THE RIGHT TO PRIVACY IN THE AGE OF EMOTIONAL AI

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BACKGROUND
McStay's expertise is in the social implications of digital media technologies, privacy and commercial uses of personal data. His recent work has focused on what he terms 'emotional AI' and 'empathic media'. His recent book on this topic is *Emotional AI: The Rise of Empathic Media* (Sage forthcoming 2018), but other useful books by McStay include *Privacy and the Media* (Sage 2017), *Digital Advertising* (Palgrave-MacMillan 2016) and *Privacy and Philosophy* (Peter Lang 2014).

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KEY RECOMMENDATIONS
1. The OHCHR and Special Rapporteur on the right to privacy should reflect on the social desirability of 'machine-readable' emotional life.
2. While there is certainly scope to connect information about emotions with personal data, urgent attention should be paid to practices that passively read expressions and emotional behaviour.
3. Recognition should be made of the right to 'community privacy', even when individuals are not singled-out.

SUBMISSION CONTENTS

1. INTRODUCTION AND ISSUES

1.1 Amongst issues raised at the Expert Workshop on the Right to Privacy in the Digital Age at the Office Of The United Nations High Commissioner For Human Rights (OHCHR) 19-20th February 2018, one key question was this: is privacy is a purely personal issue, or is it also community matter?

1.2 This submission focuses on this question in relation to the capture of emotions in public spaces using non-identifying means. This topic overlaps with bullet-point 5 of the online call by OHCHR for input on the growing reliance on data-driven technology and biometric data. Those interested in wider questions of datafied emotion, emotional AI and the scope for technologies to 'feel-into' emotional life like might also consult *Emotional AI: The Rise of Empathic Media,* McStay's recent book on the matter.

2. CONTEXT

2.1 Emotional AI entails use of affective computing and AI techniques to sense and 'feel-into' human emotional life. Using weak AI rather than strong AI, machines read and react to emotions through text, voice, computer vision and biometric sensing, but they do not have sentience nor feel in a human-like way. Emotional AI is an emergent phenomenon appearing across diverse devices and life contexts. Examples include ads in public spaces that analyse faces for negative and positive expressions; emotional contagion on social media (Facebook); wearables that track moods of workers; and cars that detect emotions in drivers (as being developed by Ford, Nissan, Toyota and Audi). Gartner, the leading technology analyst, predicts that by 2022, personal devices will know more about people's emotional states than their own family.

2.2 Emotional AI signals *an entirely new relationship between humans and technology.* Machine-readable emotion involves computers assessing words and images; and sensing facial expressions, gaze direction, gestures, voice and the brain. It encompasses machines reading heart rates, body temperature, respiration, brain signals and the skin's electrical properties, among other bodily behaviours. When augmented by machine learning, this sensing facilitates emotional intelligence, or the capacity to detect emotions, categorise behaviour, learn to recognise these in new settings, and to adapt and respond appropriately. It is reasonable to say that computers can recognise emotions when computers and humans respond with a similar sets of answers.

Table 1 on the next page provides a snapshot of current applications.

Table 1 Sectors Already Using Emotional AI in 2018

Sector	Form of tracking	Reason for interest in tracking emotions
Advertisers & marketers	Sentiment, voice, facial coding, biometrics	Understand preferences, behaviour, reactions to brands; optimise creative components of adverts
AI/cognitive services	Sentiment, voice, facial coding, biometrics	Enhance interaction with devices, services & content
Artists	Sentiment, facial coding, biometrics	Create artwork & measure audience engagement
City experience analysts	Sentiment, facial coding, biometrics	Gauge citizens' feeling about initiatives
Data brokers	Sentiment, facial coding, biometrics	Commercial value of data
Education	Facial coding, biometrics	Analyse in-class behaviour, learning, engagement
Finance	Sentiment (social media)	Chart market emotionality
Gaming	Facial coding, biometrics	Input devices enhance gameplay
Health	Sentiment, voice, facial coding, biometrics	Track mental states & the body
Home Internet of Things	Sentiment, voice, facial coding, biometrics	Personalise services & adverts, e.g. assistants, devices, media
Insurance	Sentiment, facial coding, biometrics	Understand customer emotional disposition & mental health (e.g. in-car behaviour assessment)
Police/security	Sentiment, biometrics	Gauge civic feeling/disturbances; assess officers
Political parties	Sentiment	Gauge reactions to policies & initiatives
Robotics	Facial coding, voice	Enhance interaction between robots & people.
Sextech	Biometrics	Enhance sex life/make devices more responsive
Social media	Sentiment, facial coding	Assess sentiment, emoji usage, group behaviour, individual profiling, altering & posting behaviour
TV/film	Sentiment, facial coding, biometrics	Test reactions to shows/movies
Retailers	Sentiment, voice, facial coding, biometrics	Assess in-store behaviour (potential to link reactions with online/loyalty profiles)
User testing	Sentiment, facial coding, biometrics	Assess reactions to products & specific features
Wearables	Biometrics	Track a person's reactions, emotions & moods
Workplaces	Sentiment, biometrics	Organisationally track emotions & moods.

2.3 It is notable that throughout the history of AI, the overwhelming emphasis has been on thought and reason. This submission suggests that artificial *emotional* intelligence (emotional AI) is highly under-represented in discussion of the impact of AI.

2.4 These systems that are able to receive precepts about human emotions and perform actions introduce new social questions. Specifically: *is it entirely desirable that machines are able to use, sense and 'feel-into' human emotional life?* What are the social consequences of being able to see, read, listen, feel, classify, learn and interact with emotional life?

2.5 This involves machines reading words and images; and seeing and sensing facial expressions, gaze direction, gestures and voice. It also encompasses machines reading our heart rate, body temperature, respiration and electrical properties of skin, among other bodily behaviours. Together, *bodies and emotions have become machine-readable.*

2.6 On the one hand, this *naturalizes interactions with technology.* This has scope to enhance interaction with our personal devices, make them more responsive to our wants and needs, provide novel forms of entertainment, increase enjoyment of existing content and media, and positively assist with education and health.

2.7 The *concern* is that while affective computing, cognitive computing and other approaches may make human-machine interaction more natural and serve people, there is another dimension: that *quantified emotion has economic value.* The significance of this development is that:

2.7.1 Subjectivity as expressed in public space is appropriated.

2.7.2 A strata of humanity that was once systematically off-limits to commerce may be mined and datafied.

2.7.3 Subjectivity is transposed into the terrain of objective manipulation.

2.7.4 Unlike media where there may be an exchange of data for services, this is absent in data mining of public emotional life;

2.7.5 Legal, regulatory and governance mechanisms have been bypassed due to over-emphasis of privacy on the individual. The *community* itself has been overlooked.

3 PROTECTING PRIVACY IN DATAFIED PUBLIC SPACE

3.1. This submission draws upon European data protection rules to define "personal data". In short, it is data that identifies a person or singles them out in some way for unique treatment.

3.2. Importantly however, *biometric information about emotion that does not identify or single-out a person does not have legal coverage.*

3.3 Sentiment, facial, voice, biofeedback and neuro-technologies raise ethical questions about the emotional and mental privacy of individuals and groups. They also challenge the adequacy of legislation that protects people in 'private' places, but not 'public' places. This is because intimate data about emotions may be legally collected in public spaces as long as it does not explicitly identify or single-out a person: as such, existing privacy legislation does not address such emotion capture in public spaces. Facial expressions, voice tone and psycho-physiological data, for example, are already used to target advertising in public spaces (such as London's Piccadilly Circus) and to augment retail experiences.

3.4 Case examples include cameras that scan data points on a person's face in a retail outlet to discern emotional behaviour (such as eye, lip and nose movement). The same applies to out-of-home digital advertising where cameras above ads scan people for emotional reactions (McStay 2016). There is also considerable interest in using wearable devices at work to gauge emotional behaviour at work (such as to gauge stress and performance of workers). While that which identifies people is subject to high data protection provision, aggregated and non-identifying data is not (McStay 2017).

3.5 Indeed, the rise of emotional AI sits against the wider information society defined by big data, cloud computing, algorithmic processing and social sorting. Given that over half the world's population lives in cities, many of which aim to become 'smart cities' (i.e. using information and communication technologies to improve life quality, urban efficiency and competitiveness), the challenges to privacy regulation in urban public spaces raised by the growing use of emotional AI is of global social significance.

3.6 Consideration should be given to *community privacy* to avoid a 'commodity logic' that both exceeds moral limits and corrupts the relationship between the individual and public life.

4. HARMS AND RISKS

4.1 Beyond familiar but important data privacy concerns (autonomy, dignity, self-determination, consent, choice and abuse of personal control), machine-readable emotional bodies connect with concerns about negative use of nudge theory, framing and behavioural economics. This is primarily because understanding of physiology (and thereafter "affect") and emotions increases scope to influence decision-making.

4.2 Scope to commodify emotions must be treated critically and carefully. The task is not to "ban" emotion-capture technologies, but find appropriate means to live with them in a way that respects the dignity of human life, enhances experience of technologies, and serves rather than exploits people. Risks include the following:

4.2.1   People may be treated as emotional animals to be biologically mapped and manipulated.

4.2.2   People are seen as objects rather than as subjects.

4.2.3   People do not have control over sensitive information collected from them.

4.2.4   Passive tracking collects intimate data without consent.

4.2.5   Alienation of citizenry from public spaces.

4.2.6   Unwanted attention to behaviour and the body.

4.2.7   Increased scope to manipulate consumer behaviour through application of behavioural sciences.

4.2.8   Abuse of dignity.

5 DO PEOPLE CARE?

5.1 As part of a wider project between 2015 and 2018 assessing the rise of emotional analytics,[1] McStay conducted a representative survey (n=2068) to gauge attitudes towards the potential for emotion detection in a range of then nascent everyday uses of emotional AI. These were sentiment analysis, out-of-home advertising, gaming, interactive movies, and capture through smartphones and voice-based search. On emotion tracking in advertising in public spaces, UK citizens were asked:

> Advertising agencies have developed outdoor ads equipped with cameras that scan onlookers' faces to work out our emotions towards the ad.
> If our reactions are not positive the ad changes itself to be more appealing.
> Which of the following best represents your feelings about this?

In relation to out-of-home advertising, high-level findings are:

- 50% of UK citizens are 'not OK' with emotion detection in any form;
- 33% are 'OK' with emotion detection if they are not personally identifiable;
- 8% are 'OK' with having data about emotions connected with personally identifiable information;
- 9% do not know.

While follow-up qualitative work would be useful, the finding that 50% of UK citizens are not OK with emotion tracking in any form for advertising in public spaces is notable.

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[1] In addition to the survey, it entailed an elite workshop and interviewing of over 100 companies, organisations, policy actors and other stakeholders interested in how technologies interact with human emotional life (McStay, 2016, 2017, 2018).

6. RECOMMENDATIONS

6.1 The OHCHR and Special Rapporteur play a special role in emphasising the *dignity* aspect of privacy. In relation to emotional AI this needs to be foregrounded so as to avoid unhelpful over-emphasis on technical discussion of personal data, personal information and identification.

6.2. Given that *legal consent is not required to capture data about emotions that is not personal (i.e. capable of identifying or singling-out a person)*, there is need to apply moral pressure to organisations other than law-makers. These include data protection authorities and industry self-regulators across diverse sectors (such as advertising, consumer protection, retail and marketing).

6.3 To avoid exploitation by retailers and advertisers using non-identifying computer vision techniques in public and quasi-public spaces, organisations should be asked the following: *Beyond the law as it stands today, are citizens and the reputation of the industries that self-regulators are charged to protect, best served by covert surveillance of emotional life?*

6.4 If their answer is no, they should be strongly encouraged to immediately amend their codes of practice. The reason is that questions of ethics, emotion capture and making bodies passively machine-readable by emotional AI is not contingent upon personal identification, but human dignity, choice and decisions about what kinds of environments we want to live in.

6.5 Pressure on self-regulators should not be initiated at expense of raising awareness with the world's data protection organisations.

Reference list

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