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As Networks Fail: Affect, Technology, and the Notion of the User

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Abstract

Network connections failing, logins not functioning, and servers not responding evoke both affective sharpness and disturbing itchiness that cannot be easily smoothed out. This article draws on forty-five student essays describing the sensations evoked by technological failure and explores them as vignettes into the affective dynamics evoked by constant connectivity to, and dependency on, network media. By asking how the essays articulate and configure the notion of "the user," the article suggests that devices and applications are the loci of potentiality that may or may not be available and which impact—increase, sustain, or diminish—the users' capacity to act. Furthermore, it argues that visceral responses to technological failure are intimately tied to the uncertainty and instability of users' sense of control in ways that call into question the very notion of "the user" itself.

Keywords

affect, media use, technology, addiction, control, failure

> *Each time . . .* [the lack of net connectivity] *has obviously angered me and simultaneously it's felt unreal. A thing taken for granted was no longer available, as if my flat suddenly had no toilet.*
>
> —Female, born 1991

In this excerpt from an essay by a Finnish university student, the lack of network connection disrupts the rhythm of everyday life, truncates her possibilities for action, and gives rise to visceral bodily reactions. More than an instrumental add-on to mundane routines, network connectivity is described as their crucial, even constitutive element—as elementary as a bathroom. The essay is one of the forty-five collected in 2012 and 2013 from the students in my class on media and networks describing the sensations evoked by mobile phones, computers, and network connections failing or

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breaking down. The essays are "requested stories" (Tuuva-Hongisto 2007), written in response to a given theme as a class assignment. The overall pedagogical aim was to address the entanglement of human and nonhuman agency in networked communication through the students' own accounts of malfunction. By asking the students to simply write on how such instances feel, I wanted the class to tackle the elusive yet tangible affective and somatic underpinnings of ubiquitous connectivity with the premise that these most readily manifest in moments of rupture.

In what follows, I explore the essays as vignettes into the affective dynamics evoked by constant connectivity to and dependency on network media and ask how they articulate and configure the notion of "the user." As citizens of a highly wired Western country with a 100 percent net connectivity in the population under thirty-five (Statistics Finland 2013), the students, aged twenty-one to thirty-seven, are privileged in their access to media and communication technology. I argue that the intimate, even prosthetic, human–machine connections addressed in their essays are nevertheless telling of a broader cultural shift that resonates recognizably yet differently across generations, while being most evident among the younger population. In other words, although the essays are highly specific in terms of their authors, national and classroom context, the "structures of feeling" (Williams 1977) they point to are telling of more general and expansive cultural developments.

With affect, I refer to gut reactions and intensities of feeling, described in the essays as "the itchiness of frustration" and "freezing fear" of failure. Affect is a matter of impact, force, and contact that builds up, modulates, and oscillates in daily encounters with people, spaces, images, objects, and heterogeneous networks and transforms them in the process—an "unstructured non-conscious experience transmitted between bodies, which has the capacity to create affective resonances below the threshold of articulated meaning" (Featherstone 2010, 199; also Ahmed 2004). Rather than facilitating access to affective intensity, the essays are telling in how my students reflect on, conceptualize, and make sense of their relationships with, and their sensations concerning, networked media and communication technology. As textual exercises, they are retrospective reflections of sensation after the fact, translations of the visceral and the embodied into linguistic form written for a classroom audience and with permission to be used as research material.

Following Brian Massumi (2002, 28), such autobiographical reflections limit the conceptualization of affect as force to the level of emotions as "intensity owned and recognized." Contrary to affect as impersonal force, or as unqualified bodily states that it evokes, emotions are, for Massumi (2002, 25–27), represented, qualified, and quantified. Unqualified intensities sensed as sinking feeling, visceral unease, flashes of violence, or disorientation translate in the essays into distinctly named emotions such as fear, fury, and frustration. This orders the somatic, congeals the unqualified bodily states once sensed, and may make it more difficult to address the layering and intermeshing of different sensations. At the same time, personal recollections and conceptualizations are among the only available means for tackling affectation and intensity as they become sensed. On the level of sensory experience and narrations thereof, affect may be difficult indeed to decouple from emotion. For Sara Ahmed (2010, 32), emotions, as intensities, are in fact not "afterthoughts" to the affective "but shape how bodies are moved by the worlds they inhabit." Unlike Massumi, Ahmed (2010, 32) sees affect and emotion as "contiguous; they slide into each other; they

stick, and cohere, even when they are separated." Intensities identified as fear, interest, and frustration attune us in our encounters with media technology: they orient the somatic and provide our actions with a particular affective charge.

Affect, in short, gives shape to relations between human and nonhuman bodies, and makes things matter. As both a precognitive force and a contingent sense of connection and relation, affect translates as vibrancy that varies in intensity and register (Featherstone 2010; Paasonen 2011; Seigworth and Gregg 2010). By analyzing retrospective accounts of affective intensity, this article conceptualizes user engagements with network media and communication technology as underpinned by constant oscillation between control and powerlessness, freedom and dependency. This necessitates a conceptualization of technology as "agential" rather than instrumental. To paraphrase Baruch Spinoza (1992), network devices are bodies that affect and are affected by human bodies. Through and within encounters with the bodies of technology, our life forces and capacities to act may increase or diminish, slow down, or speed up (Deleuze 1988, 125). Consequently, networks, devices, and applications modify our everyday routines and embodied potentialities for action.

In their accounts of individual agency, the student essays depart from articulations of media use as rational and instrumental control over technology, which were long influential in the tradition of human–computer interaction (HCI) research and which continue to underpin optimistic views of social and individual empowerment through technology. These accounts are equally dissimilar to conceptualizations of users as active creative contributors, participants in civic engagement, content producers, consumers, and data providers within social media research (see van Dijck 2009). In contrast, the essays depict user agency as ambivalent connectivity to and dependency on various networks. Drawing on theorizations of affect and nonhuman actors in studies of media and technology (e.g., Kember and Zylinska 2012; Latour 2011), this article argues for shifting focus from usage as control over technology to multiple networks of cohabitation and impact between human and nonhuman bodies. In doing so, it theorizes a resolution of the binary "user control" versus "user powerlessness" (predicated on the ideal of the rational user) in favor of dynamic relations of oscillating positive, negative, and ambiguous intensity that connect people, devices, platforms, protocols, and programs in networks of contact and impact.

Devices and applications arouse and orient the affective and the somatic: this is a central source of their attraction and appeal. In relations of connectivity and impact, technologies press themselves on the people engaging with them. The student essays speak of network media in terms of love, hate, connection, and dependency. In their descriptions of balancing acts between relative helplessness and the desire for control, the essays figure agency as fundamentally dependent on and affected by connectivity. I argue that visceral responses to technological failure are intimately tied to the uncertainty and instability of users' sense of control in ways that call into question the very notion of "the user" itself. Devices and applications are the loci of potentiality that may or may not be available and which impact—increase, sustain, or diminish—the users' capacities to act. Given the user's dependency on network technology, she is in fact not much of a user at all. For as Sarah Kember and Joanna Zylinska (2012, 13) suggest,

> It is not simply the case that "we"—that is, autonomously existing humans—live in a complex technological environment that we can manage, control, and use. Rather, we are—physically and ontologically—part of the technological environment, and it makes no more sense to talk of *us* using *it*, than it does of *it* using *us*.

Frustrated Users

Errors, breakdowns, disruptions, and delays are more than familiar for the users of consumer electronics and are certainly mundane (Hayles 2012, 2; Uotinen 2010, 161). Computers, mobile phones, modems, printers, and tablets have limited life spans inbuilt in their design as planned obsolescence (Bulow 1986; Guiltinan 2008), in addition to which they regularly malfunction or just break down. Failure also results from users' inability to operate technology and to understand the logic of systems, programs, and services. Rupture may equally result from external conditions such as power cuts. Considered in terms of instrumentality, failure brings planned tasks to a halt as user actions and commands are interrupted. From the perspective of HCI, the issue is one of noncommunication, of a program, protocol, signal, device, or any combination thereof not responding, being understandable, or accessible to the user. In this framework, emotion and affect have been connected to issues of usability and user satisfaction (e.g., Lindgaard and Dudek 2003; Tractinsky and Zmiri 2006).

In their 2004 study, Irina Ceaparu et al. found that computer users were most frustrated by error messages, dropped network connections, long download times, and hard-to-find features. These frustrations took up a staggering 30.5 to 45.9 percent of time spent on the computer, and the somatic discomfort they caused tended to increase over time (Ceaparu et al. 2004, 336). As sensations accumulate and layer, their intensity grows. This speaks of the dual shape of affect as both encounter and impact. As Ahmed argues, encounters with the world give rise to affective intensities that stick, layer, and give shape to relations of proximity and distance, attachment and detachment among human, nonhuman, and representational bodies (Ahmed 2004, 66; also Coleman 2012). A singular frustrating experience in operating a device or an application may leave little mark. If such instances reoccur, intensity begins to accumulate, and human–technology relations gain a sticky affective charge in the negative register.

> All my experiences of failure in media technology are connected by the same, almost unbearable sense of frustration and annoyance. (Male, born 1991)

> I was so frustrated that I can't recall when I last had such sensations. The malfunction of the network broke the camel's back: suddenly I felt the walls cave in, and nothing worked any more. (Female, born 1991)

Since the students were asked to recount their experiences of technology failing, it was only to be expected that the intensities they describe revolve overwhelmingly in the negative register of dismay, horror, pain, distress, infuriation, fury, and helplessness, with frustration being a key sensation. Some of the essays imply a delight taken in the possibility to account for mundane obstacles with stylistic flourish while others remain more matter of fact in their delivery. Despite such rhetorical differences, the essays describe affective intensity as resulting from and intensifying with weak signals,

network failures, or connections abruptly broken or never established. They narrate the uses of media and communication technology as a constant balancing between control and helplessness where no level of user skill ultimately suffices to guarantee smooth operability.

> The greatest dismay stems perhaps from my own ineptitude: either I don't know what to do or I don't know what to do in order to figure out what I should do. It's also infuriating to waste time on unnecessary problems: as if essay writing wasn't big enough a bother to start with, but the computer won't even agree to turn on! (Male, born 1991)

> I feel helpless with complex technology, which is why I settle for rather simple gadgets. (Female, born 1991)

> Frustration was considerable once I realized there was nothing to do. The worst thing about the feeling was the knowledge that even if you give everything you've got, and no matter how good you're with computer technology, it still isn't enough. (Male, born 1991)

In cybernetics—the science of communication and control in human and machine systems—which underlies both modern computing and classic media models such as Claude Shannon's 1948 mathematical theory of communication, as later elaborated by Warren Weaver (Weaver and Shannon 1963), the user is the operator, and the machine is the tool operated. The Greek root of the term cybernetics, *kybernētēs*, translates as governor, pilot, or steersman (Wiener 1999). It can be argued that a similar view of the user as masterful operator of smart devices remains influential in contemporary discourses—academic, journalistic, promotional, and popular alike. While the student essays depict the user as the controller and technology as the instrument operated, they pose this human–technology relationship as desirable yet unreachable. The same applies to the ideal of smooth and frictionless technologically mediated communication more generally.

> I only want a device that works. And serves just me, just the way I want it to. (Female, born 1992)

> Good technology would be such that you wouldn't notice it. It would just always work and enable a life rich in experience. (Male, born 1983)

A customer mostly expects a new car to move with no unnecessary alarm lights going off, a new oven to heat up, and recently purchased trousers not to come apart at the seams when first worn. This does not seem to be the case with mobile phones or computers. As the design and operations of high technology grow ever more complex and the knowledge involved in their manufacture becomes more specialized, the inner operations of devices are increasingly inaccessible for the majority of their users (cf. Gell 1992, 62; Lupton 1995, 106). The students articulate their agency as users of such devices with no small degree of uncertainty: it even seems that failure, rather than function, is the expected outcome. This regularly results in guarded, self-deprecating, and even pessimistic approaches to technology. Rather than defining themselves as

empowered users of the numerous devices in their possession, the students articulate their agency as unstable and precarious.

> I didn't want to get attached and committed to . . . [a computer] that might terminate our friendship suddenly, with no warning . . . I now understand that my indifference, fear, and failure to get acquainted is also partially the reason for our relation being awkward. (Female, born 1987)

> I often approach the functions of devises with some caution and don't assume all of them (especially the more complex ones) to automatically work. (Female, born 1991)

In moments of failure, the otherwise possibly pleasurable prosthetic proximities with media and communication technology grow into sources of anxiety: the user becomes something of an outside observer and his or her sense of control cedes to frustration and helplessness since there is no longer much left to operate—let alone control. The affective sharpness involved in technological failure involves the users' inability to operate as "governors" of the machine. Even more centrally, it concerns being cut off from the multiple networks that modify the possibilities of engaging with the surrounding world.

Prosthetic Connections

Frustrations surface when human and machine communication breaks down and interaction is severed. The term *interaction* implies contact and communication between two separate and clearly definable entities, whereas actor-network theory (ANT) conceptualizes individual users as actors defined through the networks that they are part of—through their connections to and reverberations within networks of people, technologies, and practices (Latour 2011, 806). Agentiality is therefore not a matter of individual intention or enterprise but redistributed, networked, and emergent in its forms and effects. Actors are in a state of constant interaction, learning, and becoming and are, as such, always connected to and reliant on other factors and actors (Gomart and Hennion 1999, 224–25; Latour 1999, 17–19). Networked codependence is explicit in the student essays that describe disruptions in connectivity as ruptures in the very fabric of everyday life and one's potentialities for action.

> Disorder in network connectivity was more than a technological malfunction, it cut off connections to the world and social relationships . . . Loss of connection felt like isolation and the inability to do anything about it was distressing. I could only wait for it to come back at some point. (Male, born 1987)

> As the computer went for maintenance I felt as if completely cut off from the world. (Female, born 1990)

The essays describe network connectivity as crucial in and for social interaction, studies, fun, and casual information retrieval. Social networks of friends and family, social networking services, university networks, and broader information networks all intermesh: these are, in fact, the networks that define the individuals and their agency. The lack of connectivity cuts through all of these networks by blocking engagement

and by giving rise to sensations of frustration, isolation, and distress. More than an irritating rupture, the lack of connectivity reconfigures available ways of being in the world.

> It's difficult to try to remain calm with the stubborn malfunction of network connectivity since I feel that it limits my life and activities. Net use has become such an elementary part of my everyday life that I don't even notice all the things I use it for before the connection stops functioning or doesn't exist. I recognize my increasing ineptness when, for one reason or another, I can't check baking recipes or bus schedules online. (Female, born 1991)

> New media technology makes life notably easier but you really only notice its significance once it doesn't work. Instant online access has grown so crucial that even momentary lack of access is incredibly frustrating. Technology is as if invisible as long as it works. (Female, born 1991)

Writing of her emotional connections to computer technology, Deborah Lupton (1995, 97–98) lists sensations of impatience, anger, panic, anxiety, and frustration when it fails to work. These oscillating intensities are, for Lupton, tied to her dependence on technology for the act of writing. More than an instrument, the computer is an intimate companion "to think with" (Turkle 2007). Such dependencies have become ever more pronounced in the years following the publication of Lupton's article. It is unlikely that any of the students composing the essays—or I, as one of their teachers—could easily write anything lengthier than a page or two without the aid of Word processing software and its cut and paste, revision, and reformatting tools. At the time of Lupton's writing, online connectivity was something of a rarity mainly facilitated by dial-up modems with a downstream speed of 56 kb/s. With the increased ubiquity of mobile phones and broadband connections, prosthetic dependencies have extended to networked communications and the forms of social interaction, information retrieval, and time management they afford. Technological connections, interactions, and dependencies are elementary parts of everyday life and crucial in terms of the multiple networks in and through which individuals operate. Devices function as prosthetic extensions of the human sensorium in the vein once described by Marshall McLuhan (1964), as *aides de memoire* and as the means of contact and engagement with the world.

> Mobile phone is such a big part of everyday life that it's actually an extension of the hand. When it's taken away, one no longer knows what to do. (Female, born 1990)

> The relationship between the computer and its user is of course that of the master and the servant—computer only does what its master does or allows it to do—but psychologically speaking the matter isn't that simple. One doesn't unconsciously consider computers, printers, typewriters, etc. as mere tools but as extensions of one's body and mind. That's why when a device fails it feels as if a part of me has turned against itself. Bit like a hand grown numb that suddenly feels strange. Although unlike with electronic devices, one doesn't feel like throwing the hand at the wall; perhaps slapping it a bit at best. It follows that we develop somehow amazingly humane relationships of respect, fear, and control with technological devices. (Male, born 1991)

Technological devices and applications affect everyday life on the quotidian microlevel of operations and through the rhythms and flows of communication, thought, and entertainment. Prosthetic connections with technology translate as dependencies that yield pleasure and displeasure, confidence, and uncertainty alike (cf. Lupton and Noble 1997). These human–machine interconnections can be smooth, hardly noticeable, routine like, or animated by sharp dissonance in moments of rupture.

> I hate gender stereotypes more than anything and even more than that I hate to somehow support these stereotypes with my own actions. It's therefore infuriating to admit that I'm rather bad with devices, and often need help. So I'm a typical woman who cannot even set up a net connection, and that bugs me. It may also be one of the reasons why the breakdown of net connectivity made be really loose my nerves. So I felt very frustrated. In addition, this basically insignificant thing evoked other affective reactions: I suddenly felt bottomless loneliness. The people I could've asked for help, like my brother and father, live far away . . . It was just me, the USB modem, and massive frustration towards myself and electronics. (Female, born 1991)

While experiences of frustration and helplessness in moments of malfunction figure in virtually all the essays, here awareness of gender stereotypes concerning technological inaptitude amplifies such sensations and, by doing so, further delimits the sense of user agency. The intensity of frustration grows in sharpness as they accumulate, layer, and are coupled with cultural clichés. Such accumulation of intensity points to the factual inseparability of affect and emotion, visceral impact and reflective awareness, as discussed by Ahmed. Self-consciousness related to cultural tropes increases the affective charge of failure as that which sticks not only on the devices engaged with but also on (individual and collective) female users as assumedly lacking in skill and confidence.

Hooked

The lives described in the essays are media and technology saturated in both work and play, and the problem is seldom one of smart phone, network, or computer access so much as the inability to unplug. The students born in the early 1990s self-identify as "digital natives" (Bennett et al. 2008) who "have been surrounded by different media and communication technologies all their life" (Female, born 1992) and are so used to this "that they feel unsafe and insecure without their external extensions" (Female, born 1992). The vast majority of the students in their twenties have always had net connectivity and have grown up with mobile phones. Descriptions of media dependency and saturation are nevertheless equally pronounced in the essays by students born in the 1970s and 1980s for whom constant connectivity is largely mandatory in studying, functioning as a citizen, and maintaining social networks.

The essays reveal a diversity of approaches to and tactics deployed in relation to technology, yet the option of nonusage remains notably inaccessible. Media dependency is very much inbuilt in the pedagogical practice and curricula of contemporary academia. Students need to constantly create, modify, upload, and download files, share and comment on them, access e-mail, and log into databases and online learning platforms: nonconnectivity or computer abstinence is simply not an

option. Combined with the social expectation to be constantly reachable through mobile phone and to share one's everyday observations through Twitter, Facebook, or Instagram, this results in lives heavily dependent on network connectivity. In describing this, the essays make use of the Finnish terms *riippuvuus* and *riippuvaisuus* that are mutually interchangeable and translate as both dependency and addiction (also Suominen 2006).

> My own dependency on [or addiction to] the functioning of the Internet would be almost amusing if removing the possibility of its use wasn't so stressful. (Female, born 1990)

> I'm scared to even think of how many of my waking hours I spent with different media and how dependent I'm on [or how addicted I am to] them. So while on the one hand I miss the days preceding the "dominance" of media and technology, I've grown so dependent on [or addiction to] them that I wouldn't know what to do without them, on the other. This also evokes dismay and fear. (Female, born 1990)

The term *addiction* is widely used to describe a range of dependencies on, attachments to, and investments made in media. In tandem with the mainstreaming of fandom as a general affective media relation, expansive uses of the terminology of addiction—as in the vernacular of being "hooked" on TV shows, games, applications, and devices—implies a fundamental ubiquity of such attachments, as well as their promotion in a media economy where the ideal consumer is "active, emotionally engaged, and socially networked" (Jenkins 2006, 20; also Hellman 2009). It seems that diagnoses of addiction can be applied to virtually any activity geared toward enjoyment that draws us back and back again (Chan 2008). "Facebook addiction," for example, may refer to people checking their news feed numerous times a day—which many do (see Andreassen et al. 2012; Griffiths 2012).

Many of the symptoms of Internet addiction provided for self-diagnosis on recovery websites are applicable to routine engagements with network media: "Do you feel preoccupied with the Internet (think about previous online activity or anticipate next online session)?" "Do you feel restless, moody, depressed, or irritable when attempting to cut down or stop Internet use?" "Do you stay online longer than originally intended?" or "Do you use the Internet as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression)?" (http://www.netaddiction.com/). Addiction discourses tend not to distinguish between different forms or motivations of online access. It is the abstract object of the Internet, rather than the multiple entangled networks of potentiality, exchange, investment, and obligation that platforms and connections interlink with and facilitate, which is defined as an addictive substance (cf. Johansson and Götestam 2004; Karaiskos et al. 2010). In other words, diagnoses of media addiction frame the Internet as drug like and its compulsive users as kin to users of other addictive substances.

Bennett Foddy and Julian Savulescu (2007, 29) argue that "addictive desires are merely desires for a source of pleasure." If addiction concerns the management of pleasure, as they suggest, it is far from easy to define where it precisely begins or ends. One possible definition is that addiction is experienced as a problem or a hindrance: when pleasure remains inaccessible, the addict's life forces are diminished

rather than strengthened. Although the impulses and motivations for network access are considerably mixed, and linked to work obligations, sexual titillations, communal ties, and emotional attachments, the frame of addiction links Internet use with an individual's quest for pleasure. Decontextualized, Internet use is reframed as insular activity driven by the desire for online access per se. This kind of undifferentiated treatment of both addiction and Internet access circumvents the multiple conditions and forms of dependency related to network connectivity while reducing them to issues of free individual choice motivated by a quest for pleasure. It makes no difference whether a person is longing for connectivity to finish his or her work tasks, to find himself or herself on the map, to check up on an ill parent, or to hunt down a recipe for the fluffiest of scones: if he or she wants to get online, he or she is possibly addicted (cf. Korkeila et al. 2010).

Pleasure and displeasure have the tendency to intertwine and layer in networked communications so that they become difficult to uncouple from one another (Paasonen, forthcoming). Constantly checking e-mail, responding to chat requests, clicking on links promising cute images of kittens, following friends' status updates, uploading overdue essays in online learning platforms, searching for information on this and then that, people are both attracted by the accessibility of information and contact and simultaneously rendering themselves available to others. Without access, anxiety starts to build up, and the dichotomy between the user as the subject and technology as the object begins to unravel.

> Occasionally I hear a voice in my head saying, "browse Facebook." I'm just about to do so when I remember that it's not possible. Being without a smart phone can be distressing. Now we're so used to being constantly accessible. When the phone is left at home or breaks down, availability ceases. It feels like being isolated from the whole world. (Female, born 1992)

Writing on gambling machines, Natasha Dow Schüll (2008, 2012) argues that the pleasures of compulsive gambling lie in the tactile interaction with the machines and their mechanic rhythms: the gambler not only "plays" the machine but is also, and perhaps more centrally, "played" by the machine in return. The students composing the essays are similarly both playing and being played by the devices and applications they engage with. As actors, users are connected to, reliant on, and defined by multiple networks—be these social, technological, educational, informational, or ones geared toward entertainment in ways that undermine the ideal of the rational, autonomous modern subject (Laqueur 2003, 64). The notion of addiction similarly implies the loss of individual autonomy and rational control. According to Eve Kosofsky Sedgwick (1993, 132–33), addiction is understood as insufficient freedom of will: "losing it," addicts are impressed upon and driven by external forces beyond their control. Understood in this vein, an addict is no user but a person used by media and communication technology, which, like an intoxicating substance, functions as both the remedy for his or her condition and the poison that fuels it (cf. Derrida 1993). The user's engagement with addictive substances and objects both enables and blocks his or her life forces in a highly embodied manner (Bjerg 2008; Weinberg 2002). Abusing substances in his or her quest for intensity of experience, an addict is, in sum, an inappropriate user.

To the degree that the rhetoric of addiction involves the recognition that "there is a power (or powers) greater than the self that shape(s) the individual's life" (McGee 2005, 186), as well as the abandonment of oneself to such a power (Gomart and Hennion 1999), compromised agency is in fact characteristic of a much more general human condition. Human agency is shaped and conditioned by a range of networks and forces beyond individual control, such as economy, climate, and law. Following Latour, these are the contingent networks that define who we are, what we do, and what we can do in the world.

Affective Entanglement

> Windows 95 was the first technological product that I first learned to love but quickly grew to hate . . . These days I have trust in endless technological progress on the one hand but am a slightly cynical technology critic who hates his printer, on the other. (Male, born 1983)

As love of technology, technophilia involves intimacy with machines while technophobia indicates the opposite: aversion, fear, and aggression felt toward them. Both tropes describe seemingly clear-cut affective relations to, and investments made in, technology. When loving devices and applications, users attach hopes, promises, and desires to them. When feared, technology is that which can, or may even be likely to, cause harm. Lauren Berlant (2006, 21) points out that investments in objects "and projections onto them are less about them than about a cluster of desires and affects we manage to keep magnetized to them." Therefore, "we are really talking about a cluster of promises we want someone or something to make to us and make possible for us" (Berlant 2006, 21). Following Berlant, attachments to technological objects are ultimately optimistic, despite the disappointments they may regularly cause. Clustered with promise, devices both evoke and block potentiality as access to networks, resources, and entertainment. Since malfunction is nevertheless always possible, and ultimately even inevitable, devices involve both promise and threat.

Sharp affective intensities faced when a smart phone cannot access a network or a computer crashes might be explained as technophobic impulses revealing themselves in moments of operational rupture or as disappointment when the objects of our affection fail us. As I have suggested, that what is at stake is however a more complex clustering of intensities and desires onto devices as objects of dependency, and as actors in the networks that underpin our agency in and connections with the world.

> I was so shocked about what had happened, and a freezing fear crept to the back of my head, that I had to go and buy a new computer. It's almost impossible to out these feelings into words. The horror of having ruined a computer. The fear that it will never come back to life and the pain of needing to purchase a new one, all crisscrossed. (Female, born 1976)

Moments of affective intensity resist being fully translated into language as shock, horror, and freezing fear oscillate and intermesh. Having unsuccessfully tried to reformat the hard drive of her old PC, the writer describes the intensities of trepidation and guilt following her failure. As her agency as user becomes truncated, she is only

left with the option of purchasing a new machine. At the same time, she invests the now defunct PC with agency and liveliness as that which—to her horror—may never come back to life again. Similarly, in other essays, "the computer won't even agree to turn on" (Male, born 1991), mobile phones play "the most incredible tricks" (Female, born 1992), electronics gain consciousness "only in order to mess with me" (Male, born 1981), and users try in vain to revoke their computers' "spark of life" (Male, born 1991). Such formulations are not merely matters of essayist effect but telling of everyday lives where human and nonhuman agency is fundamentally entangled. Failure may then quickly give way to dark clouds of fury as users shout at their computers (Female, born 1990) and maul them (Female, born 1988).

> My pent-up anger quickly turns into rage . . . After insulting my USB modem for minutes to no avail my fury usually evolves into physical assault . . . I really don't remember ever having experienced similar rage than when network connection doesn't work. . . . I find my actions difficult to justify but the frustration and rage are simply huge enough to be overpowering. (Female, born 1991)

Overwhelming frustration and rage fail to fully translate into language, causing a rupture in everyday conduct to the point that physical aggression feels like the only available release. Network connections failing, logins not functioning, and servers not responding evoke both affective sharpness and disturbing itchiness that cannot be easily smoothed out. These intensities grow and stick with the lack of access to the hybrid sociotechnological networks that devices both facilitate and configure. Affective intensities surface from investments made in the devices and interfaces engaged with, from tactile interactions with them, and from moments of rupture that truncate the sense of user agency. In describing these, the student essays are indicative of more than the anecdotally individual: they depict users as parts of networked sociotechnological assemblages that entail flows of information as well as flows of shifting affective intensity—that which Jodi Dean (2010), writing on social media, defines as the drive.

In these assemblages we are, as users, both acting and being acted upon, both playing and being played in the networks that we belong to and that define our possibilities for action. Networked exchanges and the human and nonhuman actors within them are therefore not simply ours to master, use, or control. As I have argued above, all this calls for a reconsideration of the notion of dependency as something of a precondition of existence that modulates the shapes and forms of individual agency in a culture characterized by ubiquitous network connectivity. Furthermore, the notion of the user, connoting instrumental control and mastery, is equally in need of revision. Here the term *actor*—as introduced ANT—has considerable analytical value in conceptualizing intimate cohabitation with devices and entanglement in multiple and heterogeneous networks that are oriented by, and that give rise to, affective intensities. As actors in networked exchanges, we may be active, passive, proactive, intentional, and random, but our agency is far from autonomous.

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