

BOOK CHAPTER:

8

DIY (do-it-yourself) postdisciplinary knowledge

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Introduction

The phenomenon of ‘traditional’ disciplinary knowledge (or pre-postdisciplinary knowledge) is usually associated with a central force, such as the power of an institution, which maintains, selects or excludes particular aspects of knowledge as belonging or not belonging to a specific discipline. This disciplinary specificity is often evident when academic research attempts to employ multiple disciplinary positions or tools. In the case of the arts and the sciences, consider, for instance, where concerned voices can be heard to utter: ‘but is it art?’ Or the refrain: ‘is the methodology scientifically rigorous enough?’ Within this environment, interdisciplinary approaches to knowledge often, arguably inevitably, get caught in a middle zone between disciplines, where gatekeepers’ expectations from either discipline are not met. Take as an example, within the fields of science and art, the case of SciArt; ‘criticised as bad science and bad art... [however] more often it is simply something different, not science and not art’ (Dunne & Raby, 2013, p. 51). The indeterminate ‘something’ does not fall into a specific category of knowledge. This something is then an invitation to consider a shift from the inter and the trans to the post. It is a signpost to a postdisciplinary realm of knowledge, which cannot exactly be categorised as belonging to a specific domain of knowledge.

While inter- and transdisciplinary knowledges combine aspects of different disciplines and are some reformulation of inter or transdisciplinarity, the starting point of a DiY postdisciplinary knowledge is a realm that intentionally works in the somewhere different, outside of and often determinedly against the perceived cages and fences of the traditional disciplines. Without having to answer to or be validated by any particular discipline, we propose in this chapter that a DiY approach to knowledge (and to the relationship between knowledge and practice) is more ‘free-ranging’, particularly in contrast to knowledge with more strictly perceived and/or defined edges, parameters and perimeters. DiY knowledge contrasts with the knowledge of the ‘specialist’, as one who maintains the territory of the discipline, since it seeks to ‘burst open’ or, less dramatically, to ignore the enclosed territories of the expert, and to ‘access all areas’ leading to a more holistic ‘complete comprehension’, which is not fragmented by traditional disciplinary containment (Onion, 2008, pp. 144–145).

In this chapter, we explore notions of DiY ethos, making and citizenship in order to range freely in a DiY postdisciplinarity and to theorise the manifestations and contributions of DiY to postdisciplinary knowledge. While the idea of disciplinary and postdisciplinary knowledge is a critical concept in this work, we do not attend specifically to a definition and/or theory of knowledge and its relation to practice. Rather, we explore knowledge, knowledge relationships and practices, through observations in a series of DiY projects. The first section works with maker culture and art practices during the travels of the lead author, while the second section analyses research on key dimensions of a community-based project in Glasgow. That project has informed the second author in developing pedagogical approaches to the teaching of teaching, and that develops a theory of DiY citizenship as a particular form of resistance to neoliberal trends in disciplinary knowledge manifest in contemporary higher education. In both cases, it is worth emphasising here that doing it oneself is anything but an individualised approach to knowledge. Nor is doing it yourself about the consumption of power tools and home hardware supplies. The chapter concludes with a turn to the science fiction of Philip K. Dick and in particular the story *The Variable Man* in which DiY pushes a big data society into the jaws of an intergalactic apocalypse.

The DiY ethos: behind the artefact in maker culture

DiY maker culture offers a contemporary context in the generation of postdisciplinary knowledge through its practices and engagements with materials. Closely binding the maker to the artefact, DiY makers have a particular relationship to the ‘things’ they make, which can be regarded as innately postdisciplinary. The non-proprietary aspects of DiY making mean that borders between individuals and materials are more inclined towards open-source accessibility, a sharing of resources, code and methods of construction that encourages participation by people with diverse levels of expertise – a trend also evident in social innovation and collective intelligence movements (see Peters & Heraud, 2015). A good example of this sharing can be seen on the ‘Instructables’ website, where detailed instructions for craft and technology projects provide a valuable resource for all levels of amateur maker (Autodesk, 2018). The significance of the amateur maker can also be seen in the emergence of the maker movement and of MakerSpaces, FabSpaces, HackerSpaces and other informal places of learning and making (Cassidy, 2018; Dougherty, 2018).

The maker movement does not deal exclusively in the sharing of technical knowledge. The movement also incorporates a wide range of postdisciplinary approaches such as ‘critical making’. Critical making, a term coined by Matt Ratto (2011), is an approach to DiY knowledge exploring ways in which social and cultural concerns intersect with our attitudes to technology. Critical making looks for the connections between social communities and technologies, and ‘explores how hands-on productive work – making – can supplement and extend critical reflection on technology and society. It works to blend and extend the fields of design, contemporary art, DIY/craft and technological development’ (Hertz, 2012, para. 1). In terms of postdisciplinary knowledge, the ‘amateur’ maker is someone who can potentially cross the traditional boundaries of disciplines – either infusing a fresh outlook or bringing a mess of confusion. These messy practices optimise the engagement with forces and agencies that incorporate intuitive knowledge, material agency, chance accidents and discoveries. This is a

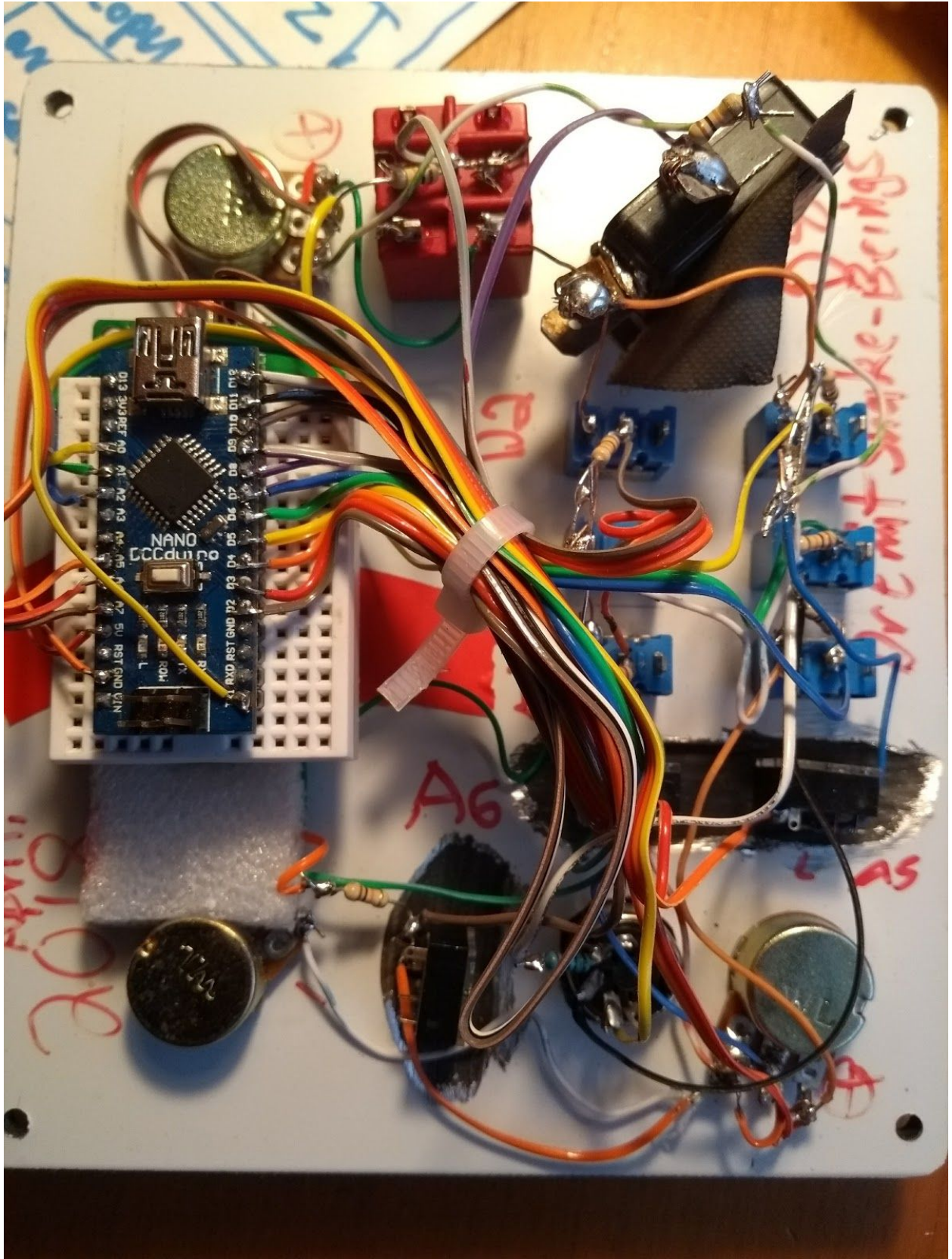
form of knowledge that, according to Lambros Malafouris, incorporates both human and material, reaching:

beyond the individual in order to accommodate broader cognitive events [... so that material] space is not simply the passive background against which the activity unfolds; it is something that can be used as a cognitive artefact.

(Malafouris, 2013, p. 67)

The cognitive artefact of the DiY maker contains or embodies knowledge within the artefact and/or the processes involved in the making. The artefact emerges from an experimental engagement with materials and technologies, evolving in an indeterminate way that could not have been entirely predicted by the person making the machine. The messy agencies of DiY making are expressed through an intuitive and exploratory engagement with materials. This is the kind of mangled postdisciplinary research Andrew Pickering speaks of, that ‘start[s] from the idea that the world is filled not, in the first instance, with [stable] facts and observations, but with agency [...] as forces upon material beings’ (2010, p. 6).

In such a world, information and facts become intimately connected to the shifting context of observation. The ‘agency’ and ‘forces’ of disciplinary knowledge can be seen to affect what we would traditionally think of as stable ‘facts’. Pickering’s approach suggests that the division of knowledge into disciplines is more concerned with promoting a realm of stable ‘facts’, whereas DiY knowledge draws attention to the *artefact* as a source of generating knowledge: the cognitive artefact emerging as a result of these ‘forces upon material beings’ (2010, p. 6). Hence, the DiY artefact is unique as a record of the material agency involved in its creative and constructive process which can be expressed as a tacit, material knowledge emerging from the interaction of material agency and human intention. The term artefact is used to signify this type of material knowledge, which falls between the contingency of the ‘thing’, as an indeterminate agent of materials, and the human-intended object[ive]. Part of this material turn is ‘turning attention from facts to artifacts’ (Guerrini, 2016, p. 471). The material turn recognises the importance of non-human agents in the development of our cognition and understanding of the world (Clark, 2011; Clark & Chalmers, 1998; Malafouris, 2013). The work of Jane Bennett (2010) and Karan Barad (2003, 2007) also provides a suitable theoretical parallel to the material engagement of the DiY ethos.



When we look at the image of an object that has been handmade by an amateur maker, such as [Figure 8.1](#), made by the lead author, we can read the participation of material agency in the remnants of multiple faults, errors and adaptations that have occurred during its construction. In DiY electronics, for example, the evidence of this messy approach lies in the often-haphazard processes visible in improvised and contingent making. A rewired circuit board reveals changes in functionality. The use of recycled or re-functioned objects operates outside of their familiar contexts. Chaotic wiring signals a process of development that has not followed a logical and pre-planned route, but has instead been driven by contingency and exploration of material rather than strictly logical qualities. The form of construction indicates a process that embodies an experimental, postdisciplinary and inclusive approach to material agency, indicating that cognitive artefacts embody knowledge that spans the divides between human and material. Attention to material gives presence to the thing. The thing indicates the indeterminacy of objects – that an object is not a fixed entity, but is malleable and available for mutation into another completely different thing. This is particularly true in the use of re-functioned and recycled objects, where a DiY attitude of using whatever objects are at hand means that all kinds of disparate objects can be, and are, brought into use; including objects that were not intended to be used in that particular way. In these re-functioned objects, there is a visual inclusion of material agency, seen as a negotiation between the intention of the human and the ‘sway’ of available materials that make up the final object (Snake-Beings, 2016, 2018a, 2018b). This is one of the aspects of DiY culture that we regard as inherently postdisciplinary. The DiY ethos is to regard objects, as well as ideas, as items that are open for manipulation, as a realm of knowledge operating across territories.

The DiY ethos encourages the breaking open of the black box, to pry inside in order to either repair or adapt or understand the workings of what is within. Contents are frequently used for an entirely different purpose to the functionality originally assigned to them. An example of this re-functioning of objects can be seen in the collected artefacts of Ernesto Oroza (2018): objects re-assigned new functions in a process he calls ‘technological disobedience’. For instance, Oroza repurposes a water tap used in an electro spot-welding machine as part of a collection of DiY objects that were re-functioned during Cuba’s ‘special era’. The special era was a particularly challenging time for the small Caribbean island, politically and economically isolated after the collapse of the Soviet Union in 1989 until 2008 when many of the sanctions prohibiting the importing of machinery and spare parts to Cuba was lifted. Driven by necessity, during this period there was widespread engagement in DiY activities to repair, modify and invent new ways of getting things done. As machines cease to function, the black box, as a container that limits functionality, is ripped open, revealing a whole new array of available components for manipulation. As Oroza (2018) says:

Broken machines seemed, during those days, to be the nation’s number one enemy. A lathe without a spindle, a band saw without wheels, worn-out molds and thousands of other mutilated contraptions [that] threatened the course of the new society like zombies.

(para. 3)

Against a backdrop of broken machines, these DiY attitudes to technology display a postdisciplinary approach in the re-contextualisation of objects from their original functions, as part of a particular black-box assemblage, to new functions within a different set of contexts. For instance, the water tap welder (Novoa, 2016) is a display of technological disobedience in which objects refuse to be limited by containment within a particular functionality. Technological disobedience is then a postdisciplinary strategy that could be applied to more theoretical aspects of breaking away from the territories of the discipline. This kind of DiY disobedience is a transgressive act that splits open the black box in a glaringly visual anomaly: a collision of conflicting contexts – water, electricity, ergonomic design and a melding of domestic and industrial processes that refuse to be contained within the logics of a standard technology. Oroza (2018) theorises the transgressive use of objects through three states of progressive disobedience starting from the milder activity of basic repair, to repurposing, to the complete reinvention of objects and uses. DiY postdisciplinary approaches in Cuba focussed on finding an alternative to the ‘industrial objects informed by logics of limited use, exclusive technical principles, commodified lifestyles, and abusive production relationships’ (Oroza, as cited in Gil, 2018, para. 21). The result was to expand the ‘limited use’ of broken commercial objects within a DiY culture where ‘everyone participates. Everyone takes apart the fan, the telephone, the washer machine, the car’ (Oroza, as cited in Gil, 2018, para. 21).

In Nepal, similar DiY situations evidence the use of everyday objects in surprising new ways to solve problems. In the earthquake-torn country, the re-use of discarded objects becomes a way of survival. As this chapter is being written, in a temporary home on the outskirts of Kathmandu, the lead author is sitting on a stool that has a repurposed bicycle tyre used as part of its base (Figure 8.2).

<COMP: Place Figure 8.2 Here>

The stool’s circular base of woven cane fits perfectly into the repurposed bicycle tire and works well to grip the floor. The unexpected appearance of these objects, seen outside of their usual context, evokes a postdisciplinary approach, in the same way in which ideas from different disciplines can be extracted or added to new configurations of ideas. A chair is a difficult object to re-invent and, as the stool is a new object, this is not a repair, but there is a level of technological disobedience happening here. There is elegance in the almost seamless transposition of the object from bicycle tyre to chair grip, the material being perfectly suited to gripping either road or floor. In a postdisciplinary sense, the re-used object has shifted from its usual place, among the contexts of other bicycle parts, and has re-contextualised itself among a completely unrelated set of materials and functions. The inference is that DiY postdisciplinarity does with objects that which can also be done with concepts and ideas: opening the black box of a particular discipline for the purpose of reusing discrete components in other contexts; hopefully with the same elegance that the bicycle tyre chair has achieved.

Technological redundancy, e-waste and other forms of landfill are emblematic of a disposable society. This shifting landscape of discarded technologies, in turn, generates a vast amount of redundant conceptual memes that no longer appear valid without the social context that supported them. As these ideas and thoughts are rejected by disciplines and sent to the equivalent of an intellectual landfill, they become ripe for repurposing as materials of ‘disciplinary disobedience’. As with the discarded objects that have been removed from their usual context, these conceptual components become a fertile source for postdisciplinary studies: loosened from the disciplinary containment that previously claimed them, they are now ready to be used within

a new assemblage of postdisciplinary territories. This postdisciplinary approach is explored in John Scanlan's philosophical work *On Garbage* (2005) and in Edward Humes' *Garbology* (2012). Scanlan's view of garbage is as a material that is denied characteristics. Garbage is substance without immediate context, a basic but undefined material: 'Garbage does not strictly refer to an object, but is a jumble of inexactness ... it seems to lack conventional referents, and in a sense the stuff of garbage is the remainder of the symbolic order proper' (Scanlan, 2005, pp. 16–17). Scanlan's exploration of conventions in relation to the inexactness of garbage speaks to the importance of postdisciplinary knowledge when approaching something like the indefinite subject of garbage, something that is an excluded residue from a multitude of contexts, numerous sources and areas of knowledge. According to Scanlan, postdisciplinary knowledge is vital for our ability to coherently view the inexactness of garbage, since it is a substance that 'lack[s] conventional referents' (Scanlan, 2005, p. 16) and is therefore a conceptual substance excluded from disciplinary thought. An approach offered by Max Liboiron has been to place garbage within its own discipline: 'discard studies' being an area of knowledge that draws from a variety of disciplines and approaches including political, environmental, the arts, social, geographic and many others (Liboiron, 2014).

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A discipline is usually regarded as theoretical, but discard studies can also be approached in practical terms: the turning of a waste product, such as the use of rubber tyres to make footwear in Armenia (Figure 8.3) or the ubiquitous plastic bottle, into a usable object (Figures 8.4 and 8.5). In these instances, a practical knowledge and a culture of making is evident.

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The incandescent thing in Figures 8.4 and 8.5, made from a partly shredded plastic drink bottle with what looks like a green plastic bag inside, was found near to a fruit market during an early morning walk in western Kathmandu. It was not clear exactly what this object was repurposed to be used for. It may have been a small broom or a brush to sprinkle water to keep green vegetables fresh, but what was striking was the way in which a waste product had been given a new purpose, which both strikes a chord with, and amplifies an ethic for, a postdisciplinary approach. It is this ethic that we explore in the next section through a study of DiY citizenship.

DiY citizenship: the individual, the community and postdisciplinarity

DiY as a maker culture is at the same time, as argued above, a critical and hence political movement that contributes to the ethos of DiY citizenship. More than this, DiY citizenship contributes to the theorisation of citizenship (see, for instance, Hartley, 2016). In the case of the Glasgow community gardens, researched by Crossan, Cumbers, McMaster and Shaw (2016), DiY citizenship challenges the very foundations of citizenship or citizenry thinking – in a sense, DiY citizenship is a do-it-yourself-citizen-making-culture. Participants in the garden community 'are involved in creating their own spatial and political cultures of organization and decision-making' (Crossan et al., 2016, p. 939) and, as such, can be seen as a community engaging with postdisciplinary knowledge of, for instance, 'what is political, and what is citizenship' (Crossan et al., 2016, p. 940).

In order for the gardens to be DiY, these spaces and the relationships that emerge within and around them are necessarily developed from the ‘ground’ rather than imposed by presiding organisations and institutions (Crossan et al., 2016; Goodwin, 2014). Working on the ground, or from the ground, the DiY citizen is theorised as an individual who engages in the formation of their own citizenship and as a citizen who disrupts the political formation of citizens. This approach does not reject the role of political formation of the individual, but rather of a critical awareness and acknowledgement of those roles. The citizen is understood as both a collective and an individual project of formation at the same time, and ‘where both individual and collective identities are bound together, fundamentally contested, and impact on citizenship opportunities’ (Goodwin, 2014, p. 124). According to Goodwin (2014, p. 129) a DiY ‘approach to citizenship ... affords a greater degree of autonomy over mediated cultural expressions, contestations and subjectivities’. Goodwin’s analysis of social media spaces as spaces of collective citizenship-making, recognises the problem of commodification and this problem is central to the possibilities of citizenship for (and within) neoliberalism.

In the Glasgow community gardens ‘... there is much emancipatory potential in this type of citizenship formation’ (Crossan et al., 2016, p. 938), with its approach to ‘collective resistance and/or mobilization’ (Crossan et al., 2016, p. 939). Most importantly, the community gardens are not commodified spaces and hence are liberated from the regulatory frameworks that compel particular kinds of entrepreneurial and neoliberal behaviour and that engineer places and spaces for citizens in particular ways. The ‘collective know-how’ is then arguably one of the criteria for formation and for pushing back against the destructive ‘dominant practices’ (Crossan et al., 2016, p. 944) of knowledge production and ownership. Hence, DiY citizenship as evident in the practices of the community garden is positioned as ‘fundamentally different from the neoliberal construction of citizenship, which aims to produce an atomized citizen subject independent of any broader social responsibility or embeddedness’ (Crossan et al., 2016, p. 937).

Neoliberal citizenship is ... defined as one in which atomized individuals are created who are defined by market relations and their ability to act in their own self-interest, independent of any broader social responsibility or embeddedness. Given the ubiquity of the market, citizenship is conceived in contractual terms.

(Crossan et al., 2016, p. 941)

The neoliberal subject is the production of competing disciplines within a perceived knowledge economy. Hence, this atomised citizen is critical to a particular way of thinking about knowledge as property that is essential to neoliberal governmentality. In terms of a disciplinary knowledge, the idea of ‘aggressive property-led accumulation’ (Crossan et al., 2016, p. 937) aptly describes the disciplinary relations of higher education (see, for instance, Ball, 2016; Tight, 2019) and this includes the disciplinary knowledge relations.

The theorisation of relationships between self and collective citizenship formation also need to be understood in relation to the governmentality of neoliberalism (Peters, Marshall, & Fitzsimons, 2000). Neoliberalism operates on the grounds that individuals cannot be free to self-construct but rather that they require a range of subtle and not so subtle forms of guidance. As we have argued elsewhere:

The question, and largely the difference between the classical and the neo forms of liberalism, is of how much to intervene, and hence also how much to trust in non-intervention. Local, indigenous forms of knowledge are irrelevant to a neoliberal agenda because this agenda requires educating communities as to how they are expected to behave.

(Gibbons, 2018, p. 921)

More than this, neoliberalism determines what it means to be a citizen (Gibbons, 2018) guided by a totalising and individualising ‘political sovereignty’ (Gordon, 1991, p. 33).

The role of government *is* the critical difference between classic and neo forms of liberalism, and it is this role that is most evident in the concerns of academics in relation to their role and contributions as public and active scholars. In classic liberalism, as noted above, the state doesn’t so much intervene as make sure interventions don’t occur that would impinge on and hence make less effective the ideal conditions of the market. This view is supported by the understanding of the individual as naturally predisposed to work within those ideal conditions

(Gibbons, 2018, p. 920, emphasis in original)

The community gardens are regarded here as a particularly relevant example in that they are theorised in relation to education through an understanding of ‘the interdependence of individual and social life’ (Crossan et al., 2016, p. 946). The educational events in the community gardens were wide ranging in scope, applied and holistic/integrated. The event of learning then appeared as a kind of collective citizenship building: ‘the work generates a collective set of social practices and relations in the city’ (Crossan et al., 2016, p. 946). The work that is generated attends to the very ideas of citizenship, community and individuality rather than being ‘reduced to a neoliberal employability agenda’ (Crossan et al., 2016, p. 946). An employability approach, which is certainly a pervasive and invasive neoliberal phenomenon in higher education when considering the emergence of employability officers and offices in universities, presupposes the nature and purpose of education and of citizenship.

... DIY Citizens, through meaningful political engagement, are involved in a continuous reworking of the parameters of citizenship. As such, this polity is well suited to accommodate difference. They are not only promoting a more active form of citizenship to that offered by dominant conceptions; they are also attempting to address real inequalities that exist in contemporary citizenship practices. Enabled by an interlocking process of community and spatial production, this form of citizen participation should be seen as more than simply respite from the pressures of contemporary urban life outside of the gardens. This type of citizenship work encourages us to reconsider our relationships with one another, our environment and what constitutes effective political practice in the city.

(Crossan et al., 2016, p. 952)

One question we might ask is whether higher education is more attuned to the aspirations and realities of communities with or without disciplines. The DiY citizenship project's engagement with the self-formation of a community group is instructive for the emergence of postdisciplinarity in the highly neoliberal tertiary education environment. In other words, if we are to take the idea of postdisciplinarity seriously, then we must take seriously the problem of neoliberal drivers in higher education. The rampant and absurd measurement culture, for instance, demands particular divisive and competitive disciplinary behaviour (Ball, 2016). From this perspective of DiY citizenship, postdisciplinary knowledge is necessarily concerned with the neoliberal university and its relationship to disciplinary knowledge as an institution of new public management. A knowledge economy can be seen as entrenching disciplinary aggression through competition. A neoliberal mentality in higher education drives the disciplines in their internal and external relations – constantly seeking to compete as individual and distinct, self-interested and entrepreneurial disciplines. Such elements of self-management and entrepreneurialism might, of course, also drive a postdisciplinary terrain. In other words, the idea of a postdisciplinary approach to knowledge might also lend well to a neoliberal manifestation of higher education with the self-managing individual knowledge consumer as the central unit – a unit that is constructed as a knowledge entrepreneur. It is this problem that has informed DiY theory in terms of addressing the self-formation of the individual as a necessarily collective experience (Crossan et al., 2016; Hartley, 2016). In higher education, the task might then be to address the ways in which disciplines are constructed as distinct, and to understand disciplinary knowledge as always necessarily collective.

It is important to consider, however, that while DiY citizenship might emerge out of something, or might respond to something to open up spaces for different approaches to citizenship, citizenship can also be thought of as always DiY – the citizen is never the perfection of the processes that produce the citizen. This is not to suggest the redundancy of DiY thinking, although redundancy is not a scary concept for DiY, in fact it is somewhat of a necessary condition in some aspects of DiY materiality. Rather a DiY ethos and a DiY citizenship spilling into the disciplines can highlight the already porous nature of the disciplines and hence the mythical nature of their apparent borders. Like nations, the disciplines rely on an 'us' and a 'them' to enable the acceptance of lines that discriminate the 'here' from 'there', and the 'us' from 'them'. A DiY ethos says, 'there are no borders'.

Should we see, then, DiY as becoming the ethos of the university? We imagine that certain elements of DiY and a DiY approach to knowledge can break down particularly restrictive and constraining aspects of higher education organisational culture. Taking into account Tight's (2019) observation that higher education appears comprehensively locked into a neoliberal identity, DiY movements, and DiY approaches to postdisciplinary knowledge in particular, are an invitation to explore the spaces where the knowledge work of academics can work free from, and push back against, the constraints of neoliberalism.

Conclusion: the problem of DiY for the future

With a focus on DiY maker culture and DiY citizenship, we are advocating for a postdisciplinarity that is distinct from any neoliberal manifestations in a future after the disciplines. Both maker cultures and the ‘community garden work can be generative of progressive forms of political practice that offer us glimpses of a radical future’ (Crossan et al., 2016, p. 937).

In this conclusion to the chapter, we explore a radical future through science fiction. In the Philip K. Dick short story *The Variable Man* (first published in 1953), a future earth is engaged in an inter-galactic cold war. This future earth is an extrapolation of the already technological society (Ellul, 1964) that Dick observed post the Second World War. In *this* fictional cold war, hostilities are kept in check by the computation of possible outcomes if the war were to move from cold to hot. The military keeps working on approaches to win the always-imminent war, and then observes the machinic calculations of a supercomputer in order to make a move. The pendulum swings, but never far. Factions compete within the government in terms of just how far the pendulum would need to swing in order to act. A somewhat reluctant president suggests, for instance: ‘An inter-system war is a big thing. We’re going to war because a machine says we have a statistical chance of winning’ (Dick, 2007, p. 110).

This future earth has the ability to create time bubbles through which data about the past is gathered to inform the future. In one data-gathering exercise, gathering ‘interesting data on the War of 1914’ (Dick, 2007, p. 109), an individual, the variable man, is accidentally contained in the bubble and appears in the present. In that present, all technologies are black-box technologies. No one really knows how anything works and, more importantly, no one really knows how to fix anything. In the future: ‘Nobody fixes things. When they break you throw them away’ (Dick, 2007, p. 126). The variable man, Cole, fixes things ... coming from a time where everything could and should be repaired rather than replaced. He provides the kind of artistry no longer understood or practised.

After his capture, Cole’s skills are recognised and he is put to work completing the final touches on a weapon that will end the war. His contribution to the faster-than-light weapon is possible because of his particular DiY ‘intuition’ long since lost to others (Dick, 2007, p. 130) due to the evolution of disciplinary specialisations. ‘Continual complexity makes it impossible for any of us to know anything outside our own personal field’ (Dick, 2007, p. 130). Individuals have their own specialist knowledge. Cole, on the other hand, appears to have no particular knowledge:

He doesn't work with knowledge, with science – the classified accumulation of facts. He *knows* nothing. It's not in his head, a form of learning. He works by intuition – his power is in his hands not his head. Jack-of-all-trades. His hands! Like a painter, an artist. In his hands – and he cuts across our lives like a knife-blade.

(Dick, 2007, p. 131)

Dick’s story then engages with postdisciplinary thinking through his analysis of the future of knowledge in a big data society. One variable disrupts the order of things.

It goes against science. We’ve been making statistical reports on society for two centuries. We have immense files of data. The machines are able to predict what

each person and group will do at a given time, in a given situation. But this man is beyond all prediction. He's a variable. It's contrary to science.

(Dick, 2007, p. 133)

Dick's future should not appear too far-fetched for early twenty-first-century higher education. The future of knowledge in a big data society is a significant reality for the now of higher education immersed in ranking games and the culture of metrics. Tight (2019) argues that this culture is pervasive yet difficult to pin down. Hence, it is also difficult to push back against from within and without higher education in order to work with different imaginations for higher education.

'As Fredric Jameson famously remarked, it is now easier for us to imagine the end of the world than an alternative to capitalism' (Dunne & Raby, 2013, p. 2). Perhaps postdisciplinary knowledge is one way to think outside of the box and to break down the power structures that seem to hold us on course to the disciplinary future imagined by Dick. Certainly new ways of thinking are needed, something that incorporates a greater awareness of materiality and looks at the wider picture of interconnection and collectivity. Perhaps the postdisciplinary thought of DiY culture offers a way to cut across the fragmentation of the 'expert' and to work across the atomisation of the social individual in terms of a DiY citizenship. The task for the academic is then to observe, to learn from, and to actively contribute to, the many manifestations of DiY movements that have intentionally worked free from disciplinary institutional constraints. The variables still reside in these communities.

Figure 8.1 DiY electronics. Photo: Snake-Beings, 2018.

Figure 8.2 DiY stool. Photo: Snake-Beings, 2018.

Figure 8.3 DiY footwear. Photo: Snake-Beings, 2018.

Figure 8.4 DiY repurposed plastic drink bottle. Photo: Snake-Beings, 2018.

Figure 8.5 DiY repurposed plastic drink bottle at a fruit market in Kathmandu. Photo: Snake-Beings, 2018.

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