

Sydney Water Contamination Crisis: Manufacturing Dissent
By Lyn Carson and Stuart White

The widely publicised contamination of Sydney's water supply in July 1998 felt like a crisis to affected Sydney residents but the rhetoric did not match the reality. We are interested in the way our reality is constructed, the way we manufacture consent or dissent, the way in which some knowledge is privileged and the way that power is attached to this knowledge. The Sydney Water Contamination Crisis sparked our interest because it proved to be an excellent event to watch: we could daily track the construction of 'truth', the attempts to unravel the construction of 'truth', the attempts to unravel or deconstruct this 'truth'. It was also a fascinating study in paternalism and an example of public exclusion from the decision-making process. We speculate on some alternative decision-making approaches which might help us avoid a recurrence of the Sydney case study.

We begin to write this on what we will call Day Seven of the crisis. We count as Day One the Wednesday (29 July) on which some Sydneysiders were first warned not to drink their tap water without boiling it first for at least one minute. Residents in a localised area were advised that parasitic contamination was apparent and a health risk existed. We were sceptical. We understood the difficulty of testing for giardia and cryptosporidium. We knew that they were always present in the water. We wanted to know the levels which had been discovered. We also knew that there is an absence of published safe levels for either of these two parasites. It seems like an over-reaction by an overly cautious public authority so we continued to drink the water.

By Day Three the affected areas had grown in number. One of our colleagues who had been to a medico two days previously with a stomach pain which was diagnosed as gastritis returned to the doctor. She tells the doctor that she had 'had giardia' before and the symptoms are similar. The doctor asks about her symptoms: diarrhoea? bloated stomach? wind pain? stomach spasms after eating? He feels her stomach, states she has giardiasis. No test is carried out. There is a one- to three-week incubation period for giardia. Sydney Water later reports that the health warning was issued within days of the test which indicated an unacceptable level.

On Day Four one of us hears students in the corridors excitedly talking about the water scare. Every shop we enter is filled with conversation about it. Sydney Water is loudly condemned. The Sydney Morning Herald (31 July 1998) prints a graphic coloured photo, a magnified view of giardia lamblia in a human small intestine. The huge headline above it reads CONTAMINATION. A sub-head reads "A taste of the Third World" and the first line states that "Sydney woke yesterday morning and found itself in the Third World". We are having difficulty with the analogy between awful deaths through cholera in developing countries and the low levels of giardia and cryptosporidium that seem to be the basis for the warnings.

One of the authors was once been a local government elected representative and both have a keen interest in all things political, particularly those which relate to public policy. Lyn Carson teaches

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politics and sociology; Stuart White is a research fellow in water efficiency and sustainability issues. We have both been representatives on the EPA's State Consultation Forum and explored issues of public health. We know or know of many of the people involved in this 'crisis'.

We begin to take a particular interest in it and are increasingly absorbed in the personalities, agendas, complexities, emotions of it all. We begin to track 'the truth'. Throughout it all, we are mindful of the way in which certain knowledge is being privileged, particularly some of the scientific knowledge. We are also aware of the tendency to apportion blame.

Scientists and technologists

We know that the presence of *giardia* and *cryptosporidium* in water is extraordinarily difficult to avoid. Detection is not so difficult if experts set out to find it but it can be like looking for a needle in a haystack. Not finding it does not mean it's not there. Finding it does not mean it is infective. This no doubt explains the absence of any published 'safe' levels: for example the 1996 Australian Drinking Water Guidelines do not include a recommended level for *giardia* cysts in water. Indeed the Australian Water and Wastewater Association refers to medical studies which suggest that one would need to swallow several thousand viable cysts to show symptoms.

By Day Four we are perplexed about the silence in relation to this. How has the contamination been determined? We can find nothing written about it through the media. Are we expected to just accept that the chaps who are interviewed are acting in my best interests? We want some 'facts' but they are glaringly absent.

The Health Department, Sydney Water, the Premier, the Minister must know more than we do because they all keep urging us to boil, boil, boil. Scientists apparently have even more knowledge. Their opinions are finally reported widely about safe levels. On Day Five, Dr Tony Priestley of the CSIRO (Commonwealth Scientific and Industrial Research Organisation) is reported as saying that 10 to 20 oocysts of *cryptosporidium* per 100 litres of water is 'normal', 100 oocysts per 100 litres "would make someone sick" (Clennel, 1998). Reported levels are below those at which US water authorities are required to issue boil water notices.

Microbiologists from three universities (Sydney, NSW and Macquarie) are called in by the NSW Government to review Sydney Water's tests. It seems that Sydney Water is no longer to be trusted. The Health Department is to give the 'all clear' only when the panel of experts says so. We are now in the hands of experts who are even more expert than the ones we formerly thought were running the show. Not all scientists agree on the seriousness of the problem. Dr Paul Prociv, parasitologist at the University of Queensland states (Prociv, 1998):

In summary, the water tests used provide results that cannot be interpreted meaningfully and the incriminated organisms (*giardia* and *cryptosporidium*), far from being new 'killer bugs', have been around for millions of years, are found in all human populations and use other transmissions routes that are far more reliable than reticulated water supplies.

At least one version of the history of the 'crisis' is eventually reported. Documented is the one isolated test showing levels which might make us sick; there is information about the original test sites as well as

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a few theories of contamination. A long-serving Sydney Water staff member with experience of a similar episode is reported as having an explanation for such a one-off localised event and his/her 'surge theory' is used to counter the isolated incident. She/he is not named (Beale, 1998a). Perhaps this person is not an 'expert'. We keep scouring the papers. Surely there has been more than one test at one site which is reported as having levels that might be considered above normal?

Politicians

We live in a representative democracy with elected politicians representing our interests. They tread a tight rope in our system because they want to be re-elected. Unfortunately, politicians can begin to enjoy their highly-paid careers and wish to cling to them, no matter how altruistic their original motivations for seeking office. Therefore, they must be seen to be operating at all times in our interests and preserving our quality of life.

New South Wales Premier Bob Carr inherited a corporatised water utility when he came to power in 1995, forming a Labor Government. Five of his Ministers are the only shareholders in the corporation known as Sydney Water. Craig Knowles, Minister for Urban Affairs and Planning is responsible for Sydney Water. He, like Carr, becomes a vocal critic of Sydney Water throughout the 'crisis'. The politicians say that heads will roll, just as soon as they find out who is responsible. Blame must be apportioned. If Sydney Water management is found to have acted irresponsibly they will pay the penalty.

Less is said about Australian Water Services, a partially foreign-owned company (an Australian-French consortium) which operates the treatment plant. These BOOs (builder-owner-operated plants) were again a legacy from a former government. The Coalition (Liberal-National Party) had been in power in 1994 when Paul Broad from the then Water Board enthusiastically embraced the corporate route. The new Sydney Water supported the idea of BOOs and signed the contracts for these private licensees amidst unprecedented secrecy of the conditions of contracts, contracts which did not require removal of these parasitic organisms. The Premier would clearly benefit by deflecting blame to his political rivals.

Carr declares that he wants the corporation—Sydney Water (which citizens actually own)—to compensate customers for the inconvenience suffered throughout the crisis (presumably for buying bottled water and boiling tap water). Carr's Government has just extracted Aus\$250 million in revenue from Sydney Water which was channelled back into consolidated revenue (Hogarth, 1998). This revenue potentially goes to all citizens. A similar amount is expected this year. It seems to us that if customers (those who pay water bills) are compensated, revenue is reduced and less finds its way back to citizens. It seems like an illogical suggestion.

Medical doctors

We are intrigued by the social construction of disease that is occurring. Our colleague's experience demonstrated the leap from a media report to a diagnosis without testing. As patients we have faith in our doctors. We defer to their greater knowledge. On this occasion it may have been ill-founded.

One of the key players in the crisis is Peter Macdonald, a medical practitioner now NSW Government elected representative, who was first embroiled in politics because of the ocean pollution issues in

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Manly where he practised as a GP (general practitioner). At a critical time, Macdonald found himself and two other Independents with the balance of power in Parliament. And was able to push for a Joint Select Committee Inquiry.

Sydney Water (formerly the Water Board) was his target. He wanted the catchment protected better and the pipes fixed (Joint Select Committee, 1994). Only then did he believe the problem would be fixed. This may not be true. On the North Coast (in our former local government electorate) there were examples of extremely well protected catchments still with evidence of *cryptosporidium*. Macdonald's strategies were largely ignored and alternatives were found to providing a safe water supply. Macdonald was easily inflamed during the 'crisis' perhaps because his previous solution had been ignored. Maybe he was being proved correct.

Bureaucrats

Chris Pollet, recently appointed Managing Director, of Sydney Water is in the firing line throughout the crisis [footnote 1]. There is no reporting of the tension between the regulated (Sydney Water) and the regulator (Department of Health). It seems to us that there must be considerable pressure on both to cover their 'butts'. Specific instructions are given to the general public about boiling water for more than a minute, allowing it to cool naturally, using it for drinking water, for teeth cleaning and so on.

We are recalling our own experience amongst the bureaucrats. Sydney Water is often portrayed by politicians, rival government departments and local government as an unwieldy organisation and it was generally disliked and criticised. Our own experience of staff members has been that they are ethical, caring people who take the calculation of risk extremely seriously.

We are aware that these staff members live with 'Milwaukee memory'—a defining moment for water supply operators. In an incident in Milwaukee in 1993 hundreds of thousands were infected by *cryptosporidium* and there were in excess of 100 deaths among people with immune deficiencies (McClennan, 1998). It was the worst epidemic of any water-borne disease in the USA (Beale, 1998b) and no water supply personnel wants to see the experience repeated.

Sydney Water is also on notice. Its operating licence is due for renewal in the next few years. The possibility exists that its operating licence will be given to a private operator, for example its rival, Australian Water Services, the company responsible for the treatment plant that is being reported as the site of contamination. Questions are raised about AWS's contract and the absence of any requirement to test for parasites. Sydney Water might wish to blame its future licensing rival and might also wish to compare the standards of privately-owned and publicly-owned plants.

It occurs to us that the State Government is 'milking' Sydney Water of its profits, then there is little in Sydney Water's kitty to attend to repairs of its ageing pipes and a clean-up of the water catchments. This 'crisis' will surely highlight that dilemma.

The Health Department has limited and dwindling resources and staff and its responsibilities are onerous; these include responsibility for air, water, lead, compost toilets and more. There is an historic antagonism with Sydney Water, a tension which we had often witnessed between regulators and those they regulate. Staff responsible for public health inevitably see themselves as 'white knights', the likely

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heroes in any public health 'crisis', ready no doubt to 'save' Sydney. The Health Department might have acted hastily but it too must be seen to be acting responsibly.

Media and social hysteria

The standard of media reporting is questionable. Semioticians would have a field day. Reports are heavy on language with connotations of war and civil unrest: an "all clear" will be given, the "crisis worsened dramatically", the "crisis grips Sydney", it's a "Watergate", "[p]eople reorganised their lives in defence against their newly discovered foes", the "crisis" "struck fear and loathing into the hearts of Sydneysiders".

Facts go by the wayside—corporatisation is used interchangeably with privatisation: "Did the problems of the recently corporatised Sydney Water have anything in common with similar problems experienced in Britain after its water authorities were privatised..?" (Stephens, 1998). Newspapers begin citing themselves in the absence of confirmation from Sydney Water representatives: "The *Herald* reported yesterday that Wednesday's tests showed ..." (Clennel, 1998).

It is clear why the media loves to fan the flames. Flame fanning helps to sell newspapers and improve listener and viewer ratings. Of course, it is also the media's responsibility to expose any cover up and to report the 'facts'. We are struggling to find the facts in the mire of innuendo and probability.

We are speculating about the issues that are not finding their way to the front page. The lively tax reform debate disappears. The lively tax reform disappears. Perhaps social hysteria is occurring, if there is such a thing. We read that Sydney Water workers are reported to have had rocks thrown at them while completing repairs in the inner west. This is alarming if true. We hear much ignorance exchanged on the issue from people whose concerns are palpable. All consider that Sydney Water is hopeless and should be held responsible.

We are becoming aware of the paternalism at work. We are being told what to do, and allusions are made to the need for public education yet there is such a frustrating lack of information. We continue to search for details of changes to levels but can find none. We wonder why we are not being trusted to make our own judgements on these safety issues.

A woman in the supermarket asks for a separate receipt for her bottled water; she is going to seek compensation. We note a newspaper advertisement from a law firm seeking litigants for a class action against Sydney Water. We regret this slide into a US environment of litigation. In Lyn Carson's time as an elected representative she became increasingly aware of the need to protect her Council from law suits and this was resulting in some awful decisions in local government (like not erecting children's play equipment).

Institutions became nervous through the 'crisis'—the Education Department was asking parents to send children to school with bottled water. Our respective universities covered water bubblers and issuing warnings, emailing instructions about microwaving water for cups of tea; a restaurant refused us tap water. Presumably as a citizen who shared in the ownership of Sydney Water we reaped the benefits as well as the disbenefits of this ownership. Maybe shared ownership of decision-making would make us all less litigious.

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There seemed to be a growing need to apportion blame. Sadly this had been manifested earlier throughout Australia in the rise of the One Nation Party which seemed dedicated to finding scapegoats. We speculated on this growing predisposition to blame others. We wondered whether polarisation between bureaucrats and politicians, and general public was becoming even more marked. There was a definite ‘them’ and ‘us’ occurring.

By Day Six we were being warned not to swallow beach, creek or harbour water. It seemed unlikely that Sydneysiders had taken to doing this *en masse*. Rumours abounded—might the manufacturers of bottled water be behind this? Life is beginning to assume the tone of high farce.

Capitalism and economic rationalism

The privately-owned treatment plant operator, Australian Water Services, was not in the firing line with Sydney Water. We wondered why this had become an exercise in bureaucrat bashing alone. What would have happened had the corporatised Sydney Water not publicly-owned with only ministerial shareholders? Surely the company’s board of directors would have been held accountable.

We noted that Sydney Water’s directors were not named or drawn into the controversy. The silence on this front seemed curious. The Chairman of Sydney Water is David Hill who had been recently pre-selected by the Labor Party for the federal seat of Hughes. This would mean his imminent resignation as Chairman. Presumably any public declaration of any connection (let alone responsibility) would not go down well in the Labor Party. Hill was seen as a prime candidate for election, a golden-haired boy, a political ally of Premier Carr. We waited for news of this. By Day Nine (Humphries and Doherty, 1998) it occurred, a cover up was reported, more dirt was flung and Hill made the front pages.

Under corporatisation, restructuring and downsizing had occurred. There were some possible analogies to be drawn between the recent New Zealand electricity crisis and this water ‘crisis’. In New Zealand, local knowledge had been lost through downsizing and the consequence was widespread blackouts. Certainly, this problem of organisational memory loss was occurring in Sydney Water; it was often difficult to find anyone with organisational history and this local, inside knowledge can be critical in an emergency situation. Local knowledge is no doubt also invaluable in the determination of what actually *is* an emergency situation.

Environmental

There might be more risk attached to boiling water than drinking it. One could not help speculating about the possible incidence of scalding with the constant call to boil, boil, boil. We reckoned there was a greater likelihood of burns than infections. No doubt all this boiling of drinking water for humans and pets was also increasing our greenhouse emissions which are currently at internationally embarrassing levels. In one news item householders were urged to increase the temperature of hot water system thermostats—a move with serious consequences for increased energy and greenhouse gas emissions.

The lack of comparisons between drinking water and the air we breathe struck us as interesting. We drink maybe one kilogram of water yet we breathe in ten kilograms of air per day. Why did the media not expose the dangers of the higher risks associated with air quality? Poor air quality suppresses our

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immune systems, gives us cancer, causes respiratory problems. No comparisons were offered. We wondered why this knowledge was not privileged.

It seemed quite foolish to us that billions of dollars were being spent to purify an entire water system when we drink only 0.1% of it. The 99.9% of water that was being treated was being used on gardens or in industry of flushing toilets or being boiled anyway. Was this unnecessary purification just a dreadful waste of public funds? Facts about the percentage of treated water used for drinking purposes seemed not to rate, yet facts expounded by microbiologists did. Why were we not discussing the foolishness of so much unnecessary treatment?

Why does the Health Department in New South Wales view potable reuse (reclamation of wastewater to drinking quality) with such disfavour, despite the fact that it would result in levels of *giardia* or *cryptosporidium* that are beneath anything likely to be reached by the best that Sydney Water can currently do with water from dams? There seem to be two sets of standards. Reused water with 1 parasite per 50 litres cannot even be used to flush a toilet, yet this is cleaner than dam-treated water.

Why did the media raise the reuse issue only hysterically—as plans that Sydney Water had for the future? It was portrayed as an extraordinarily stupid consideration which would put us in an even worse crisis than the current one. No evidence was offered.

Some critics argued at the time of the Select Committee Inquiry into the Water Board that there should be privately located systems works in individual homes. Perhaps this would have been a cheaper and more effective option. Others called for rainwater tanks to solve potential problems with contaminated water even though *giardia* and *cryptosporidium* are likely to be found in these too.

Ethics

The need for high standards in public health is uppermost. The hazard is greater to those in the community who are immune-compromised; the most vulnerable must be protected.

A community consensus exists on this. It is clearly important to ensure safety. It is not something to trifle with. The Milwaukee experience mentioned above exemplified this (assuming it was an accurate portrayal of events). However, it is not possible to guarantee public safety. There are always risks and compromises must be found. It is said that risk equals hazard plus outrage. Bureaucrats and government have to weigh up the two although it is arguable whether the decision-making should, or should not, be in their hands alone.

Protection can lead to paternalism and paternalism was being practised by all the key players. Why did it take so long to give us levels, and even then one had to search to find them? Surely citizens were entitled to explanations, for example, that there was a big difference between one organism per 100 litres and 200 organisms per 100 litres. There was no correlation made between the number of organisms and the possibility of illness or death. There were certainly no comparisons made about the risk of drinking water or breathing air or driving a car. People were therefore unable to judge the risk for themselves.

Why were not Bombay or British levels used as comparisons? If a difficulty existed in establishing standards, this could have been exposed. Why are we so enamoured with the experts' ability to make decisions which involve more than technical expertise? Community members could have been

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involved in weighing up the excessively high cost of even more thorough treatment against the slight risk of contamination. It is always possible for contamination to occur through the pipes; we have an old distribution system so the best treatment will not solve this.

Conclusion

This was not a health crisis at all [footnote 2]. It was a crisis of decision-making. It was an episode which showed many instances of the manufacturing of dissent, many instances of blame being apportioned, many instances of deferring to the expert. It was a failure of expert knowledge in a political environment. The decisions were not dependent on scientific expertise but rather the weighing up of hazard and outrage (Sandman, 1992).

Paternalism works both ways. As citizens we can fall in, childlike, behind certain experts. We want to be told what to do, then pass these instructions onto others. A colleague found herself warning someone at a water bubbler to not let his child drink the water, yet this colleague harboured doubts about the veracity of media reports. Mind you, we do a great job of self-surveillance without having others do it for us.

No community consultation has occurred which might allow Sydneysiders to determine the type of water quality which is acceptable to them; nobody has asked what they might be prepared to pay to achieve that quality. Australia has no tradition of community involvement in decision-making in areas of high risk, technology assessment or perplexing ethics. When we do involve the public, it is often done in a token way. It is possible for rich public debate to occur—our recent Constitutional Convention (Manne, 1998) gave us a taste of these possibilities.

How will we tackle the big issues that will confront us inevitably in the future? How will we deal with our first genetically engineered human if we are unable as a community to resolve issues of public health and public expenditure? The Sydney Water Contamination Crisis was a very good example of the importance of the general public being responsible for calculating its own levels of acceptable risk (Garrett, 1994).

Gaven McDonnell writes about a similar episode in Australia, that of “intractable waste”, and notes that crises of public confidence can occur in relation to technological decisions which have environmental implications. The Sydney Water crisis could surely be interpreted as a crisis of public confidence. McDonnell speaks of “splicing of knowledge and trust” (McDonnell, 1997) as primary ingredients in the societal management of risk and uncertainty, as a means of instilling confidence. How might we cultivate this important ingredient of trust?

The USA, Germany and Britain are just a few of the countries that have completed successful projects which tackled complex technological or public health matters with the assistance of a randomly selected public, using citizens panels (Crosby *et al*, 1986), policy juries (Coote and Lenaghan, 1997) or planning cells (Dienel and Renn, 1995). It can be done well.

Denmark's Parliament has acknowledged that whether or not a risk is significant is a political question; it has therefore developed procedures to build a broad-based community consensus on quite complex issues which would be considered the domain of scientific experts in other countries. For example, the Danish's Board of Technology devised a system of consensus conferences to involve the

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general public in decisions on gene technology, food irradiation, air pollution and so on (Kluver, 1995). Participants' recommendations are passed on to political decision-makers, who act in the knowledge that the community has made its own judgement on significant issues of public health, having heard all of the evidence from scientists, environmentalists, ethicists and so on.

If we are to avoid public unease and the uncertainty which arises from ignorance, if openness and transparency are seen as important and if value-oriented considerations are thought to be more appropriately and firmly placed in the public domain, then we have much to learn from these overseas experiences.

Notes

1. Chris Pollet announced his resignation on 19 August 1998. The Leader of the Opposition, Peter Collins, stated on ABC Radio (20 August) that "more scalps" were needed before he would be satisfied.
2. Some weeks later, levels of 50 *cryptosporidium* oocysts and 22 *giardia* cysts per 100 litres were reported. There were no crisis headlines, no hysteria, no advice to boil the water. Sydney was later instructed to boil its water until further notice. There has been no increase in reported medical cases attributable to the contamination. The story continues.

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