-you-design-a-chair-for-the-ipad (20 October 2014).

differences, compensating for constraints, and constantly adding new ones—is symptomatic of a broader development. It is just one example of the observation that specific features and affordances of individual media mainly figure as driving forces for media change: »At present, the particular operation and effects of specific new machines or networks are less important than how the rhythms, speeds, and formats of accelerated and intensified consumption are reshaping experience and perception.«[60] This doesn't mean that distinct features have become irrelevant, but rather that they have become productive because they are in crisis: in a heterogeneous cross-media assemblage, distinct affordances often are highlighted as the asset of one device is compared to another. Simultaneously, the connections between media are multiplied to take advantage of the convergence, synergy, or complementarity of the different affordances, which then become modified and interdependent as part of a heterogeneous assemblage. Rick Altman's crisis historiography clearly shows that the moment the supposed identity of a medium (the specification of its affordances) is questioned provokes an intensification of the cultural and social practices surrounding and constituting the medium—a renegotiation of what the medium actually is, »a series of redefinitions, model shifts, and negotiated settlements.«[61] In contrast to Altman's concept, however, the example of the second screen suggests that we have to stop thinking of distinct moments of crisis after which a medium will gain a renewed dominant identity with more or less consensual or »negotiated« qualities. Rather, the second-screen assemblage only exists because of the ambivalences of the affordances involved and thus in the mode of perpetual crisis: »The provisional meta-stability of technical individuals may become even less stable, so that it is more accurate to speak of continuous transformation than meta-stability at all.«[62]

Constant transformation has more often been described as a consequence of digital media culture. Famously, Tim O'Reilly described the »perpetual beta« as a characteristic feature of what he defined (or rather baptized) »Web 2.0.« Since software is no longer a product but rather a service and since users are treated as co-developers, he argues, new features of platforms are »slipstreamed in on a monthly, weekly, or even daily basis.«[63] Additionally there is, of course, considerable commercial value »in the discourse of an ever-changing horizon of technological development« and in this context devices and media themselves become

60 Jonathan Crary: 24/7: Late Capitalism and the Ends of Sleep, London/New York 2014, p. 39.

61 Wedel: Universal, Germany, and »All Quiet on the Western Front«: A Case Study in Crisis Historiography (as note 5).

62 Hayles: Tech-TOC (as note 33).

63 Tim O'Reilly: What Is Web 2.0, 2014, under: http://oreilly.com/pub/a/web2/archive/what-is-web-20.html?page=4 (01 August 2014).

fashionable.[64] This is also what Ian Bogost, referring particularly to the case of Apple, identifies as the basis of that company's constant renewal: technological revolution (still promised in commercials) is replaced by aesthetic cycles more characteristic of fashion products.[65] On the occasion of the presentation of Apple's watch, he even states that technological innovation, instead of triggering excitement, seems more and more to only produce exhaustion: »the urgency of technological innovation has become so habitual that we have become resigned to it«.[66]

Wendy Chun has cogently diagnosed this combination of urgency and exhaustion as digital media's specific temporality—that is to say crisis.[67] She argues that the constant stream of information and the abundance of data institute a continuing crisis mode. Digital interfaces are characterized by not only the capability, but also by the necessity, of immediate response, even though there are always more possibilities than one can handle. In addition, there is not enough time to reflect on the appropriate response. The dominant concept of software as code and as a language that does what it says supports this tension, since it entitles the programmer as well as the general user to sovereignty, while at the same time undermining it. The automation of tasks simultaneously reduces and expands the possible field of action. An obvious example would be the autofill function in search engines: while still typing, the software supports the search process by offering suggestions on how to make the query more pertinent, thereby urging a decision and adding capability by algorithmically reducing the possible choices. The very notion of agency in digital culture is defined by this mode of crisis: within the constant stream of information, only crisis allows for the marking of responsibility and empowerment.

Notwithstanding Chun's focus on the digital (which she explicitly distinguishes from television's temporality), her approach analyzes how the »perpetual beta« plays out across different media: In becoming part of an assemblage, media specificities are constantly undermined and redefined—for economic, technical, or cultural reasons. The under-determination and non-exhaustion of each device's specificities, beyond provoking a crisis of the medium's identity, also articulates convergence as crisis: No connection between two distinct elements and no one

64 Verhoeff: Theoretical Consoles (as note 40), p. 282 (paraphrazing Baudrillard).

65 Ian Bogost: The iPhones of Fall, in: The Atlantic (September 12, 2013), under: http://www.theatlantic.com/technology/archive/2013/09/the-iphones-of-fall/279620/?single_page=true; (09 October 2013).

66 Ian Bogost: Future Ennui, in: The Atlantic (September 16, 2014), under: http://www.theatlantic.com/technology/archive/2014/09/future-ennui/380099/?single_page=true; (20 October 2014).

67 Wendy Hui Kyong Chun: Crisis, Crisis, Crisis, or Sovereignty and Networks, in: Theory, Culture & Society 28/6 (2011), pp. 91–112.

body posture is appropriate, sufficient, or out of doubt. There is no single appropriate use of the second screen; the interrelation between software and hardware, devices and business models, interfaces and aesthetics gets constantly updated: »updates that,« in the words of Wendy Chun, »demand response and yet to which it is impossible to respond completely.«[68] Thus, the second screen realizes agency mostly in the form of the necessary reaction to changes in the overall configuration. The ability to perpetually switch between leaning back and leaning forward is itself such a mode of agency defined by the temporal structure of crisis.

68 Ibid., p. 94.