Can Groundwater Speak? Fictional Voices of Non-Human Entities.
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Abstract:
The vulnerability and loss of groundwater in areas of Australia and worldwide, due to climate change is, in the main, overlooked in fiction. Critical perceptions of the trap of anthropomorphism limit fiction writers’ expressions of the agency of non-human entities. The paper examines human connections with non-living ‘things’, particularly water, in the context of the Anthropocene. New Materialist perspectives support claims for an agential voice for groundwater. Building on the work of Deborah Bird Rose (2004 and 2014) and Jane Bennett’s *Vibrant Matter* (2010) the paper argues that inanimate entities can be given ‘voice’ when we escape the confines of Western rationalist traditions, and ‘hear’ the expressions of those non-human entities and beings we live with and rely upon. The paper explores how fiction represents human responses to threats to water supply. Analysing examples from Australian fiction, and building from my creative practice as a fiction writer, this paper illustrates fiction writers’ capacities to write activist stories that give expression to the ‘agential assemblages of things’ (Bennett 2010) particularly water bodies, against the backdrop of the effects of climate change.

Introduction:
Many rural Australian towns rely on underground aquifers for much of their water supply, pumped from up to several thousand metres below the surface. It’s shandied with its cousin – surface water – sent into the reticulation system, from where thousands of Australians drink and wash in it. Thousands of agricultural and urban businesses rely on groundwater daily.
Vulnerability and depletion of groundwater reserves in areas of Australia due to climate change is, in the main, overlooked in fiction. Human relationships with non-human entities, in particular water, are quickly emerging as a field of interest in cultural theory. Relationships with ‘things’ are usefully explained by New Materialist perspectives, which claim an agential voice for ‘things’. Inanimate entities can be given ‘voice’ when we escape the confines of Western rationalist and Cartesian traditions, to hear and make expressions of those non-human entities and beings we live with and rely upon. By occupying the blurred spaces between human and non-
human entities, fiction writing creates the potential to expand understandings of agency and resistance. How creative writers express agency of non-living ‘things’ is under investigation in this paper. Starting with my creative practice as a fiction writer and analysing examples from Australian literature, I build social, political and artistic understandings of human responses to threats to water supply.

As a writer and a researcher, I begin by asking why fiction writers might give expression or voice to non-living entities, and how this “voice” might be represented in a way that acknowledges water’s agency, its responses to human interferences. I am wary of the distortions that often occur when writers attempt language that speaks for ‘others’, representing ‘other’ humans or more-than-human lives and entities from an anthropocentric perspective. Water represents a site where humans are having not so much a dialogue, rather we are Dancing with Disaster (2015), as Kate Rigby titles her recent book. The impacts of ignoring water are potentially devastating. By writing fiction that focuses on water scarcity as a result of climate change I join the discourse that embeds water conservation into Australian dialogues.

Fiction writers’ capacities to write activist stories against the backdrop of the effects of climate change in the context of the Anthropocene, and to write stories that give expression to the ‘agential assemblages of things’ (Bennett, 2010), are becoming known as cli-fi, or climate fiction. In this paper I introduce preliminary principles of groundwater in an Australian context. I draw together ideas from select cultural theorists and the fiction writers that inspire my creative fiction. I intersperse the paper with examples of my creative writing practice to illustrate expressions of groundwater’s voices.

Groundwater Basics
The science to groundwater, known as hydrology or hydro-geology, endeavours to measure the qualities of and understand movement of this enormous ‘resource’, for groundwater is predominantly seen as a natural resource – something for humans to
access, manage and use for our benefit. Groundwater is represented in science by simplistic line drawings, occasionally expanded to 3D illustrations.

Source: www.ecy.wa.gov

Water moves through underground aquifers and streams from depths of perhaps one metre to up to approximately fifty kilometres deep in the earth’s crust. Groundwater's age, taken from when it enters its underworld domain, can vary from a day, to a month, to many thousands of years old, by which time it is usually saline, having absorbed minerals from its earthly passages. Groundwater is an essential, but less obvious player in the global water cycle. Rain soaks into the crust's surface, seeping through permeable layers of soil and rock until it reaches and is held by impermeable bedrock.

Groundwater re-appears at the surface in many ways, according to where the water table sits – these include springs, or soaks, mound springs, hanging swamps and through the base of creeks, streams and river beds. Groundwater has been dug, bored for and piped by humans for many millennia - ancient Mesopotamians, the Aztecs and Romans were famous for moving groundwater. Wells appear in many
biblical stories, and ancient indigenous cultures tell mythic stories worldwide of the creative and destructive forces of groundwater.

Influenced by Orhan Pamuk’s expression of the colour red, written in the first person voice in his novel *My Name is Red* (1998) and Les Murray’s poem “The Cows on Killing Day” (2007) where he writes of the slaughter of a cow in her herd as plural, excerpts of my fictional expression of groundwater follow.

**Groundwater Speaks 1**

“In the beginning, in ancient deep, deep time, we were voices, murmuring, stuttering, whispering. My ancients were an early part of the chorus. Footfall above followed our traces, seeking survival, through deep rift valleys, across deserts. Perhaps they heard rocks groan and growl as we passed, fathoms below. They fossicked, they found us, sipped from our springs. What happened to these humble scratchers? We knew them.”

As recently as November 2015, an international group of hydro-geologists published the first global maps and estimates of ground water supplies worldwide. This international study confirmed that globally humans are using groundwater faster than aquifers are being re-charged. The study also shows that “less than six per cent of groundwater in the upper two kilometres of the Earth's landmass is renewable within a human lifetime” (http://phys.org/news/2015-11-earth-hidden-groundwater.html Accessed 17 March 2016). Hydrogeology is an inexact science with, as we could expect with water, many blurred edges. Only some aquifers have large and healthy re-charge zones and permeable flow paths, and are keeping up with increasing ‘discharge’ demands of:

1. The environments and ecosystems supported by groundwater through interactions with streams, rivers, swamps, and large deep rooted trees, and
2. The increasing human use of groundwater for crop irrigation, industry and stock & domestic use.
As drought periods increase in many Australian locations, aquifer re-charge diminishes. Human uses of groundwater are becoming more driven by profit motives, and the risks of depletion or loss of groundwater through contamination is increasing. There’s potential for storytelling. By bringing science knowledge and fiction together the voices around groundwater’s vulnerability may be more widely heard. Fiction enables such stories to be expressed in ways that are limited in scientific discourse. This scenario raises specific challenges for me as a fiction writer, including how to express the vulnerability of water sources due to the effects of population increases and climate change without falling into didacticism. How can fiction writers represent or give expression to non-human beings and entities, particularly groundwater’s agential capacity?

**Water Sites**

I start to address these challenges by examining water sites, the places where humans and water meet. Water sites are, as Rose explains, at the same time cultural sites and natural sites (Rose 2014). They dispel the artificial divide, the myth of difference, between nature and culture. They are places where an eco-cultural dialectic can be merged, says Strang, in *Thinking With Water* (2013). There are infinite places where water and people meet. We may think first of taps, wells, the glasses or bottles we hold to our mouths, the oceans we sail over or plunge into, the rivers we dam and fish, the dewy, hydrogenous plants we chew, made mushy by our own liquid saliva. We soon reach our cells, the watery membranes that make us. Paradoxically, the skin that holds us watertight is itself made of watery cells.

In my efforts to find language-based expressions with and around water, I draw partially on hydrological knowledge to give me words in this conversation. In addition I read non-fiction, such as Rachel Carson’s iconic *Silent Spring* (1962, Re-print 2002.) and Michael Cathcart’s *The Water Dreamers* (2009). More foundationally I look to philosophy, and listen for signs of water’s cultural and social significance. I use an epistemological viewpoint, as proposed by Australian eco-philosopher, Freya Matthews in her article ‘Thinking from Within the Calyx of Nature’ (2008). Here she argues that humans can know and develop a moral ethic towards more-than-human
entities when they become engaged in synergistic relations. Such a viewpoint is not confined by Western rationalist traditions that have traditionally separated humans from the exterior objects they have tried to ‘measure’. We cannot divorce ourselves from water: humans are comprised of 60% water. Our brains and hearts are over 70% water, our lungs are over 80% water. Water is our lifeblood. Why do we forget this? How might fiction open human consciousness to water, keep alive imaginations of our inter-dependence with water? Can a work of fiction remind us of our connections to water?

Groundwater Speaks 2:

“We move slowly through grinding crust’s cracks and pores. We cry an array of symphonies, forms as varied as those composed by whales. There is not only one tune we sing. It does not reach human hearing, in the sound waves sense, more like perceptions. You water dowsers, diviners, probe our presence with pieces of wire, sticks, or the tingling skin of your hands. Something extrasensory. We move quietly but our magnetism escapes, for those who feel our presence, for your machines who read it. Search our imperceptible tones, go on. Find the places to prick us, to bleed us dry.”

Ways of Knowing and Being Water

How we understand “things” in the age of the Anthropocene is increasingly under scrutiny. Particularly in the context of increasing human impact on planetary ecosystems and climatic patterns, a swelling tide of thinkers and writers are making a positive impact on relationships between human and more-than-human beings and entities.

Gaston Bachelard’s (2006) phenomenological insights in “Poetics of Water” describe water as, ‘the most receptive of the elements’ invoking emotion and imagination, calling me to dream-like spaces (Cohen 2015, p. 311). New Materialist perspectives
support claims for an agential voice for groundwater. This approach opens the possibility of taking account of the meaning of matter from both scientific and cultural viewpoints. Interdisciplinary attempts to represent the material reality and literary potency of ‘things’ become important. Post-structuralist viewpoints, which focus attention on the effects of power relations, language, discourse, culture and values, have relevance but may, according to a New Materialist viewpoint, limit attempts to represent the material reality and literary potency of ‘things’. Coole and Frost, in their text, *New Materialisms: Ontology, Agency and Politics* (2010), argue that we have perhaps, lost sight of matter itself, and its capacities, not just of being, but of acting in a material world (Coole & Frost 2010, p. 3).

As a way to understand the ‘becoming’ nature of matter Karen Barad states, ‘ontological indeterminacy, a radical openness, an infinity of possibilities, is at the core of mattering’ (Barad 2015, p. 401). Barad’s ‘transverse practices’, provide useful foundations for artistic expressions of ‘matter’ previously expressed only in scientific terms. Similarly Stacie Alaimo’s notion of ‘Trans-corporeality’, provides a place to write meaningfully with the processes of non-living matter. She places humans as ‘substantially and perpetually interconnected with the flows of substances and the agencies of environments,’ (Alaimo 2012, p. 476). This is a basis for writing fiction that draws upon these interconnected flows.

Human beings and more-than-human matter can be perceived on the same continuum: different, but subject to the same ways of becoming/being. This breaks the previously dominant pattern that holds humans as souled and sentient, separate from the non-human world, and inherently able to control and dominate it (Coole & Frost 2010, p. 8). Writing fiction where the non-human world has assumed agency and capacity for expression is based on these philosophical insights.

In his introduction to *Shock of Thought: Expressions after Deleuze and Guattari* (2001), Massumi discusses a theory of expression, describing expression as an event, an emergent composing force (Massumi 2001, p. xvii). Massumi extolls the perspective illuminated by Deleuze and Guattari, that we can know the world through
its expressions (Massumi 2001). It is this knowing of the material world of water that I seek through fiction writing.

Jane Bennett, in *Vibrant Matter* (Bennett 2010) also argues for the agential potency of ‘things’. This perspective opens up possibilities of writing expressions of water in ways that subvert the dominant, human “I” of the Anthropocene (Bennett 2010, pp. 121-2). Water responds to human interferences – floods, droughts, shrinking aquifers, rising and lowering water tables. The question I ask as a fiction writer, which is unlike a question science could ask is - are we listening? How can we express water’s responses?

If ‘forces, energies and intensities’ (Coole & Frost 2010, p. 13) are the language in New Materialist viewpoints, what are the affects of such perspectives on the representations or expressions a writer may give to groundwater and to the human characters who experience it in their lives? It is such self-organising properties of water that I seek to express in a creative form. Guattari’s ‘ethico-political articulations – ecosophy – between the three ecological registers (the environment, social relations and human subjectivity)’ gives a similar perspective to dealing with threats and transformations on planet earth and provides another avenue into writing practice (Guattari 2000, p. 28). The political and agential qualities of matter that emerge from this perspective are usefully explored through narrative fictions. Another avenue for fiction writers to utilise is the proliferation of new biological and environmental information, which opens questions of the nature of matter and human beings’ relations to the slippery slide of what constitutes ‘things’ in the material world. It is not only the language of hydro-geology that populates my work. Chemistry teaches us that water is not simply H2O in stasis. The are H3 molecules and separate Hydrogen and Oxygen atoms floating, merging, becoming H2O, splitting, and becoming H2O again. Water is itself ‘matter’ constantly in the state of becoming.

So where is ‘water’ in Australian public dialogues? An equitable exchange, a respectful conversation that binds humans and their watery environments is, dare I
say, ‘amoebic’ in Australia. Government departments are drafting numerous water management plans, climate change strategies and reports about the critical role of groundwater. For example the recently released *Water for Victoria: Discussion Paper* released by the Victorian Department of Environment, Land, Water and Planning (2016) names the conundrums of increasing demands on water supply by humans in the context of climate change. Human water consumption remains the priority. In order for water’s voice to be represented in public discourse, it is usefully mediated through artistic expression, and here I argue, specifically through fictional discourse. Fiction’s place in public dialogue, fiction that explores and expands the potency of water sites, is potentially a dialogue where water is able to ‘speak’ for itself. In fiction this is achieved through use of the tools of characterisation, establishment of place and time in the narrative, and metaphor. To create a widely accessible, imaginative narrative, writers will need polyphonic voices to express the many sites, perspectives and expressions of water.

Deborah Bird Rose writes that;
In Australia, water has many voices; there is heteroglossia to the max: the butterflies, the women who dance them and the men who sing them; pelicans who arrive in the tens of thousands, and the people who sing their stories. All creatures, from frogs to birds to crayfish and brightly shining flowers sing up or announce their presence, testifying both to themselves and to the water that brought them forth. Water’s entwined and multifarious voices are iridescent with presence and connectivity (Rose 2014, p. 442).

It is this polyphony that creative fiction explores. Bauer and McKinstry (1991) build on Bakhtin’s view that a novel is necessarily ‘double-voiced’ and built on ‘dialogism’, and argue that this perspective is a useful strategy for feminist novelists. Voices of human and non-human characters can create a polyphony of perspectives, and highlight the importance of affect in developing an environmental politics concerned with water.
Fictional and Poetic Expressions of Water/s

Building from this theoretical base, I next look to contemporary poetry and fiction to examine how writers have addressed the place of water in Australian contexts. I take my gaze underground, to explore how writers and poets, are interacting with water. I here discuss a small selection of writers who contribute to a dialogue with water. Elizabeth Jolley’s novel, *The Well* (1986), has two sentences that link groundwater to the well, around which the story hovers.

‘In the distance she saw the line of trees which, her father always said, must thrive on an underground water supply, and which marked the furthest end of what used to be her property and where the dog-leg was. Seeing the trees even though they were a long way off reassured her’ (Jolley 1986, p. 146).

The well in the backyard of the rural homestead is where Jolley’s protagonists, Hester and Katherine, dump the body of the ambiguous creature/human, and from where the young and vulnerable Katherine hears voices of the supposedly dead man/creature. Groundwater is presented as both a source of life and death, and given indirect expression in Jolley’s narrative.

Several other contemporary Australian fiction writers explore the effects of climate change. For example, Alice Robinson’s *Anchor Point* (2015), Christie Neiman’s young adult novel, *As Stars Fall* (2014) and Alex Wright’s *The Swan Book* (2013). The recent novel by Anson Cameron, *The Last Pulse* (2014), is a rollicking tale of man who bombs an enormous dam in Queensland, on a thinly disguised Cubbie Station, as a way to address the loss of water from the Darling River reaching South Australia. This portrayal of a water activist is Anson’s response to the bluntness of government water policy and the hegemony of operators of the ‘fictionalised’ Cubbie Station, a mega-agricultural corporation growing cotton in semi-arid land, reliant on irrigation. Strang in *Thinking With Water* (2013) reminds readers that who controls water, controls wealth, and even democratic rights. Cameron fictionalises this idea to good effect in *The Last Pulse* (2014).
The recent Australian film *The Water Diviner* – actor, Russel Crow’s directional debut - gives credence to the ancient skill of dowsing for underground waters, and shows the importance of groundwater to struggling early 20th century farmers. The book (2014) and the movie, (the book was written after the screen-play, by the film producers Andrew and Meaghan Wilson-Anastosios), focus attention on the grief of a bereaved father, and the conundrums of the ANZAC war in Turkey. Respect for the sensitivity of the water diviner in finding stories of his lost sons takes precedence. Water itself is a minor player.

Alexis Wright’s two outstanding novels, *Carpentaria* (2006) and *The Swan Book* (2013) evoke mythic powers of surface waters. In *The Swan Book* (2013) The Swamp is an indigenous meeting place set in the years approaching 2088. Albeit degraded and rotting, as a consequence of old pollution and drought, it’s a nesting place for swans, a gathering of human and non-human survivors. Wright’s indigenous protagonist, the mute Oblivia Ethyline, moves through a future world of Australian politics and dystopian effects of environmental disaster. Wright gives characters mythic connections to oceanic, watery worlds and through them we hear the murmurings of time. Wright’s work indirectly addresses water’s potency, ascribing it politics and place in her writing.

Indigenous voices have spoken groundwater stories across many millenniums. Australian indigenous people have a long-standing relationship with water and groundwater. Fighting for recognition of the concepts of ‘cultural water’ and ‘cultural flow’ is an important indigenous strategy, which acknowledges inherent connections to land and waterways, argues indigenous hydrologist, Bradley Moggridge (2010). Indigenous stories of groundwater vary widely, from those where tears of grief became springs, to those where the rainbow serpent brings life and nourishment to country by making groundwater accessible. Such stories are rich in dialogue with land and water.

Taking a colonialist perspective, Banjo Patterson’s poem, ‘Song of the Artesian Water’, is set amidst effects of drought and human desperation to reach artesian
waters. Written in 1896 the poem tells of a shattering bore drill, 1,000, 3,000, 4,000 feet below. It gives dramatic descriptions of seeking water ‘from the devil’, ‘deeper down’. Patterson knows of the conundrums and symbolism inherent in groundwater in his words:

‘Sinking down, deeper down,
Oh, we're going deeper down:
And it's time they heard us knocking on the roof of Satan's dwellin';
But we'll get artesian water if we cave the roof of hell in --
Oh! we'll get artesian water deeper down.’ (Patterson 1896)

Randolf Stow’s novel Tourmaline, (First in 1963, 1991) recounts the appearance of a water diviner in the near dead, end-of-the-road township, Tourmaline. The dowser, Michael Random, takes on Christ-like characteristics as he stirs the townsfolk to life, primarily through his capacity to divine for gold, rather than water. The protagonist holds forked wire trembling in his hands but is unable to bring water to Tourmaline before he disappears back into the Australian desert. The potential of water again speaks through its absence in this novel.

I look to France’s limestone country for an example of narrative fiction where groundwater ‘stars’. Marcel Pagnol’s novel, The Water of the Hills (1962) – the two-part saga of Jean de Florette and in Part 2, his daughter, Manon of the Springs – tells the tale of deception and greed for groundwater. Jean de Florette’s neighbour, Ugolin, the novel’s antagonist, secretly blocks their spring with concrete, with a view to forcing Jean away from the desired limestone land he’d inherited from his mother. Groundwater’s value and effect has front and centre stage as Ugolin’s plan unfolds. Without the spring Jean works himself to the grave, devastated by his failure to produce food on his arid plot. Through Manon’s discovery of the spring and its re-emergence years later, Ugolin’s deceit is revealed. Pascall describes the limestone springs in terms of their use for his human characters, as a scarce resource, with devastating impact in its absence.

Water disputes or ‘water wars’ are ageless and increasingly critical as water scarcity, water pollution and the impacts of population increases cross regional, state and
national borders. The silent place of water in these ‘wars’ means the debates or arguments, these battles for sustainable practices, for sustainable environments, are predominantly one way. Human need prevails. I seek to raise the prospect of a more two-way discussion – a dialogue with groundwater. As a writer my challenge is to learn the language, a way to write the murmurings of a silent underworld entity. Seeking new critical perspectives on voices of water, and drawing together themes from writers from diverse perspectives, contributes significantly to a new and emerging body of literature and literary and cultural theory in Australia that addresses concerns of climate change. Fictional and poetic portrayal of social responses to water scarcity in impoverished rural communities, and artistic expression or representations of water, contributes to a dialogue which addresses important environmental concerns.

**Groundwater Speaks 3**

“Deep, dark, slow, infinitesimally slow. We are liquid beneath earth’s surface, fluid-filled, saturating spaces, sometimes slurry. We flow through subterranean sands, gravels, between stones. Through sandstone we seep, slower than sleep, expanding life in the underworld. Deep, dark, underground dark.”

**Conclusion**

The endeavour to find the language of water takes me to politics as well as science and literature. It asks that water be conceived of a source and site of power. Gay Hawkins, has given consideration to water as a contested political site. In her analysis of bottled water, she states that ‘The bottling of water appears to disturb deeply held assumptions about the function of water in enabling human life: it foregrounds water's symbolic role in delimiting a space of the political beyond economic processes. In this sense, then, the performative agency of the bottle involves its capacity to prompt political questions about the relations between water, sociality, and life’ (Hawkins 2011, pp. 2001-2).
In a similar manner my efforts to ‘write water’ examines how the potential of water, and the contexts in which humans bore and pump groundwater, will prompt political questions about humans relationships to water. It is not only in bottles that water has potency as a political entity.

I acknowledge, as Coetzee states, that it is ‘not productive to discover the answer to the question of why one desires [to write fiction]: the answer threatens the end of desire, the end of the production of desire’ (Dooley 2010, p. 9). Paradoxically, a project seeking to write with, for, around water can have no predetermined political objectives, no intent, other than perhaps to find artistic ways to connect readers with water’s mythic and life-giving features. Fiction writing as a means of opening conversations with water has an underlying politics. The challenge for the writer is not to become didactic.

Fictional and poetic works, which express and expose the forces, the moods, the agency of Australian groundwater and the impacts of humans on groundwater’s existence are rare. We know that many natural phenomena and non-human entities are responding to human interruptions, exploitations, invasions. The voices of water are seeking to be heard. It is a muffled and far-distant sound, difficult to capture, difficult to converse with. It is a voice with practical, soulful as well and life-sustaining tones. Writing polyphonic fiction that expresses water’s agency is an important artistic dialogue, one that engages a philosophical standpoint that gives credence to material forces. Writing the voice of water in fiction engages an eco-critical standpoint and assumes a two-way dialogue with this life-sustaining element.

**BIBLIOGRAPHY**


Wright, A 2006, Carpentatria.