

Panel of Experts Discussion Workshop

Australian Human Rights Commission
Human Rights and Technology Discussion Paper

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1 Introduction

- 1.1 The submission comes from a workshop organised by the Society on Social Impacts of Technology (SSIT) and the Law Futures Centre, Griffith University of SSIT members and invited experts conducted in Brisbane on 14 September 2018 (10:00-16:00), and reflects the views of attendees at the workshop. We also acknowledge the support of Zoe Paleologos from the Australian Human Rights Commission (AHRC) who took notes.
- 1.2 Attendees at the workshop were Human Rights Commissioner Ed Santow and Sophie Farthing (until 11:00), Greg Adamson, Michael Guihot, Morgan Broman, Adam Lodders, Marcus Wigan, Kimberly Fraser, Monica Whitty, Andre Oboler, Kieran Tranter, Daniel Eghbal, Samuli Haataja, Sue Harris-Rimmer, Bridget Lewis, Zoe Paleologos
- 1.3 This submission supports the AHRC in this inquiry. The continuation, and indeed, the enhancement of human dignity through technology is a foundational belief of SSIT. While past predictions on the social impacts of technology have been variable, understanding the trajectory of change and the common features of change can anticipate potential benefits and concerns.
- 1.4 The scope of the inquiry is broad. In this submission we want to emphasise three key points when considering human rights and technologies:
 - Social context of technologies (Part 3)
 - Autonomy, agency, dignity, life (Part 4)
 - Standards, ethics and the technologist (Part 5)

2 About SSIT

- 2.1 The Society on Social Implications of Technology (SSIT) is a society within the Institute of Electrical and Electronics Engineers (IEEE). The Australian Chapter is comprised of SSIT members in Australia.
- 2.2 SSIT focuses on five major areas
 - Sustainable Development & Humanitarian Technology
 - Ethics, Human Values and Technology
 - Technology Benefits for All
 - Future Societal Impact of Technology Advances
 - Protecting the Planet & Sustainable Technology
- 2.3 SSIT pursues these focuses through
 - Conferences, public lectures, public forums and community engagement
 - Publications, especially the lead journal *Technology and Society*
<http://technologyandsociety.org/technology-and-society-magazine>
 - Participation in consultations for corporate, government and international entities
 - Participation in IEEE standards formation
- 2.4 More information about SSIT Australia is available at <http://technologyandsociety.org/member-resources/find-a-local-ssit-group/australia-chapter/>
- 2.5 This workshop is one of a series of workshops being held around the world as part of the IEEE Standards Association initiative Digital Inclusion through Trust and Agency. Information on this global initiative can be found at: <https://standards.ieee.org/industry-connections/digital-inclusion/index.html>.

3 Social Context of Technologies

- 3.1 Thinking and responding to technology often begins from a position of technological exceptionalism. The focus is on a technology, and particularly a manifestation of a technology within a material object, as exceptional. Such an approach causes problems. Technology is not

external to society. Technologies are developed and implemented within a social context. Technologies cause stresses and strains on individuals and their social relations, but individuals and their social relations also influence technological innovation, development, adoption and diffusion.

- 3.2 While SSIT is titled the 'social implications of technology', its focus is on the relationship between technology and society. Society and technology mutually influence each other. From this socially informed location, we have two comments concerning the framing of technology in the Issues Paper.
- 3.3 The first relates to understanding of the institutional context through which innovation and technological change occurs. In the Issues Paper there is the comment that 'technology is primarily developed by the private sector' (Australian Human Rights Commission 2018, 23). The suggestion is that state-centred regulation is always reactive, responding to technology or its application in the world to ensure it is used in a way that enhances and enriches human dignity. This hierarchy of private sector innovating and disrupting, with the public chasing after, is an overstatement. While it is true that the private sector does play a significant role in the research and development of technology, many technologies of the mundane present and the anticipated future have been developed in the context of state-funded military work. The involvement by the US Defense Advanced Research Projects Agency (DARPA) in the internet and automated vehicles are two well-known examples of technologies emerging from state-sponsored research and development. However, it is often the private sector that commercialises and develops markets for these technologies. This often involves an incentive and property transfer by way of intellectual property agreements to the private sector. This is a site for frontend regulation before commercialisation. While this does not remove the need for *post facto* state regulation, public benefit and the value of dignity could be enshrined at the knowledge transfer stage from the state to the private sector. It is also perhaps an overstatement in other ways, as government funded basic university research often has longer term capability creation outcomes, while private operations focus on applied technology innovation and the results of both are then ascribed to the private sector. The mismatch in horizons is often misread in this context. The other role of basic research is to successfully delineate new horizons of technology that are then picked up. This vision setting is a key contribution that delineates the points at which anticipation of negative and positive impacts can be seen to be important. A classical example is asteroid deflection, which has followed this exact trajectory over 40 years.

List of Technologies

- 3.4 In addition to this, we have some reservations about the utility of the World Economic Forums (WEF) list of 12 technologies that is highlighted in the Issue Paper (Australian Human Rights Commission 2018, 19).
- 3.5 The first reservation relates to the technological focus of the list. The WEF list concerns identification of fields and technologies where it is expected there will be substantial economic investment and growth into the coming decade. This categorical focus tends to create silo-thinking about specific technologies in abstract. This can be beneficial for entrepreneurs, innovators and governments looking at capitalising on opportunities from a specific technology or field. However, such approach runs the risk of ignoring the combined social effect of contemporaneous technologies or the effects between emerging and established technologies and practices.
- 3.6 The second reservation relates to the significant overlap in the WEF list. Five of the 12 technologies are specific manifestations of information and communication technologies (ICT). Further, much of the development and potential in the other categories are because of ICT.

Focus on Social Context

3.7 In the alternative we suggest that the Commission focus on a social contexts where there are considerable transformations. We suggest seven foci, although this is not meant to be comprehensive:

- Education
- Health
- Social services
- Dispute resolution
- Energy
- Information
- Civil society

3.8 **Education:** The transformation in education concerns the shift from 'chalk and talk' to digital delivery of education resources. This involves significant questions about quality, access, affordability and a deep consideration on the optimal balance between P2P (person to person) interaction and automated/self-directed learning contexts.

3.9 **Health:** The transformation in health concerns the nurturing, securing and analysis of large health data sets and the enduring 'Big Pharma' model of research and development focused on proprietorial exclusion and intervention. This involves significant questions related to access, quality, affordability and a deep consideration on the optimal balance between professional-patient interactions and automated, self-managed healthcare.

3.10 **Social Services:** The transformation in social services concerns data security and analysis, as well as the digital delivery of services. Like with health and education this involves significant questions about access, quality, affordability and a deep consideration on the optimal balance between face to face interaction and automated/self-help. A further consideration in social services is disruption management involving considerations of how to support transitions to meaningful human lives in the digital world.

3.11 **Dispute Resolution:** The transformation in dispute resolution concerns automation and privatisation of resolution services. This involves concerns with the quality, access and, affordability of these services and platforms and also the relationship between person to person and automated/self-service access to justice. Of a fundamental concern is identifying what are the emerging underlying principles and laws embedded in these platforms.

3.12 **Energy:** A profound legacy of earlier industrialism is climate change. There are multiple technologies that are combining to reveal the potential to mitigate climate impacts and provide low and no carbon energy. The challenges include access, affordability, data security and utilisation.

3.13 **Information:** We now live in a world in which predominantly digital information creates a new field for social practice, described variously as cyberspace, the infosphere, the noosphere and other terms. This influences all of the preceding five areas, but it also creates its own reality. Wars can be fought in cyberspace. Fake news pollutes cyberspace. Inclusion in cyberspace is increasingly important for human rights and for access to services.

3.14 **Civil Society** The transformation in civil society concerns digital communities, agenda setting and participation in government and corporate decision making. This involves significant questions about access, transparency and the responsibility and accountability of participant in forms of civil mobilisation and participation. Technology can both empower civil society increasing its capacity and act as a barrier reducing civil society's capacity. New technologies

may also require new civil society manifestations, which may need to be supported and facilitated by government to ensure an effective civil society in the public interest.

Intersectionality

- 3.15 Further, in concentrating on these foci in an Australian context intersectionality needs to be recognised. For example, the health, education, social services and participatory challenges for rural and remote Australians are different to metropolitan Australians. Transformations are experienced within an individual's lived experience.
- 3.16 The impact on First Nation Australians should be a particular intersectional group considered by the Commission. First Nation Australians have often been the population that has applications of emergent technologies trialled on them. A recent example is the BasicCard that restricts the purchases that can be made with social security payments (Mendes 2013). A historic example is the prominence of the motor vehicle in the enacting policies that led to the stolen generation last century (Tranter 2003). Further First Nation Australians are also likely to be over-identified in algorithmic decision making. Finally, First Nation Australia land is likely to be in demand for energy, geoengineering and space projects.
- 3.17 Nevertheless, there are obvious commonalities between intersectional groups. With digitalisation of education, health and social services 'accessibility' (Australian Human Rights Commission 2018, 36) becomes prioritised. In the Issue Paper this is discussed in the context of people with disabilities. This is a significant user group where ICT innovation can enhance autonomy and dignity. However, accessibility is often discussed in abstract. Instead, it is best considered as a hardware and software issue. It is a hardware issue in that adequate access to the data flow to effectively engage becomes more essential. It is a software issue in the design and function of the interface needs to be functional for users with low forms of digital and analogue literacy and a governance issue when the realisation of accessibility potentials are to be realised. The modes of interaction and understanding must be of very high quality to maintain genuine accessibility to such services: this has not proved to be the case, and insufficient attention to the rights of many classes of less enabled individuals and locations have been ignored in the rush to machine and communications automation.

Accessibility and distributional equity

- 3.18 A human rights framework is a useful way to frame issues of technology and accessibility. For example, Article 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) creates a norm for individuals to have the highest attainable health. This does not mean a universal right to health resources but an aspiration that then should inform distribution.
- 3.19 The fundamental issue is one of distributional equity. Human rights has a role in providing standards and baselines in the distributional analysis. Also when enacted in domestic law human rights can empower individuals and civil society to advocate for the meeting of standards and baselines for individuals and groups. However, human rights instruments do not inherently provide for a framework balancing competing interests. This is especially when broad concepts such as autonomy, agency and dignity can be used to ground claims for and against technologies.

4 Autonomy, Agency, Dignity, Life

- 4.1 The human rights conventions emerged in the aftermath of World War II. The rights identified and prioritised can be seen as context and technologically dependent. The primary concern of the Universal Declaration of Human Rights and subsequent human rights conventions were to ensure human life was protected and had dignity after the experiences of the Holocaust and

global industrialised war. Modern Information and Communication Technology (ICT) also emerged from World War II. However, the forms of human life possible through ICT were not directly imagined by the world community at the time of the formation of the modern international human rights framework.

- 4.2 Often discussion of technology and human life links notions of dignity to consideration of autonomy or agency. This has two dimensions. The first is the relationship between negative and positive rights. Negative rights tend to be easier to articulate in a technological context. It is easier to articulate and to apply a negative right such as non-disclosure of harmful images, than a positive right such as universal, adequate access to the data flow. The second dimension follows from the first. The intellectual and practical advantages of negative rights tend towards the prioritising of choice and consent. It is in this space that notions of human agency and autonomy become centred.
- 4.3 However, over the last 20 years of ICT there has been a tendency to an illusion of choice and agency. There is near universal recognition that End User Licence Agreements (EULA) and 'click to consent' permissions do not amount to proper informed consent, either in a moral sense or under the laws of various jurisdictions. Yet they continue to be deployed by private and public entities. This is a fundamental aspect of accessibility. Where access to certain resources depends upon using a predetermined technological platform there is no choice involved. An example from the public sector is the MyGov app used by the Department of Human Services to interact with 'Centrelink' clients. The app streamlines communication between the Department and the client and has generally been celebrated by clients as saving time in their dealings with the Department (Ombudsman 2015). To download and run the app on a smart device, the GPS locator and the camera settings must be enabled. This means to realise the convenience of the app, clients must allow the Department access to the GPS locator and camera. The Department claims it does not store GPS data and only stores camera data if the camera is being used to create an image of a paper document. However, the notion that the Australian government has the technical capacity to track the movement of social security recipients and to conduct visual surveillance through a client's smart devices camera seems excessive (Sleep and Tranter 2017). Further, the 'choice' to use the app is increasingly illusory given the delay times at the Centrelink call centre and the closing of staffed Centrelink offices.
- 4.4 A further concern is that consent to store a datum in the first instance involves one set of issues – especially where that consent is tied to access to resources – but a further issue is the combination and analysis of multiple data sets. An example is the linking of grocery and food related purchases, through financial institutional data and retailer rewards/tracking schemes, to risk actuary assessment for health insurance. It is plausible to identify food consumption patterns that are likely to cause health complications. The capacity to instigate dynamic pricing and other more insidious forms of discriminatory access to resources based on linked data is a significant equity issue. At the present consent for gathering data for a specific purpose does not prevent that data from becoming combined with other data gathered for an alternative purpose to identify something about an individual that they would not have consented to disclose. Further, the recent distinction in Australian privacy law between identifiable data and metadata exacerbates rather than reduces this issue (*Privacy Commissioner v Telstra Corporation Limited* [2017] FCAFC 4). It is well understood in surveillance circles that metadata is in most cases more intrusive and useful than content.
- 4.5 In short, the dignity and agency of the human that informs the human rights instruments require translation when thinking about the informatics or 'data-double' nature of human life in

contemporary digitally-immersed Australia. While a Commonwealth Human Rights Act has been controversial, a Rights of Information might be a way of dealing with the challenges and complexities arising from ICT based change. Several concrete 'rights' have been suggested:

- a. right to the data flow.
- b. A right to medium neutrality – that individuals/groups will not be discriminated for goods and services due to platform or preference.
- c. A cluster of rights that give meaningfulness to consent.
 - i. Data of, about and relating to a person belongs to the person this includes metadata
 - ii. Data cannot be combined in ways that exceed the original consent
 - iii. Data can be deleted and positive obligation on data managers and networks to seek out and delete data.
- d. Individuals have a right to multiple data personalities
- e. Individual choice in participation or non-participation, offering alternative solutions

4.6 Such an instrument could empower individuals in their dealings with public and private entities to have meaningful choice and control over the data aspects of their lives. It does however inevitably raise questions of cost and educational limitations on the presumed (not always justified) assumption of access. Furthermore, a right to encrypted secure communications is becoming a necessity to operate in a disintermediated digital transactions world. This has been largely ignored in arguments for initiatives based accurately or otherwise on national security.

5 Standards, Ethics and the Technologist

- 5.1 Technologies are not value neutral. Technologies through design and circumstance enshrine certain values. This does not mean that a technology designed for one context cannot be recommissioned for another. The history of technological innovation is the history of novel combinations of technologies. A rights instrument approach that we considered in Part 4 can empower individuals, particularly in their engagement in the public and private spheres. However, there are other ways that human rights can become integrated with technology and technological systems.
- 5.2 A central feature of technological objects has been standardisation and certification. This allows confidence in function and replaceability. There is confidence that an object certified to a particular standard is fit for purpose.
- 5.3 IEEE plays a central role in the development of standards and certification for ICT technologies. This includes both hardware and software.
- 5.4 Currently IEEE is engaged in development of the P7000 standards series <https://standards.ieee.org/project/7000.html>. The series establishes a process model by which engineers and technologists can address ethical consideration throughout the various stages of system initiation, analysis and design. Expected process requirements include management and engineering view of new ICT product development, computer ethics and ICT system design, value-sensitive design, and, stakeholder involvement in ethical ICT system design.
- 5.5 The P7000 standard will establish a process where the social impact of software will be considered at the design phase of new ICT. There are some limits to a standards approach.

- 5.6 The first is the standard is forward looking, applying to the development of new ICT. It does not certify existing code and systems. Software develops through accretion. Layers of new code are laid over the top of earlier more simple code. This means that there are values and processes embedded in the very structures of ICT that are difficult to overwrite. An example of this is the basic protocols for data-exchange between systems was focused on maximising exchange over low bandwidth copper wires. This prioritised traffic volume over security. This has been an ongoing complication for cybersecurity. It is possible that the oversights and compromises embedded in basic ICT infrastructure are difficult to reconcile to a more human centred approach.
- 5.7 The second is P7000 has a particular focus on software. IEEE has other standards dealing with physical construction. An example is the Microelectromechanical Systems committee which develops standards for sensors. Sensor technology is an essential part in automation and robotics. The current standard focuses on physical performance parameters. However, consideration of the social impact stemming from how sensors abstract and transmit data could be included revised standards.
- 5.8 The third is that an ethical design approach is 'content-lite'. This is where human rights can have a specific role. Through identifying how fundamental values of human dignity and empowerment should be translated into an ICT context, a human right provides some founding values to inform both the ethical design process and be the basis for audits and evaluations.
- 5.9 Standards and certification have a significant role in the development of ICT that has a human rights orientation. The development of the P7000 standard which applies to systems is a critical step. It is anticipated that artificial intelligence coupled with additive and multidimensional printing will undermine the standards for physical and digital components. For example, it might become cost advantageous to have components custom designed and assembled rather than using 'off the shelf' parts. The site for standards and certification will shift from individual components to the system itself. The design of the designer. This is what makes the steps towards ethical design standards for systems that is being worked on by the P7000 committee important.
- 5.10 There are four further considerations when looking at standards and certification for technologies and human rights.
- 5.11 The first is that human rights does not engage in risk and probabilities. Standards and certification often involves the setting of error margins. There is a legislating that a certain level of risk for error is acceptable. This is a harder version of the distributional equity issue previously discussed. What remains uncertain in a human rights informed technical standard is where to draw the risk line. For example, in the emerging technologies of automated vehicles it is possible to identify a risk factor for a human death stemming from the operation of the vehicle. There is baseline Australian data for human driven vehicles of 0.52 deaths for 100 million kilometres (Bureau of Infrastructure Transport and Regional Economics 2018). What is at stake here is the fundamental right of human life. Should automated vehicles be considered to have meet a human rights involved standard if the testing and analysis suggests 0.51 deaths for 100 million kilometres? Or are there other human rights reasons – the dignity that comes from personal mobility – that would suggest that a higher risk is justified? The evidence is that acceptable risk levels (and the expenditures to save) are substantially different when only a statistical life or an identified life is involved: The latter is many times higher. Events where large numbers of people are impacted also attract much higher human valuations, and in conditions where responsibility

is shared with the life lost are correspondingly lower. It is far from clear which frameworks are appropriate when human rights and equity are given significant weights. These choices are going to be made within the social context of the development and innovation of new technologies. These are the next three considerations.

- 5.12 Much of the choice making around risk and probability will be set by the technologists building the systems. Most technologists share commonalities in gender, training and life experiences and possibly neurological functioning. The stereotype male engineer from a white or Asian middleclass background with lower level social skills should be challenged as a damaging stereotype for STEM professionals but does disclose some general characteristics of technologists actively engaged in the field. There is the possibility that bias and preconceptions will filter into the technologies; especially around risk and choice. An example identified by the AI Now Institute at New York University were the bias and preconceptions which could significantly influence the values and risk assessments of emerging systems through the selection of training data for machine learning systems. Training data is essential in the development of machine learning systems to inform the system of the basic structure and parameters of outliers within the data feed the system is being programmed to work with. In so doing the training data sets up the basic configurations of the system. What the technologists consider as a representative normal data set for machine learning training could be biased or selective, leading to problematic outcomes (Campolo, Sanfilippo et al. 2017). This suggests that standards in design and development need to include standards directed to these sorts of bias and/or the organisational context around system development needs to be aware and actively manage for these biases.
- 5.13 An important feature of a human rights influenced standard that could mitigate some of these concerns with risk would be co-design. Co-design is the principle that user communities have engagement across the design and development stage. This can involve a user-group research advisory committee, to focus group beta testing, to inclusion of representatives in the design and development team. This is particularly pertinent to the development of technologies that are designed to particularly assist an intersectional group or a technology that will be used generally by population. A good current context is that developments in automated vehicles and social robotics are often discussed in terms of assisting the aged.
- 5.14 The organisational context is a further significant factor. Development, deployment and maintenance of a human rights orientated technology future will also depend on the cultures within the institutions that create technologies and the institutions that deploy them. We have identified at 5.12 an important role for managing the preconceptions and bias that technologists could encode into systems. There are further issues. Foremost, ethical standards informed by human rights considerations, even if adopted and supported by technologists, will be meaningless if not valued and respected by the management hierarchy. The current Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry is highlighting how corporate culture focused on maximising shareholder returns can lead to morally dubious and possibly criminal conduct (Royal Commission into Misconduct in the Banking Superannuation and Financial Services Industry 2018). It would be naïve to suggest that technology start-ups and established players are immune to these pressures. Transparency and accountability of corporate culture in how ethical design and the decisions about risk, training data, co-design and bias management are pursued will become more important. How this can be achieved is a sliding scale from industry generated codes of voluntary conduct to hard accountable and transparent reporting requirements to external agencies. The past 20 years of

work by civil society and consumer and shareholder activists on corporate social licences shows that private entities, notwithstanding the profit motivation, can pursue social goals, including respecting fundamental human rights in supply chains. A persuasive approach is to identify the market opportunities that flow from having a social license.

- 5.15 A further organisational lever for ensuring standards are implemented are procurement policies. Through the commitment by public and private entities to only use technologies that are certified as meeting ethical design standards there can be significant incentives on organisations to meet, support and develop standards and certification processes.
- 5.16 It is inevitable that organisations will hold different values and weights to individuals within them. This suggests that some form of ethical agency by the technologists at design stage should be given recognition and due weight in professional ethical frameworks (Wigan 2015), with some support from professional societies when the end points of design decisions are in conflict with their members required to create them. Such ethical conflicts are common, and the cases of Oppenheimer and others in nuclear weapons are salient, but unless some form of framing and assistance to technologists enabling specific dual use technologies (such as Wigan 2017) are given we may be condemned to repeat the problems that emerged after WW2. This time to the speed of action is such that the social and governance time lags will not be so easily addressed.
- 5.17 Finally, it should be recognised that values and the relative weight given to them vary across societies. Australia must maintain the ability to ensure our own values are embedded in technological systems deployed in Australia and that the weighting of competing values is configured appropriately to meet Australian community expectations, or indeed the varying expectations within each state and territory. Otherwise technology, configured based on the values of other societies, will dictate new values to us. This problem is accentuated by data driven artificial intelligence where the decision making process may be opaque and based on data that reflects a reality different to that in Australia, and which the Artificial Intelligence then seeks to reproduce.

6 Conclusion and Recommendations

- 6.1 In conclusion we support the Commission's inquiry. It is timely and significant to connect human rights to technology.
- 6.2 We suggest that the Commission focus on the social context when considering technologies and consider the accumulative effect of technologies on specific Australian communities and intersectional groups.
- 6.3 We encourage the Commission to identify how the fundamental human rights from the international conventions inform specific social contexts, in particular how the human dignity is ensured in ICT-rich contexts.
- 6.4 We believe that there is scope for a Australian rights instrument relating to the individual as an informational entity.
- 6.5 We also believe that there is scope for human rights to inform the emerging standards behind technological innovation. Human rights can be embedded in the requirements of ethical standards, be manifest in meaningful co-design processes and be a touchstone for organisational cultures around technological development and implementation.

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