

John Farnsworth and Terry Austrin

Affective Mobile Devices

Tracing the Ties that Bind

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Introduction

Mobile devices are one of the fastest developing areas of the consumer electronics market. In May 2014, there were nearly 7 billion mobile subscriptions worldwide (Mobiforge, 2014). Almost one-quarter of the world's population used a smartphone at least monthly in 2014 (eMarketer 2014). By 2017, Forrester Research forecasts that 905 million users will own tablets, equivalent to 60% of US and 42% of European consumers (Arthur, 2013). Mobiles, in any case, are now tracked so

relentlessly that statistics about them are out of date almost as soon as they appear.

Usage of these devices is equally intriguing, because research shows behaviour around mobiles is rapidly changing social interactions and practices in Western and Asian societies (OfCom, 2011; Jung, 2013). Pew mobile research (2012) reports that not only do 67% of US owners check them without any prompts, but 44% now sleep with them next to their bed in case of a message. A recent multi-country study reveals more 3-5 year olds can navigate a smartphone than tie their shoes (AVG, 2014). Moreover, individuals "love" their mobile devices (Staples, 2013), so much so Google's chairman admits "tablet love" is changing how companies buy software and may lead to existing technologies being dismantled (Bort, 2013).

Such evidence suggests the acceleration of mobile uptake is reconfiguring both person-to-person and person-to-device interactions. This is the focus of the chapter: how to understand changing networks, sociality and affect across online worlds, and how technologies participate in this reshaping. Ironically, available conceptual frameworks to study these changes are also in flux, whether this is in the area of social science frameworks or theorising affect (e.g. Grabher, 2006; Kitchin and Dodge, 2011; Sheller and Urry, 2006; Wilken and Goggin, 2013; Verhoeff 2012).

For instance, phenomenological and ethnographic perspectives investigate the domestic space of the "sensory home" (Pink and Leder Mackley, 2011), where objects create experiences of living "in rather than with, media" (Deuze, 2007: 138). Other perspectives trace the way that persons, social space and mobile publics are produced by communicative contexts

that are instantiated, coupled and decoupled through interaction with particular devices (Sheller, 2004).

Similar ambiguities appear in the area of affect that we examine. Theorising affect itself is still relatively new (Clough, 2010; Greig and Seigworth, 2010; Massumi, 2002; Vincent and Fortunati, 2009). Affect itself is, by definition, volatile with its complex blend of emotion, feeling and bodily sensation open to varying definitions (Blackman and Venn, 2010). Yet, as we discuss, the collective distribution and circulation of affect that mobile devices mediate offers unusual ways to rethink the whole relationship between individual and network.

Our particular focus is on the strong attachment of humans to their devices. But 'devices' has to include the extraordinary range of apps and functions beyond the hardware themselves. Khalaf (2013), for instance, describes how more than a billion consumers are "glued" to both devices and apps, in ways that impact "nearly every aspect of their lives." Apps mobilize many attributes of being human — memories, notes to self, communication with loved or significant others, favourite music and audio, beloved games and much more — all through the profusion of image, text and sound devices available on any device.

Data such as these raise many questions. Amongst them, what counts as a 'mobile device'? We define mobile and smart devices as portable, featuring interactive touch screens, connectable to small keyboards and carrying a variety of miniaturised sensing and connection technologies (Watkins et al, 2012).

Mobility also raises questions of how the relationship between affect and devices can be approached. We adopt two related approaches. First, we

take a perspective that draws on relational psychoanalysis, in particular on the idea of emotional / affective objects. This allows us to consider mobile devices as transitional or self-objects: it highlights how individuals identify and develop ties with their devices so that these become, in effect, an extension of themselves. These intense, often hidden attachments begin to explain why nearly 30% of users consider their devices as "something they can't imagine living without" (Brenner, 2013). We discuss two types of ties, or emotional investments: one to devices and the other to the worlds – the connections – that installed apps open up.

Such worlds are the focus of our second approach, based on what Grabher (2006) describes as "rhizomatic metaphors." Drawing on the work of Michel Serres, we consider devices as quasi-objects: chains of electronic mediators that mobilize the ceaseless circulation of interactions between online and face-to-face domains. We go on to consider the nature of affective circulation and how the construction of sociality, through devices such as tablets, is always a provisional accomplishment. We describe this through the formation of publics (Sheller, 2004) and illustrate how these are mobilized in two cases: SMS friendships and mobile poker. Publics, in this context, are sociotechnical achievements; as Girard and Stark (2005, p.7) argue, "There is no public, no public assembly, without protocols and technologies - even if these are as simple as chairs around a table and everyday conventions of conversational turn-taking." All the more so when dispersed publics are assembled through chains of digital devices. We would also add, beyond Girard and Stark that, where there are publics, there is always affect, too.

Affective mobile devices, then, are key sites in the constitution of sociality because of the volatile, complex, sociotechnical interactions they bring into

being. In some ways, this returns our focus to devices themselves with their constant installation, updating and exchanges of apps and operating systems. All this in pursuit of better access to social networking, such as Facebook or Twitter, online gaming, p2p downloading, chat, streaming porn, Skype, online banking, travel navigation, airline booking, podcasts, online conferencing or any of the other myriad opportunities online networks afford. Each of these, we argue, responds to the hunger for the ceaseless connection and engagement that affective devices provide.

Affective, mobile self objects

Because of their protean connectivity, devices mediate an increasing range of social ties. In mediating them, they reshape not only how such ties are made but more: as Richardson (2005) argues, they can shape their owner's construction of meaning, sense of self, identity and modes of engagement with the world at large. We take this up by considering how devices constitute psychological object worlds and we draw on relational psychoanalysis (Mills, 2005) to trace the shifting dynamics of affect across devices and online worlds. Here, we consider mobile devices in relation to the idea of psychological objects. Objects are the focus of emotional investment and, as we outline below, they range from objects perceived as extensions of the self – self, or transitional, objects – to objects distinct from the self, that can be invested with the whole spectrum of feeling.

Self objects, developed in the area of self psychology, are commonly understood as objects which are not experienced as separate and independent from the self. They are persons, objects or activities that 'complete' the self, and are common to ordinary functioning (Kohut, 1984): they afford a sense of ongoing self-coherence. As Kohut (1984, p.200n)

comments, they "support the cohesion, vigor, and harmony of the adult self." A moving instance Parkin (1999) gives is of refugees who often transport personal mementos on their journeys that encode, for them, objects as reassuring reminders of familial security. In this context, mobile devices, because they mediate complex sociotechnical networks, are increasingly an important means of self-object presence and constancy. Transitional objects are similar and perform similar functions; as Donald Winnicott, the term's inventor proposed, these are objects with a me / not-me quality. He points to children's teddy bears or blankets that are intensively personal attachments, however stained, smelly or tattered they may be. They are, he suggests, subjective objects whose presence is soothing because they are felt to be part of the self yet, clearly, are materially distinct from it (Winnicott, 1953).

Both sets of ideas, self and transitional object, are part of a relational turn within psychoanalysis (Mitchell and Black, 1995) Recent neuropsychoanalysis suggests how these work in terms of emotional modulation between self and other (Northoff, 2011). However, such a perspective raises two issues. First, the idea of self-coherence is difficult to reconcile with the Lacanian / Deleuzian concept of protean desire or the anarchic excess of Bataille's affective materialism (Grindon, 2010). Second, because mobile devices are constantly changing and updating, it's sometimes unclear whether they enhance, or undermine, stability and self-coherence. We return to these issues below.

Quasi objects

The concept of quasi objects originates in the work of Serres (1982), and has since been developed by Latour, Callon, Law and actor-network theory. It describes how a process of translation is accomplished across human and technological worlds. Bryant (2006) describes the quasi-object this way:

Quasi-objects are objects that are *neither* quite natural *nor* quite social. Like Deleuze's aleatory point, they are operators that draw people together in particular relations as well as drawing people into relations with other nonhuman objects while being irreducible social constructions in the semiotic in the humanist sense.

One of Serres's examples is the simple soccer ball. As he describes (1982, pp. 225-226):

A ball is not an ordinary object, for it is what it is only if a subject holds it. Over there, on the ground, it is nothing; it is stupid; it has no meaning, no function, and no value. Ball isn't played alone ... The ball isn't therefore the body; the exact contrary is true: the body is the object of the ball; the subject moves around this sun. Skill with the ball is recognized in the player who follows the ball and serves it instead of making it follow him and using it.

What this passage captures is the volatile process of mediation, where subjectivity is constituted out of the circulation of the ball and the precarious construction of the collective in doing so. Simultaneously, the act of passing the ball mobilizes affect, the fluctuating engagement and disengagement amongst members of the collective: their excitement, investment, skill – these relations all mediated by a material object. As Connor (2002) comments, "The quasi-object is a form of mediation which originally comes into being as a way of fixing or stabilising social conflicts which might otherwise tend to degenerate into absolute chaos, or all-out, all-against-all war." Participants, in this case, might fight rather than play. Psychologically, aggression is transmuted – Freud might say sublimated – into an enjoyable,

albeit competitive, game. In this case, as with an online mobile device, it is the mediator that organizes and transforms collective participation.

Likewise, in online worlds, sociotechnical mediators are guarantors against chaos or outright aggression by sustaining the flow of communication. Chaos ensues when digital networks fail and electronic mediators can't 'talk' to each other: this was the case with the long sequence of Christchurch earthquakes in New Zealand, with widespread, ongoing disorganization. Here, unlike the soccer game, there were many mediators in play, not just a single ball. These involved dense chains connecting users' fingers on a screen or keyboard that was meant to exchange data across cell towers and digital networks and onto distant mobile devices. Aggression in these contexts often emerged as unmediated frustration (Kohut, 1989) with attacks, abuse or destruction directed against the offending, unresponsive technology that failed.

Destructive impulses define the difference between object and transitional object. The psychoanalyst Donald Carveth illuminates this in relation to Winnicott's work on destruction. Destructive fantasies enable the move from a 'subjective object', in Winnicott's words, to an unmerged, separate object (what Winnicott [1971, p.71] describes, a little confusingly, as an object 'objectively perceived'). The separation is realized when an actual object is found to have survived the intense destructive wishes directed against it. As Carveth (1994) comments, it highlights the shift from "objects as extensions or projections of the self, to...the object is recognized as separate and distinct from the self."

The object as a projection of the self can be consoling, soothing or cohesive. But, to provide this, it must itself be protected. This, perhaps, is why mobile

devices are so widely perceived as necessary, precious and even addictive. Conversely, the object recognized as separate to the self can be worn out in the pursuit of satisfactions, in such relentless activities as gaming or teenage texting. In practice, subjective objects and object-usage exist side by side, oscillating constantly as either quiet or excited experiences. These experiences are laid down from infancy, as Winnicott (1945, p.151) eloquently describes:

...There are the quiet and the excited states. I think an infant cannot be said to be aware at the start that while feeling this and that in his cot or enjoying the skin stimulations of bathing, he is the same as himself screaming for immediate satisfaction, possessed by an urge to get at and destroy something unless satisfied by milk. This means that he does not know at first that the mother he is building up through his quiet experiences is the same as the power behind the breasts that he has in his mind to destroy.

In short, there is a constant interweaving from the imaginative and symbolic to the material-sensuous realm. The constant interplay of imaginative worlds realized through tangible objects also links quasi- and transitional objects, whether it is a soccer ball or digital device. It is the interplay that creates the magic of experience, as anyone absorbed in an interactive game online can attest. The magic is assembled from both quiet engagement and excited manipulation with keys and touch screens, whether this is the destructive delight of *Plants versus Zombies*, the quieter interaction with *Suzie's Sushi* or the reverie of a podcast. Each involves different forms of play, aggressive, exploratory or affectionate (Pellis and Pellis, 2009).

Yet, affective flow creates another problem: the issue of stabilization. Stabilization is critical because as Latour (1992, p. 15) comments, "Quasi-objects may alternate and become objects, or subjects, or quasi-objects again or disappear altogether." At issue here is how the constant movement from stable to unstable takes place and can be tracked. In many respects, this is identical to the interplay of objects and relationships that constitute online worlds (Knorr Cetina, 2001).

Savage and Law (2010) address this by emphasising quasi-objects as assemblages or dispositifs. Dispositifs combine "apparatuses, inscription devices and their agential capacities" and foreground a posthuman perspective on digital devices as observing and following "activities and doings – often, but not always or exclusively those of people" (2010, p.10). They argue this enables the stabilization, by tracking and recording, of digital traces produced by streams of "loyalty cards, online purchasing, blogs ... government administrative databases, patents" and much else (2010, p.10). Together, this "tracks the doing subject," a point we return in relation to the panspectric below.

Ruppert, Law and Savage (2013) suggest this produces dilemmas for social science in how it follows digital subjects. They argue that the social science apparatus is not distinct from the world it investigates, particularly because it draws on the same digital technologies. As Stiegler remarks, "all members belonging to the milieu participate in it and are functions of the milieu" (quoted in Venn et al., 2007, p.335). Lash (1999, pp.276-277) makes a similar point:

Where not only social scientists, but all of us are object trackers. Whether when net surfing or 500-channel surfing, we uncover

the hypertext, or open the doors and the drawers in interactive graphics on CD-ROM. In each case at issue is not so much representation or the symbolic, but information and sending. We trace the network through the Web site. There is neither aurality (the symbolic) nor vision (the iconic), but tactility, indexicality at the heart of the signal and the information economy. Not only do we track the objects, trace the networks. But ... the objects can track us. The networks can be our prisons.

Transitional objects and object usage

How does all this translate into actual digital practice? Always, we are confronted by the fluctuating interaction between affects, actants, stable and unstable entities.

'Quiet' experiences involve all the ways users make a tablet into a self-object: an extension of themselves. This is through personalization and customization: making devices just the way they want them. Apps, ringtones, wallpapers, covers, launchers and anything that add to the device's adornment. This includes the device as fashion or fashion statement (Sugiyama, 2009). Yet the look of a device: its sleek surfaces, its sheen and contours all contribute to the narcissistic extension of self that is typical of a self object (Woodward, 2011). So are usages that involve limited interaction: listening to podcasts or audiobooks, using drawing programmes or any activity that contributes to an absorbed experience of reverie and contemplation.

More involved, or 'excited', experiences involve object usage and, consequently, interaction with others. This ranges across all the whole spectrum of online activity: social media, interactive gaming, online

collaboration through conference software, Skype, streaming audiovisual software, and much else. Each of these involves circulation, with the collaboration of numerous circuits and assemblages of sociotechnical mediators, many assembled on the fly. Online conference software is a typical instance. Popular current technologies, such as webEx, Sync. in, Twiddla or Vyew enable participants not just to view or talk to each other across multiple screens; participants can also view and annotate documents in real time, share drawing and doodling tools, access calendars and scheduling apps, take control of slides or PowerPoint, record their exchanges and save files in cloud systems for later reference.

Many of these activities involve a constant oscillation of states from quiet to excited. Each is always translated through innumerable chains of mediators connecting online collaborators to each other. Consequently, every dimension of interactional dynamics differs to face-to-face exchanges: tempo, volume, screen size, data repetition, participant overlaps, along with gaps, glitches, interruptions, network 'hangs' and breakdowns; all these shape online affect and dynamics. A notable illustration is Distributed Immersive Performance: real time audiovisual performances of chamber music. Performers are geographically dispersed, yet their precise musical coordination takes place through high speed servers and is transmitted live to an auditorium. The servers synchronise microscopic time delays, achieving precise, affective attunement amongst the players (Chew 2010, Chew et al. 2005). The result reproduces the 'quiet' reverie, phatic communication and collective engagement of the concert hall. The contrast is a bad Skype day when one's loved one is marooned out there, somewhere, in cyberspace and no connection ever eventuates. Users rarely describe this as a quiet experience.

Many of these examples, however, are not peculiar to mobile devices; they can be experienced on any digital screen. What is peculiar is the documented, expanding attachment to mobile devices. This is especially so with smart devices. According to Hartland (2011), for instance:

On average, Americans spend 2.7 hours per day socializing on their mobile device. That's twice the amount of time they spend eating, and over one-third of the time they spend sleeping each day.

The attachment to smart devices now spans virtually every domain of life: the average tablet user spends 90 minutes per day on their tablet; 88.3% of tablets are used on the road; 35% are used in the bathroom (staples.com n.d.). Bafflingly, 12% of American adults even manage to use their smartphone whilst showering (Elizabeth A, 2013). According to Jumio (2013), 19% of Americans use their smartphones in church, and 9% during sex. They also report considerable anxieties around losing their phone, ranging from concerns about theft (65%) to others using their mobile payment options (26%). There is even a 'condition', nomophobia, for the anxiety of mobile disconnection (Quinion, n.d.).

Devices and flows of affect

The key point is that devices both produce and secure flows of affect and forms of sociality across whole human populations. This is identical to the way that the soccer ball, for instance, creates flows and circulations of collectives. Devices do this through the dense clusters and arrays of mediators – chains of mediators that can be constantly assembled and reassembled when new technologies, new apps and new kinds of social media appear. This takes place at both molar and molecular levels, from the

integration of new hardware devices – smartphones carry at least seven kinds of RF and sensing devices – to new software such as screen launchers, or programmes that 'root' devices enabling increased user manipulation of their device. Yet each of these innovations attaches the user more strongly to their device because of the access and interaction it allows.

Devices, for instance, are central to profuse forms of affective flow. These are in both intended and unintended ways. They include the instantaneous spread of information, ideas, trends, fashions and fads where You Tube videos or Facebook posts suddenly go viral. It is the constant in the distribution of music, video, chat and news endlessly reversioned across devices. These enable ephemeral publics ceaselessly to emerge and evaporate. This can be intentionally, through flashmobs or webmobs (Nicholson, 2010) or through marketing (Marwick and boyd [2010] describe Twitter audience management practices of 'micro-celebrity' and personal branding).

Whatever the case, users need to be 'always on', so that they are connected to these affective flows and the unfolding social worlds they mediate. In this sense mobiles, because of their portability, aren't merely extensions of their users; users become extensions of their mobiles.

These phenomena call up the way such fluid, often unforeseeable, affective flows and sociality are patterned or organized. This has generated sizeable literatures in two domains. One is the area of electronics and emotions which, as Garde-Hansen and Gorton (2013, p.14) summarise it, includes not only feminist theories of emotion but 'literature from television and film studies, as well as cultural studies of technology, globalization, online media, and the Internet'. It also extends to emotions and computing (Vincent and Fortunati, 2009), the huge field of affect and mobile phones (Dixon, 2011),

or broader areas such as phenomenology and mobiles (Richardson, 2005) to name just a few domains. We cannot hope to do justice to this huge range of research. Instead, we turn to a second, also extensive literature, on networks and the formation of publics. We do so to show how affect is translated through the conjunction of individuals and technologies into stable and shifting sociotechnical constellations.

Affective mobile publics

Smart devices highlight attachments to an individual (Vincent, 2010). How, though, do we describe collective, affective interaction? One approach is to draw on network literature. In particular, to foreground the ties that link members of networks together. Ties can be understood as a form of attachment between individuals that binds them into collectives: it implies an emotional component beyond the purely instrumental (Goodwin, 1997): ties of loyalty, belief, kinship, affiliation, identity and more. Yet, as Mische (2008, p.1) notes, when we go on to ask about "types of tie," as Harrison White does, it "opens the door into a host of complex processes which lead us quickly into an engagement with culture and interaction." It also opens up the question of the kinds of publics, ephemeral or sustained, that affective ties bring into being through sociotechnical networks.

For instance, Loosen and Schmidt contrast the familiar notion of Habermas' (1989) public sphere with "issue publics" found on Twitter or the "personal publics" of Facebook "where people share personally relevant information with the rather small audience of their social network" (2011, p.7). This is similar to boyd's (2010) more sociotechnical concept of networked publics: an "imagined collective that emerges as a result of the intersection of people, technology, and practice." Germann Molz and Paris (2013) document networked "flashpacking" where devices enable backpackers to connect

and disconnect on the move. Ikegama (2000, p.997) follows Harrison White to argue that these are instances of mobile, multiple publics, which can be durable or ephemeral, forged out of interaction rituals. These are "communicative sites" created as "the switching-connecting and decoupling of networks" takes place.

One instance is how smart devices broker friendships. They illustrate what White's "type of tie" means in practice. As Mische (2008, p. I) comments,

When we talk about the relations commonly examined by network analysts – such as friendship, respect, advice, collaboration, or opposition – this begs the question of the meanings and interpretations associated with such ties – for example, what in fact constitutes friendship?

She continues:

since friendship may be only one out of multiple ties that I share with you, how do I signal performatively, within a given interaction setting, that now I'm speaking as a friend as opposed to a client, co-worker, supplicant, challenger or authority? How do I switch between the multiple ties that may compose our relationship, while moving within and between social settings?

Smart devices facilitate exactly such interactions. Tablets, for example, allow seamless interfacing between on- and offline worlds because of their portability. They also enable what Mische (2008) describes as communicative styles across diverse settings. For White (2008), "styles" mobilize a whole range of publics across text, audio and video communication. Classical

music videos on YouTube, for example, assemble small global publics through diverse styles: posting, utilizing 'likes' and emoticons, links, marked-up videos, alternative uploadable selections and comments that can run into the thousands.

The same is true across SMS sites, from Twitter to Reddit; each with its differing types of tie, switching and styles of affiliation (Twitter has following and retweeting). Each also provokes enquiry about how these sociotechnical interactions are performed, including Mische's (2008) question: "what constitutes friendship?" This is particularly salient in the case of Facebook where 'friending' now has complex rules and etiquette (Mitchell, 2013) each vividly illustrating the styles, affiliations and skills required to negotiate online communication and memberships of ephemeral publics. As Grabher (2006, p.21) puts it, drawing on White (2002):

The polymorphous character of social relations flows from the capacity of actors to maneuver across multiple social contexts by coupling and decoupling, that is tightening and loosening relational ties.

By extension, Grabher argues, (2006, p.21) individuals become "nodes of story condensation and identity that occur at the interface between multiple networks." Individuals navigate, according to Mische (2008, p.3), by "conversational footings" that are "fluid, shifting and manipulable through what Goffman calls 'keying' practices, in which actors signal — semantically, gesturally, grammatically - which frame or definition of the situation is being invoked." Keying invokes specific relations between actors such as "friendship ties, shared memberships, relations of deference, familiarity, or respect" (Mische, 2008, p.3). Consequently, these performances "have a ritual as well

as an instrumental component; ties must be strategically represented as well as solidaristically affirmed." Across networks, these constitute what Harrison White defines as "social goos, shards, and rubbery gels" of publics that are constantly forming, dissolving and intersecting (White, 1992, p.337; Sheller, 2004).

Such dense conceptualization typifies the work of the New York School of network theorists (Mische, 2011). As Grabher (2006) emphasizes, the School's work is part of a complex set of disciplinary discourses; together, these reconfigure how networks, institutions and markets can be understood. Where smart devices are concerned, Grabher's review also highlights "the postructuralist rhizomatic metaphor:" "a multiplex, heterogeneous and robust web of relations" characterized by the work of Deleuze, STS and actor network theory (Grabher, 2006, p.4). Like White's goos, shards and gels, this metaphor emphasizes "more fluid and incoherent relational ties" (Grabher, 2006, p.4). Yet it also differs sharply to White's work because it foregrounds what network theory doesn't: the significance of technologies and chains of mediators in assembling ties and networks in the first instance.

Put another way, rhizomatic metaphors are a good way to identify and track volatile, emergent, unpredictable networks by tracing their "multidimensional and constantly evolving entanglements" (Grabher, 2006, p.16). Likewise, such metaphors enable networks to be viewed as "detachable, reversible, susceptible, to constant modification" (Deleuze and Guattari 1988, p.12). This is in contrast to "the rather clear-cut view on network formations in the governance and the social network approach" (Grabher, 2006, p.16).

Network theory also neglects affect, a difficulty Goodwin and Jasper (1999)

acknowledge. As Scheff (1994, p.282) remarks, its descriptions of collective movements "note (their) passion, indeed the very pages crackle with it. But these descriptions do little to conceptualize, analyze, or interpret it." Separately, Grabher, like White, overlooks how central technologies are to the rhizomatic perspective, particularly in actor-network theory.

Rhizomatic perspectives, then, allow us to link devices, affect, publics and collectivities; they are particularly promising where mobile devices are concerned because they suggest how we might trace fluid interactions between face-to-face and online worlds. Ruppert. Law and Savage (2013) suggest this is precisely what commercial and marketing organizations do – ceaselessly tracking sociotechnical ties to assemble and anticipate consumer behaviour. We illustrate this through the case of online poker.

Poker publics and mobile worlds

Poker is a remarkable instance of affective sociotechnical collectivities in play (Austrin and Farnsworth, 2012; Farnsworth and Austrin, 2012). A massive market, worth \$US4 billion in 2011 (bwin.party, 2013), it is available on all forms of fixed and mobile screens, illustrating how the original face-to-face game has been intricately translated into digital mobility through new chains of mediators. These have shaped its amateur participation and professional organization, its diverse forms of spectatorship, celebrity management and globalization as a popular entertainment. Mediators include miniaturized cameras, RFID devices in cards and chips; broadcast, online and mobile forms of the game, avatars and poker bots that routinise and automate play. Mediators are also aligned with a range of new surveillance and data devices that assist players to access a vast array of existing poker hands and playing strategies, and regulators to track illicit play. You Tube offers detailed tutorials and links by stars on all forms of the game, from low-stakes to high

roller play. The same practices are increasingly enrolled by other sports, including chess and bridge.

New mobile developments for Android and Apple devices enable rapid-play Rush Poker or allow players to manage four online tables simultaneously (888Poker, n.d.) whilst industry forecasts suggest mobile devices will be its future, as casualised global participants supplement the large cadre of regular players (pokersites.com, n.d.).

Mobile and online poker play constantly illustrates switching: here, between publics as players or spectators, assembling endlessly around new virtual tables, tweeting results to fans or backers, or bragging in chatrooms. The formation of publics is continuous and overlapping, from the actual card play to the on- and offline reporting, celebrity tournaments, monetization and relentless marketing by such huge online casinos as PokerStars.com.

Poker is also a blend of calculation and affect because of its risks and rewards. Affect is central, whether it's through the fear, the adrenaline rushes or the suspicious reading of others' 'tells': the emotional signs they give off through subtle body language. Palomaki et al (2013), for example, report on 'tilting' in Finland – the emotional dysphoria experienced after losing:

Tilting, in the narratives, was often instigated by dissociative feelings ('unreality', disbelief) following a significant monetary loss. Thereafter, moral indignation was experienced, followed by chasing behaviour, in an attempt to restore a 'fair balance' between wins and losses. In the aftermath of tilting, self-focused feelings of disappointment, depression and/or anxiety, and sleeping problems were experienced.

This is the stuff of 'bad beats', the roller-coaster of feelings that accompanies poker play on- or offline. In the case of tilting, Palomaki acutely illustrates how a player's draws on a variety of psychodynamic defensive manouevres to manage the shifting balance of euphoria and dysphoria: amongst them, dissociation, moral outrage and 'chasing' behaviour. Yet, these defences fail to overcome the crushing lows he goes on to describe. On the contrary, they are intensified in poker's sociotechnical arena: the shifting publics of tweeters, Facebookers, television spectators, bloggers and online commentators can amplify the scale of loss."

Poker exemplifies social interaction across the Internet: it illustrates the typical dynamics that unfold wherever there is online commentary and participation. Psychologically, it highlights how the 'excited' transitional play described by Winnicott shapes the intense experience of the game. 'Quiet' affective experience may emerge later: reflecting on hand play, statistics or strategies of the game. In either case, affect is generated through the translation, circulation and exchange of material, social and emotional objects. These ceaselessly rework the game, its publics and its attractions in new ways.

A final point. Poker relies on pattern recognition and computer—assisted predictions of future behaviours to secure its markets. Yet, this is identical to what Kullenberg and Palmås (2009) report with 'panspectric' corporations from Google to Heineken or Walmart. Like poker firms, these corporations function in a similar way, being based on 'tracking and periodically initiating consumer enthusiasms' (Barry and Thrift, 2007, p.519). Not only poker, but tablets, smart devices and apps, assemble carefully coordinated consumer enthusiasms. As Kullenberg and Palmås

(2009) argue, they 'inject' and manage contagion by 'panspectrism': through ceaseless marketing and tracking, and by the endless near-replication of new devices and software.

Rhizomatic extensions

Whether in friendship or poker, rhizomatic perspectives recall Serres' emphasis on how quasi objects create unpredictable forms of circulation. When coupled with Latour's recent emphasis on the work of Gabriel Tarde, they also offer a way to open up the role of affective devices further. Partly, this is by drawing on Tarde's (1903) work on imitation and contagion: this work moves beyond the bounded domains of networks to the proliferation of crowds and affect. Imitation, for Tarde, always contains 'a potential surplus', allowing 'an event or an action to deviate into invention' (Barry and Thrift 2007, p.517). Rhizomatic perspectives also draw on recent work in affect and phenomenological studies (Richardson, 2010). For instance, Blackman (2012) takes a radical position of 'immaterial bodies' that are far from stable entities but processes:

we might instead talk of brain-body-world entanglements, and where, how and whether we should attempt to draw boundaries between the human and non-human, self and other, and material and immaterial.

The implications of this position are considerable:

The human body is potentially displaced, extending our concern with corporeality to species bodies, psychic bodies, machinic bodies and other-worldly bodies, for example. These bodies may not conform to our expectations of clearly defined boundaries

between the psychological, social, biological, ideological, economic and technical, and may not even resemble the molar body in any shape or form.

Networks, on this view, are inherently processual, dynamic and volatile along with the diverse (im)materials that mediate them. Centrally, this is a metaphor of the affective translated to the whole sociotechnical domain. Emerging technologies are likely to translate these through new wearable and haptic devices, RFID sensors, MindMesh, synaesthetic devices, Google glasses or Siri voice technologies (Mann, 2013). Smart devices become one kind of passage point through which affective flows circulate, distributed through hardware, apps and electronic networks, as well as mediating online and face-to-face ties. As we suggested, this also indicates how closely all these exchanges are tied to a panspectron, particularly a corporate one, in monitoring and managing cycles of emergent contagious enthusiasms. Moreover, this perspective emphasises how existing smart devices – whether tablets or smartphones – are just one moment in the ongoing development and miniaturization of devices, as we suggested in the introduction.

Conclusion

One of us is travelling with friends through Los Angeles, with their II year-old in the back seat. Her fingers are flying across my borrowed tablet screen of *Fruit Ninjas*, enthusiastically slicing multiple fruit combinations to shreds as the city slides by outside. Occasionally, I'm asked to admire her latest score before her pleas resume for more additions to the groaning collection of *Cake Baker*, *Subway Surfer*, *Angry Birds* and other apps crowding out my Office software. No longer does my tablet belong just to me. Earlier, we and her toys have all featured in her home videos, shot on my tablet and uploaded to a cloud site for her to edit and distribute. Of course, she is

oblivious of the corporate panspectron surrounding these activities, though it shapes the reality and worlds she's engrossed with.

A large part of our focus in this chapter has been on objects. Yet, an 'object' turns out to be not just a material object, such as a smart device, but an ongoing, shifting assemblage of socioemotional and sociotechnical objects. As Law and Singleton (2005, p.343) argue:

we cannot understand objects unless we also think of them as sets of present dynamics generated in, and generative of, realities that are necessarily absent ... In this way of thinking, constant objects are energetic, entities or processes that juxtapose, distinguish, make and transform absences and presences.

'Objects', then, shape realities, even for 11 year-olds. They are stabilized, often temporarily, in the form of current consumer items: tablets, phablets, smartphones, apps, and their array of internal miniaturised technologies from cameras to sensing devices. It is this ceaseless assemblage that enrols them and enables the flow of desire to circulate, as quiet or excited states, or be translated into the myriad of interactive purposes across internet connections. This produces, as we've suggested, the formation and switching between shifting arrays of publics, themselves temporary or stabilized in different ways. Each of these provisional assemblages is prone to the oscillation of constructive and destructive desire, whether through the remaking of social ties, the organization of criminal economies (Friman, 2005), the formation of public spheres, the viral circuits of celebrity or gossip, the intensifying regulation and surveillance of citizens, even the creation of malware, or the ongoing design of internet architecture that mobilizes this online activity in the first place.

Notes

I. Albarrán Torres (2013, p.38) details a scenario, typical in casinos, of gambling machines or 'pokies'. Here, gamblers and EGMs 'suck on each other's nipples' forming 'an intricate mass of "assembled desire". These couplings, he argues, function as desiring machines. Attachment, on this reading, constitutes a total sociotechnical merger.

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Author biographies

John Farnsworth is an affiliate of the Media, Film and Communication Studies Department at Otago University, New Zealand. He is also a psychotherapist in private practice. Recent work includes publications in ethnography, psychotherapy, social exclusion, networks, mobile and electronic media. His email is johnf@earthlight.co.nz

Terry Austrin is an Adjunct Associate Professor of Sociology in the School of Language, Social and Political Sciences, at the University of Canterbury, New Zealand. He has research interests in the fields of new media, ethnography, gambling, the city and the sociology of work. He can be reached at terry. austrin@canterbury.ac.nz.

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