

Affective Media Regulation: Or, How to Counter the Blackboxing of Emotional Life

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This contribution argues that with the emergence of affective media, affect or emotion regulation is undergoing a decisive transformation, because it is increasingly facilitated by automated systems that process users' affect expressions and encourage certain behaviors to maximize their happiness. It further develops the notion that affective media regulation itself demands regulations in a legal and sociopolitical sense. This argument is developed in four stages. (1) A brief overview of the terms "affect regulation" (Norbert Elias) and "emotion regulation" (Allan Schore; James Gross) in sociology and psychology provides some insight into the increasing centrality of these concepts and their position within the Foucauldian genealogy of the "security principle" (Frédéric Gros). (2) The term "affective media" is defined with recourse to

Kittlerian/Winklerian media theory as pertaining to affect-responsive media, or media capable of processing affect. (3) The near-total reliance of present affective computing applications on Paul Ekman's contested, if not outright refuted, theory of universal basic emotions leads to some serious doubts about its possible effects on users and their "emotional granularity" (Lisa Feldman Barrett). (4) Picking up on arguments made by critical algorithm studies, Shoshana Zuboff's critique of "surveillance capitalism," and legal scholars' fight for a "right to reasonable inference" by automated systems (Sandra Wachter and Brent Mittelstadt), a wide-ranging discussion of the dangers and pitfalls of blackboxing emotional life through affective media is encouraged.

1. Affect Regulation

The title of this contribution combines two concepts that for heuristic reasons demand some separate considerations: "affect regulation" and "affective media." This section will start with a brief overview of the terms "affect regulation" and "emotion regulation," which have been used in sociology and psychology for some decades now and refer to an individual's capacity to self-regulate affects or emotions, following the assumption that some affective episodes a subject might experience necessitate a decrease of their psychophysical effects, while some social situations demand an increase of emotional expressivity and intensity.¹

In the 1930s, the German sociologist Norbert Elias established the hypothesis that *The Civilizing Process* largely depends on the progressional strengthening of individuals' capacities of affect regulation. According to

1 The question of how a terminological difference between affects and emotions might be articulated will be addressed in section 3, "Affective Difference."

him, “as the social fabric grows more intricate, the sociogenic apparatus of individual self-control also becomes more differentiated, more all-round and more stable” (Elias 2000, 369). Constraints from the outside are replaced by internal constraints in an ongoing process of subjectification. In Western society, the “web of actions grows so complex and extensive, the effort to behave ‘correctly’ within it becomes so great, that beside the individual’s conscious self-control an automatic, blindly functioning apparatus of self-control is firmly established” (367f.). One historically decisive step within this ongoing process was, according to Elias, the monopolization of physical force. By transferring the right to exert force to the state, citizens were pressured to develop habits and routines that would hold their more violent desires and urges at bay. Sociogenesis thus goes hand in hand with psychogenesis, the modeling or patterning of the psychic apparatus,² which requires an ever “higher degree of automaticity” (369).

The metaphor of an “apparatus” is most probably owed to the influence of Sigmund Freud, whose terminology one encounters frequently over the course of the text.³ But apart from his clear nod to Freud and the psycho-analytical notion of unconscious defense mechanisms, the way that Elias presents his socio- and psychogenetic theory points toward an ongoing technologization of affect regulation as well. Not only does he rely heavily on comparisons of psychic life in a functionally highly differentiated society with the dangers and pitfalls of partaking in a modern, urban traffic system (368), he even resorts to a striking metaphor when he asserts that “as the conveyer belts running through their existence grow longer and more complex, individuals learn to control themselves more steadily; they are now less a prisoner of their passions than before” (374). This image of a technical device as something that pervades modern human life,⁴ and in doing so gives the individual capacity for self-control a clear direction,

- 2 This is a strong parallel to Gilbert Simondon’s concept of “psychic and collective individuation” (see Combes 2013, 25–30). For a comparison between Elias’, Freud’s, Weber’s, and Adorno’s respective solutions of how to cross the “psycho-social divide,” see Cavalletto (2007).
- 3 For a comparison of Freud’s *Civilization and Its Discontents* and Elias’ *The Civilizing Process*, including some heavy criticism of their respective speculations, see Redner (2015).
- 4 The conveyor belt was invented in the late 19th century, but only with Henry Ford’s introduction of the conveyor-belt assembly line in 1913 was a turning point for industrial production reached. Charlie Chaplin’s iconic depiction of the industrial worker whose movements and perceptions get entirely reprogrammed by such an apparatus (in *Modern Times*, 1936) is one of the strongest commentaries on the purported neutrality of technology. It is conceivable that Elias saw that movie and

shows that Elias was acknowledging technology as a realm that influences and transforms psychological mechanisms (moreover, the metaphor “mechanism” that had been used to describe psychological processes since at least the 19th century proves that technology has already been recognized as a medium). Although Elias did not elaborate further on this pre-computer age image, it reads like a premonition of things to come. By resorting to modern traffic and production systems, he almost develops a cybernetic stance towards the regulation of affects and psychological processes. From a discourse analytical view, his frequent use of the term “control,” both as noun and verb, exacerbates that impression. Historically speaking, the conception and development of automatic systems of control was only one step away, with the Macy Conferences that inaugurated the cybernetic movement starting in 1946 (Pias 2003; 2004). Generally speaking, there is no reason to assume that Elias’ general thesis of the civilizing process requiring increasingly “higher degrees of automaticity” would come to any sort of halt with the development of computerized systems.

Apart from that, the attention that Elias devoted to processes of regulation—in this case of affects and desires—can also be understood as an informative example of what Georges Canguilhem once described as a general adoption of the concept of regulation that had become increasingly central in late 19th-century biology and had from then spread into social sciences (2017).

Recently, the historical scope of regulation—both as an idea and as a melting pot of techniques of governance—has been reconsidered by Frédéric Gros in his Foucault-inspired genealogical narrative concerning *The Security Principle* (2019). Gros distinguishes four separate dimensions as well as ages of security: (1) the spiritual age, when security was still understood as “tranquility of mind” (via the translation of Greek *ataraxia* into Latin *securitas*, which literally means “being free of care/concern”); (2) the imperial age, when security basically meant “absence of danger,” which was to be brought about by a millenarian Empire (an idea that came into its own in the High Middle Ages); (3) the modern age, when security was mostly understood as a set of nation-state guarantees that circle around the notion of sovereignty; and (4) the biopolitical age, when instead of the sovereign state, the life of the individual is considered untouchable, so that “everything that is involved in the life of civil populations becomes an object of security” (Gros 2014, 23f.). In the context of this contribution,

that the scene in question inspired him to coin this image of “conveyor belts running through existence.”

it is of particular significance that Gros also mentions “affective security” among the many newly defined biopolitical security concerns. Referring to child psychologists Margaret Mahler and Donald Winnicott, he thereby suggests that a child “must feel surrounded by a protective barrier, safe from external threats” so as to guarantee continuous and regulated “flows of communication and affection” between the caregivers and him- or herself (25). The term “flow” delineates what is probably the main concern of biopolitical security—Gros speaks of “flow control” (27) as the (decentralized) control of movements and communications; be it crowds at airports, train stations and borders, be it money, information, or affect, the flow of all these objects must be regulated at all times. Thus, with the perspective provided first by Foucault and now by Gros, we can understand this shift of interest to questions of control and regulation as a general and global shift in the dynamics of power—as a transition from older forms of power to what is now usually called biopower, as well as to what Bernard Stiegler proposed to dub “psychopower” (Stiegler 2010; van Camp 2012).

Given the scope of this transformation of the meaning of “security” throughout so many areas of political and social life—the ongoing securitization of territories, populations and properties through innovative techniques and technologies—it is somewhat surprising that within psychology, the term “regulation” has gained prominence rather late. Although questions of affective security have pervaded psy-disciplines from the outset, terms like “affect regulation” or “emotion regulation” only seemed to come into their own in the 1990s. In 1994, the neuropsychologist Allan Schore published his seminal *Affect Regulation and the Origin of the Self*, which integrates a neuroscientific approach with psychoanalytic theories of attachment. Schore hypothesizes that “the infant’s affective interactions with the early human environment directly and indelibly influence the postnatal maturation of brain structures that will regulate all future socioemotional functioning” (1994, xxx). In other words, the capacity to self-regulate one’s affects and emotions is said to be largely constituted through the interaction style of the primary caregiver. Any self-regulation of affect thus has a “dyadic origin” (31), meaning that auto-regulation is based on hetero-regulation in such a fundamental fashion that it complicates the whole notion of affective autonomization.

There is a second strand of psychological research that raised the term “regulation” to prominence. In the late 1990s, clinical psychologist James Gross introduced the concept of “emotion regulation” in a series of papers, and with the publication of the *Handbook of Emotion Regulation* (2007),

the term obviously gained a central status in empirical psychology.⁵ Gross's definition of his basic term, in contrast to Schore, is focused on the adult person when we writes that "emotion regulation refers to shaping which emotions one has, when one has them, and how one experiences or expresses these emotions" (2014, 6). Regardless of how these different approaches come about, they at least seem to imply a fully conscious, experienced, and more or less self-reflective person. This is best shown by referring to his schematization of five general ways to regulate one's emotions (Gross 1999, 559f.): (1) situation selection, which refers to approaching or avoiding certain people or experiences that are likely to elicit a certain emotion; (2) situation modification, which refers to "modifying the local environment so as to alter its emotional impact"; (3) the deployment of attention, which can influence the way an emotion unfolds once it has begun to take its effect; (4) cognitive change, meaning a re-evaluation of the situation can alter its emotional significance; and (5), the modulation of physiological responding (like controlling one's breath), which can alleviate the impact of even strong emotions. Whereas the first two tactics concern an individual's way of referring to his or her environment, the other three focus on modifications in the psychophysical system. The question of which tactics are used is of utmost importance, because if one would exclude situation selection and modification, one would reduce emotion regulation to an "inner" mechanism and thereby radically individualize and de-politicize it. It is especially important to keep the political question in mind when emotion regulation is being automatized through the use of responsive or adaptive media—which finally brings us to the second term that this contribution's title alludes to.

2. Affective Media

Even though the expression "affective media" has been used by scholars around the globe increasingly over the last few years, a clear-cut definition is, to the best of my knowledge, something yet to be arrived at. Theater scholar David Saltz once assigned affective media a specific place in his taxonomy of live media and described them as "nondiegetic" and "most often auditory," as in background music on stage and in film, but also including visual means of communicating emotions a character might feel (2001, 125).⁶

- 5 It is worth noting that Schore's research does not even get a mention in the *Handbook*, which can be read as a clear indication about how radically disconnected from each other the various psy-disciplines seem to be.
- 6 Understood in this sense, "affective media" and "atmospheric media" could probably be used interchangeably.

In 2012, in a special issue of the journal *Feminist Media Studies* on “mobile intimacy,” the editors coined the term “affective mobile media” (Hjorth and Lim 2012), but did not bother to elaborate on it further. In recent communication studies, “affective media” has become just another phrase for “collaborative Web 2.0 technologies” (Jutel 2017, 337), more commonly known as social media.

So how can the term “affective media” be defined in a meaningful way? Rosalind Picard, figurehead of the affective computing research field, gives us a decisive hint, as she occasionally uses the more generic “affective media” when writing about her own research (2014). In contrast to the above-mentioned usage of this term, her approach refers to media that do not just elicit affects and emotions (which is something that could be attributed to virtually any medium), but that purportedly detect emotions and generate emotional expressions.

To get a better grasp of the specific quality of Picard’s (albeit fleeting) use of the term, Friedrich Kittler’s classical definition of what he called the “three basic functions of media” might be of help. According to the German literary-scholar-turned-media-theorist, technical media work in three ways: they transmit, they store, and they process (Kittler 1999, 244). Now, conceptualizing storage and transmission of information (or affect—even though this is admittedly not at all Kittler’s focus) as basic media functions is a rather uncontroversial move. Writing, for example, stores information, and thus makes it accessible across time; it also transmits information to readers at a distance from the location where the writing took place, thus making it accessible across space. But what about the third media function, processing? Within Kittler’s writing, it is clear that he introduces it always in conjunction with the computer (and its internal central processing unit). Adopting this more specific, computer-based media function, we can now come up with a working definition: *Affective media are computational media capable of detecting signals from humans, interpreting them as affects, and using this interpretation for interactive purposes.* Thus, affective media are affect-responsive media, or media capable of processing affect.

Having come up with a working definition, the main thesis of this article can now be developed further. *With the emergence of affective media, affect or emotion regulation is undergoing a decisive transformation, as it increasingly becomes externalized.* Thus regulation decreasingly depends on habitual techniques of either self-regulating one’s emotions or regulating the emotions of others (like caregivers do), and is increasingly facilitated by automated systems that process our affective expressions and nudge us

toward certain behaviors and, thereby, a purportedly more satisfying personal life. *With the advent of affective media, we are standing at the beginning of what can be called affective media regulation, understood as media-assisted, automatic affect regulation of individuals as well as populations.*

Still, as handy as the adoption of Kittler's third media function may be, it entails further questions. Intuitively, the term "processing" might seem to explain itself, but the closer one looks, the more difficult it becomes to grasp it clearly. As media scholar Hartmut Winkler (2015) has pointed out in his monograph *Prozessieren*, it is rather surprising that the exact meaning of "processing" has remained unquestioned for decades, which is why he dubs it the "neglected" third media function. It will be informative to recapitulate some of Winkler's findings, as they may provide insights into what the processing of affect by technical media actually means.

Stressing that "processing" is not just a term that pertains to something computers do, Winkler explores the concept in all its semantic richness. To process can just mean to handle or to manipulate something in the neutral sense of the term. Its most simple meaning covers the material transmission of something: an item of mail, an order, a commodity. In the widest sense of the term, all processes that involve media thus encompass some type of processing. But, of course, things get much more interesting when there is some kind of change involved—when "processing" pertains to some kind of alteration or modification of the very object that is being processed. Winkler thus comes to his definition of processing as "interfering modification" (Winkler 2015, 31).⁷ This allows him to further differentiate between a generic concept of modification, which includes for example the work of film editors who manipulate film strips and thereby literally create a new product, and a more specific concept that Winkler limits to the "manipulation of words and numbers," as done by authors as well as computers. Both dimensions of "interfering modification" include material aspects, even if the output is not itself a material product, as is the case with computational processes. Moreover, every interfering modification is at the same time a kind of transformation (33–37), or an alteration of a pregiven form.⁸

Following these basic considerations, which include non-computational processing practices, it is possible to get a better idea of what computers

7 "Eingreifende Veränderung" in the original German version.

8 In some cases, if the source material cannot be said to have had a form by itself, interfering modification can also mean the conferral of form, or in-formation in the processual sense of the term (Winkler 2015, 74–77).

specifically do: they rearrange data by following mechanical and syntactical procedures. They transform input data into output data. In the case of computer programs that are deliberately designed to create output that is meaningful for users, we can say that the rearrangement equals a transformation of data into symbolically mediated information (114f.). By turning to affective media, we can try to make sense of Winkler's descriptions and at the same time test whether they provide us with a better understanding of what technologies like affective computing actually achieve.

The source material for affective media processing encompasses a whole array of data. In principle, all modes of affective expression are exploited: facial expressions, body movements, speech prosody, texts, and interactions with software, as well as physiological states or changes, such as heartbeat, skin resistance, muscle tension, respiratory rate, and electrical brain activity (Healey 2015). To measure physiological signals, sensors that have to be worn on the body are required, which of course makes everyday usage more difficult. But "affective wearables" have come a long way since Rosalind Picard first propagated their use for affect detection (1997, 227–46). The emergence of smartphones and specialized self-tracking gadgetry makes the fulfillment of Picard's hopes and promises more likely. Apart from this passive tracking of body data, so-called active tracking is still being used, which means intentional input by the user, such as in "mood tracking" applications (Pritz 2016), which depend on active feedback (e.g., through an emoticonized answer to the app's question about the user's current mood).

Andrew McStay, who has spoken with more than 100 interviewees within the emotional artificial intelligence (AI) community, reports in his monograph *Emotional AI: The Rise of Empathic Media* that there is a very strong bias against users' self-reporting when it comes to the goal of emotion detection. Many developers seem to share the "belief that understanding of affect through observation, neuroscience and biometrics is innately more objective" (McStay 2018, 60) than what individuals might say when asked about their current emotional status. Obviously, this focus on technology-assisted observation entails a rather behavioristic view, if with a twist, because "the conscious self is not denied, but instead not trusted" (60). The underlying assumption is that machines, at least in principle, if not in present reality, can detect what an individual is experiencing more accurately than the conscious self of that individual is able to.

This trust in machinic sentience is based on a well-publicized strand of contemporary psychology: the theory that there is a fixed set of genetically

programmed basic emotions and that these emotions all have distinct and recognizable expressive features. The most famous proponent of this theory is Paul Ekman, who claims to have discovered the universal facial expressions of six basic emotions, and who developed the Facial Action Coding System, which has been adopted by a large part of the affective computing community.⁹ Affective media applying this method are connected to ever-expanding databases of examples of tagged facial emotions. They track muscles and movements around the mouth, nose and eyes and identify so-called action units that are then used to infer which emotion(s) are present and to what extent.

Criticism of this technological adoption of a theory that is far from uncontested among researchers has been made both without and within the affective computing field (Tuschling 2014; Lisetti and Hudlicka 2015). McStay sums up the reservations about Ekman's universalist and reductionist approach accurately and concludes "that facial coding is not neutral because it is laden with social theory that informs the weighting of expression classifiers, algorithms and interpretation of the data" (2018, 71f.). This acknowledgment is founded in social constructionist theories of emotion, which McStay subdivides into a "strong constructionist view" that argues against the whole idea of innate basic emotions, and a "weak constructionist view" that admits to the existence of basic emotions but stresses that this explains little, considering how inseparable emotional life is from social and cultural practices that inevitably inform emotional expressions. While refraining from strong claims regarding the implementation of automated facial coding in affective, or, as he calls it, "empathic media," McStay wisely asserts that such applications "present a clear articulation of emotional life" (69). In other words, affective media process and transform physiological data into meaningful, but biased emotion categories.

3. Affective Difference

Facial coding may be the most common automated emotion detection method, but it's by no means the only one. Voice-based methods are used increasingly via smartphone apps, and given the logistical advantage they have over facial observation (which requires that a camera be positioned

9 "Using this model, expert FACS coders analyze a facial expression frame by frame to identify groups of active muscles and then apply well defined rules to map these muscle activation patterns into discrete emotion categories" (Bianchi-Berthouze and Kleinsmith 2015, 156).

in front of the user's face), they may become even more influential in the future. Apart from that, voice-based affect analytics may also profit from the widely shared assumption that it is much more difficult to deflect detection of arousal, worry, fear, or other affective states in one's speech than it is to control one's facial muscles. The same applies to trackings of physiological data.

But regardless of the exact method affective media use, emotion detection is rooted in the assumption that emotions cannot be entirely concealed but are always accompanied by involuntary physiological movements or signals—in other words, that they “leak” (McStay 2018, 55). Likely the best metaphor for this idea has been brought forward by psychologist and neuroscientist Lisa Feldman Barrett. In her book *How Emotions Are Made*, she recapitulates the global quest for what she calls “emotional fingerprints”—the idea that each emotion has a “distinct pattern of physical changes, roughly like a fingerprint” (Feldman Barrett 2017, 3).¹⁰ If this assumption were true, then the purported skills of affective media to correctly identify these emotions when they occur would at least epistemologically stand on solid ground. The question would then just be how accurate detection software works, as in principle it would be perfectly conceivable that emotions could be automatically and validly detected and labeled. But Feldman Barrett questions this very assumption, and her research can be regarded as the most encompassing attack of what she calls the “classical view of emotion” yet. According to her, the search for universal physiological and/or neurological markers has rather produced evidence to the contrary, namely that with emotional expressiveness “variation is the norm,” and that emotion fingerprints are nothing but a myth (23). Her anti-Ekmanian account draws its plausibility from her own research, which for a long time followed the classical view of emotions, i.e., that each emotion is accompanied and even constituted by a “collection of movements on the inside and outside” (x) of a body—a concept that she sums up with the image of the brain as a container for several distinct emotion circuits that function just like electrical circuits in a machine.

After first having unsuccessfully applied this theory in her research, and after having then conducted a comprehensive meta-analysis of, as she claims, “every published neuroimaging study on anger, disgust, happiness, fear, and sadness,” Feldman Barrett and her team of researchers concluded that there is “little to support the classical view of emotion,” that “no brain

10 For a concise definition of the “fingerprint hypothesis” and its localization in the autonomous nervous system, see Siegel et al. (2018).

region contained the fingerprint for any single emotion," and further that even considering "multiple connected regions at once (a brain network)," no such fingerprints can be found (20–22). Leaving the classical view behind, she holds that emotions are socially constructed and that with the probable exception of the feelings of pleasure and pain, there are no telltale signs that would reliably indicate to an observer what the observed subjects may be experiencing at any given time.

After making a case for a strong constructionist view of emotions, Feldman Barrett reserves the term "affect" for "the general sense of feeling you experience throughout each day" (72). This simple conception of feeling includes just two aspects: valence, as the dimension of pleasantness or unpleasantness, and arousal, as the dimension of agitation or calmness. Affect is registered through the sense of interoception, of feeling the internal state of the body. As such, it accompanies a sentient body during its whole life span. It represents the body's overall condition and thus helps to regulate what Barrett calls the "body budget": "Your affective feelings of pleasure and displeasure, and calmness and agitation, are simple summaries of your budgetary state" (73). They do not indicate intentionality, like emotions are usually said to do. But they lead us to "believe that objects and people in the world are inherently negative or positive," which means they are estimated to impact the body budget either to its disadvantage or advantage (75).¹¹ This should come as no surprise since bodies are not closed systems: they rather exist in constant processual exchange with their environments and especially with their "affective niche" (73), meaning the things and persons in the surroundings that are predicted to have an impact on the overall body budget.

Where affect is the constantly fluctuating feeling of a body's condition, emotion is, according to Feldman Barrett, a kind of meaning-making that interprets those physical feelings on the basis of acquired emotional knowledge. It goes without saying that such knowledge is socially constructed and varies within parameters like culture, language, milieu, class, gender, ethnicity, religion, family-based values, and so on. "Emotions are not reactions to the world; they are your constructions of the world" (104)—this is how Feldman Barrett sums up this shift in understanding emotions

11 Readers of Spinoza will most likely recognize that this conception of bodily affect mirrors the Dutch philosopher's definitions of what he calls the three basic affects: the *conatus*, or striving to maintain the body's capacities, joy if these capacities are increased, and pain if they are decreased (Spinoza 2018).

on the basis of what could be called “affective difference.”¹² In other words, brains process and transform physiological data into meaningful, but probably (and necessarily) biased emotion categories—just like affective media do, as was explored at the end of the preceding section. It must be stressed that “processing” here also means “meaning-making,” and that “to make meaning is to go beyond the information given” (126). This is done by applying categories that have been gathered over the life span. Feldman Barrett sums up her theory with an instructive example:

When you experience affect with unpleasant valence and high arousal, you make meaning from it depending on how you categorize ... If you categorize the sensations as fear, you are making meaning that says, ‘Fear is what caused these physical changes in my body.’ When the concepts involved are emotion concepts, your brain constructs instances of emotion. (126)

The more emotional categories individuals have at their disposal, the more accurate the categorization of their affective states is at any given moment. The term that Feldman Barrett proposes for the ability to experience one’s affective states in a more or less finegrained way is “emotional granularity” (3). In psychology, the observation of patients who were unable to verbalize feelings occasioned the creation of a construct called “alexithymia,” which gained terminological status in 1976 (Taylor and Bagby 2000, 40). Alexithymia is a disposition (or condition) that makes it difficult to verbally express affective differences, whereas, on the other end of the spectrum, high emotional granularity is a solid basis on which to verbalize those differences, and even to create new concepts if those that are used in a given language do not seem sufficient for capturing recurrent contours of feeling.

We are now ready to ask a decisive—and probably provocative—question: *Is the externalization of affect regulation via affective media the fastest way of decreasing emotional granularity among its users, meaning that they will gradually lose (or not develop) their ability to verbalize their feelings in an adequate and versatile way? In other words, is the implementation of affective media regulation in reality the fastest road to collective alexithymia? And are we willingly approving a kind of “blackboxing” of affect regulation?* If we remember that affective media process physiological data and categorize them by using simple standard models of emotion and emotional expression, then we also have to acknowledge that such automated categorization

12 The obvious similarities and differences to Brian Massumi’s distinction between “affect” and “emotion” (2002) cannot be further discussed here. For a discussion of this “affective difference” and its possible further conceptualization, see Bösel (2017).

creates a conceptual reality. Affective media regulation thus entails what we could call “self-fulfilling processing”¹³—a processing that fundamentally shapes emotional experience instead of just detecting it, as many developers want users to believe.

4. Regulating Affective Media

The phrase “affective media regulation” can now finally be understood in yet another sense: as the regulation of affective media themselves, for instance through legal frameworks or through rules and cautions users develop and follow in their interactions with such media.

There are, of course, many reasons why regulative frameworks regarding the collection of so-called affective data should be implemented—first and foremost, the possible (and actual) abuse of such data through third parties, such as companies, governments, political parties, or fraudsters. In her widely discussed *The Age of Surveillance Capitalism*, Shoshana Zuboff refers, amidst many other examples, to the development of affective computing applications over the past twenty years and ultimately points out their susceptibility to exploitation. The basic argument of her book is that with the discovery of what she calls “behavioral surplus” by Google in the early 2000s, capitalism entered a new phase. Where classical capitalism worked on the premise of a lack of predictability among market patterns, surveillance capitalism utilizes technologies that give its strong actors the means to collect sufficiently precise data in order to predict the behavior of users and consumers. “Surveillance capitalism thus replaces mystery with certainty as it substitutes rendition, behavioral modification, and prediction for the old ‘unsurveyable pattern’” (Zuboff 2019, 497). She gives Rosalind Picard some credit for having developed affective computing in both theory and practice with good intentions (285), but ultimately comes to the conclusion that Picard “did not foresee the market forces that would transform the rendition of emotion into for-profit surplus: means to others’ ends.” (291) In the course of successfully establishing her research area, Picard, perhaps inadvertently, became “part of this new dispossession industry” (287). The company Affectiva that she co-founded with her student Rana el Kaliouby quickly turned to conducting exclusively profit-oriented market research and discarding medical and assistive applications for which the affective computing project had been founded. Picard’s departure from the company didn’t halt its commercial momentum. El

13 I want to thank my colleague Sebastian Möring, who invented this rather fitting pun in a conversation with me, for his permission to use it here.

Kaliouby is very outspoken in her endorsement of technological solutions to the problem of how to optimize one's emotional life, promoting so-called emotion chips as standard modules in technical devices, capable of an ubiquitous and permanent "emotion scanning."

Considering how vast our knowledge of the deliberate misuse of personalized data has already become, regulatory mechanisms for companies that provide affect detection software seem an inevitability if one wants to preserve the conditions for personal autonomy that are pivotal in democratic systems. Consumers and users should have the right to be informed about affective data being collected and their supposed emotional states being measured and tagged. Legal scholars have recently pointed out that data protection laws should not just make sure that subjects have control over how their personal data are being collected and processed, but also how they are evaluated, meaning: What inferences are being drawn by AI? Such inferences are being used "to nudge or manipulate us, or to make important decisions (e.g., loan or employment decisions) about us" (Wachter and Mittelstadt 2019, 4). The authors clarify that inferences may have been the main factor in the ongoing debate on the ethics of AI all along: "Concerns about algorithmic accountability are often actually concerns about the way in which these technologies draw privacy-invasive and non-verifiable inferences that cannot be predicted, understood, or refuted" (4). They further argue that "a new data protection right, the 'right to reasonable inferences,' is needed to help close the accountability gap currently posed by 'high-risk inferences'" (7).

Biases in AI have been well publicized in the past few years (O'Neil 2016; Pasquale 2015). In the field of "artificial emotional intelligence," racialized bias has been reported in a study that looked into the emotional analytics of male basketball players' portrait photos: black faces were inferred as expressing more negative emotions than white faces (Rhue 2019). But the systemic bias begins even earlier, namely with the tagging of facial expressions or other sensory data as being indicative of a certain discrete emotional state itself. If emotional granularity, introduced by Feldman Barrett as the ability to verbally express one's affective states in a highly differentiated manner, is understood as being intrinsically valuable, then affective media that rely on contested—if not simply outdated—theories of supposed universal basic emotions contribute to what can be called emotional stereotyping, thereby inadvertently diminishing emotional granularity. This problem could at the least be alleviated by making it a legal requirement to point out which psychological models affect detection software puts into practice.

Regulating affective media would of course have to go beyond simply regulating how affects get detected, captured, and classified, and instead encompass the way affects get automatically elicited and modified. In this regard, affective media go much further than merely regulating affect in the sense of Norbert Elias, whose theory of the civilizing process revolved around increasing inhibition of affective expressions. Let us imagine for a moment that a fully attentive and affectively versatile digital personal agent does actually exist: How does it know in which direction to steer the person it is assisting? How is the emotional target state defined?

The literature on affective computing remains astonishingly vague on the question of what affective goals it is actually trying to achieve. In a discussion of the ethical aspects of affective computing, the utilitarian imperative of “maximizing net happiness” is readily cited (Cowie 2015, 338)—but without addressing the obvious question of how happiness is defined in the first place. Some researchers and developers in the affective computing arena have begun resorting to Martin Seligman’s and Mihaly Csikszentmihalyi’s (2000) “positive psychology” and accordingly call for “positive technology” (Riva et al. 2012) or “positive computing” (Calvo and Peters 2014), each of which would specifically be designed to increase users’ well-being. With this focus on positive experience, issues like digital addiction, stress, frustration, or attention deficits, which have all been linked to digital environments and interfaces, are addressed and countered in a way that deserves some recognition. At the same time, this reliance on the seemingly helpful positive psychology framework ignores how much controversy it has caused from the outset (Kristjánsson 2013; Ehrenreich 2009; Miller 2008; Held 2004). But considering the enormous academic and commercial success, in addition to the sociopolitical acceptance of the positive psychology movement, the embracing of affective media by developers seems almost inevitable. This is why a broader engagement with concepts like “happiness,” “well-being,” and “human flourishing” is something to be desired.

Finally, one remark on the possible future of automated affect regulation. It has become something of a truism to point out the dangers and pitfalls of relying too heavily on digital services and devices, starting with the unwanted effects of not knowing what to do or how to do what one wants to do without help from our gadgets that didn’t even exist a generation ago, and ending with serious digital addiction issues or possibly life-threatening mental health problems that are linked to social media usage. Nevertheless, the prospect of externalizing one’s capacity for affect regulation apparently has not yet received widespread discussion or even attention.

This may change within the current media landscape, which is swift not only in promoting new technologies, but also in scandalizing them whenever a case of precedence raises serious concerns, even if one may wonder why this has not hitherto been the case. One reason may be that users of digital services are used to recommendation algorithms that work best when they suggest content that is sufficiently similar to what has produced positive affect before, and still offers something new or surprising. As long as algorithms work on that basis, users will not be seriously startled by the way they are influenced by their devices. As a result of their functional inconspicuousness, recommendation algorithms operate more or less below the radar of critical attentiveness. Programmed to elicit emotional responses, affective computing will likewise use cues that have proven successful in previous instances.

If you enjoy going for a walk, but haven't done so in a while, and your mood has become rather unstable, nudging you to pick up your positive habit again is a safe bet with regard to emotional well-being. Let us imagine, in contrast, affective media that influence you to behave in a way that is not at all in line with your habits and dispositions. A digital personal assistant that is not restricted in any way might come to the conclusion that "maximizing net happiness" would entail quitting your job, leaving your home, and tending sheep in the countryside. Or it might discourage you from further pursuing your political activism, because it might involve health risks, and, in the long run, will only foster your frustration with the global political situation.

As contrived as these examples might be, they hopefully point out that the blackboxing of affect regulation might lead to a serious disempowerment of moral and political subjects. Depending on how closely knit the ties between private companies working solely on capitalist terms and either ideological movements or governmental agencies become, influencing populations by steering each individual into a targeted emotional disposition might become an affordance readily provided by future affective media—which would mean that these media may become a serious threat to democracy. As with many other issues pertaining to the disruptive effects of new technologies, the conversation on how affective media should be regulated has yet to begin—and this conversation must encompass the legal and sociopolitical as well as the ethical levels.

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