

Have we changed our cultures of urban water?

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There were times during the drought when I caught myself trading a couple of extra minutes in the shower against the water tank out the window. There was no material connection – the tank was not connected to the shower – but there was a subconscious exchange of guilt and smugness. So I was not surprised when, after substantial initial savings, the water bill started to creep up again.

After a decade of drought and a couple of wet years, urban Australians are emerging from the strictures of a diet into a maintenance regime. Now as we shower it is often raining out the window, so it is a good time to reflect on whether we have shifted our cultures of urban water into a more sustainable mode of operation. Can we maintain our portion control, or are we headed for a junk food blowout? Is the controversial toilet etiquette ‘if it’s yellow let it mellow’ just an affectation of affluent urbanites who have never had to live with unhygienic sanitary conditions? And even if not, should it be maintained in wetter times? What is the role and responsibility of the household in driving or maintaining change, given an underlying infrastructure developed around what Zoë Sofoulis (2005) has dubbed ‘Big Water’ - the fantasy of endless supply. To what extent can behavioural and technical changes translate into real and sustained water savings, given the infrastructure of supply (Lawrence and McManus 2008)?

A body of cultural research on urban water practices allows us to step back and examine the extent to which we have shifted under the power of drought. The drought threw light on and de-routinised many of our water practices, but have they regrouped into more sustainable long-term configurations? The practice-based research that informs this piece challenges the dominant management model built on a cognitive approach to behavioural change. This model is linear in its approach, assuming that if you change attitudes you can change behaviours, and that people have a high degree of choice in these things. The research I review here draws on diverse social science methods, but has in common a focus on everyday practice, or ‘inconspicuous consumption’ (Allon and Sofoulis 2006), indicating a much more complex set of pathways and configurations. Technology, cultural meaning and social practice converge in a variety of ways that are both resistant and amenable to change; that is, the convergences offer insights into both barriers and opportunities for ongoing cultural change.

Research shows that people do not experience their everyday use of water as the use of a certain number of litres of a resource, rather their experience is tied up in ‘habitual enjoyment of the *services, technologies and experiences* that water makes possible’ (Allon and Sofoulis 2006: 47). That is, people are trying to achieve clean clothes, green gardens, unsmelly bodies, restful surroundings and so on.

In what follows I identify themes from recent research - most of it in the Sydney-Newcastle-Wollongong conurbation - that are useful to contemplate in the current inter-drought context. Of course, we do not have to experience drought to experience water shortages in areas where high population growth or particularly intensive uses are putting pressure on supply. We can use the experience of drought, which prompted widespread community discussion, to help us address these broader issues.

Diversity in cultures of water

The first point to emphasise is the great diversity in attitudes, behaviours and practices, both within individuals and between different groups of people. This diversity potentially takes us in different directions, both towards and away from water saving. In many if not most Australians, watery desires co-exist with a respect for water conservation as an important issue. We love water – for swimming, washing, relaxation – but recognise that we live on a dry continent. Arguably, this apparent contradiction is the basis for our widespread enthusiasms for saving water; we do not have ‘electric’ or ‘petrol’ desires in the same way.

A variety of informal water saving practices were documented during the drought years, encapsulated in my research with Pat Muir by the motif of the ‘the bucket in the shower’ (Head and Muir 2007a, 2007b), whereby soapy shower water was collected for use on the garden. These practices (not letting taps run, reducing length of showers, informally capturing grey water in kitchen, bathroom and laundry) occurred both inside and outside the home, influenced by intensive media campaigns and increasingly severe restrictions on outdoor water use. Notable in several studies (Sofoulis 2005, Allon and Sofoulis 2006, Head and Muir 2007a, 2007b) was the intensive labour people were prepared to invest in saving their gardens. This capture of indoor water for use outside helps explain why, contrary to expectations, per capita water consumption around that time in Sydney showed little difference between separate houses with gardens and apartment or unit dwellers (Troy et al. 2005).

On the other hand, cultures of high water consumption were documented in new upmarket housing estates where people constructed leisure-centred garden spaces to enhance social status (Askew and McGuirk 2004)¹, and among some water tank owners who used a lot of water for leisure (washing boats, wetsuits), hosing hard surfaces and in the garden (Moy 2012).

An important point to note across all these studies is that attitudes do not necessarily map onto practices. Some of the most avid water savers expressed vehemently anti-green attitudes (Sofoulis 2005: 447), drawing instead on a rhetoric and identity of frugality and being anti-waste. Conversely, water tanks can provide a badge of green identity in high-consumption households without necessarily changing practices (Waite et al. 2012). A number of studies identified the importance of living under regimes of scarcity (for example in a rural or overseas childhood) in forging lifelong practices of frugality (Allon and Sofoulis 2006, Head and Muir 2007a, 2007b, Moy 2012). These findings remind decision-makers not to get too hung up on attitudes, but rather to focus on practices. As Sofoulis argues, ‘practices and values can operate somewhat independently (a feature of adaptiveness as well as hypocrisy!)’ (Sofoulis 2005: 451).

Technology alone will not save us – the water tank story

The technology of 'Big Water' has been subject to considerable critique in the social sciences (Sofoulis 2005, Troy 2008), including when it provides problematic friction against which consumers who want to change their practices must push (Lawrence and McManus 2008). But the complex interactions between technology, behaviour and cultural meanings are also evident in the 'smaller' technologies which became more widespread during the drought years – water tanks, shower timers and flow restrictors (Hobson 2006). Candice Moy's (2012) work on water tanks in the Illawarra provides an instructive example here.

After a number of decades of prohibition in urban areas, water tanks were rehabilitated during the drought. They were heavily promoted and subsidised, and enthusiastically adopted. Moy's analysis provides the first published post-installation analysis of retrofitted rainwater tanks and their effects on mains water consumption. She compared the mains water consumption of over 7000 households who installed a tank during the drought (for two years before and two years after installation, to smooth out seasonal differences) with that of total household mains water use under a regime of water restrictions. Both populations showed about the same amount of reduction – 10.26 percent for tank households and 10.8 percent for the wider community.

This was a puzzling finding as the policy view and the natural expectation is that, even when only fitted with outdoor connections, as most are, domestic tanks are a logical way to reduce the consumption of mains water, 28 percent of which is assumed by Sydney Water to be used outdoors². Interviews and ethnographic study with a sub-sample of these households identified two distinct sets of practices, summarised by Moy as 'water savers' and 'water users'. The former cohered around practices of frugality, and included a number of people who had grown up in the country. Water users were vocal in the importance of autonomy and freedom from government restrictions in their reasons to install a tank, as expressed in the following quotes (Moy 2012; see also Gardiner 2010):

*I can do what I want to do. I'm not governed by government rules
I think, I can do that, [be]cause it's my water
It's just that freedom that if I want to hose the concrete, I'm allowed.*

Comparing the practices of tank and non-tank households in survey results by Gordon Waitt and others (2012), Moy also showed that tank households were not statistically more likely than others to undertake water saving practices (turn off the tap while cleaning teeth, only wash clothes with a full load, avoid the tap running while washing dishes, reduce the length or number of showers, reduce toilet flushes) inside the house. (The first three of the above practices were adopted by a majority of all households in the survey; the latter two were a minority concern.)

The implications of Moy's work are yet to be fully worked through, but it is clear that no technological solution – even a low tech one - provides a straightforward fix. Rainwater tanks do not achieve water savings in and of themselves, but rather become entangled with social practices and bundles of meaning in assemblages that can both increase and decrease water consumption. The challenge is to get all components of those assemblages ratcheting in the same direction rather than rubbing against each other (Shove 2003). It is worth remembering also that even the 'no-tech' tool of stringent water restrictions – apparently quite effective in driving behavioural change – requires a technological regime of public education and compliance to hold it in place.

Inside vs outside

Taken together, this body of research shows that we have made significant, albeit neither universal nor irrevocable, shifts in our outdoor water use. The inside of the home remains a frontier to be conquered for water conservation. There are several things going on here. Outdoor water use is relatively public, amenable to surveillance by both government officials and neighbours, and an obvious first step in terms of restrictions. But also implicit in the lack of restrictions inside the house is the idea that water for cooking, washing and cleaning of humans and their stuff is more essential than water for the nonhuman life forms of the garden, notably plants. This assumed hierarchy of needs was contested by some garden lovers who thought that everyone should get a 'ration' to use as they saw fit. The ration-type campaigns in Melbourne and Brisbane, which focused on per capita consumption, were among the most effective water conservation strategies of the drought.

Maria Kaïka (2005) has argued, using the example of water, that the modern home is constructed discursively and materially as a pure space, distant from nature. Hence the pipes and the infrastructure of supply and of waste disposal are hidden from the householder, at least until something goes wrong. The example of people's interaction with their gardens disrupts this view in several ways. The strong desire to maintain gardens, and the associated labour of water collection, recycling and redistribution, is indicative of a lifeworld consciousness (Allon and Sofoulis 2006) extending well beyond the human and particularly towards favoured plants. Those plants exerted agency in the exchange by making visible to humans their desperate need for water. They wilted, dried up and died. Muir and I argued that 'it is in the relationship between house and garden that people see, understand and participate in the network of water storage and distribution. Their active engagement with these processes enhances their capacity to manage and reduce consumption' (Head and Muir 2007a: 902). Further, and in contrast to Kaïka, they were prepared to tolerate 'bad' or 'dirty' nature, within certain limits. The bucket in the shower catches and holds (soapy) bodily wastes rather than insisting they be immediately expunged from the house. Used washing machine water, also containing bodily wastes, goes on to sites of food production. Basins containing dirt washed from vegetables and hands are allowed to sit beside the sink until someone is free to empty them on the garden. (Head and Muir 2007a: 901)

Moy, however, unearthed considerable resistance to taking dirt in the other direction, i.e. bringing tank water inside the home. A number of her interviewees thought tank water was 'dirty', or at least of lesser quality than mains water, and unsuitable for use inside the house (see also Po et al. 2004). She argues 'that 'dirty water' is only tolerated if its reuse is outdoors. Much greater resistance is met at the prospect of bringing water from outside into the home' (Moy 2012, p. 214). This partly explained why only 5 percent of tank households had indoor connections, to toilets, washing machines or elsewhere.

Inside the house we encounter norms of cleanliness, for both human bodies and their clothes, which are embedding increasing levels of water consumption in the bathroom and laundry (Shove 2003, Troy et al. 2005, Allon and Sofoulis 2006, Davison 2008). One example is provided by teenagers who may have four changes of clothing a day: for exercise, university, part-time job, and going out at night (Sofoulis 2005). The particular dirt of each context, for example the sweat of sport, has to be removed by washing from both bodies and clothes. And guess who by? The mother in that research case reported doing four loads of washing a day. There is no problem waiting for a full load in

households with such high throughput of washing. More than one shower per day is not uncommon among young adults with active and complex lives (see also Shove 2003).

We can cope with scarcity and simplicity – can we cope with variability and complexity?

If we are going to depend on the dry continent rhetoric to mobilise the populace during droughts, we need to acknowledge the wet continent when it is wet. There are strengths and weaknesses in promoting too close a correlation here. People see the connection to water, and respond to it, but they do not so easily notice the environmental costs of the underlying infrastructure, for example the electricity needed to pump it around, which remain high during wet periods. Water supply is not just about water. Yet if adaptive management means responding flexibly to scarcity, it surely also means savouring abundance when it occurs, as long as that does not lock in interactions between behaviour and technology that are difficult to undo later.

The complexity identified in social science research is often considered a problem by decision-makers who want a simple answer to the question, ‘what do I do on Monday?’ (Sofoulis 2010). It also provides a ‘yes and no’ answer to the question in the title of this paper. Yes, many things have changed, but unevenly across households. No, we’re not sure how deeply embedded any of those changes are. And there are many axes of diversity within our urban populations. Yet that complexity and diversity is also a resource; it helps imagine alternatives, and identifies different adaptive capacities than might otherwise have been considered. People who have grown up under regimes of water scarcity, for example overseas, or in rural areas, and older people with a well-entrenched ethic of frugality and not wasting, have considerable adaptive capacity when it comes to water. This contrasts with the view that the more socially vulnerable have the least resilience and capacity to change. In contrast, generations who have grown up with water abundance and social norms of ever-increasing cleanliness, are likely to find it much harder to change.

Notes

1. Note however that the fieldwork for this project was undertaken at the beginning of the drought years (2001-02), so it would be interesting to examine consumption figures for the following decade.
2. It is possible that these assumptions are wrong. They seem to be based on projections of theoretical behaviour rather than actual consumption patterns.

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