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'Cultural making': how complexity and power relations are modulated in transdisciplinary research

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ABSTRACT

There is an increasing adoption of large-scale, multisectoral collaborations which draw upon diverse expertise and innovative processes to tackle complex issues. How social change emerges through such transdisciplinary research alliances is the focus of our paper. Yet, broader participation and openness to uncertainty exacerbates issues of multidimensional power and complexity which continually shape and reshape practices. In this article, we introduce the term 'cultural making' to illustrate how complexity and power are modulated according to particular interrelationships, roles and understandings. These issues are examined from a particular vantage point, the needs and values of a research enterprise, the Young and Well Cooperative Research Centre (Young and Well CRC), and within that, the project Safe and Well Online. Themes of power and complexity are explored in relation to better fulfilling the major aim of Young and Well CRC: to understand and maximize the role of digital technologies to promote the mental health of young people. We demonstrate how the heuristic of 'cultural making' blends spatio-temporal critique with practical ontology to consider how proximities, methods and practices unfold within a transdisciplinary research initiative. This lens aims to enhance practical engagement with complexity through showing the changing composition of potentialities and actualizations – and that participation is always a 'matter of making'.

Introduction

New alliances between academic, community, government and non-government sectors are forming in response to tackling complex issues such as youth mental health and well-being. Challenges and opportunities associated with such new collaborations require us to reorient not only the thinking behind such initiatives, but the doing as well. In a recent, seminal article on addressing complexity, Ang (2011) describes how:

> [w]hile cultural critique tends to be focused on the representation of complexity as such, cultural intelligence requires the adoption of a more heuristic approach, treating the complexity of the world not as an endpoint of analysis, but as a starting point for possible interventions within it. (790, 791)

Our article directly builds on this provocation to explore the challenge of moving from the 'possible' to the 'actual' in critical and engaged research. That is, being able to 'simplify without being simplistic'

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(Ang 2011, 780) how we intervene, shape and make culture. Our aim is to extend the concept of 'making' to highlight the capacity of multiple constituents to 'make "things" that describe future objects, concerns or opportunities' (Sanders and Stappers 2014, 6) in the context of transdisciplinary research initiatives. To do so, we intermingle the thinking of 'cultural intelligence' with the doing of 'cultural making'.

Our definition of 'cultural making' is as follows: the unfolding process by which culture is made via human and non-human proximities, methods and practices. Modulating properties of power and complexity between organizations, projects, products and publics can re-orient interrelationships, roles and understandings toward social change. This introduced term does not signal a break from the field – but rather suggests a blend which builds on insights from sociological and political theory (Castoriadis 1987; Joas 1996), post-human performativity (Barad 2003) and cultural studies (Ang 2011; Bennett 2007). Our view is that 'cultural making' is a useful term to articulate how interrelationships, roles and understandings are generated and altered via human and non-human relations. We also firmly acknowledge that theories of Science and Technology Studies (Law 2004), Actor Network Theory (Latour 2005) and assemblage theory (Deleuze and Guattari 1987) are valuable in articulating cultural complexity. However, we are interested in the way Bennett (2007) draws our notice to how 'culture's action on the social is modulated' (611). Closer attention to the ways in which culture effects change through 'working surfaces on the social' (Bennett 2007) invites more textured attention; we therefore suggest that examining power relations alongside complexity can expose the diverse ways in which culture and collaboration are always modified and 'being made'. We argue that this requires engagement with 'mess in social science research' (Law 2004) to understand how new forms of technology, data, 'wicked problems' (APS 2012) and interventions are conceptualized and created.

In this article, we discuss and develop the concept of 'cultural making' through an examination of two distinct concerns in cultural studies – power relations and complexity – and how they are modulated. We begin by reflecting on the making performed by the Young and Well Cooperative Research Centre (a transdisciplinary collaboration which involves more than 75 partners in a large programme of research examining the role of digital technologies for promoting young people's mental health and well-being). This is followed by outlining key aspects of theories of power relations and complexity and the benefits of combining these perspectives: specifically, we focus on the relational and distributive forms of power which unfold in diverse ways over time and the non-linearity and self-organization emergent from complexity. Our attention then turns to an examination of the Safe and Well Online project, a five-year initiative to examine how social campaigns can promote safety and well-being through re-framing issues and adopting strategies that reflect young people's digital, social and cultural practices. We discuss aspects of this initiative in relation to our concept of 'cultural making' and conclude by highlighting three ways such a concept can help us to better deal with power and complexity as it presents in both the issues and efforts to intervene for social change. The case study demonstrates how a 'cultural making' lens presents both opportunities and challenges through (i) surfacing changing proximities to constituents in transdisciplinary initiatives; (ii) devising methods which support and form publics (not just products), and; (iii) learning from the spatio-temporal messiness of cultural action and research. Our paper concludes by highlighting the richness this combined lens of power and complexity provides for transforming practical engagements with complexity.

Background: transdisciplinary research

Transdisciplinary research is a strategy that 'crosses disciplinary boundaries to develop a holistic approach, often involving researchers, practitioners and other non-academics in the production of knowledge, which can actively contribute to closing crucial societal problems' (Cassinari et al. 2011, 2). Within cultural research, a focus on transdisciplinary initiatives requires a new conceptual lens, one which recognizes the generative aspects that co-constitute 'knowledge ecologies' (Sofoulis et al. 2012). We are interested in how knowledge involves a process of interrupting, intervening and interfering with a range of human and non-human forces – and how modulating these complexities, controversies and contradictions can inform social change. This invites us to actualize the potential of 'cultural

intelligence' (Ang 2011) through shifting the boundaries and relations of cultural research toward a more activist approach.

Knowledge is strategic, situated, social and always in the process of 'being made'. The sociology of knowledge provides a useful lens to examine 'how objects of public attention arise, how social problems become defined and the functions particular knowledges play in this process' (McCarthy 1996, 3). This provides a valuable perspective to understand that our knowledge of society is reflexive and provisional due to a depth and breadth of interrelationships. The knowledge and power relations within a single organization, sector, discipline or generation are complex in themselves. As separate entities, their physical, historical, intellectual and temporal boundaries warrant their own particular investigation of ideas and authority. Yet, how these boundaries intersect, traverse and disrupt one another (to produce, or reproduce, knowledge and power) also deserves our attention. Key to analysing this movement is to position 'socio-materiality' as the connecting and organizing principle: that while knowledge is contained within rules, texts, tools and traditions – knowledge is also reinforced (or transformed) via a social, meaning-making process. Sofoulis and colleagues have proposed the term 'knowledge ecology', 'as an aid to imagining complex, multidirectional, dynamic, evolving and adaptive interactions among a diversity of knowledges and knowledge modalities, knowledge practices, and knowledge practitioners' (Sofoulis et al. 2012, 10). This idea helps to frame how knowledge is not only produced, but also distributed across a range of diverse networks, with complex interactions and interrelationships, and the many ways in which power is concentrated and exercised within organizations and their associated projects.

The 'making' of an organization unfolds according to the emerging or prominent knowledge discourses of the time. For example, high-profile ideas which influence directions of knowledge production (such as 'youth mental health and wellbeing') become prominent via the strategic vernaculars of organizations. A number of youth-centred organizations emerged across Australia during the 1990s and early 2000s in recognition of the crucial service gap in youth mental health, the need for youth-centred service design as well as broader health system reform. Organizations such as Reachout.com, beyondblue and headspace have pioneered working in partnership with young people and health professionals to design and deliver services (Swanton et al. 2007; James 2007; Howe, Batchelor, and Bochynska 2011). Moreover, these organizations have developed extensive collaborations and networks, leading to the establishment of the Young and Well Cooperative Research Centre (Young and Well CRC) in 2011. The Young and Well CRC aims to 'explore the role of technology in young people's lives, and to determine how those technologies can be used to improve the mental health and wellbeing of young people aged 12–25' (Young and Well CRC 2014, 4). A key driver of this organization is its acknowledgement of cross-sectoral and intergenerational expertise, uniting: 'young people with researchers, practitioners, innovators and policy-makers from over 70 partner organizations across the non-profit, academic, government and corporate sectors' (ibid.). The Young and Well CRC is explicit in valuing and foregrounding multiple, intergenerational expertise across 14 major and 18 sub-projects. Insights into the 'making' of this knowledge ecology (and associated complexity and power relations) can shed light on how such long-term and large-scale projects unfold, their explicit and implicit dimensions of cultural value, as well as the socio-material conditions that constrain or enable their longer term sustainability.

Within this innovative organization and across its multiple projects, 'youth', 'technology' and 'wellbeing' are guiding schemas of thought for producing new knowledge, practices and resources. Rather than being mobilized as the subjects of 'risk' and 'harm' discourses, young people are re-positioned – taking a proactive and central role in knowledge production, with technology a positive resource for the promotion of mental health well-being. Yet, challenging structural exclusions and existing hierarchies is a messy process rather than a neat and tidy outcome: '[s]tructure is dynamic, not static; it is the continually evolving outcome and matrix of a process of social interaction'. Sewell (1992, 27). The Young and Well CRC project chosen as the focus of this paper, Safe and Well Online (SWO), has used a participatory approach (Collin and Swist 2016) to develop and test a programme of online, youth-centred social campaigns to promote young people's safety and well-being online. A commitment to participation does not ensure a seamless process, much less if we acknowledge the interplay of power relations and the complexity of socio-material structures. We now turn to exploring these issues separately before

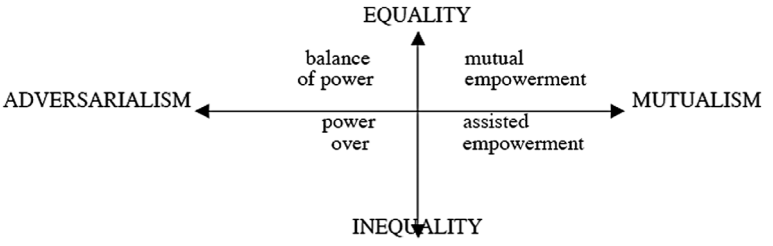

Figure 1. Relational and distributive dimensions of power (Karlberg, 2005).

applying them to our case study in order to understand how 'cultural making' is composed of multidimensional power relations and complexity.

Power

The words we use carry traces of long histories which inflect current uses. The word 'power' comes from Latin potis, master, possessor of land in patriarchal, feudal systems. Its origins lie with unequal social relations, not physics. But 'potential' also comes from potis. From potis came Latin potere, to be able, then Old French povoir, and English 'power'. Potis also led to 'possess', the basis of potis rights, and the main form they took. From this history, power has two senses, social power relations and general capacity. These are realized by two distinct syntactic frames for power in contemporary English: 'power over' (others) versus 'power to' (do X or Y) (Wartenberg 1988, 27). Traces of its remote origins in potis may be present in the fact that it still occurs as a noun referring to something that can be possessed (has power to/over). As represented in English, power is irreducibly a complex, mediated relationship. Neither form in English applied to social situations can be a verb. 'Power' cannot be a transitive verb expressing linear causality. Both forms link the word to its object via a preposition. However, 'power to' has a different relationship to action. Grammatically, it is like an auxiliary, releasing or boosting the force of any agent or action. It acts like a catalyst on actions, rather than an action in itself. It can only express a direct, transitive action with a subject as agent when it has a preposition: 'empower'.

Michael Karlberg (2005) uses the distinction between 'power over' and 'power to' to argue that the dominant tradition in Western sociology has privileged 'power over'. He traces a line from Machiavelli to the present to illustrate his point. He then invokes an alternative model, which he associates with feminism and peace studies, which emphasizes 'power to'. He associates the two models with a deeper opposition, between conflictual and mutualist models, themselves ranged between conditions of greater or less equality. He proposes a conceptual tool (Figure 1) to map these options better. Power is made up of a series of relationships and actors which coexist with one another and co-evolve according to changing circumstances.

Karlberg makes a useful double distinction, between 'conflictual models of power' necessary for critical social analysis, and 'normative frameworks for social practice'. The differences in the models correspond to their different purposes. Normative models describe what we aspire to, and help us to reach it. Critical models point out differences between discourse and practice, both of others and our own. Karlberg does not advocate elimination of 'power over' models, only that they be integrated in a holistic model that can acknowledge and accommodate diverse forms of power.

We find Karlberg's diagram valuable in supporting our introduction of the term 'cultural making'. He insists that the two axes are continua, so that different instances can be ranged along each one. This overcomes the tendency of our language to set up fixed, absolute categories, instead of seeing how mobile they are, and how movement and 'making' is possible. Yet, we use and adapt the same grid to make two different points. Karlberg's mutuality axis is useful to insist on gradual shifts from one quality to its opposite. This corresponds to a reality in which boundaries are always partial and provisional, in

which 'fuzzy logic' (Dimitrov and Hodge 2002) best captures the nature of things. The Greek philosopher Heraclitus expressed the basic ontology of this view as 'all is flux'. Neither 'equality', 'mutualism', 'adversarialism' or 'inequality' are facts in themselves but are contingent upon social relations. However, the opposite is also true. Discontinuities continually arise, and are reinforced by regular processes. From chaos theory comes the term 'phase transitions', to refer to points where flows are temporarily halted, as between ice and water at 0 °C, or water and steam at 100 °C. In the life and modalities of 'cultural making', something similar happens, and for agents of change, such as the Young and Well CRC, such fluidity is vital.

Karlberg's theory is inclusive in responding to an intractable complexity confronting agents of change within 'cultural making'. We push his complexity to the edge of chaos, to intractable contradiction. One foundation of linear thinking is Aristotle's proposition that A and not-A cannot both be true. Fuzzy logic as the logic of complexity (Dimitrov and Hodge 2002) says that A and not-A coexist in tension, sometimes in conflict. We use this logic to reinterpret Karlberg. Karlberg's contradiction corresponds to the recurrent dilemma for social action: conflict is everywhere in every social struggle, yet alliances across differences are also essential. Critical social analyses of power recognize conflicts and the exercise of power in all objects of analysis, and between analysts and their objects, even in initiatives as idealistic as the Young and Well CRC. Yet, without normative frameworks based on relations of affinity and trust, no community can be built up, and no program of action formed and acted on. The two models coexist in an ongoing form of 'cultural making', always with some degree of contradiction, with often uncertain outcomes.

As Karlberg implies, critical social research makes three simplifying assumptions: (i) the gamut of social relations are reduced to a binary of power; (ii) the powerful are locked in permanent struggle with the non-powerful; (iii) the observer/critic is outside and above this system, therefore, change can only come from outside it. The knowledge-ecology model denies the binary of power; it includes the observer in the system; and it sees change as both immanent and emergent. But both models are blind to some aspects of power. The critical social model eliminates the complexity of power relations in the situation, out of which solutions may come, while the knowledge-ecology model is always vulnerable to operations of power which it has minimized. Our commentary on the Young and Well CRC and its programmes needs to do both. To provide good advice, we need a critical position, outside Young and Well CRC and sceptical about its claims, yet we also need to know the scope for change within this project for change. We are part of its knowledge ecology, inside and outside it. On its own, a focus upon power relations neglects the contextual aspects of what constitutes 'cultural making'. To supplement this perspective of power relations, we are interested in exploring its relationship within a complexity framing. For example, within the knowledge-ecology of the Young and Well CRC, the role of power in this new kind of whole needs to be looked at afresh – to explore, as Aristotle said, how 'the whole is different than the sum of its parts'. Indeed, the parts do not cease to exist or cease to have effects independent from the whole. Power may be reframed and reorganized, but it does not disappear, from the whole or from the different agents who make up that whole. We suggest that Karlberg's notion of power relations can be augmented by layering key aspects of complexity theory to articulate further how 'cultural making' unfolds within transdisciplinary initiatives.

Complexity

Building on our discussion of Karlberg's schema in the previous section, we argue that complexity and power coexist and co-constitute one another in processes of 'cultural making'. Law and Urry (2004) support explorations of complexity theory within social science and we supplement this approach through examining how complexity and power are entwined with one another. This calls for methods to be more inventive, agile and open-ended so as to reflect the 'intra-actions' (Barad 2003) of 'cultural making'. Castoriadis (1987) highlights the notion of 'co-belonging' where elements coexist and have potentialities; that is, a 'bundle of operative schemata that are not "logical functions"' (248). This approach moves beyond categories, concepts and critique, instead surfacing particular modes

of doing and making. What becomes exposed is the variability of properties and diverse possibilities, rather than prescriptions. Socio-material inquiry does not just examine and present how practices are enacted (reflecting culture). Instead, it can be understood as a process of public-making through 'situated creativity' (Joas 1996) and emergent practices (reconfiguring culture). We now consider how concepts associated with complexity, such as self-organization and non-linearity, are intrinsic aspects of transdisciplinary research projects.

Complexity theory on its own can easily be misconstrued as abstract and disconnected from the 'real world'. However, it is the application of complexity theory to the real-world practices of organizations, such as Young and Well CRC, which can highlight new ways of understanding the interrelationship of being, knowing and making the world. Complexity science highlights the evolutionary potential of complex, open systems (Byrne 2001). This systemic lens implies a relational ontology and epistemology: our ways of both being and knowing evolve from socio-material interactions.

Self-organization, a major dimension of complexity, is key to SWO, the Young and Well CRC and the activation of 'cultural making'. A self-organizing system is 'intrinsically adaptive: it maintains its basic organization in spite of continuing changes in its environment' (Heylighen 2008, 10). This notion of self-organization becomes a meta-framework for unpacking relationships between components of a knowledge ecology, where each evolves over time, and each element is modified by the other. Without supporting this self-organizing dimension of complexity, Young and Well CRC could not have existed and thrived for as long as it has, or expanded as a knowledge ecology. It is an example of a new whole, in which agents of knowledge can interact to produce unexpected outcomes. From a complex systems perspective, the organization is a non-hierarchical, open system, highlighting the interplay between human and non-human forces. These interconnected material, social and temporal aspects form the basis of self-organisation.

Non-linearity is the second feature of complexity theory which significantly informs how 'cultural making' is activated. Processes within complex systems are often non-linear, 'their effects are not proportional to their causes' (Heylighen 2008, 4). The complexities of the Young and Well CRC only seem possible and potentially productive because the many participants trust that positive outcomes can be produced out of interactions so multiform that their results cannot be entirely predicted. Non-linearity accords with complexity theory, in that 'simple notions of uni-directional impact are replaced by that of mutual effect' (Walby 2003, 17). Cilliers (1998) states that loops in complex interactions can be positive (enhancing, stimulating) or negative (detracting, inhibiting). The complexity theory notions of non-linearity/feedback loops can help to identify the uneven ways in which dialogue and communication unfolds within a knowledge ecology. Non-linearity allows us to identify and articulate positive and negative repercussions of organizational making and their associated projects, and helps us see how practices are not only embodied, but enacted and emergent as well. Building upon these explorations of power and complexity, our attention now focuses upon the Safe and Well Online project to examine our understandings of how 'cultural making' unfolded within this initiative.

Safe and Well Online

The Safe and Well Online (SWO) project considers the increasingly complex systems of sociocultural mediated communication strategies to promote young people's mental health and well-being. Inherent in this aim is a kind of power, and a hope that exercise of power will be benign and effective. Strategies such as campaigns could be viewed as a way of governing young people 'at a distance', as well as a way of controlling and constructing an 'entrepreneurial self' (Foucault 2009). A critical lens prompts the question: How can we take the positive aspects of behaviour change initiatives, yet still be sensitive to the 'up close' (that is, diverse and everyday) features of young people's every-day lives, plus the interests and motives of those who claim to help them? One strategy for SWO was to adopt a Participatory Design (PD) approach. This guided the participation of young people, researchers, digital agency representatives and project partners in the direction and development of the SWO campaigns.

Table 1. Safe and Well Online – Overview of campaigns.

	Campaign 1 (pilot)	Campaign 2
Title	Keep it tame	Appreciate-a-mate
Theme	Respect, digital citizenship, cyberbullying	Body-image, respect, self-esteem and social connectedness
Methodology	Participatory research (pilot)	Participatory design
Methods	Workshops, crowdsourcing, online survey, online discussion	Focus groups, co-design workshops, usability testing, online discussions
Artefacts	User goals, proposition, prototype feedback, creative review and development	Personas, proposition, scenarios, user goals, content creation, creative review, prototype feedback
Challenges	Pilot year	Staff turnover
	Multiple stakeholders learning how to work together	Negotiating research/industry timelines and expectations
Key insights/learnings	Understanding how the everyday digital practices of young people can be reconfigured to promote Respect	Enhanced understandings of the interconnectedness of online and offline issues relating to body image e.g. body image and digital practices; body image and interpersonal relationships; body image and community
	Acknowledging how traditional, linear ways of involving youth still operate	Identifying more innovative and dynamic ways to involve youth
	Identifying the need to develop a framework in which traditional models could be reconfigured	Increasing awareness of the PD process and incorporation of youth expertise
Campaign resource	Interactive online video (2012)	Online tool and app (2013; 2014)

Features of the research and design process for the first two SWO campaigns are outlined briefly in Table 1 alongside their associated processes and challenges.

Below are discussed three features of the SWO project which the term 'cultural making' helped elucidate: surfacing changing proximities of constituents, devising methods which support publics, and learning from the spatio-temporal messiness of cultural research. These changing interrelationships, roles and understandings aim to show how 'cultural making' unearths the doing closely associated with Ang's (2011) heuristic of 'cultural intelligence'.

Surfacing changing proximities of constituents within transdisciplinary initiatives

'Cultural making' assists in illustrating interrelationships within transdisciplinary research initiatives. A project such as SWO stems from a diverse array of roles and expectations, such as: institutional and organizational agendas; project commitments and reflexivity; budget and sustainability parameters; staffing and resourcing issues; building and brokering relationships; disciplinary backgrounds; plus commercial production lines and pressures. There is continual movement and fluidity among the relations of this complex, open system. For example, the key challenge of the first year of the project involved multiple stakeholders learning how to work together, while the following year focused on negotiating industry and research timelines and expectations. Key learnings from both campaigns were how to involve young people in more dialogic ways. In the field of social and public communication, to which the SWO programme belongs, there are two competing models: one operates 'at a distance', the other 'up close'. The distant model, or the '(magic) bullet' theory of media effects, envisages public communication as like a rifle aimed at a target, sharply defined communication with a refined message. This model has been repeatedly critiqued as untenable in theory (Berger 2012) but continues to dominate public relations practice. It is literally linear, and like all such proposals comes up against the inherent complexity of the world and social life. Newton, the great scientist whose theories have been used to vindicate linear science, provides tools for exposing this model as a fantasy of power. His third law states: 'To every action there is always opposed an equal reaction'; that is, the fundamental unit of analysis is interaction. The apparently dominant force is equally affected by the interaction, and the conditions, state and trajectory of the object of the impact equally determines outcomes. In a Newtonian bullet

theory, targets move and bullets/messages may be changed beyond recognition by the process. Newton recognized complexity. The 'magic bullet' theory is not even good science. It fosters the illusion of power in those who buy or sell the concept at the expense, or negation, of others. Pre-packaged campaigns designed by adults to neatly and predictably change young people's behaviour would be an example of such a 'magic bullet' theory.

Alternatives to linear bullet theories are all more complex and 'up close', recognizing the nuances of agency in those who receive messages, as well as the socio-material context of digital communications. Participatory models (as used in SWO campaigns) claim to be among the most complex and dialogic; for example, in terms of the campaigns being co-created by the young people they target. Power does not come from top down, but is dispersed throughout a community created by all participants, specifically in relation to the socio-material context and digital practices of young people. Yet we need to be critical of participatory models, as well as appreciating their aims. Practice is always a more messy reality. As Fischer noted, '[d]espite much of the rhetoric surrounding the discussion of participation, experiences with new forms of participatory governance show participation to be neither straightforward nor easy' (2010, 17). In bringing concepts of power and complexity to this practical dilemma, we ask two questions. Do participatory models need to be made more linear because of the complexity of social reality, or do models, including even participatory models, need to be made more complex in order to fulfil aims like those of the Young and Well CRC and SWO? 'Cultural making' provokes us to continually be aware of how proximities to constituents are modulated within transdisciplinary research initiatives. The changing properties of power and complexity cannot be prescribed or predetermined, they are always negotiated.

Devising methods which support the emergence of publics (not just products)

Another key opportunity which 'cultural making' offers is identifying how we can devise methods which acknowledge a diversity of roles and expertise which help build communities-of-interest – or publics – alongside resources which are valued. For example, the SWO project facilitated a continuum of participatory methods (e.g. focus groups, co-design workshops and online discussions) which generated key insights and learnings from multiple actors and voices (such as understanding young people's digital practices in relation to issues such as respect and body-image). Our perspective privileged the mutualistic roles involved in the ongoing, public-making process surrounding the campaign (rather than simply the end-product; for example, interactive website or app). From the field of co-design, Le Dantec and DiSalvo (2013, 259) describe 'the participatory process not as one that ends with a product, but instead as one that initiates or shapes publics'. To initiate or shape a 'public' is a stronger, more power-laden outcome than to produce a 'product'. But the knowledge production processes of these differ markedly (Collin and Swist 2016). Whereas the power of creating a product is simplistic, top-down and built from traditional, narrow channels of authority and expertise, the power of creating a public is innovative and draws upon distributed expertise. The methods also shape the 'products' produced. A social marketing campaign aimed at promoting young people's safety and well-being operates 'at a distance' if it focuses simply on a bullet theory approach to behaviour change, or by denying agency. For a campaign to operate 'up close', it needs to acknowledge the agency and lived experience of young people. But how does this translate in practice? The project adapts a PD framework from Hagen et al. (2012) – who describe participatory design as 'an evolving set of critical, conceptual and practical tools to support the active participation of users in the design of different systems, services and products' (5). The first point to note is the apparent linearity of this framework (Figure 2).

It proceeds from left to right, through six acts: identify, define, position, concept, create, use. However, within this, feedback loops operate which successively affect the categories. So experiences of use perhaps modify what is created. We can also look at the verbs implicit at each stage. They seem to have a dominant agent – the team – identifying, defining, etc. on behalf of young people, in which case this is only a spread-out version of a fundamentally linear scheme. Or does the implied subject of each successive action in practice include young people in general, and the young people who will use this

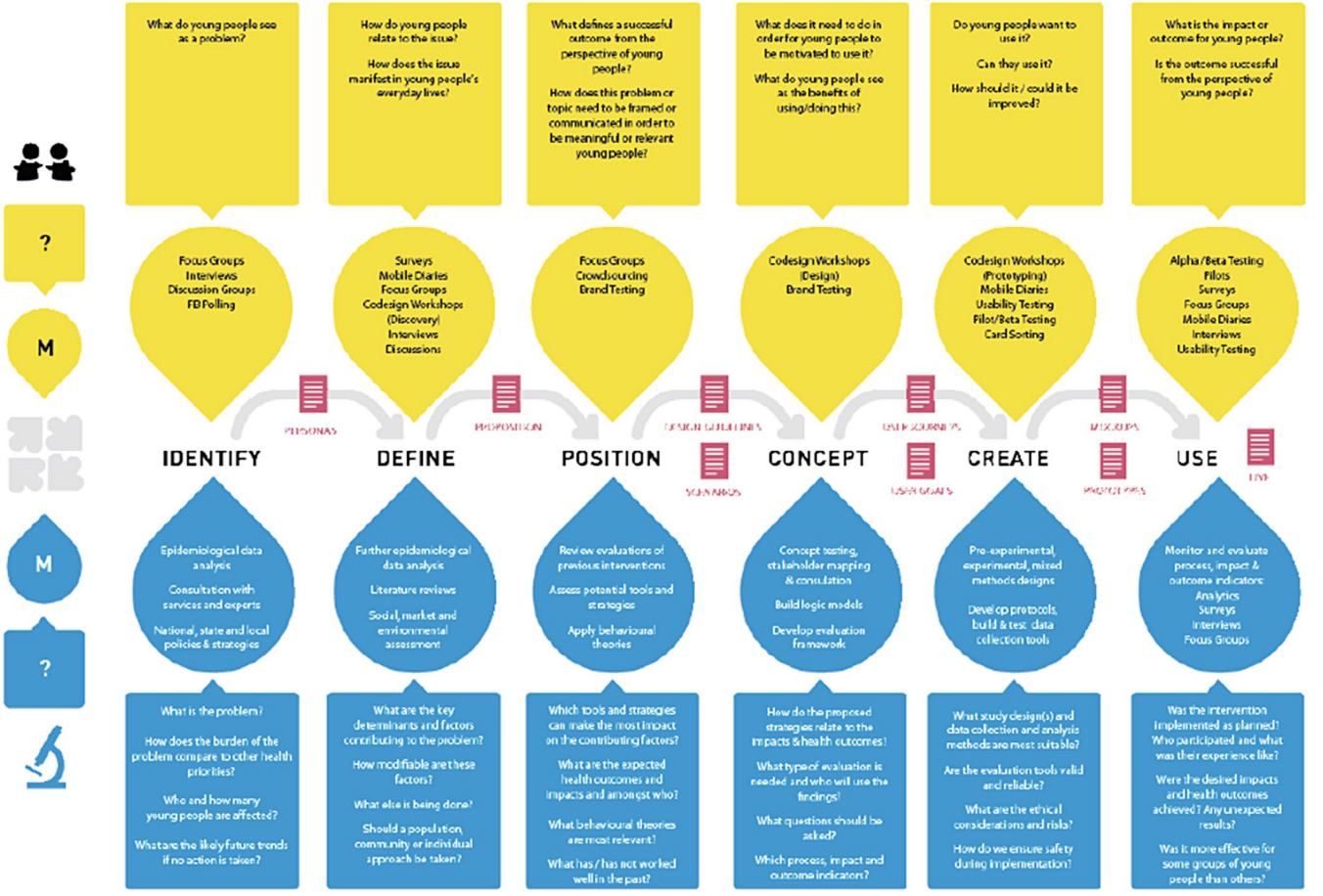

Figure 2. Participatory design framework from Hagen et al. (2012, 9).

app? Or can this map be used to propose a more radically dispersed model of participatory practice, in which there is real co-creation, generating a community of some kind which, as an emergent form, has its own agency?

The use of participatory research in year one and the Hagen et al. (2012) framework in year two supported new ways of thinking about and responding to issues of youth safety and well-being, but not in instantaneous or prescribed ways. For example, in our pilot year when developing the 'Keep it Tame' campaign, the project's constituents shared a commitment to the principles of youth participation but had different views on the methods and practices of co-design, or were thwarted in efforts to align these with the practical complexities and requirements of research and commercial processes. Knowledge production was therefore sometimes compartmentalized and siloed, with less knowledge brokering happening between young people, project partners and the research team than initially aimed for. Herein knowledge production and distribution still operated within the bottom two quadrants of Karlberg's (2005) model: 'power over' and 'assisted empowerment'. However, in the second year of developing the 'Appreciate-a-Mate' campaign, constituents became more attuned to the vocabulary and processes involved, planning included shared agreement on project phases and methods and the roles that different actors would take. This moved the knowledge production process into Karlberg's (2005) top-left quadrant of 'balance of power'. Through development of the third and fourth campaigns, the participatory design process will evolve further. This is required in order to maintain and care for existing relationships, while also negotiating and introducing the roles, needs and interests of young people, new project partners and changing team personnel. In effect, as a form of 'cultural making', our research agendas are 'forced to become increasingly shaped in ongoing engagement with the field' (Jensen 2004). 'Cultural making' encourages the modulating of method – continually devising ways to address the changing complexity and power relations within transdisciplinary research initiatives.

Learning from the spatio-temporal messiness of cultural research

The PD framework should not be treated as a recipe for youth participation and knowledge production 'success'. Rather, it should function as a device for knowledge-building, sharing and brokering across the overlapping time and space proximities of the project. For instance, the framework operates as a 'boundary object' (Star and Griesemer 1989), a way of sharing insights and incorporating expertise about young people's digital practices and understandings of respect and body-image. Yet, this is neither simple nor neutral in its implementation. Complexity and power relations imbue the process throughout all its phases, highlighting the continuities and discontinuities enacted through 'issue politics' (Leino and Laine 2012). From our experience, the PD practice is much less linear than it appears: such is 'mess in social science research' (Law 2004). At times, the phases overlapped, intersected and even jumped back and forth across different stakeholder sites and the period of the two campaigns. Driving this non-linearity was the complexity, self-organization and adaptation between young people, digital media and online safety experts, government, end-user and research partners to explore how social communications can be used to promote the safety and well-being of young people. For example, the identification of the theme of 'body image' was taken up following publication of new research, subsequent policy imperatives of partner organizations and emergent youth digital practices associated with body representation. These interwoven knowledge practices do not discount the value of the framework. It remains useful as a way to richly illustrate (rather than simply order) the multiplicity of temporal and spatial layers which inform the development of youth-centred interventions for young people's mental health and well-being. Our contribution to understanding this framework is in recognizing its iterative and reflexive nature, as experienced within the SWO project. The strength of the framework became clearer in the development of the second campaign, after participants had more experience and understanding of the processes involved, thereby opening up the spaces in which youth participation could unfold, or expand, 'up close'. PD is just one example of non-linear mechanisms in the project. Other examples of non-linearity are found elsewhere, as in internal and external communications, strategic roundtable events, Twitter conversations, project partner involvement and

youth participation. With such a complex array of multi-sectoral and intergenerational interrelationships involved in identifying possible solutions come associated challenges and opportunities, both aligning with and countering the Young and Well CRC's proposed strategy. Transdisciplinary research initiatives span synchronous and asynchronous times and spaces; what we learn from 'cultural making' is how to modulate spatio-temporal practices in ways that meaningfully engage with multiple actors and voices.

Conclusion

The range and scale of collaborations and complex issues undertaken as part of transdisciplinary research have sparked a new orientation within the cultural studies field. To productively augment the potential and thinking of 'cultural intelligence' (Ang 2011), we introduce the actual doing of 'cultural making': how proximities, methods and practices are continually modulated 'to produce new working surfaces on the social that are shaped by the relations between different cultural and social knowledges' (Bennett 2007, 626). In this article, we have introduced and argued how 'cultural making' involves the unfolding process by which culture is made via human and non-human proximities, methods and practices. In reflecting on the Young and Well CRC organization and its SWO project, we have been especially interested in its organizational making, as it brings together a range of players, including young people, health professionals, digital media agencies and researchers from many disciplines. We argue that the concept of 'cultural making' as a strategy to accommodate diversity and achieve outcomes, helps surface the modulations of power and complexity to practically augment thinking in the field. In reflecting on SWO processes, we are especially interested in PD as a non-linear or even anti-linear methodology – again, to reveal its complexity in practice and the role – open and covert – of power, and the consequences of both for the integrity and effectiveness of the project. Through this focus, we hope to have shown how properties of power and complexity between organizations, projects, products and publics can re-orient interrelationships, roles and understandings toward social change.

We therefore do not aspire to a general position on power or complexity as isolated entities. We are more interested in showing how power and complexity are co-constituted within transdisciplinary research initiatives, thereby modulating 'cultural making'. This combination allows us to be more effective in our practices as researchers: working with more young people in the direction and development of interventions, positively shaping attitudes and behaviours, ultimately producing data which evaluate how they have been affected by these co-created messages. A distant, 'bullet theory' approach toward social campaigns is a simplistic, distancing mechanism that focuses upon function rather than meaning. What we suggest is an 'up close' approach which still values the function of campaigns to promote young people's well-being, but foregrounds the proximities, methods and practices that can be modified to enrich it – in order to produce and interpret meaning through and beyond the campaigns. If social reality is indeed as complex as complexity theorists say, more complex than even the most complex theories and models, then the taken-for-granted simplifications in everyday attitudes and practices will be seriously distorted, dangerous guides to effective practice. If power operates in such a complex reality, then our assumptions and practices in relation to power likewise may be dangerously inadequate. Therefore, prioritizing engagement with how meaning is made, as the basis of any campaign, is essential.

Finally, drawing attention to the interplay of the potential of 'cultural intelligence' and actual 'cultural making' invites us to examine more closely how organizations, projects, products and publics are always a blend of thinking and doing. Complexity and power are not only inevitable, but inescapable, in efforts to engage with and address challenges such as youth mental health and wellbeing. In view of this intractability, all approaches are in some way inadequate but we suggest that raising awareness of 'cultural making', power and complexity can illuminate the ways in which energies and efforts unfold across the continuum of transdisciplinary research initiatives. As Law and Urry (2004) highlight: '[n]ovelty is always uncomfortable. We shall need to alter academic habits and develop sensibilities appropriate to a methodological decentring. Method needs to be sensitive to the complex and elusive. It needs to be more mobile' (404). This in no way limits future directions. Instead, it shows us how to modulate

and reconfigure such initiatives with more agility, reflexivity, insight and care. While recognizing that participation 'should be considered a matter of concern rather than a matter of fact' (Anderson et al. 2015, 259), we hope to have shown that participation is also a matter of making.

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