

Weapons of Affect: The Imperative for Transdisciplinary Information Systems Design

Gregory Rolan
Monash University, Australia.
greg.rolan@monash.edu

Antonina Lewis
Monash University, Australia.
nina.lewis@monash.edu

Sue McKemmish
Monash University, Australia.
sue.mckemmish@monash.edu

Joanne Evans
Monash University, Australia.
joanne.evans@monash.edu

Frank Golding
Care Leavers Australia Network.
fgolding@bigpond.net.au

Philip Mendes
Monash University, Australia.
philip.mendes@monash.edu

Jane Bone
Monash University, Australia.
jane.bone@monash.edu

Jacqueline Wilson
Federation University, Australia.
jz.wilson@federation.edu.au

Keir Reeves
Federation University, Australia.
k.reeves@federation.edu.au

ABSTRACT

Much has been written about ethical and human-centred Information Systems (IS) design, most recently regarding the deleterious outcomes and negative affect of some machine learning applications that embed and perpetuate unethical or even inhumane automation. Terms such as ‘harm’, ‘damage’, and surprisingly, ‘weapon’ have entered the language of this discourse. However, these characteristics are not unique to applications of data science but have long manifested in IS that can also exhibit opacity and establish tight vicious cycles. These, when coupled with a lack of governance feedback, can perpetuate injustice that has community or sector-wide reach. In this paper, we explore how IS design that sets out with the best of intentions or at least, conceived as a ‘neutral’ system for managing transactional information, can emerge as ‘tools that punish’. We argue that there are crucial principles to be taken from Recordkeeping Informatics, concerned as it is with the entanglement of information and people across space and through time on multi-generational timescales. In particular we discuss how transdisciplinary and critical approaches are necessary to cover more of the design space and surface issues, rights, stakeholders, and, most importantly, values that may be otherwise hidden from a here-and-now, transactional viewpoint.

KEYWORDS

Recordkeeping, Transdisciplinary, Participatory, Design, Ethical

INTRODUCTION

Much has been written about ethical and human-centred Information Systems (IS) design. While the volume of this discourse has grown recently in the context of the deleterious outcomes and negative affect from some machine learning systems (Eubanks, 2007; Introna, 2007; Lynch, 2017), these are not unique to applications of data science but have long manifested in IS. Again, it is only recently that terms such as ‘harm’, ‘damage’, and surprisingly, ‘weapon’ have entered the language of this discourse in the context of systemic opacity and pitfalls in design and governance that lead to biases of the past being codified and amplified into pernicious systems of today that will infiltrate tomorrow (d’Alessandro, O’Neil, & LaGatta, 2017). Beyond entrenching biases (Gangadharan, Eubanks, & Barocas, 2014), IS can serve to actually embed and perpetuate unethical or even inhumane automation (Redden & Brand, 2017).

Information Systems — and here we understand the term ‘systems’ to mean configurations of human activities and social structures as well as technical artefacts; in other words a broader socio-technical (or, more precisely as explained below, sociomaterial) use — can and do exhibit opacity and establish tight vicious cycles that, when coupled with a lack of governance feedback, perpetuates injustice that, even if not at the internet scale, can still have community or sector-wide reach. How is it that seemingly benign transactional IS can be considered successes and yet fail other stakeholder groups catastrophically (Hart & Warne, 2007) with life-altering affect? How does IS “technology [become] weapons of affect” (Wilson & Golding, 2016) and, more importantly, how can we avoid this emergent malevolence?

In this paper, we explore how IS design that sets out with the best of intentions or at least, conceived as a ‘neutral’ system for managing transactional information, can emerge as “tools that punish” (Eubanks, 2018). We argue that there are crucial principles to be taken from Recordkeeping Informatics (Upward, Reed, Oliver, & Evans, 2018), concerned as it is with the entanglement of information and people across space and through time on multi-generational timescales. In particular we discuss how transdisciplinary and critical approaches are necessary to cover more of the design space and surface issues, needs, stakeholders, and, most importantly, values that may be otherwise hidden from a here-and-now, transactional viewpoint. Im-

portantly, “critical theorising [and] analysis highlight the fundamental shortcomings in [systems] designed around the requirements and demands of information elites, government, and big business – particularly in relation to social justice and human rights agendas and in situations of conflict, oppression, colonization and marginalization” (Evans, McKemmish, & Rolan, 2017).

The rest of this paper is organised as follows. Firstly, we provide a theoretical background to this position, after which we introduce the nature of the *Rights in Records by Design* project in which we are currently engaged as an example. We then describe our participatory and transdisciplinary approach and the contributions to the design from various disciplines and participants. Finally, we conclude with some of the challenges inherent in transdisciplinary and participatory design.

THEORETICAL UNDERPINNING

Perhaps a starting point is an appreciation of the situatedness of IS within information ecologies. We use the term information ecology here in the sense described by Nardi & O’Day (1999) who explain that, “like a biological ecology, an information ecology is marked by strong interrelationships and dependencies among its different parts”. It is these far-reaching interrelationships and dependencies, sometimes obscure or opaque, that give rise to the complex, emergent behaviour of IS, beyond a simple, technological treatment. For example the design and operation of any given information system takes place, not only in a landscape of other systems with varying degrees of interoperability, but within ever-shifting legal, policy, and practice contexts. And these, at their core, are informed by the philosophy and epistemology, values and principles, and rights and obligations imbued in broader political, economic, and social contexts. The collection, meaning, and use of information cannot be disentangled from these elements in the ecology – change any of these, and the behaviour or affect of the system may alter as well, perhaps dramatically.

It is doubtful that a simple ‘technology’ perspective (Wand & Weber, 1995) is sufficient in relation to IS. Rather, we now understand that IS can only be meaningfully considered in the context of their social setting (Orlikowski & Scott, 2008; Svahn, Henfridsson, & Yoo, 2009). This indivisibility of material artefacts from their social embeddedness is termed sociomateriality (Cecez-Kecmanovic, Galliers, Henfridsson, Newell, & Vidgen, 2014; Leonardi, 2013); which holds that what is actually observable are performed relations between actors and objects rather than pre-formed elements (Orlikowski & Scott, 2008). As described above, these relations associate material artefacts and social actors alike, with agency that entangles over time in a non-deterministic manner (Svahn et al., 2009). This is not to say that artefacts do not exist outside of a performative context. Rather, “materiality exists independent of people, but affordances and constraints do not. Because people come to materiality with diverse goals they perceive a technology as affording distinct possibilities for action” (Leonardi, 2012, p. 20).

For example: depending on the context, a chair (a material item) may be considered as furniture for sitting upon, for use as a step ladder, as a repository for clothes, as an *objet d’art*, as a source of kindling, etc. Another good example of sociomaterial contingency in a technological context is the World Wide Web. The emergent nature of its affordances and constraints and the shift from hyperlinked documentation, to dynamic pages, to an application platform, (and more recently, to a real-time semantic knowledge base) has been well documented (O’Reilly, 2005). A further example is Facebook, with its once ostensibly benign social networking and publication functionality having recently been co-opted for, arguably, more sinister use.

Thus, the affordances and constraints of IS, together with their associated values, need to be explicitly explored from all viewpoints within the relevant information ecology. However, such viewpoints may be distanced (Giddens, 1984, p. 84) from the immediate transactionality of a given system through space or time (or both). This means we need to gain an appreciation of all of the system stakeholders and uses of information beyond a synchronic (point-in-time) perspective, as they may manifest across space and through time. One approach is to draw upon recordkeeping and archival science which takes a diachronic (through-time) perspective to analyse how IS manifests with identity, memory, evidentiality, and accountability across space and through time.

In the past, recordkeeping systems were easily distinguished as a result of explicit business engineering; papers, files, correspondence, contracts, reports etc. — recordkeeping was built into the very fabric of systemic transactionality. However, with the digital transformation of the modern era, it is hard to imagine IS that are not also recordkeeping systems for at least someone in some context. This holds even (and this is the point) if they are not designed as such, for example, using diachronic analysis from the perspectives of all potential stakeholders (for example, in the current project context: Victorian Auditor-General, 2014, p. 14). It is all the more significant given the necessity of a recordkeeping perspective for addressing both long-standing societal Grand Challenges (Gilliland & McKemmish, 2012) and emergent ones such as the contemporary international refugee crisis.

Note though, that recordkeeping and archival systems can (and often do) suffer from the problems described above. This is due to a number of factors stemming from their roots in 19th century practice in the face of major social and technological change. Some administrative and archival systems that may have been acceptable a century ago, now are being recognised for the injurious impact they have. And, indeed, it is this weaponisation of one such recordkeeping system that provides motivation for the current project as described in this paper.

Nonetheless, decades-long critical recordkeeping research has resulted in the theory and practice of Recordkeeping Informatics (Upward et al., 2018) which can provide a diachronic (through-time) perspective and the ability to analyse the affect of IS on identity, memory, evidentiality, and accountability on individuals, organisations, the community, and society as it ripples out from the originating transactional context. A Continuum approach¹, in this case, the Records Continuum, most commonly expressed as the Records Continuum Model (RCM) (McKemmish, Upward, & Reed, 2010), links the transactionality of events with records and systems that establish evidentiality and the identity of stakeholders through time and space. Similarly, the Participatory Recordkeeping Continuum Model (PRCM) (Rolan, 2016) can be used with the RCM to identify potential stakeholders and the agency that they need to exercise in such systems.

Arguably then, it is the invisibility of some stakeholders, the negating of identity, the denial of agency, the disregarding of evidentiality, and the shirking of accountability that contribute to the unsurfaced (or implicit) influential loops that result in structures of surveillance and cycles of injustice. It is worth repeating that the root cause of these is the synchronic and technical-oriented design of essentially diachronic and socio-material IS. Beyond any flaws in the technical attributes of systems are the more general problems that stem from the ‘nowism’ perspective that runs through much of IS design. Additionally, the emergent and mutable nature of Information Systems contexts requires not only diachronic analysis, but participatory approaches such as value-based design, not only to ensure that the immediate transactionality of the system is ‘correct’, but also that the longer-term, societal affect of the system is surfaced. Note, though, it can be difficult to gain insight into values, for example, though conventional, arms-length requirements elicitation (Sexton & Sen, 2017). This is not just a case of insufficient end-user consultation or even organisational-unit turf wars over intellectual control of organisational data (Hart, 1994). This, often tacit, knowledge can only be apprehended through participatory engagement that ensures the socialisation of values from different perspectives of participants

The challenge, then, is to establish “investigative processes [that] result in a broad and rich understanding of the values at play, along with their influence on technical development” (McKemmish, Burstein, Manaszewicz, Fisher, & Evans, 2012). Such processes are necessarily critical and are, in turn, dependent on the epistemological underpinnings of a variety of disciplines beyond ours. An approach is needed that lies beyond a ‘sum-of-the parts’ multidisciplinary collaboration or even the integrated approach of interdisciplinarity. Rather, the concept of transdisciplinarity emerged in the second half of the 20th Century in response to a growing recognition of the wicked complexity of societal problems and that solving them requires new ideas, methods, models that transcend disciplinary boundaries (Lawrence, 2010). It has further evolved to encompass the need for the research community to collaborate outside of the academy in order to develop deep and rich understanding of the problem and solution spaces. In particular, engagement is needed with those that have lived experience of the affect and consequences of IS over long – even multi-generational – timeframes. This understanding transcends insights that may be gained through even longitudinal studies of the scope found in research and, perhaps, systems development projects, all of which take place under various time and budget constraints.

A transdisciplinary approach recognises the fragmentation of knowledge and “its hybrid nature, non-linearity, and reflexivity” (Lawrence, 2010, p. 127) that requires perspectives drawn from across and beyond traditional authoritative knowledge institutions. It is this “context-specific negotiation of knowledge” that requires “making linkages not only across disciplinary boundaries but also between theoretical development and professional practice”. Thus, a transdisciplinary approach involves “close and continuous collaboration” during all phases of a project by domain experts from various disciplines as well as practitioners and community members drawn from stakeholder groups. Such project characteristics are also intrinsic to Records Continuum thinking (McKemmish, 2001). They are necessary for developing rich understandings of people’s lives at individual, community, organizational and societal levels, and using that understanding to develop appropriate IS.

Having provided this diachronic, critical, and transdisciplinary basis of our approach to IS design, we now introduce the project domain in which we are currently conducting our research.

PROJECT BACKGROUND

National standards for out-of-home Care² in Australia and other countries are increasingly emphasising the need to put the physical, emotional, spiritual and social health and wellbeing of children and young people at the centre of service provision (Department of Families, Housing, Community Services and Indigenous Affairs, 2011). For example, the Early Years Learning Framework sets out how a strong sense of identity, social, emotional and physical wellbeing, and connectedness with the world

¹ Continuum theory has also been extended into other domains, for example: generic Information Systems, Publishing, Cultural heritage, and Digital Forensics to name a few. See Upward et al. (2018, pp. 214–215).

² As explained in Wilson & Golding (2016), the capitalised term ‘Care’ is used to denote the ironic connotations of often manifestly uncaring treatment, without the typographically heavy-handedness of continually enclosing the word in quotation marks.

from the earliest years underpins our life chances (Department of Education, Employment and Workplace Relations, 2009). Moreover, there is increasing awareness of the role that records and archives plays in developing and supporting this sense of self throughout our lives (Cifor & Gilliland, 2015).

Such standards identify the right of the child or young person to have access to a complete and accurate history of their time in care; the plans for their future; their health, education and other important official records; their family and community connections; memories of key events; and other records. They also emphasise children and young people participating in decision making, which necessarily includes the formation and use of these records.

Children who experience out-of-home Care, therefore need quality recordkeeping systems to develop and nurture their sense of identity and connectedness to family and community; to account for their Care experiences; and to prevent, detect, report, investigate, and take action against child neglect and abuse. Those involved in providing care services and supporting children experiencing family dislocation need access to efficient, effective, and responsive information systems — driven by quality recordkeeping — to ensure the highest standards and continuity of care. The need for such systems does not disappear when a child leaves care. Many inquiries, including the recently completed Australian Royal Commission into Institutional Responses to Child Sexual Abuse, have highlighted the lifelong importance of these childhood records. In inquiry after inquiry, testimony after testimony³, Care Leavers have highlighted the difficulties they have faced in finding and accessing records in the search for identity and memory, (re)connecting with family, holding the child- welfare system accountable for decisions and actions, and seeking redress for abuse and neglect (Mendes & Snow, 2016).

Records of Care experiences are too often lost, fragmented, and incomplete, and the bureaucratic processes of dealing with IS in order to access records can harm and re-traumatise Care Leavers rather than helping to heal (O’Neill, Selakovic, & Tropea, 2012; Wilson & Golding, 2016). Care Leavers have also been excluded from historical representations, narratives and dialogues, as others make use of the records from which they have been denied access, with the authority of the recollections of their own experiences often diminished (Logan & Reeves, 2011; Wilson & Golding, 2016).

Moreover, the recordkeeping systems themselves are the core of surveillance and control systems that lead to tight causal loops in the child protection sector (Mendes, 2009). Transactional records made and kept during Care are often used as ‘evidence’ to rationalise post-Care interventions. The opacity and lack of feedback within such recordkeeping systems, entangled as they are with policy and practice, leads to multi-generational involvement with child protection that is difficult to escape.

The *Rights in Records by Design* project brings together a transdisciplinary research team to address the critical research issues associated with designing and developing a Lifelong Living Archive for children and young people in out-of-home Care. Such an archive would support developmental outcomes and ensure accountability requirements are adequately met through enacting participatory recordkeeping and archiving frameworks, policies, processes and systems.

THE RIGHTS IN RECORDS DESIGN APPROACH

In the modern era, you do not need to look far to find the motto “Nihil de nobis, sine nobis” — “Nothing about us without us” adopted by a variety of activist or community groups. Largely, this is an expression of the politics of identity — those feeling dispossessed, oppressed, rejected, abandoned or otherwise wronged who do not want that experience mediated by outsiders, however well-intentioned; “If we have learned one thing from the civil rights movement in the US, it’s that when others speak for us, you lose” (Driedger, 1989, p. 28). This captures the importance of trust and, crucially, the assertion of agency — that is, generating and exercising to the greatest extent possible the capacity to take charge of the decisions that affect one’s life. Activists and advocates are wary of those who have no obvious compelling reason to advance their cause. Moreover, many people who grew up in Care developed, and maintain, an enduring mistrust of all authority.

Consequently, we conceive of *Rights in Records* as a participatory and transdisciplinary research project in order to address the critical issues associated with recordkeeping for childhood out-of-home Care. A Lifelong Living Archive must be built on principles for acknowledging, respecting, representing, and negotiating multiple rights in records in and through time and space. The intent is to reverse the long-established trend in recordkeeping, especially in public institutions, that results in records “dominated by the viewpoint of those in power, the decision makers” (Brownlee-Chapman et al., 2017, p. 4). Our project achieves this through close collaboration, in particular, with Care-leavers, families, and carers to ensure that the ‘personal’ is included in the record. Moreover, this project has sought out a wide variety of partners from various intersecting groups in the academy and broader community, from a range of disciplines and fields, including archives and recordkeeping, information technology, the arts, law, education, social work, and history.

³ In the Australian context, see Swain (2014) and, most recently, Royal Commission into Institutional Responses to Child Sexual Abuse (2017). See also Munro (2011); Ryan (2009); Truth and Reconciliation Commission of Canada (2015) etc.

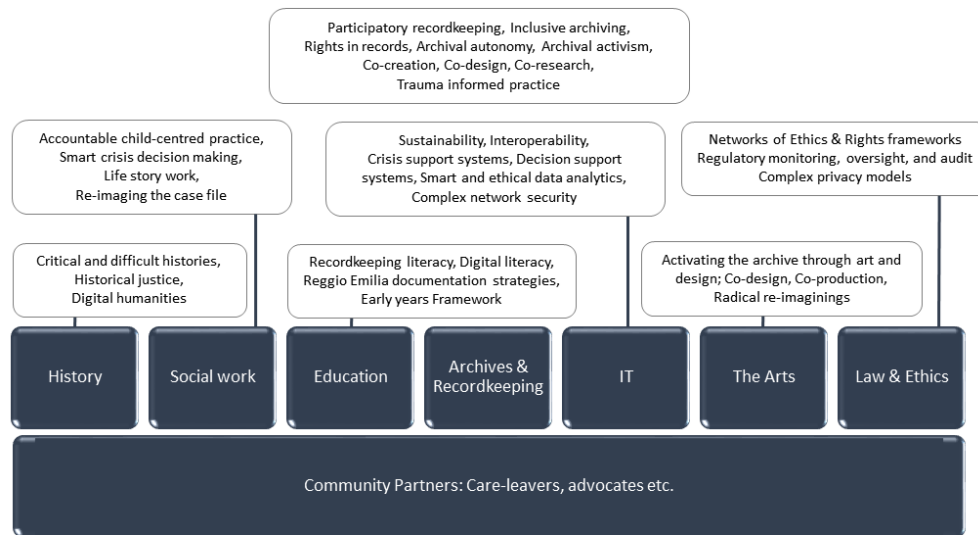


Figure 1. Disciplinary contributions

As illustrated in Figure 1, they bring the multiple expertise and experience needed to make the breakthroughs critical to solving the complex, multifaceted, and fundamental problems that the program has identified. All of the project activities – from the design and conduct of the research, to the design of the project outputs themselves – are conducted by transdisciplinary teams drawing from all of these disciplinary and community groups. In addition to the usual IS analysis and development techniques employed by the co-design team, the transdisciplinary nature of the team encompasses the following disciplinary perspectives:

Recordkeeping Informatics

Recordkeeping design in the out-of-home-Care sector is complex; involving transactional records, civil documentation, personal memory and identity material, along with security, confidentiality, and accountability considerations as well as the legal ramifications discussed below. Even a cursory analysis identifies stakeholders groups that span government child protection services, NGO childcare agencies, individual carers and other professionals, families and friends, community and personal advocates, the courts, police, the health system, government assistance programs, and educational institutions and professionals. This complexity demands the tools and techniques such as those of Recordkeeping Informatics including the continuum models described above, explicit metadata design, and an understanding of access and information cultures, in order to track the shifting aspects of agency and utility through time as the roles of various stakeholders wax and wane.

Historical records of out-of-home-Care — where they were indeed created and archived — are dispersed across an array of organisations: state libraries, government archives, government departments, non-government organisations including religious orders and charities which inherited the records of institutions that ran children’s institutions in the past, and some organisations that are still involved in providing out-of-home Care on behalf of state governments (Find and Connect Web Resource Project Team, 2011). Recently the Australian Royal Commission into Institutional Responses to Child Sexual Abuse (2016, p. 4), when considering child-oriented institutions, concluded that even today “the creation and management of accurate records are systemic and enduring problems”. In articulating these systemic and multi-generational problems, Wilson and Golding (2016) applied the term “weapons of affect”, which has now entered the lexicon of Care-leavers in relation to the impact of records and archives.

The contemporary design of child-protection processes and systems perpetuate recordkeeping as an administrative burden, rather than being a negotiated space of shared stewardship within a complex, dynamic information ecology that lies at the heart of productivity, the quality and the child-centeredness of service provision (Victorian Auditor-General, 2014).

A key design principle and goal of the Lifelong Living Archive is Archival Autonomy: enabling ‘individuals and communities to participate in societal memory, with their own voice, and to become participatory agents in recordkeeping and archiving for identity, memory and accountability purposes’ (Evans, McKemmish, Daniels, & McCarthy, 2015). As well as facilitating this agency in the formation of records and archives, such autonomy manifests in historical representations, narratives and dialogues, to support justice and reconciliation at individual, community and societal levels for those who have experienced past regimes of institutional and other out-of-home Care. A Recordkeeping Informatics perspective is needed to integrate these lifelong needs into the design of out-of-home Care systems, rather than perpetuating the existing divide between transactional records-management and archival needs.

Historical Justice

We have learned through tough experience that “the loss of identity and connection with family is one of the most traumatic and distressing outcomes from a life lived in institutional care” (Australia Parliament Senate Community Affairs References Committee 2004, p. 253). That loss endures. People apply for their childhood records because they “...want to understand more about the circumstances that led to their placement in care, who their parents were and whether or not they have brothers or sisters...” (p. 253). On a practical level, they want to know about medical histories—and their parents’ histories lest there be inherited conditions. Yet there is repeated evidence that whole childhoods spent in care went undocumented, with some survivors never even issued with a birth certificate. In order to unpack why making and keeping personal records about children of the state is never core business, a historical perspective is needed from which we can discern values and principles, even if the means of their identification is through examples of their violation.

The issues with recordkeeping in out-of-home-Care, are, in fact, symptomatic of a constellation of deeper problems that relate to the political and social purpose and function of the welfare system. As “the clients of the contemporary child protection system are most often drawn from the ranks of the poor and marginalised[practice] in child protection social work is as much a class-based, gendered and culturally biased phenomenon” (D. Scott, 2006). Thus, the design of rights-based recordkeeping requires historical analysis of incarceration, institutionalisation, disadvantage, and the development of welfare and justice systems in Australian society. It also requires the perspective of the historical justice and reconciliation that explores the relationship between historical justice, memory and the archives and the ways in which impacted individuals and communities can participate in dialogues to imagine, define and cohere their identity.

The task of caring for state children was commonly outsourced to churches and charities, and even private institutions, with little or no monitoring or accountability about how the children fared. Historically, the removal of children from families was rooted in crisis, moral panic and a punitive management ideology in which the ruling class and their welfare delegates problematised children and their impoverished families. The purpose of state intervention in families was to control the ‘other’ and remake working class children into better citizens than their parents. There would be little or no need for personal records that dwelt on the child’s past — that was rendered irrelevant. No accountability for the child’s progress in the system was owed to parents whose rights had been forfeited. Making and keeping personal records about children of the state was never a high priority: what mattered was control — or being seen to be in control. That model continued from the eighteen-hundreds up until the late twentieth century.

There are many manifestations of this enduring culture of contempt for state children. Based on a criminal justice model, the welfare system was constructed within a penal framework that quickly conflated the situation of neglected and criminal children as they did the moral worth of children with the real or perceived disabilities that some had. Within the government’s own industrial schools and reformatories — and in the even more numerous institutions run by churches, charities and community groups — this provided the rationale for state-sanctioned re-socialisation of these children by problematising the children and their parents rather than attending to the root causes of the problems they faced.

The recordkeeping systems of child protection today are haunted by such 19th century values of child welfare. The emphasis on controlling moral destitution is highlighted with the families encountering systems that consider them undeserving of recordkeeping to support their identity, memory and accountability needs. Such IS reinforce the power of the institutions to control what was recorded, how records were managed (or often mismanaged), what is destroyed, and who has access to the surviving fragments. Despite rhetoric that emphasises the need for child protection to be child-centred, especially for the children and young people who spend time in out of home Care, these recordkeeping systems are still too often ‘weapons of affect’.

Education

The education perspective (and, in particular, innovative thinking in Early Childhood Education) informs the project by upholding the rights of the child in terms of wellbeing and social justice, recognising holistic and alternative approaches to pedagogy and learning, and considering the ethics of researching with young children (Bone, 2005). The idea of children as beings with rights who have a right to participate in events that concern them is not a new idea but seems to be taking a long time to filter through to institutions and belief systems that still see children as property, either of the family or the State.

A turning point in education arose when curriculum documents and learning frameworks were produced and children became seen as active learners to be educated as well as cared for (DEEWR, 2009). With the rise in preschools as sites for early learning, the role of children as beings with agency gained ground. When a person has agency they are seen as able, competent, active and able to make decisions about events that concern them. This is far from the child as victim, whether of circumstance or because of their vulnerability. Such a perspective holds that children have the right to protection but also to be seen as protagonists in their own lives. In early years education the role of assessment changed so that far from being a body to be looked at and checked over, the child was seen as part of a strong narrative (Carr, 2001): their story was important and their role in the

story was a positive one. Educators were urged not to look for what was wrong, to take a deficit view, but to look for what the child had to offer and to put forward an image of that child that was empowering and showed potential for further learning. It is this child that has the right to their records, to be consulted, and to be involved in decisions that affect their lives.

However, such archival autonomy requires the nurturing of recordkeeping literacy as a crucial enabler for children, young people and their adult selves to exercise agency in records' creation, management and use. Decision-making needs to be informed by appropriate understanding and awareness of the impacts records and recordkeeping can have on lives (Nicholls, 2018). In the out-of-home Care context, studies of recordkeeping literacy are vital to ensure meaningful participation across stakeholder communities in the formation, management and use of the Lifelong Living Archive. This is the first project in the world to explore this concept in the out-of-home Care context as a key to facilitating a child centred care model.

Social Work

While most extant child-protection IS will have been designed with input from the social-work sector as its primary user base, there is still a role for critical enquiry into accountable child-centred out-of-home Care. This social work perspective contributes detailed knowledge of systems, policies, and practices within out-of-home Care and Care-leaving. This knowledge is key in understanding how to most effectively operationalise the Lifelong Living Archive to allow children to access their life records from the date of entry into care, to leaving care, to any time in their adult life.

The Arts

One role that the arts plays in the design is to explore the relationship between creative arts and the carriage of embodied, situational, recorded and relational knowledge. How can the arts (as both practice and form) function as a system for preservation and movement of these varied kinds of knowledge, while also offering a framework for building human resilience and agency? In considering creative practice as a way of learning and being, the research draws on pedagogical thinking that explores how the arts can be more widely applied beyond the social fields of entertainment and leisure, and specifically seeks to extend this type of investigation to harness benefits of arts-informed and culturally relevant information science.

The theoretical underpinnings have a basis in archival scholarship, but also reflect influences from outside the information disciplines. Asserting a necessity to understand how the shifting complexities of personal affect and structural realities intersect with everyday practices of sharing space and exchanging ideas, this perspective draws on the concept of cultural citizenship as "a right to be different and to belong in a participatory democratic sense" (Rosaldo, 1994). In doing so, it seeks to counter deficit models by acknowledging the potentiality (and potency) of cultural capital, cultural resiliency, and rights-claiming agency as outcomes emergent from social injustice and marginalisation.

The focus of this perspective is on how these types of cultural practice intersect with recordkeeping literacy and archival power: the arts as a pedagogical space for multimodal and multidirectional exchange of recorded information and experiential affect; and a method for imagining and activating alternatives within everyday contexts. Our proposal is that testing technological applications and their wider systems environment against principles of imaginative agency brings a new perspective to evaluating the desirability, adaptability, and robustness of recordkeeping mechanisms for out of home Care, feeding into the project aims of ethical, equitable, child-focused design.

Law and Ethics

Child welfare policy in Australia is constitutionally a matter for each State and Territory and, over time, has developed a hybrid mix of programs run by government, churches, charities, even some private individuals and more recently commercial providers. Lacking effective coordination and chronically under-resourced, this legislative hotch-potch has created a fractured and fragmented records landscape (Bessant & Watts, 2016). Obviously, an important perspective for analysis is the juridical structures within which recordkeeping takes place. Such structures are deeply embedded and are difficult to change due to their entanglement with structures of societal power. Even the best recordkeeping system design can be thwarted by conflicting legal requirements. Understanding the foundations, reach, and limitation of (domestic and international) law as mandates for recordkeeping, the role of recordkeeping provenance in evidence, and the embodiment of rights in records are necessary for a full critical and sociomaterial treatment of recordkeeping systems.

Such legal frameworks are positioned at the intersection of ethical considerations including confidentiality, third-party privacy, age-appropriate disclosure, and human rights. The contested nature of records means that seemingly competing access rights may need to be negotiated between multiple participants (Department of Social Services, Commonwealth of Australia, 2015; Gilliland, 2013; Iacovino, 2015; Ross, McKemmish, & Faulkhead, 2006). Additionally, rights need to be tempered by the need for accountability for past actions. In relation to contested incidents — from minor disputes to international tribunals — rights in records must be granted for all parties engaged in accountability determination, including those bringing a complaint as well as any accused. Central to this perspective is the idea of stewardship with the recordkeeper as facilitator rather than a custodian

or gatekeeper. Stewardship, with its twin goals of preservation and access that facilitate shared memory, treats archival material less as property and more as a jointly held asset.

One design-outcome of our project is a robust Rights Charter — a statement of rights that declares individual identity, memory, and accountability rights and maps them to specific recordkeeping rights in participation; access; privacy and safe recordkeeping; and proactive disclosure. First, this charter provides a justified basis for the development of features of the Lifelong Living Archive. Secondly, it could be used to influence changes to policy and practice throughout the Australian child-welfare sector. Such a statement draws on a variety of ethically-driven sources including human rights principles; existing charters of children's rights; legal instruments; policy and practice; Care-leaver, support services, and advocate experiences; and community expectations. It considers domestic and international literature, legal mechanisms and opinions in state, national and international law, policy documents, and practice guidelines in order to identify specific warrant for all of its elements.

CONCLUSION

The dangers imposed by improperly designed and implemented IS are demonstrably real. Nevertheless, the focus of the contemporary discourse, with its focus on data science will not address the root cause of these problems. While machine learning components may add complexity and additional opacity, the issues we have surfaced are equally unaddressed in conventional IS as they are in AI systems. Post-hoc audit and human-in-the-loop architectures are important but, in the absence of adequate design, are simply workarounds — albeit with the ability to highlight the weaponisation of IS after it has been deployed.

As our project is demonstrating, a better approach lies in the treatment of all IS as (potential) recordkeeping systems that may impact identity, memory, evidentiality, and accountability beyond the immediate transactional context. Analysis, design, development, and testing — as well as the configuration and conduct of the research or development project itself — needs to be conducted from a diachronic perspective; identifying the needs all stakeholders from a variety of disciplinary perspectives and their manifestation across space and through time. Tools such as the continuum models, explicit metadata, and understanding of information cultures from Recordkeeping Informatics can provide the basis of such analysis.

Similarly, close collaboration with transdisciplinary partners from the academy and across the community is crucial if their perspectives are to be accounted for. Note though, that this brings additional communication and logistical challenges beyond that of simply establishing a larger core design group. There are issues of language, of epistemology, and of viewpoints that may even be incommensurable. Time must be allocated and purposeful activities scheduled for the reconciliation of these and development of project norms. This means that IS design takes a somewhat different trajectory — in the research context this means more 'up-front' time in the conceptualisation phases of the project (Burstein, 2002).

Nonetheless, IS design requires a range of professional, disciplinary and community stakeholders to come together to gain deeper and better understanding of incredibly knotty problems and then to strive for new solutions, which transcend the current limits and boundaries of any particular stakeholder's knowledge and expertise. What emerges are ethical and human-centred initiatives in which a range of professional and lived expertise come together to re-imagine, re-work and re-think in order to collectively and collaboratively design, develop and implement new, holistic, solutions.

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