

Who are we? Aspects of the self within salinity science

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Funded by Future Farm Industries Cooperative Research Centre

Introduction

The public discourse about the Australian environmental problem of dryland salinity has been dominated over the past few decades by a ‘rational’, positivist, biophysical science perspective. More recently an effort has been made to include human and social research into our understanding of this issue, which at times has expanded further to incorporate other frameworks of analysis, for example, a constructivist perspective (Price 2005). There is little research in Australia that specifically addresses the psychological/psychodynamic/inter- and intra-personal human relationship dimensions within the field of dryland salinity, and within the area of environmental problems in general.

The primary objective of this research was to provide a deeper understanding of the nature of self and self-in-relation-to-other among those involved in the science, extension and the application of appropriate technologies in dryland salinity. Drawing on theories and ideas from psychodynamic psychotherapy, I set out to explore the expression of self and particular dimensions of self – experience, affect/emotions, and relationships - of those involved in working on this issue.

The focus of this paper/presentation is on aspects of the Scientist’s Self – experience, affect/emotions and relationships as expressed by salinity scientists and includes how others (NRM managers, agricultural extension specialists, Indigenous NRM participant and landholders) characterise their relationship with salinity science and scientists.

I would suggest that the findings of this research have implications for the practice of NRM management. Allan & Curtis (Allan & Curtis 2005) write that effective adaptive management involves an active culture of reflection, amongst other factors. They describe an NRM culture in Australia that values activity, control, comfort and clarity over reflection, learning and embracing complexity and variability.

Theoretical framework

This research, which places ‘the self’ as the central concept, is underpinned by the theories and practices of several internationally renowned psychological/philosophical thinkers: William James, the nineteenth century American philosopher/psychologist, clearly articulated the dualistic nature of self: the *I* that is the knower, the aspect of self that is the subject of our experience. And the *Me* that is known, the aspect of self that is the object of our experience (James 1892/1961). James introduced the phrase ‘stream of consciousness’ which relates to our flow of inner life. My research aimed at exploring what an expression of this flow of inner life looks like for those working on dryland salinity. Heinz Kohut developed the general ideas behind psychoanalytic self psychology (Kohut 1984, 1996) At the heart of this work was his articulation of a shift in methodological stance from an external observer’s view of the inner, subjective world to the necessity of an introspective-empathic mode of listening whereby data relating to the self could only be obtained by the use of empathy and introspection. This approach enables one to grasp what another person feels, experiences and thinks with some accuracy and correctness. Russell Meares, Emeritus Professor of Psychiatry at Sydney University has drawn on these ideas and many others, as well as co-developing ideas and methods into the Conversational Model (Meares 2004). This model provides a theoretical framework and practical skills that can be applied to understanding the expression of self in individuals and also to developing, in a therapeutic context, the expression of self/sense of self. Understanding of self-inrelation- to-other is another significant dimension of this approach. Finally, the work of Silvan Tomkins on Affect Theory (Tomkins 1962-1963) has also contributed to this research. Tomkins defined nine major, discrete, innate affect categories (the physiological expression of emotions) thathe proposed covered the full range of emotional life. Significant aspects of self are contained in affective experience and, in relation to salinity/environmental research, this is a dimension that is commonly overlooked.

Research that explores aspects of self relating to an issue like salinity, relies on participants' capacity to turn their focus of attention from the outer world of objects and to make themselves and their thoughts, feelings and images, the objects of attention; to become reflective of their own experiences. By doing this, it is possible to explore the inner, subjective world of the individuals involved in salinity and to, hopefully, bring some new insights and understandings into the public discourse on this issue.

Methodology and methods

Central to the task of acquiring data representative of subjective experience was an exploration of the application of a clinical psychotherapeutic model – the Conversational Model (Meares 2004) – to a field-based social science research project.

A qualitative research methodology was selected because of its appropriateness to investigations into subjective experience. I broadly adopted the Grounded Theory method (Charmaz 2003), which emphasises coding and analysis of data from the 'ground upwards' – developing categories, ideas and theories from the data. I also explored the application and integration of key theories, skills and practices from the Kohut's introspective-empathic method, the Conversational Model and from Tomkin's Affect Theory (see previous section) within an overall Grounded Theory approach.

The research project involved a series of three open-framework/semi-structured interviews with each participant over a period of 20 months to allow time for a 'deepening of the conversation'. The participants numbered 31 in total – 16 salinity scientists from a range of disciplines, institutions and locations, and 12 participants from the Wimmera Catchment in Western Victoria, comprised of natural resources managers, agricultural extension specialists, landholders and an Indigenous NRM representative. The addition of one-off interviews with three participants provided extra background information.

The series of three interviews took on different themes relating to different aspects of self. They were:

- Interview/Conversation Number 1 – Experience of Dryland Salinity
- Interview/Conversation Number 2 – Affective/Emotional Dimension of Dryland Salinity
- Interview/Conversation Number 3 – Relationships in Dryland Salinity

The interviews were recorded digitally on an iPod and transcribed word-for-word in preparation for analysis using NVivo computer assisted qualitative data analysis software.

Results and discussion

Results from analysis of data of the first interview provided an overview of the experiential world of scientists involved in salinity. The main themes related to the scientific process in general, such as issues to do with rigour and clarity of assumptions, limitations and principles; communication of science and salinity/landscape-based science in particular, such as the rapidly evolving nature of salinity science; long time frames required; and inter-discipline dominance. Emotions, relationships and social dimensions also emerged as significant themes – reflecting an awareness of the significance of these psychological and social components to the experience of the scientists.

The second interview explicitly explored the affective/emotional dimension. Methodologically it was based on results from the first interview which provided evidence of the existence in scientists of an emotional dimension to salinity science. The results reveal a rich and diverse emotional world in salinity science. For example, the affect/emotion of interest, 'being interested', was associated with the science itself – the ideas, mechanical and technical solutions, the discovery and the voyage, its application and impact. Interest also evoked comment in relation to the human dimension of science – helping people, being involved in the social dimension, participating in group processes and its close link to a rural/agricultural background. Love and caring were evoked in connection to attachment for land, the science and the people, specifically team work and developing trust in relationships.

Participants spoke of feelings of anger associated with evidence of poor quality science; lack of understanding of the scientific process; the abuse of science - how science is seen and used; the politics and social justice issues associated with it and aspects of funding and

management of salinity science. Distress, and related states of frustration, disappointment and sadness were mentioned in relation to the self-interest of some people; the dominance of market driven commercial science rather than knowledge science as the main driver; the proliferation of scientific work being left on shelves; the time and scale aspects of the problem; frustrations with communication; and the evocation of distress due to empathy with landholders' situations.

When speaking from a relational perspective, a deepening of the conversation occurred in the third interview around issues related to the rigour and quality of science; data quantity and quality issues; arguments for more holistic and integrated approaches to include social science; communication and transfer of scientific knowledge as an issue that remains problematic; the complex institutional framework that exists in salinity science today; and concerns for the next generation of scientists.

The relational dimension of the scientists extended beyond the interpersonal to characterising their relationships with the land, salinity, the environment, climate change, drought and water issues. In terms of the land, there were diverse ways of articulating that relationship – from a connection related to growing up in rural/agricultural regions, to an interest in wanting to understand natural systems and processes, to an aesthetic connection and a philosophical perspective of the environment. The relationship with salinity was seen as dynamic, that is changing as knowledge and understanding emerged and as the natural environment itself changed due to planned and unplanned factors.

The third interview with the other research participant group members (NRM managers, ag extension specialists, Indigenous NRM, landholders) produced some interesting and contrasting perspectives in terms of characterising their relationship with salinity science and scientists. The NRM and ag extension participants did not necessarily see science as 'other' to their practice, as many of them are trained scientists; they value scientific research but some would prefer an improved feedback mechanism to contribute to future research; the most positive relationships are with 'practice-based' scientists who have good communication skills; and there was a recognition of the need for more regional scale social science research. The Indigenous perspective highlighted the dominance of the inherited European notion of the environment being based on science and a criticism that it doesn't take account of accumulated experiential knowledge or a spiritual perspective. The landholders, all closely connected to the institutions involved in salinity remediation, observed that there was an uncoordinated process of scientific research in the region, a frustration with 'reinventing the wheel', and too much emphasis put on scientifically proving things and not on farmers sharing experiences.

It is evident, from the results of the interview data analysis, that there is an experiential, emotional and relational dimension to salinity science that can be encapsulated by the concept of self.

Two quotes from the final stage of the interview process with two scientists give an illustration of their perspective to this research approach:

"I think if the same sort of level of understanding of motivations...<dw>...was applied to, as I say, all of those agencies who deliver salinity management, I think it would change how it would be done and I think that would be great." (S1)

"I think we do lack those opportunities. Yes, the issue, if one is after social change, and paradigm shift, has to be to engage people at these sorts of levels because social change and paradigm shift is too uncomfortable to bear if people are only engaged superficially...<dw>...I think that the process is really important. I don't think we do enough of it." (S2)

By using different frames of exploring and understanding the world, this research has given shape and form to the emotional and relational dimension to the world of salinity science.

Conclusions

The results from this research will, in a psychological sense, help conceptualise relationships between individuals and groups involved in dryland salinity from a 'self' framework by better understanding the gaps and overlaps in participants expressions of self/boundaries of self.

This study will enable new understandings to be used as a springboard for improved relationships between those involved in a particular environmental or scientific issue.

Theories and practical skills from the Conversational Model and other psychodynamic/psychological schools of thought provided a useful framework for exploring the expression of self with participants in a field-based setting. The framework is flexible enough to contain a variety of dimensions of expressions of self whilst focussing on staying 'experience-near' to the participant's psychological world.

Acknowledgments

Thank you to my PhD supervisors at Charles Sturt University, NSW - Assoc Prof Ian Gray and Tony Dunn for their ongoing guidance and support and for their contribution to reviewing this article. A thank you also to the research participants for their valuable contributions and to Dr Craig San Roque, Dr Leslie Devereaux and Dr Glenda Cloughley for their contributions to extending my psychological understanding during this work.

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