

# Solastalgia: the distress caused by environmental change

Glenn Albrecht, Gina-Maree Sartore, Linda Connor, Nick Higginbotham, Sonia Freeman, Brian Kelly, Helen Stain, Anne Tonna and Georgia Pollard

**Objective:** *Solastalgia is a new concept developed to give greater meaning and clarity to environmentally induced distress. As opposed to nostalgia – the melancholia or homesickness experienced by individuals when separated from a loved home – solastalgia is the distress that is produced by environmental change impacting on people while they are directly connected to their home environment. The paper will focus on two contexts where collaborative research teams have found solastalgia to be evident: the experiences of persistent drought in rural NSW and the impact of large-scale open-cut coal mining on individuals in the Upper Hunter Valley of NSW. In both cases, people exposed to environmental change experienced negative affect that is exacerbated by a sense of powerlessness or lack of control over the unfolding change process.*

**Methods:** *Qualitative (interviews and focus groups) and quantitative (community-based surveys) research has been conducted on the lived experience of drought and mining, and the findings relevant to solastalgia are presented.*

**Results:** *The authors are exploring the potential uses and applications of the concept of solastalgia for understanding the psychological impact of the increasing incidence of environmental change worldwide.*

**Conclusions:** *Worldwide, there is an increase in ecosystem distress syndromes matched by a corresponding increase in human distress syndromes. The specific role played by global-scale environmental challenges to 'sense of place' and identity will be explored in the future development of the concept of solastalgia.*

**Key words:** *coal mining, distress, drought, psychoterratic, solastalgia.*

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As human impacts on the planet increase, it should come as no surprise that in addition to bio-physiological pathology induced by environmental pollution, there should be psychological illness linked to a negative relationship between humans and their support environment. The concept of solastalgia was created by Glenn Albrecht and first introduced at the Ecohealth Conference in Montreal in May 2003, and published in an article in 2005 in the journal *PAN*.<sup>1,2</sup> The concepts of somaterratic and psychoterratic illnesses were introduced at 'Creating Futures', Royal Australian and New Zealand College of Psychiatry Congress, Social and Cultural Psychiatry, Cairns (2006). These concepts are applied to the issues of open-cut mining and drought in eastern Australia.

Somaterratic illnesses (soma = body, terratic = earth-related) threaten physical wellbeing and are caused mainly by living in ecosystems that have been contaminated by pollutants and toxins. Psychoterratic illness is defined as earth-related mental illness where people's mental wellbeing (psyche) is threatened by the severing of 'healthy' links between themselves and their home/territory.

As humans have become an increasingly urbanized species, threats to mental health and wellbeing come from both negatively perceived changes to urban settings and from changes to the non-urban environment. As opposed to acute stressors such as war, terrorism and natural disasters where post-traumatic stress disorder is a well-documented response and is treated by mental health professionals, many chronic stressors such as drought and changes caused by mining are generally not seen by mental health professionals and social impact assessment models as worthy of attention.

## PSYCHOTERRATIC ILLNESS: NOSTALGIA AND SOLASTALGIA

An old form of psychoterratic illness is nostalgia. Nostalgia was once conceptualized as a diagnosable illness associated with melancholia and experienced by people who were distant from their home and wanted to return. Indigenous people and refugees who have been dispossessed or forced to flee their native lands are likely to experience the pathology of nostalgia. War, overpopulation and climate change are likely to be drivers of nostalgia as a serious form of psychoterratic illness in the twenty-first century.

While dispossession and forced separation from home are potential triggers for environmentally induced distress, what about similar distress in people who are not displaced? People who are still in their home environs can also experience place-based distress in the face of the lived experience of profound environmental change. The people of concern are still 'at home', but experience a 'homesickness' similar to that caused by nostalgia. What these people lack is solace or comfort derived from their present relationship to 'home', and so, a new form of psychoterratic illness needs to be defined.

The word 'solace' relates to both psychological and physical contexts. One meaning refers to the comfort one is given in difficult times (consolation), while another refers to that which gives comfort or strength to a person. A person or a landscape might give solace, strength or support to other people. Special environments might provide solace in ways that other places cannot. Therefore, solastalgia refers to the pain or distress caused by the loss of, or inability to derive, solace connected to the negatively perceived state of one's home environment. Solastalgia exists when there is the lived experience of the physical desolation of home.

Environmental change can create distressed environments inhabited by distressed people. In the contexts of open-cut coal mining and power station fallout, and severe drought, both researched in the State of NSW, we see evidence of the large burden of chronic environmental stressors leading to solastalgia.

## SOLASTALGIA APPLIED: UPPER HUNTER RESEARCH

The Upper Hunter region of NSW has been the subject of rapidly expanding open-cut coal mining and power industries. Approximately 222 km<sup>2</sup> or 16.5% of Valley Floor between Singleton and Muswellbrook has been mined from 1987 to 2004 with profound changes to the landscape and long-term impacts on ecosystem health. In addition, the two large power stations, Bayswater and Liddell, are major polluters of the region. The cumulative impacts of the existing burden of 22 open-cut coal mines and three power stations is already overwhelming the Upper Hunter region, yet more mines are proposed and existing mines expanded. Somaterratic illnesses linked to toxic pollution and particulate fallout from mines and power stations is the subject of ongoing research.

From 2003 to 2006, the Newcastle-based transdisciplinary team have conducted key informant, community member and group interviews with over 60 people in the Upper Hunter. In 2005–06, ethnographic fieldwork with residents was commenced with a view to document perceived threats to wellbeing and actual lived experience of environmental change in both the Lower and the Upper Hunter. The research has highlighted that there are very personal and emotional responses to the impacts of mining and power station fallout on residents in the Hunter Valley. The transformation of the regional landscape (place) has, for many of the people that the team interviewed, including some who actually work in the mining and power industries, been a direct cause of solastalgia. Their sense of place, their identity, physical and mental health and general wellbeing were all challenged by unwelcome change. Moreover, they felt powerless to influence the outcome of the change process.

From the transcript material generated from the interviews the following responses clearly resonate with the dominant components of solastalgia – the loss of ecosystem health and corresponding sense of place, threats to personal health and wellbeing and a sense of injustice and/or powerlessness.

On the feeling of the violation of connections to place, some respondents had a long family history of attempting to escape the grip of solastalgia:

One of the reasons they (my ancestors) left the North of England was on the physician's recommendation because they were suffering from respiratory problems and consumption ... the child mortality rate was pretty high ... they had steam engines roaring past the house and black smoke and soot ... and it's caught up, the industrial revolution's caught us again, we've got the same trouble. Where do we go ... Patagonia or somewhere? (Howard)

Other interviewees expressed quite graphically the degree of distress they were experiencing as a direct result of the threats to their home environment:

But I lost a lot of weight. I'd wake up in the middle of the night with my stomach like that [note: clenched fist], and think, what am I going to do? We're losing money, they won't listen to me, what do I do? Do I go broke? I can't sell to anybody, nobody wants to buy it (my property) because it's right next to the mine. What do I do? And I was a real mess. (Dora)

Other interviewees made the connection between family, history and sense of place:

And it's a big thing when your family has owned the place for generations. You love that land, even though I married into it. I came to love it because I knew the history of it ... And I thought, the love of that place, it doesn't mean anything now that we've got all those wretched international companies. They don't care. (Dora)

Finally, an Indigenous interviewee explained the degree of solastalgia felt when he and many of his people had to confront the destruction of their 'country' in their daily travels:

It is very depressing, it brings you down ... Even (Indigenous) people that don't have the traditional ties to the area ... it still brings them down. It is pathetic just to drive along, they cannot stand that drive. We take different routes to travel down south just so we don't have to see all the holes, all the dirt ... because it makes you wild. (Indigenous interviewee)

In addition to the ongoing qualitative work, a new survey instrument, the environmental distress scale (EDS), was developed by Nick Higginbotham. The EDS is designed to measure the environmental distress experienced by people living in areas being transformed by disturbance, thereby offering a new social impact assessment tool for measuring wellbeing in the face of environmental and development pressures. It was validated in 2006 with a comparison of two rural communities, Singleton (high environmental disturbance) and Dungog (low environmental disturbance). As predicted, data show the high disturbance group had significantly higher environmental distress scores across all measured components (and a total score). The validation of the EDS strongly supported the qualitative work already undertaken.<sup>3</sup>

## SOLASTALGIA APPLIED: DROUGHT RESEARCH

Drought has been a serious and ongoing concern in NSW (as for many regions of Australia) since at least 2001 (with some temporary respite for parts of the state in late 2005). At the time of writing, drought affects 93.2% of the state, with another 4.7% classified as marginal and only 2.1% satisfactory.<sup>4</sup> Drought has many financial, social, and emotional effects on individuals, families, and communities,<sup>5,6</sup> and it may be that it is best considered as a form of chronic natural disaster with the kinds of psychiatric sequelae observed following the more typical abrupt-onset but short-term natural disaster.<sup>7,8</sup> However, the psychiatric effects of drought and other long-term environmental degradation have not been the subject of much previous study.

The Centre for Rural and Remote Mental Health has been conducting qualitative research in and around a rural community in central western NSW. Via individual interview and small focus group discussion, we are documenting residents' perceptions of the mental health consequences of drought in their community. We have spoken with farm family members, health workers, agricultural support workers such as rural financial counsellors, other community agency representatives, and farm- and non-farm-related business-people. Drought clearly causes distress across many domains – financial in particular, but also workload, isolation, community attrition. However, in this preliminary paper, arising from very early consideration of farm men and women's discussions, an aspect of distress connected to the state of the biophysical environment is seen as distinct from distress about more pragmatic concerns:

... But yeah, it does change you, and the kids, and everything. You have—we put a pool in at home and we've hardly swum this summer. You know, it seems really silly, you've got a pool there you don't—but you don't really want to go outside, it's really yucky outside, you don't want to go out ... (Female farmer)

Female farmers reported distress arising from workload, erosion of community resources, the emotional effect of changes to the landscape, constriction of possibilities, and fear for others. The changes to the landscape as an effect of the drought had a negative emotional effect on women and their families, even those living closer to town and less reliant on farming for their income. Loss of their garden was reported several times as a source of real distress, as it removes a barrier separating the farm as home from the farm as business – drought and its consequences become inescapable.

Well I guess we're coming into our fifth year of the drought ... B [daughter-in-law] and I, um, our gardens have had to die because our house dam has been dry ... so it's very depressing for a woman because a garden is an oasis out here with this dusty ... that's all gone, so you've got dust at your back door. (Female farmer)

... in living history there hasn't been a drought that's lasted like this one has it's just phenomenal ... almost so that we're used to it. [laughs] You know, you sort of almost forgotten what to do in a good year. (Male farmer)

It is our view that environmental distress is reported less directly by male farmers than by female farmers, but appears as a loss of support from working in a loved location. Status and external constraints are also implicated. There is a suggestion that farmers see themselves as custodians of land and the resentment felt at external constraints may stem in part from a lack of acknowledgement of their sense of custodianship of place.

## CONCLUSION

There are complex relationships between environmental or ecosystem stressors and human distress. The two research teams are now actively collaborating on how

well a psychoterratic syndrome such as solastalgia captures the essence of the relationship between ecosystem health, human health and control (hopelessness and powerlessness) and negative psychological outcomes. While the preliminary research on mining and drought has produced promising new insights into psychoterratic illness, there are many more environmental contexts where chronic environmental stressors negatively affect human health and wellbeing. Climate change for one, might, unfortunately, be a globally significant source of psychoterratic distress expressed as nostalgia and solastalgia.

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#### REFERENCES

1. Albrecht GA. Solastalgia: a new concept in human health and identity. *PAN (Philosophy, Activism, Nature)* 2005; **3**: 41–55.
2. Connor L, Albrecht G, Higginbotham N, Smith W, Freeman S. Environmental change and human health in Upper Hunter communities of New South Wales, Australia. *EcoHealth* 2004; **1**: 47–58.
3. Higginbotham N, Connor L, Albrecht G, Freeman S, Agho K. Validation of an Environmental Distress Scale (EDS). *EcoHealth* 2006, online 11 November 2006 <http://www.springerlink.com/content/x5266441324u0416/?p=5041cc472b174cd78d80479afc4be34e&pi=5> (accessed 8 January 2007).
4. NSW Department of Agriculture. Drought maps – areas of NSW suffering drought conditions. <http://www.agric.nsw.gov.au/reader/drt-area> (accessed 10 January 2007).
5. Alston M, Kent J. *Social Impacts of Drought: A Report to NSW Agriculture*. Wagga Wagga: Centre for Rural Social Research, Charles Sturt University, 2004.
6. Sartore G, Hoolahan B, Tonna A, Kelly B, Stain H. Wisdom from the drought: recommendations from a consultative conference. *Australian Journal of Rural Health* 2005; **13**: 315–320.
7. McFarlane AC, Clayer JR, Bookless CL. Psychiatric morbidity following a natural disaster: an Australian bushfire. *Social Psychiatry & Psychiatric Epidemiology* 1997; **32**: 261–268.
8. Raphael B. *When Disaster Strikes: A Handbook for the Caring Professions*. London: Hutchinson, 1986.